

Dozen Dads Forest Management Plan



Joseph Sweeney
3/20/2018

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Introduction

Forest Management is a comprehensive science that allows for the maintenance of ecosystem health and the sustainable growth and harvest of forest products. Otsego County is dedicated to applying the principles of Silviculture to balance timber harvesting and forest growth to ensure the future of our forests. Otsego County forests are a public resource that is managed for timber production, outdoor recreation, wildlife, and natural resource conservation. By taking this multipurpose management approach we will be able to benefit the natural resources on county land and give residents the opportunity to enjoy their public land.

Managing Forester Biography:

Joseph Sweeney was hired by Otsego County as a Forester in 2018 to manage County forest property. Mr. Sweeney graduated from SUNY Environmental Science and Forestry Ranger School in 2015 with an Associate's degree in Forest Technology. In 2017 Mr. Sweeney graduated from SUNY Environmental Science and Forestry with a Bachelors degree in Natural Resources Management. As a steward of the environment he is dedicated to responsible forest management for Otsego County.

Property Uniqueness:

Dozen Dads County Forest is located on Blacks road in the town of Middlefield New York (**See figure 1**). This forest is comprised of 127 acres of mixed hardwood and softwood stands, wetlands, and streams. The property features a beaver pond that can be seen from the road. A seasonal road leads to two pavilions, a man made pond, and small parking area. It is also equipped with cooking grills and picnic tables that stay year round in the day use. Logging skid

trials are run throughout the property and are used for hiking, snow shoeing and cross country skiing.

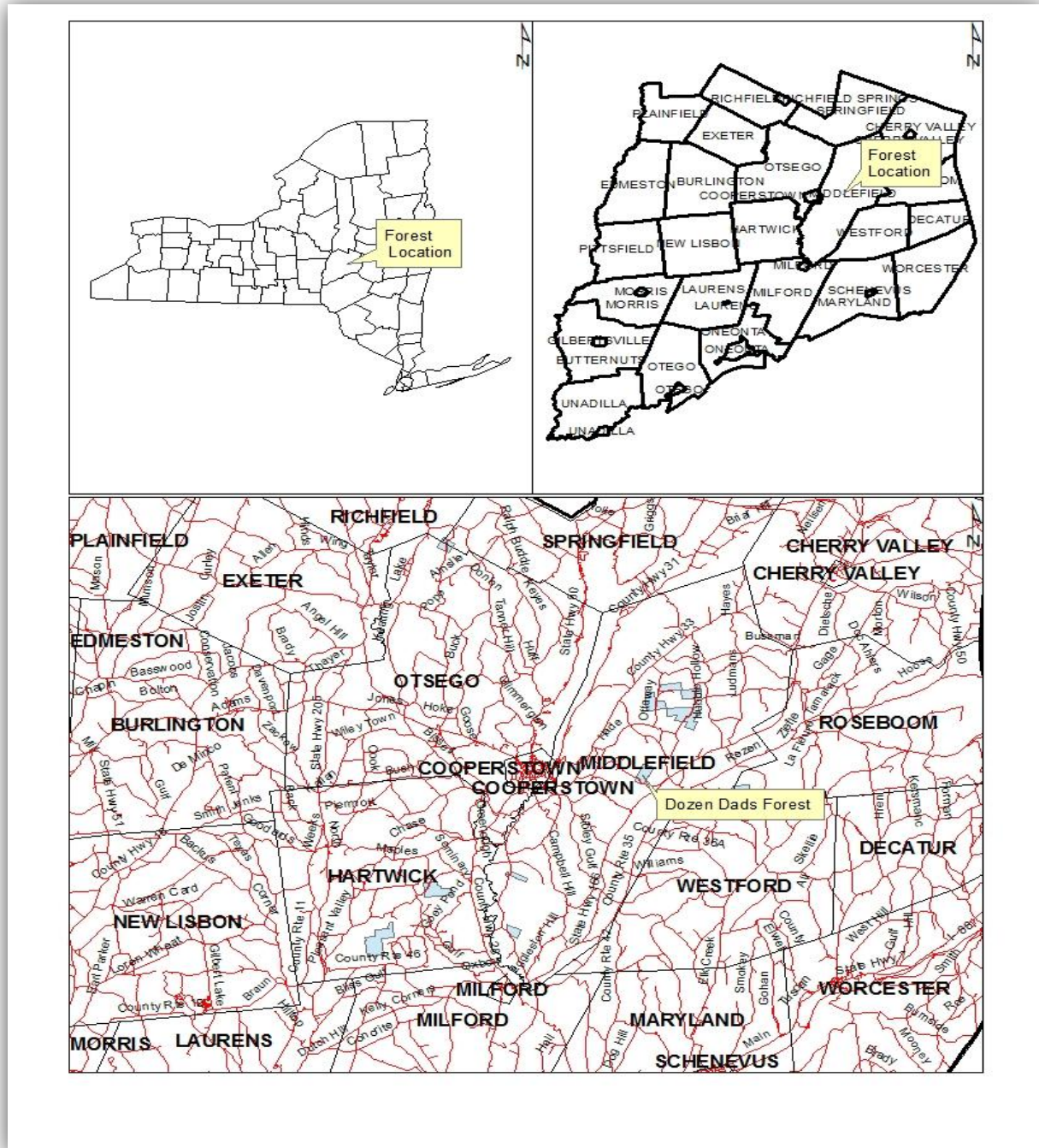


Figure 1. Maps identifying location of Dozen Dads forest in Otsego County.

Desired Future Conditions:

The desired future condition of this property focuses on a growing and reproducing forest with limited amounts of invasive species. This will allow for sustainable timber harvesting for years to come. It is our goal to maintain the stream channels and their associated riparian areas to ensure water quality and drainage of the property into the beaver pond serves as a collection pool. All existing trails will be kept clear of debris and hazard trees. Newly constructed trails will be mapped and maps will be shown at trail entrances.

Goals and Objectives:

Goal #1: Forest Inventory

Complete a comprehensive inventory of standing timber for all 19 forested stands. This inventory will be completed in 2018 and re-inventoried every 7 years to measure the growth progress of each forest stand, and determine its stage of growth, and ability to harvest.

Goal #2: Timber Harvesting

Improve timber stands by conducting firewood thinning and saw-timber harvests. Mature softwood stands will be harvested and converted to hardwood stands. Mature hardwood stands will be thinned for timber procurement and stand improvement. Immature hardwood stands will be thinned for firewood procurement and stand improvement. Immature softwood stands will be left to grow and improve in quality until they are ready to be thinned.

Goal #3: Trail Creation and Maintenance

As of 2018 it is our goal to build a ½ mile multipurpose trail that encompasses the beaver pond starting on the south west end of the pond and ending on the south east end of the pond with Blacks road connecting the two ends of the trail. This trial will be used for hiking, snow shoeing, and nature viewing. Environmental education is an important aspect of responsible natural resource management. This trail will also be used to cultivate educational outreach about wildlife, forestry, and invasive species. To do this educational signs will be places throughout the trail to inform trail users about our natural resources.

Goal #4: Improve and Maintain Day Use Area

The seasonal day use area has a road that connects Blacks road and the Picnic area. This road will be maintained seasonally from April to October. If the road is used or damaged during timber harvesting operations, it will be repaired to its previous state. The day use area will be maintained by keeping the grass mowed and pavilions cleaned during the open season from April to October.

Planning and Methods

Inventory Planning:

Forest Inventory has been conducted for every forested stand on the property. Stands are delineated out of the forest based on species composition, basal area, and forest cover type. Each forest stand will have its own stand description, data table and treatment prescription. See **figure 2.** below for stands map.

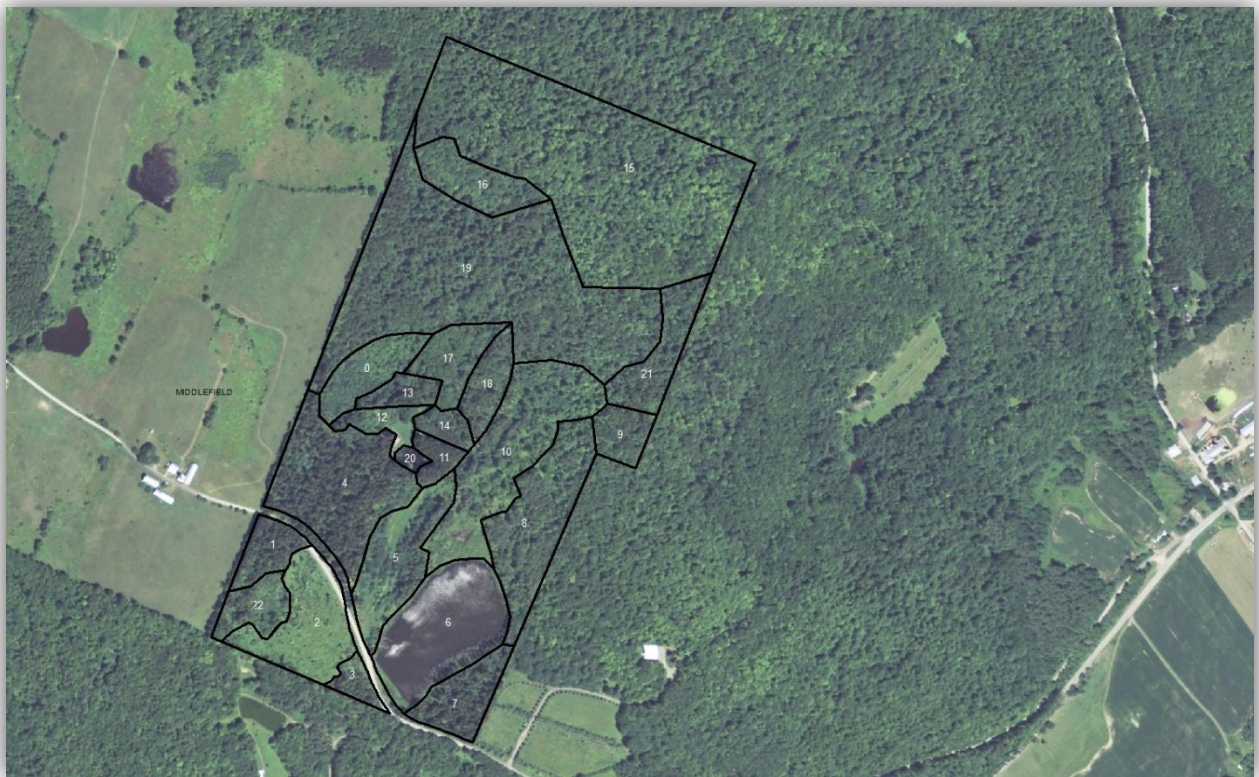


Figure 2: Map identifying Dozen Dads County Forest Stands

This complete inventory will be finished in 2018. Re inventory of these same stands will be conducted every seven years for the continuation of the forestry program.

Inventory Methods:

Each stand will be inventoried by using variable plot radius data points with a 10 Basal Area Factor (**BAF**) angle gauge. Trees that fall into each data plot will be measured for Diameter at Breast Height (**DBH**) with a Biltmore stick and their height will be determined by the use of a clinometer. Species of every tree in the data plot will also be recorded. Recorded data will be averaged throughout the stand to determine the stand's basal area, trees per acre, species composition and overall health. Each stand will have a different number of data plots based on their area measured in acres. The chart used to determine the number of data plots for each stand can be seen in **Table 1**.

Table 1: Ratio chart of plots: acres in a stand.

Acres	# of Plots
0-4	3
5-7	4
7-10	5
10-15	7
15-25	10
26-39	14
40+	15

Plot locations on each forest stand can be seen in **Figure 3** below.

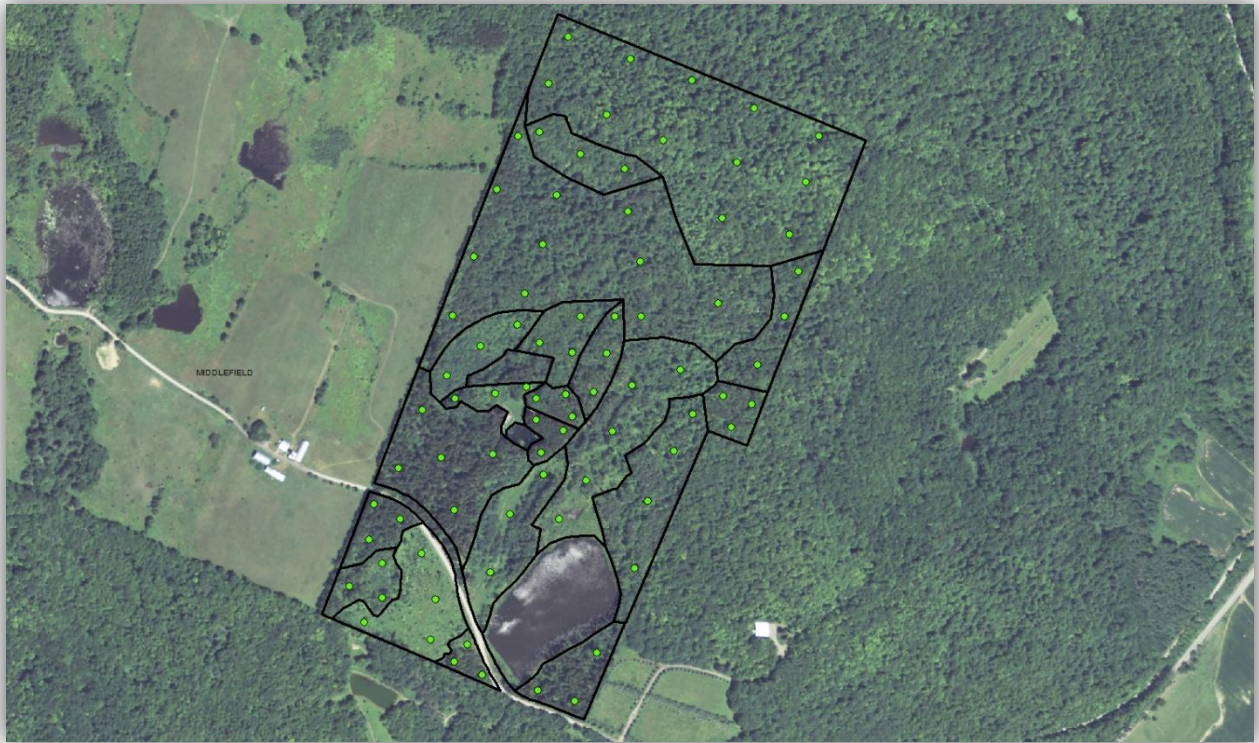


Figure 3: Data plot locations on Dozen Dads county forests.

Treatment Planning

Stand treatments will be determined by the most recent inventory of the stand. Cutting rotations will be in 15 year intervals based on re-inventory taking place every seven years. Stands will be cut for the purpose of timber procurement, forest health improvement, and timber quality improvement. Before any timber harvest takes place an analysis of stand health, level of regeneration and ground quality will be conducted.

Treatment Methods:

Forest stand treatment will be determined by inventory data and stand analysis conducted by the forester. To sustainably harvest timber and keep the forest growing, no hardwood harvests will reduce a stand more than 35% of its basal area according to its most recent inventory until stand conversion harvest. Softwood stands will be reduced up to 50 % based on the most recent inventory and level of stand regeneration until stand conversion.

Current Conditions and Management

Forest Stand Conditions

Stand 1: Description

Stand one is a 1.9 acre even aged White / Norway spruce plantation stand. The understory of this stand consists of mixed hardwood seedlings. The spruce in the over story are not regenerating in the understory where the hardwoods have started to grow. American beech is also found in the understory. This is considered interfering vegetation that takes up growing space on the forest floor and prevents desirable timber species from growing. The soil conditions on this site are moderately well drained. This stand has a basal area per acre (BA/ac) of 240 and is at its financial and site maturity making it ready for stand conversion.

Stand 1: Prescription

This stand is ready for stand conversion by over story removal. The Spruce is at their maximum growing capacity for the site that they were planted on. This stand has previously been thinned and is now considered mature saw timber for its species composition. Due to the stands small area and lack of spruce regeneration converting the stand would be most effectively done by clear cutting. This will maximize the financial value of the stand, while creating new growing opportunity on this site. The stand has proved to have excellent site quality for growing White and Norway spruce so it is recommended that after completing the clear cut the stand be re planted with White or Norway spruce seedlings.

*Stand Summary Table found on **Page 41** of index*

Stand 2: Description

Stand two is a 5.6 acre seedling/sapling stand. This stand is the product of a Norway spruce over story removal. The seedling/sapling species composition is comprised of pioneer hardwoods with White and Norway spruce regeneration mixed throughout the hardwoods. Stems have an average DBH of less than 4 inches and average +/- 15 feet high. The soil conditions on this site are somewhat poorly drained. Water is collected in this area from the beaver pond on the other side of Blacks road.

Stand 2: Prescription

The stems growing in this stand are in the stem exclusion growth stage and will naturally thin themselves. Over time competition between the individual stems will cause the opening of growing space and the increased growth of the surviving trees. This stand needs to be left to grow. Re-inventory will be conducted on this stand in 2025 and the timber will be evaluated. It is our hope after seven years of growth the stand will be ready to thin and selectively cull undesirable species.

No Stand Summary Tables are provided for Seedling/Sapling stands

Stand 3: Description

Stand three is a 0.9 acre White Spruce even aged plantation stand with a hardwood understory. In the understory, the spruce are regenerating but are under stocked. White spruce regeneration seedlings are dying or dead due to the poor soils. Mixed pioneer hardwood seedlings are also growing throughout the understory of the stand. This stand has a BA/ac of 180 and is at its financial and site maturity. The soil conditions of this stand are very poorly drained, with water from the beaver pond across the street draining into the stand. The saturated soil conditions are contributing the stand's declining health. Crown defoliation can be seen in the tops of the mature spruce trees.

Stand 3: Prescription

The poor soil conditions in this stand make treatment of the stand not possible. The stand is ready for conversion but the ground is not workable. This stand will be placed under protection status because harvesting in this area would cause irreparable damage to the saturated ground. Protection status is given to stands that need to be protected for water quality, Historical value, or other conservation value. As the health of the mature spruce decline they will provide habitat for wildlife, and it is our hope that this stand will eventually become a wetland.

*Stand Summary Table found on **Page 42** of index*

Stand 4: Description

Stand four is a 9.3 acre White/ Norway spruce plantation stand. It is an even aged, old growth spruce stand. The understory of this stand consists of pioneer hardwoods. The spruce is not regenerating in the understory and in its absence pioneer hardwoods and interfering vegetation such as American beech and striped maple have grown in. American beech and Striped maple are both considered interfering vegetation that take up growing space on the forest floor and prevents desirable timber species from growing. The soil conditions at this site are moderately well drained. This stand has a BA/ac of 192 and is at financial and site maturity making it ready for conversion.

Stand 4: Prescription

This stand is ready for conversion by row thinning. The Spruce is at their maximum growing capacity for the site that they were planted on. This stand has previously been thinned and is now considered mature saw timber for its species composition. This is a quality site for growing spruce, so we would like to keep the species composition the same. To do this a row thinning should be conducted removing 40 to 50 % of the Basal area of the stand. This will allow an opportunity for the remaining spruce to reproduce into the newly available growing space. Once advanced spruce regeneration has been established the residual mature spruce may be harvested.

*Stand Summary Table is found on **Page 43** of the Index*

Stand 5: Description

Stand five is a 5.3 ac seedling/ sapling stand that borders the beaver pond. The species composition of this stand is comprised of pioneer hardwoods with an abundance of Paper Birch, with mixed White/ Norway spruce seedlings. This stand was previously harvested for Norway spruce. The only mature residual trees from the harvest are White pine that was left due to their proximity to the water's edge. They are just outside of the pond's riparian buffer but are still important to the pond's bank stabilization. This stand has an average DBH of 4 inches and the average seedling/ sapling height of this stand is +/- 20 ft. Soil conditions in this stand are moderately well drained and all of the drainage from this area funnels into the beaver pond.

Stand 5: Prescription

The stems growing in this stand are in the stem exclusion growth stage and will naturally thin themselves. Over time competition between the individual stems will cause the opening of growing space and the increased growth of the surviving trees. This stand needs to be left to grow. Re inventory will be conducted on this stand in 2025 and the timber will be evaluated. It is our hope after seven years of growth the stand will be ready to thin and selectively cull undesirable species. The hardwoods in this stand are more advanced in growth than the spruce seedlings indicating that it will be a hardwood stand in the future.

No Stand Summary Tables are provided for Seedling/Sapling stands

Stand 6: Description

Stand six is an 8.3 ac beaver pond. This is a pond that collects run off from the hillside on its north shore and is dammed by beaver activity on its south shore adjacent to Blacks road. The pond's shores have White Pine, Norway and White spruce, Eastern hemlock, and Red maple. It is inhabited by beaver, muskrat, and many aquatic amphibian and reptile species native to New York. It is not known if there is a game fish population in this pond.

Stand 6: Prescription

This pond has been placed under protective status as a water and habitat resource. Protection status is given to stands that need to be protected for water quality, Historical value, or other conservation value. The trees around the edge of the pond will not be managed. They serve as a protective riparian buffer that ensures water quality and creates wildlife habitat.

No Stand Summary Tables are provided for bodies of water.

Stand 7: Description

Stand 7 is a 3.0 ac White / Norway spruce plantation stand. The understory of this stand is comprised of Eastern hemlock, Norway spruce and hardwood seedlings that reach as high as 15 ft. The spruce did not reseed the understory of this stand well and in its absence Eastern hemlock seedlings have seeded in from across the road and are the dominant species in the understory. This stand has a BA/ac of 120 which is low for a mature spruce stand. The low basal area is due to the stand's previous harvests for saw-timber. The residual spruce trees from previous harvests are at financial and site maturity. Soil conditions in this stand are moderately well drained.

Stand 7: Prescription

This stand is has aesthetic value that must be considered as well as its timber value. The stand is ready for conversion but for the purposes of the beaver pond trail location and conservation of the protected beaver pond the 100 feet east of the stand boundary between stand six and seven will be left unmanaged. The rest of the stand is ready for an over story removal. The over story can be removed and the residual stand would be a healthy hardwood/ eastern hemlock seedling/sapling stand. The Spruce are at their maximum growing capacity for the site that they were planted on. This stand has previously been thinned and is now considered mature saw timber for its species composition. Row thinning or clear cutting is recommended for this stand conversion.

Stand Summary Table is found on Page 44 of the Index

Stand 8: Description

Stand eight is a 9.4 ac Scotch pine stand with a hardwood understory. The understory of the stand has a species composition primarily made of red maple seedlings. Heavy deer browsing has kept the Scotch pine from successfully regenerating. The stand has a BA/ac of 62. This low basal is the result of poor forest health within this stand. There is a higher than average amount of dead Scotch pine trees. The cause of this is unknown but it has opened up canopy gaps in which red maple saplings are growing. The stand is located on a steep slope with moderately well drained soil.

Stand 8: Prescription

This stand is ready for conversion due to the poor health of the Scotch pine. There is also very low value in having a commercial harvest in this stand. With these factors in mind this stand will only be treated if it can be treated with a sale in an adjacent stand. Without treatment this stand will convert into a mixed hardwood Scotch pine stand over time. Re inventory will take place in 2025 and it is our hope that this stand will be ready to thin with a firewood thinning.

*Stand Summary Table is found on **Page 45** of the Index*

Stand 9: Description

Stand nine is a 1.8 acre clear cut. It was harvested as a Red pine over story removal and all other stems were cut. No herbicide was used in that harvest; causing the American beech to stump sprout. There is currently no regeneration in this stand except for the stump sprout American beech. Grasses, raspberries and black berries are growing in this clear cut. Soil conditions in this stand are well drained. This stand has good growing potential for hardwoods or softwoods.

Stand 9 : Prescription

This stand is in the stand initiation stage, meaning it is collecting tree seeds while growing herbaceous plants. Seedlings of desirable trees have not been established yet. The only treatment that could be done on this stand would be to remove the American beech sprouts by means of herbicide application. No other treatment should be done to this stand. It needs time to establish seedlings. Planting hardwoods or softwoods this stand would greatly help its chances of regenerating. Re inventory will be conducted on this stand in 2025 and the timber will be evaluated.

No Stand Summary Tables are provided for clear cut stands.

Stand 10: Description

Stand ten is a 9.4 acre mixed hardwood / White Pine stand. This stand is the residual timber from a Red Pine over story removal with a BA/ac of 62.5. This is a low BA and there are many skid trails and patch cuts throughout the stand that have not regenerated at all. There are mature hardwoods and white pine scattered throughout the stand, but the majority of the stand is small diameter pioneer hardwoods. Soil conditions in this stand are somewhat poorly drained on the north end of the stand and very poorly drained in the south end of the stand near the beaver pond.

Stand 10: Prescription

This stand is in the process of regenerating and needs to be left to regenerate. There are pockets of the stand that are in stem exclusion and stand initiation stages of growth. No management should be done for the next seven years in this stand so the existing stems can grow reproduce, and compete. The stand will be re inventoried in 2025 and it is our hope that at that point the stand will be recovered from the previous harvest and a firewood thinning will be able to be conducted.

*Stand Summary Table is found on **Page 46** of the Index*

Stand 11: Description

Stand eleven is a 1.1 ac White / Norway spruce plantation with scattered Scotch pine. This is a mature softwood stand that wraps around the east and north sides of the small drainage collection pond in the day use area. It contains a small stream that acts as the drain for the pond. The stream runs through the center of the stand.

Stand 11: Prescription

This stand will be placed in protection as part of the day use area. It casts shade over the drainage pond and adds aesthetic value to the park setting of the day use area. The stand will not be treated unless there is a weather event that causes blow down and there is a possibility to salvage the timber and clear debris from the day use area.

*Stand Summary Table is found on **Page 47** of the Index*

Stand: 12 Description

Stand twelve is a 1.4 ac mixed wood stand. There are mature saw timber which is comprised of Sugar Maple, White Ash, Hickory, and White Pine. This stand sits above and merges into the day use area. A pavilion is located on the south side of this stand. There is abundant hardwood regeneration and Norway spruce regeneration mixed throughout the stand. This Stand has a BA/ac of 130. Soil conditions on in this stand are somewhat poorly drained.

Stand 12: Prescription

This stand will be placed in protection as part of the day use area. It casts shade over the drainage pond and adds aesthetic value to the park setting of the day use area. The stand will not be treated unless there is a weather event that causes blow down and there is a possibility to salvage the timber and clear debris from the day use area.

*Stand Summary Table is found on **Page 48** of the Index*

Stand: 13 Description

Stand thirteen is a 1.3 ac White/ Norway spruce stand that border the day use area. There is a seedling spruce understory that has regenerated from the mature spruce. This stand has a BA/ac of 120. This is an old growth spruce stand that has a foot path that connects to the day use area. Soils in this location are somewhat poorly drained.

Stand 13: Prescription

This stand will be placed in protection as part of the day use area. It casts shade over the drainage pond and adds aesthetic value to the park setting of the day use area. The stand will not be treated unless there is a weather event that causes blow down and there is a possibility to salvage the timber and clear debris from the day use area.

*Stand Summary Table is found on **Page 49** of the Index*

Stand 14: Description

Stand fourteen is 1.1 ac mixed wood stand comprised of Scotch pine and White ash. This stand is in the North East corner of the day use area. The soil in this stand is poorly drained and there are many underground seeps that hold water. Much of the water that flows down into the drainage pond in the day use area flows through this stand. This allows the White Ash to grow well but it is not beneficial to the Scotch pine. Many of the Scotch pine are dying, opening up room on the forest floor for the hardwood understory. The understory of this stand is primarily ash seedlings and raspberries.

Stand 14: Prescription

This stand will be placed in protection as part of the day use area. It casts shade over the drainage pond and adds aesthetic value to the park setting of the day use area. The stand will not be treated unless there is a weather event that causes blow down and there is a possibility to salvage the timber and clear debris from the day use area.

*Stand Summary Table is found on **Page 50** of the Index*

Stand 15 Description

Stand fifteen is a 30.9 acre hardwood stand that's located at the north most end of the property on top of the hill. It is an uneven aged stand with a hardwood understory. The understory has a heavy American Beech presence mixed in with Sugar maple, red maple, and ash regeneration. American beech is at an interfering level in the understory, making it difficult for valuable hardwood species to reproduce. A wind event has hit this stand and caused a significant amount of top damage to the mature hardwoods. The stand has a BA/ ac 109. Soil conditions on this hilltop are well drained.

Stand 15: Prescription

With a regenerating hardwood understory and a mature over story with top damage, this stand is ready for a thinning. It has been determined that this stand has had one thinning entry and is ready for a second thinning in which top damaged trees will be taken for firewood and mature White ash will be removed in anticipation of forest health issues caused by the emerald ash borer beetle that in the vicinity of this forest. This thinning should lower the basal area from 109 to 80 BA/ac. The residual stand will be an uneven hardwood stand with quality hardwoods that have the growing space to improve primary and secondary growth.

*Stand Summary Table is found on **Page 51** of the Index*

Stand 16: Description

Stand sixteen is a 2.5 acre hardwood stand. It is an uneven aged stand that's primary species is American beech. Mature American Beech in this stand has contracted Beech Scale Bark disease. This is common in most American beech stands across the North East. When the mature Beech is damaged from the disease they sprout new shoots from their root systems. These Beech sprouts account for most of this stand's understory. The Other hardwood species in this stand are not able to reproduce on the forest floor due to the abundance of American Beech sprouts. This stand has a BA/ ac of 120, and soil conditions on this site are moderately well drained.

Stand 16: Prescription

Under this stand's current conditions the mature American Beech will continue to deteriorate in health creating more sprouts. Without the Red Oak, Ash, and Hickory reproducing on this site it will become a Beech monoculture. This stand needs to be treated with herbicide to cull the American Beech. No harvesting can take place in this stand without the completion of an herbicide treatment first. If the herbicide is completed this stand would be in a good position to reproduce and create a nice mixed hardwood stand that could be harvested at a later date.

*Stand Summary Table is found on **Page 52** of the Index*

Stand 17: Description

Stand seventeen is a 2.6 ac hardwood stand. It is an uneven age stand that's primary species is White ash. This stand was harvested for Red Pine and the residual was hardwood that has grown into saw timber. The understory of this stand consists of White Ash, Red Maple, American Beech seedlings, and raspberries. This stand has poorly drained soil with many seeps present throughout the lower parts of the stand. This ground is ideal for growing White Ash. This stand has a BA/ac of 146.

Stand 17: Prescription

With a basal area of 146 / ac this stand is ready to be thinned. There are saw timber sized White Ash and a mixed species composition of smaller hardwoods. This thinning would aim to reduce the BA/ac to 110 by removing poor quality trees to sell as firewood. There is opportunity to do a saw timber White Ash sale as well in the near future. Firewood thinning previous to the saw timber harvest will increase the quality of the saw timber and open up growing space for the quality saw timber trees to reproduce. Any sale that takes place in this stand must be done under frozen conditions due to its soil quality.

*Stand Summary Table is found on **Page 53** of the Index*

Stand 18: Description

Stand eighteen is a 2.1 acre hardwood stand that is the residual from a Red Pine over story removal. There was very little left behind after this sale. The stand has a BA/ac of 20. Many of the residual hardwoods are still in the seedling/ sapling stage but there are enough larger trees to keep it from being classified as a seedling sapling stand. The species composition of this stand consists of White Ash, Red Maple, American Beech, and Birch. The soil conditions on this site are somewhat poorly drained.

Stand 18: Prescription

This stand is in the stem exclusion stage in most of its area. This stand needs to be left to grow and compete. There is enough mature timber in neighboring stands to seed in the barren parts of this the stand. Re inventory will be conducted on this stand in 2025 and the timber will be evaluated. It is our hope after seven years of growth the stand will be ready to thin and selectively cull undesirable species.

*Stand Summary Table is found on **Page 54** of the Index*

Stand 19: Description

Stand eighteen is a 25.3 ac hardwood stand that stretches across the middle of the property above the day use area. This stand is the residual hardwood from a large Red Pine over story removal. This is an uneven aged stand with an American Beech understory black berry bushes present throughout the entire understory. This is a young stand with high levels of competition between saplings that make up the majority the stand's basal area which is currently at a 69 BA/ac. Soil conditions in this stand are somewhat poorly drained with depressions that collect water.

Stand 19: Prescription

This stand will grow into a saw timber quality stand with time and treatment. There should be no treatment of this stand until after the next inventory. The White Ash on this site should continue to grow into saw timber. The saplings will continue to compete and distinguish a dominant species composition in the understory of the stand. Any future treatment of this stand should take place under frozen conditions due to its soil quality.

*Stand Summary Table is found on **Page 55** of the Index*

Stand 20: Description

Stand twenty is a small collection pond in the day use area. Fish have been observed in this pond. This pond has been placed under protective status as a water resource. Protection status is given to stands that need to be protected for water quality, Historical value, or other conservation value.

Stand 20: prescription

No management will be done to this pond.

No Stand Summary Tables are provided for clear cut stands .

Stand 21: Description

Stand twenty one is a 3.5 acre uneven aged hardwood stand that runs along the eastern boundary toward the top of the parcel. This hardwood stand has a species composition of saw timber sized northern hardwoods with an understory of American Beech. A harvest was conducted in this stand to remove the Red Pine but the hardwood has not been treated. With a BA/ac of 86 and moderately well drained soil this is a healthy, reproducing stand with workable ground.

Stand 21: Prescription

This stand is ready for a thinning treatment. There are smaller hardwoods that are crowding quality saw timber trees that can be removed for firewood and allow for saw timber to continue to grow. There are also saw timber sized White Ash that could be harvested in anticipation of forest health issues caused by the emerald ash boring beetle which has been found in the vicinity of this forest. This stand can be reduced to a BA/ ac of 70. Herbicide should be done on this stand before it is converted, to reduce the number of American beech present in the understory. The ground is good enough in this stand to conduct treatment in frozen or non frozen conditions.

*Stand Summary Table is found on **Page 56** of the Index*

Stand 22: Description

Stand twenty two is a 2.1 acre hardwood stand adjacent to a large seedling/ sapling stand. Soil conditions in this stand are very poorly drained. This stand sits in a low point in the landscape that collects water. Due to the poor drainage of the soil aspen is the dominant species in this stand. There are mixed in Red Oak and Ash in the over story and the understory is dominated by Aspen and White Ash regeneration. This stand has a BA/ac of 66. This low basal area is due to the poor growing conditions.

Stand 22: Prescription

No treatment is recommended in this stand due to the poor drainage of its soil. Aspen will continue to grow in this stand and create quality wildlife habitat. This stand will not be placed in protection. Re inventory will be conducted on this stand in 2025 and the timber and soil conditions will be evaluated.

*Stand Summary Table is found on **Page 57** of the Index*

Trail Conditions:

Currently there are no official or use designated trails on the property. There are skid trails from previous timber harvesting operation that run throughout the property. These have been observed being used as hiking and snow shoeing trails. All trials that are built in the future will be cleared of hazards and trail markers will be put in place. Skid trails will remain in their current condition and not maintained until their use in future timber harvesting operations. The intended Beaver Pond Trail can be seen in **figure 4**. This trail will be maintained annually by the overseeing forester and volunteers from the community. The specifications for multipurpose trails by the United States Forest Service will be used in the creation of this new trail.

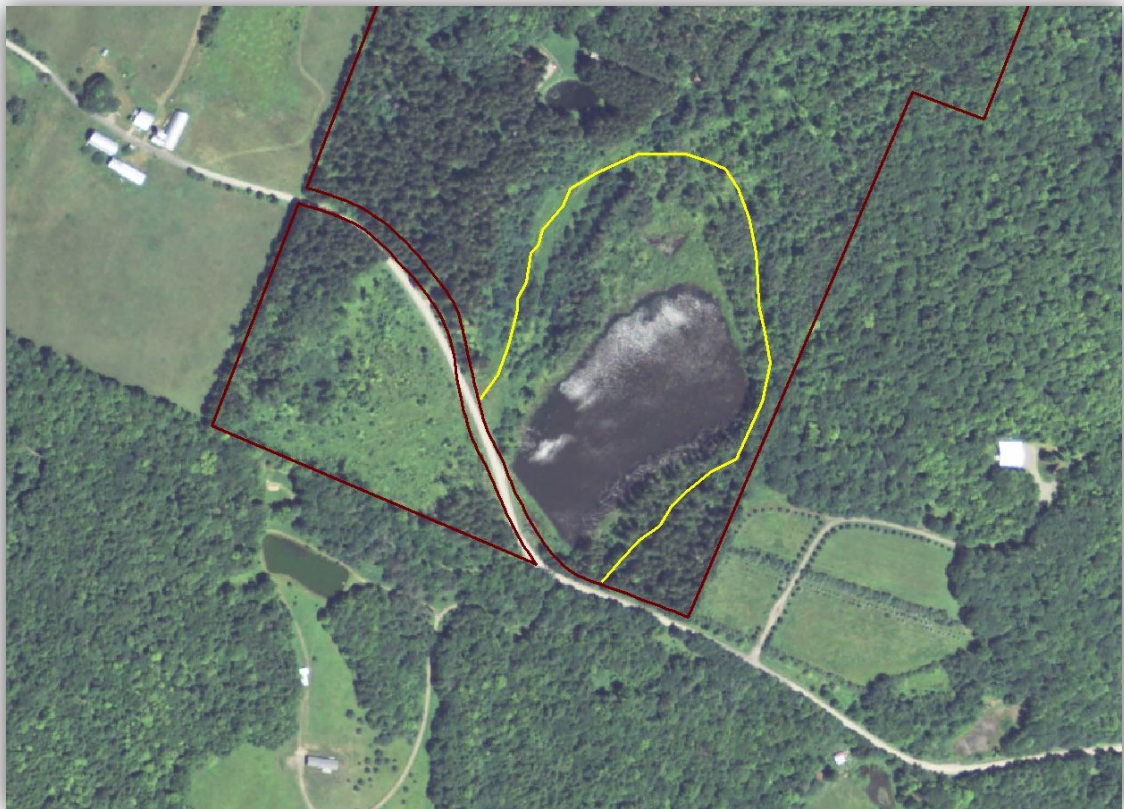


Figure 4: Beaver Pond Trail will be built in 2018 and serve as a 0.5 mile multi- purpose trail.

Stream Conditions:

Stream protection is an integral part of water quality maintenance and ecosystem health. This property is on a hill, and all of the stream flow and overland flow drains into collection basins at the pond in the day use area and the beaver pond. There are many underground seeps throughout the property but only one major inflow to the beaver pond. These seeps and flows will be treated as streams and given a 35 foot protective buffer where they can be located. Many of these subsurface flows are just a few inches under the ground and during heavy runoff become visible. No equipment will be allowed to work inside of these protective buffers. No recreation trails will cross buffers without installation of culvert



Figure 5: Runoff from the hillside funnels into this stream system that feeds the beaver pond.

Wildlife Conditions:

Wildlife can be seen in abundance at Dozen Dads County Forest. Timber harvesting activity in recent years has created this matrix of forest stands and cover types that allow for wildlife to thrive. Opening up space for light to break through the forest canopy allows growth of tree seedlings, raspberries and blackberries which in turn creates habitat for small mammals such as mice, rabbits, and ground nesting game birds. These species allow for small game hunting as well as providing prey for larger predators such as birds of prey, foxes, coyotes, Bob cats, and Black bears.

Ruffed Grouse and woodcock can be found in the young hardwood- softwood sapling stands. Mature Conifer stands and deciduous stands have yielded excellent roosting habitat for Wild Turkeys and clear cuts where Raspberries and Blackberries grown have created ample browsing opportunity for White Tail Deer and Black Bear. Habitat will continue to grow and change as timber stands are treated. It is our goal to have diverse habitat opportunity to provide nesting, hunting and foraging for a variety of wildlife species.



Figure 6: A male Ruffed Grouse.

Invasive Species Conditions:

Invasive species are any plant, animal, and insect species that are not “native” or naturally found in an ecosystem. When these species are introduced to an ecosystem they can cause irreparable damage because they work outside the checks and balances that regulate the native species in an ecosystem. They can out compete species that they share the same niche with in an ecosystem, or thrive and over consume natural resources because there are no predators in the ecosystem that keep the populations at a healthy level. In Otsego County the most prevalent invasive species that threaten forests are the Emerald Ash Borer, and the Black and Pale Swallowwort.

The Emerald Ash Borer lays eggs in the cambium of White ash trees. These larvae feed on the cambium of the ash trees and destroy their nutrient transport system. Ash trees infected with Emerald Ash Borer will show canopy dieback, yellowing, browning of leaves, and “D” shaped holes in their bark. No sign of Emerald Ash Borer has been found on Dozen Dads County Forest but Otsego County is inside the Emerald Ash Borer Restricted Zone set up by the New York State Department of Environmental Conservation (DEC).

Black and Pale Swallowwort have been found in Otsego County. This invasive species dominates the forest floor once they are introduced. They grow so aggressively that they do not allow any native species to occupy the same growing space. This species has not been found on Dozen Dads County forest but has been found in the county. The Emerald Ash Borer and the Swallowwort will be searched for in the next forest inventory.



Figure 7: An Emerald Ash Borer (*Agrilus planipennis*) with its wings spread.



Figure 8: An Emerald Ash Borer (*Agrilus planipennis*) on a White Ash tree.



Figure 9: Black Swallowwort (*Cynanchum louiseae*)

Standards and Guidelines

To sustainably manage forests, timber harvesting has to be used as a tool to improve forest stands until they are ready to be converted into different stand types. By removing targeted amounts and species of timber in each treatment entry to a stand, allow you to harvest forest products more than once while improving the residual stand. Using the principles of Silviculture, forest treatments will mimic natural events that thin forests such as tornados, ice storms, forest fires and micro bursts. This helps maintain a healthy ecosystem and ensures forest products for future harvesting. No harvesting will take place on this forest without the establishment or replacement of regeneration in a stand. By using this harvesting practice there will always be a residual forest stand after the harvest is complete.

Although there are no laws in New York State mandating timber harvesting practices. Otsego County will be using the New York State Forestry Best Management Practices for Water Quality (BMPs) to set up all harvesting plans and contracts. These BMPs will protect streams and other water bodies from sedimentation, and prevent soil erosion from harvesting equipment. Following these standards and guidelines will ensure natural, productive, and well rounded future for Otsego county forests.

Monitoring

To track this forest's growth progress, forest health, and visitor safety a re-inventory will be done every seven years. Seven years allows a forest stand time to recover from harvests, regenerate an understory, and improve timber quality. Using a fifteen year harvesting rotation a seven year inventory rotation will give us the opportunity to track these progressions about half way through the stands cutting rotation. The progress of the stands will be recorded during these inventories and will be reported and revised in management plans.

Appendix

Stand Summary Tables

Stand Number: 1

Area (acres): 1.9

Stand ID: 1

2/12/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Pine Sawtimber**Sawtimber**

#

*Sqr Feet**Board Feet*

White Pine--Inter 78/

1.9

3.33

439.5

White Spruce--Inter 78/

142.0

223.33

39,275.3

Total**143.9****226.67****39,714.8****Hardwood Sawtimber****Sawtimber**

#

*Sqr Feet**Board Feet*

Ash--Inter 78/

4.3

6.67

780.9

Total**4.3****6.67****780.9****Pine Pulpwood****Pulpwood**

#

*Sqr Feet**Cords*

White Spruce--RGO Cords-Logs/

9.3

6.67

1.2

Total**9.3****6.67****1.2****Stand Total****157.5****240.00**

Stand Number: 3

Area (acres): 0.9

Stand ID: 3

2/13/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Pine Sawtimber**Sawtimber**

#

*Sqr Feet**Board Feet*

White Spruce--Inter 78/

102.3

116.67

17,009.6

Total**102.3****116.67****17,009.6****Hardwood Sawtimber****Sawtimber**

#

*Sqr Feet**Board Feet*

Aspen--Inter 78/

15.9

13.33

1,201.2

Total**15.9****13.33****1,201.2****Pine Pulpwood****Pulpwood**

#

*Sqr Feet**Cords*

White Spruce--RGO Cords-Logs/

113.5

43.33

7.2

Total**113.5****43.33****7.2****Hardwood Pulpwood****Pulpwood**

#

*Sqr Feet**Cords*

Ash--RGO Cords-Logs/

23.1

6.67

1.1

Total**23.1****6.67****1.1****Stand Total****254.8****180.00**

Stand Number: 4

Area (acres): 9.3

Stand ID: 4

2/13/18

Product Group

Product

Trees

Basal Area

Volume 1

Species--Volume Table 1/2

Pine Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

White Spruce--Inter 78/

115.1

192.00

35,856.8

Total

115.1

192.00

35,856.8

Stand Total

115.1

192.00

35,856.8

Stand Number: 7

Area (acres): 3.0

Stand ID: 7

2/13/18

Product Group

Product

Trees

Basal Area

Volume 1

Species--Volume Table 1/2

Pine Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

White Spruce--Inter 78/

74.6

120.00

22,356.3

Total

74.6

120.00

22,356.3

Stand Total

74.6

120.00

22,356.3

Stand Number: 8

Area (acres): 8.0

Stand ID: 8

2/14/18

Product Group

Product

Species--Volume Table 1/2

Trees

Basal Area

Volume 1

Pine Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

White Pine--Inter 78/

0.9

2.50

522.8

Scotch Pine -- Inter 78/

48.9

45.00

5,746.8

Total

49.8

47.50

6,269.6

Hardwood Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

Northern Red Oak--Inter 78/

1.4

2.50

260.3

Birch--Inter 78/

3.2

2.50

178.3

Total

4.6

5.00

438.6

Pine Pulpwood

Pulpwood

#

Sqr Feet

Cords

Scotch Pine -- RGO Cords-Logs/

70.6

30.00

7.1

Total

70.6

30.00

7.1

Hardwood Pulpwood

Pulpwood

#

Sqr Feet

Cords

Northern Red Oak--RGO Cords-Logs/

5.7

2.50

0.5

Red Maple--RGO Cords-Logs/

8.4

5.00

1.5

Beech--RGO Cords-Logs/

5.7

2.50

0.2

Birch--RGO Cords-Logs/

19.9

5.00

0.7

Total

39.6

15.00

2.8

Stand Total

164.6

97.50

Stand Number: 10

Area (acres): 9.4

Stand ID: 10

2/14/18

Product Group

Product

Species--Volume Table 1/2

Trees

Basal Area

Volume 1

Pine Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

White Pine--Inter 78/

13.6

17.50

2,825.4

Scotch Pine --Inter 78/

1.8

2.50

322.3

Total

15.4

20.00

3,147.7

Hardwood Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

Northern Red Oak--Inter 78/

2.3

2.50

182.4

Red Maple--Inter 78/

5.5

5.00

464.8

Black Cherry--Inter 78/

6.4

5.00

356.5

Total

14.2

12.50

1,003.7

Pine Pulpwood

Pulpwood

#

Sqr Feet

Cords

White Pine--RGO Cords-Logs/

16.9

7.50

1.9

Total

16.9

7.50

1.9

Hardwood Pulpwood

Pulpwood

#

Sqr Feet

Cords

Northern Red Oak--RGO Cords-Logs/

58.8

10.00

1.4

Red Maple--RGO Cords-Logs/

19.3

10.00

2.0

Ash--RGO Cords-Logs/

4.6

2.50

0.3

Total

82.7

22.50

3.7

Stand Total

129.3

62.50

Stand Number: 11

Area (acres): 1.1

Stand ID: 11

2/14/18

Product Group

Product

Species--Volume Table 1/2

Trees

Basal Area

Volume 1

Pine Sawtimber

Sawtimber

Scotch Pine -- Inter 78/

White Spruce--Inter 78/

Total

#

Sqr Feet

Board Feet

46.2

66.67

11,272.9

85.8

120.00

20,144.0

132.0

186.67

31,416.9

Pine Pulpwood

Pulpwood

Scotch Pine -- RGO Cords-Logs/

White Spruce--RGO Cords-Logs/

Total

#

Sqr Feet

Cords

5.1

3.33

0.6

8.7

6.67

1.2

13.7

10.00

1.8

Stand Total

145.7

196.67

Stand Number: 12

Area (acres): 1.4

Stand ID: 12

2/15/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Pine Sawtimber**Sawtimber**

#

Sqr Feet

Board Feet

White Pine--Inter 78/

26.4

25.00

2,965.8

Total

26.4

25.00

2,965.8

Hardwood Sawtimber**Sawtimber**

#

Sqr Feet

Board Feet

Sugar Maple--Inter 78/

23.1

30.00

2,258.0

Ash--Inter 78/

20.3

30.00

2,922.4

Hickory--Inter 78/

3.6

5.00

379.6

Total

47.0

65.00

5,560.0

Pine Pulpwood**Pulpwood**

#

Sqr Feet

Cords

White Pine--RGO Cords-Logs/

34.1

15.00

3.9

Total

34.1

15.00

3.9

Hardwood Pulpwood**Pulpwood**

#

Sqr Feet

Cords

Sugar Maple--RGO Cords-Logs/

21.9

15.00

2.9

Ash--RGO Cords-Logs/

4.7

5.00

0.9

Hickory--RGO Cords-Logs/

3.6

5.00

1.1

Total

30.2

25.00

4.9

Stand Total

137.7

130.00

Stand Number: 13

Area (acres): 1.3

Stand ID: 13

2/15/18

Product Group

Product

Trees

Basal Area

Volume 1

Species—Volume Table 1/2

Pine Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

White Spruce—Inter 78/

58.2

120.00

22,279.3

Total

58.2

120.00

22,279.3

Stand Total

58.2

120.00

22,279.3

Stand Number: 14

Area (acres): 1.1

Stand ID: 14

2/15/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Pine Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

Cedar--Inter 78/

38.2

30.00

2,139.0

Total**38.2****30.00****2,139.0****Hardwood Sawtimber****Sawtimber****#****Sqr Feet****Board Feet**

Ash--Inter 78/

25.6

40.00

3,859.2

Total**25.6****40.00****3,859.2****Pine Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Cedar--RGO Cords-Logs/

67.9

30.00

7.2

Total**67.9****30.00****7.2****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Ash--RGO Cords-Logs/

5.7

10.00

3.4

Total**5.7****10.00****3.4****Stand Total****137.4****110.00**

Stand Number: 15

Area (acres): 30.9

Stand ID: 15

2/15/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Pine Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

Hemlock--Inter 78/

1.1

0.83

59.4

Total**1.1****0.83****59.4****Hardwood Sawtimber****Sawtimber****#****Sqr Feet****Board Feet**

Northern Red Oak--Inter 78/

2.4

2.50

227.6

Basswood--Inter 78/

3.8

3.33

241.5

Sugar Maple--Inter 78/

44.6

45.00

3,710.5

Red Maple--Inter 78/

1.8

1.67

120.2

Ash--Inter 78/

16.6

18.33

1,739.9

Hickory--Inter 78/

2.2

2.50

247.9

Birch--Inter 78/

1.8

1.67

95.9

Total**73.4****75.00****6,383.5****Pine Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Hemlock--RGO Cords-Logs/

4.2

0.83

0.1

Total**4.2****0.83****0.1****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Basswood--RGO Cords-Logs/

1.9

0.83

0.1

Sugar Maple--RGO Cords-Logs/

62.1

23.33

3.1

Red Maple--RGO Cords-Logs/

8.4

3.33

0.5

Ash--RGO Cords-Logs/

4.9

3.33

0.6

Black Cherry--RGO Cords-Logs/

1.9

0.83

0.1

Beech--RGO Cords-Logs/

1.3

0.83

0.1

Total**80.5****32.50****4.5****Stand Total****159.2****109.17**

Stand Number: 16

Area (acres): 2.5

Stand ID: 16

2/16/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Hardwood Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

Northern Red Oak--Inter 78/

6.9

10.00

759.4

Red Maple--Inter 78/

2.4

3.33

253.1

Hickory--Inter 78/

10.9

10.00

728.4

Total**20.2****23.33****1,740.9****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Northern Red Oak--RGO Cords-Logs/

7.6

3.33

0.4

Red Maple--RGO Cords-Logs/

7.4

6.67

0.8

Ash--RGO Cords-Logs/

9.3

6.67

0.8

Beech--RGO Cords-Logs/

183.6

73.33

7.3

Birch--RGO Cords-Logs/

7.4

6.67

0.8

Total**215.3****96.67****10.2****Stand Total****235.4****120.00**

Stand Number: 17

Area (acres): 2.6

Stand ID: 17

2/20/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Hardwood Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

Ash--Inter 78/

72.6

93.33

8,264.1

Black Cherry--Inter 78/

4.2

3.33

237.7

Total**76.9****96.67****8,501.8****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Sugar Maple--RGO Cords-Logs/

6.1

3.33

0.3

Ash--RGO Cords-Logs/

50.2

36.67

5.8

Beech--RGO Cords-Logs/

12.2

6.67

0.7

Birch--RGO Cords-Logs/

5.1

3.33

0.4

Total**73.5****50.00****7.1****Stand Total****150.4****146.67**

Stand Number: 18

Area (acres): 2.1

Stand ID: 18

2/20/18

Product Group

Product

Trees

Basal Area

Volume 1

Species--Volume Table 1/2

Hardwood Sawtimber

Sawtimber

#

Sqr Feet

Board Feet

Ash--Inter 78/

6.2

6.67

570.6

Total

6.2

6.67

570.6

Hardwood Pulpwood

Pulpwood

#

Sqr Feet

Cords

Red Maple--RGO Cords-Logs/

34.0

6.67

0.6

Beech--RGO Cords-Logs/

7.5

3.33

0.3

Birch--RGO Cords-Logs/

6.1

3.33

0.3

Total

47.6

13.33

1.1

Stand Total

53.8

20.00

Stand Number: 19

Area (acres): 25.3

Stand ID: 19

2/20/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Pine Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

White Pine--Inter 78/

1.4

2.73

313.3

Total**1.4****2.73****313.3****Hardwood Sawtimber****Sawtimber****#****Sqr Feet****Board Feet**

Northern Red Oak--Inter 78/

2.8

3.64

299.5

Red Maple--Inter 78/

3.4

4.55

343.9

Ash--Inter 78/

8.9

11.82

1,013.9

Total**15.1****20.00****1,657.3****Pine Pulpwood****Pulpwood****#****Sqr Feet****Cords**

White Pine--RGO Cords-Logs/

0.9

0.91

0.2

Total**0.9****0.91****0.2****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Northern Red Oak--RGO Cords-Logs/

0.4

0.91

0.1

Sugar Maple--RGO Cords-Logs/

2.1

0.91

0.1

Red Maple--RGO Cords-Logs/

87.3

29.09

3.3

Ash--RGO Cords-Logs/

7.2

4.55

0.5

Black Cherry--RGO Cords-Logs/

3.0

1.82

0.2

Beech--RGO Cords-Logs/

16.9

3.64

0.3

Birch--RGO Cords-Logs/

12.0

4.55

0.5

Total**129.0****45.45****5.0****Stand Total****146.3****69.09**

Stand Number: 21

Area (acres): 3.5

Stand ID: 21

2/26/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Hardwood Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

Northern Red Oak--Inter 78/

2.4

3.33

253.1

Red Maple--Inter 78/

9.6

13.33

912.4

Ash--Inter 78/

15.7

23.33

2,065.9

Birch--Inter 78/

3.1

3.33

243.2

Aspen--Inter 78/

3.9

6.67

691.0

Total**34.7****50.00****4,165.5****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Red Maple--RGO Cords-Logs/

65.0

23.33

2.2

Ash--RGO Cords-Logs/

12.2

6.67

0.8

Birch--RGO Cords-Logs/

44.3

6.67

0.9

Total**121.5****36.67****3.9****Stand Total****156.2****86.67**

Stand Number: 22

Area (acres): 2.1

Stand ID: 22

2/27/18

Product Group**Product****# Trees****Basal Area****Volume 1**

Species--Volume Table 1/2

Hardwood Sawtimber**Sawtimber****#****Sqr Feet****Board Feet**

Northern Red Oak--Inter 78/

14.1

16.67

1,246.7

Ash--Inter 78/

9.0

10.00

736.3

Aspen--Inter 78/

6.7

10.00

852.9

Total**29.8****36.67****2,835.9****Hardwood Pulpwood****Pulpwood****#****Sqr Feet****Cords**

Ash--RGO Cords-Logs/

15.7

6.67

0.5

Aspen--RGO Cords-Logs/

117.8

23.33

2.2

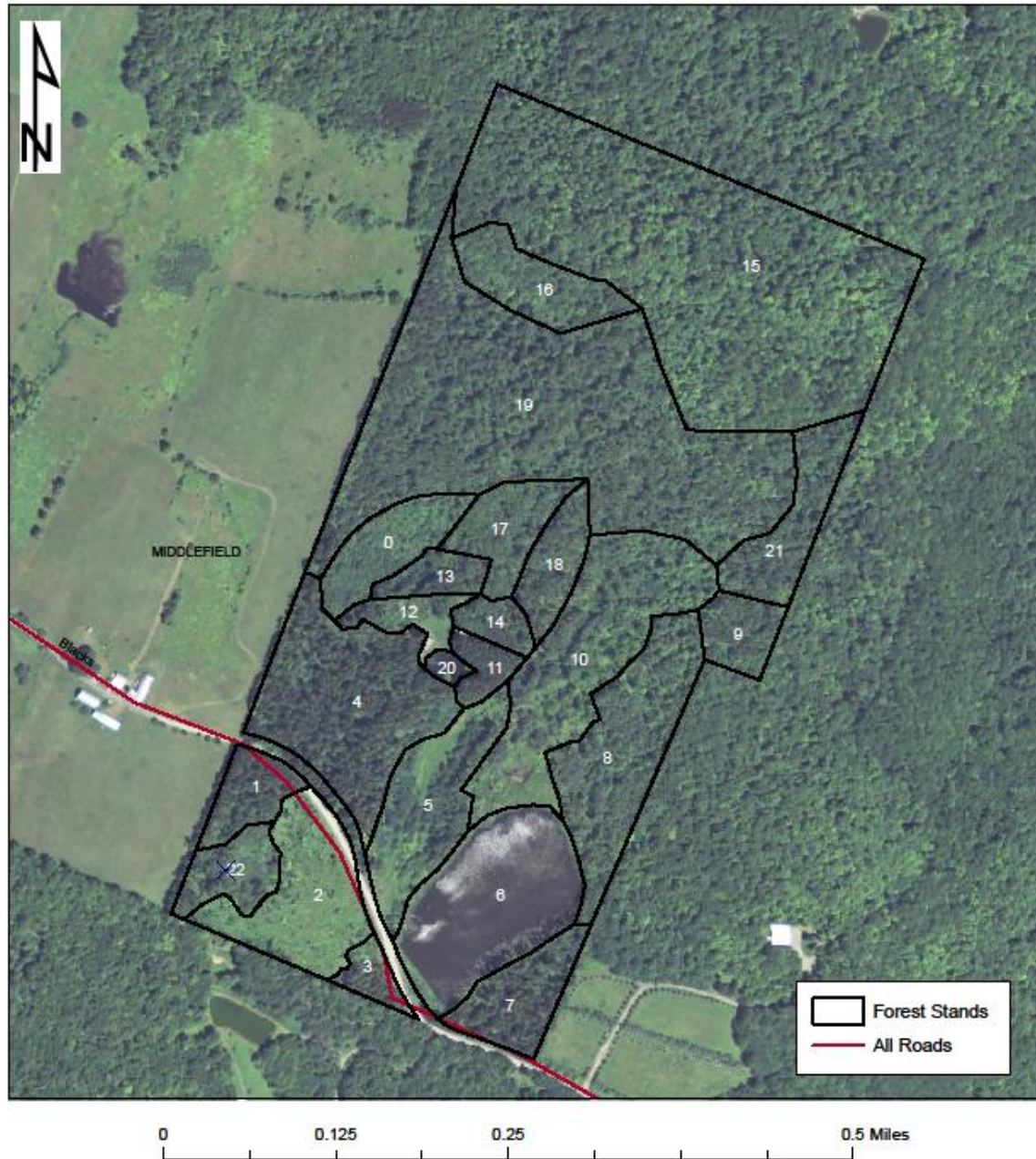
Total**133.4****30.00****2.7****Stand Total****163.2****66.67**

Appendix II



Dozen Dads County Forest

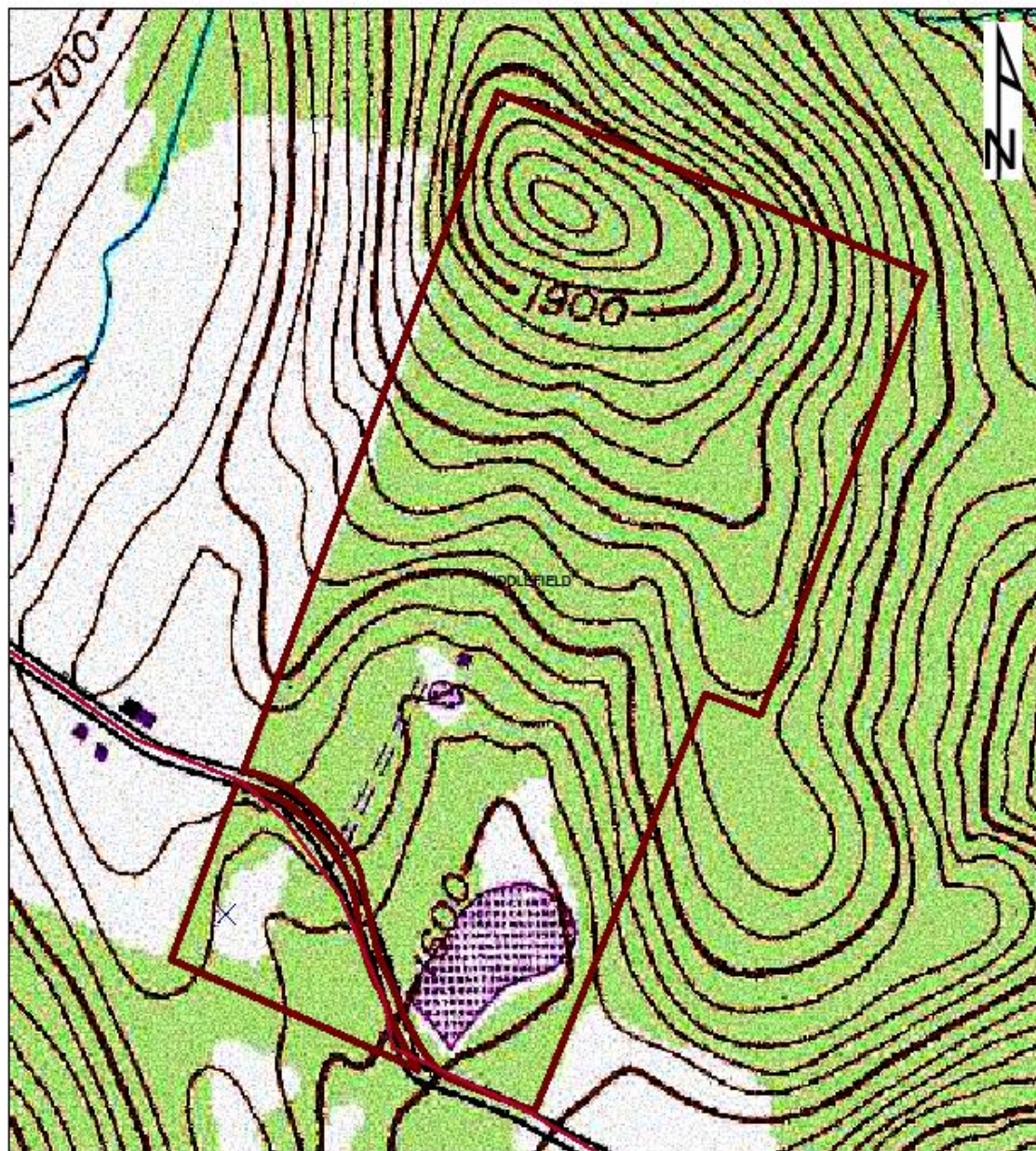
Map created by Joe Sweeney
3/7/2018





Dozen Dads County Forest Topography

Map created by Joe Sweeney
3/7/2018



0 0.125 0.25 0.5 Miles

Literature Cited

Emerald Ash Borer (EAB). (n.d.). Retrieved March 07, 2018, from

<http://www.dec.ny.gov/animals/7253.html>

Swallow-Worts. (n.d.). Retrieved March 07, 2018, from [http://cceschoharie-](http://cceschoharie-otsego.org/environment/invasive-species/invasive-plants/swallow-worts)

[otsego.org/environment/invasive-species/invasive-plants/swallow-worts](http://cceschoharie-otsego.org/environment/invasive-species/invasive-plants/swallow-worts)

Photos Cited

Cappaert, David. 2018, February. Figure 7, Emerald Ash Borer. Michigan: Michigan State University.

Cappaert, David. 2018, February. Figure 8, Emerald Ash Borer. Michigan: Michigan State University.

Major, John. 2015. Figure 6, Ruffed Grouse. New York.

Mehrhoff, Leslie. J. 2018, February. Figure 9, Black dog-strangling vine, black swallowwort. Connecticut: UConn.