NEWPORT TOWN FOREST

Forest Management Plan for the Newport Town Forest on Vance Hill Road: October, 2025

Forest Management Plan prepared for the Newport Conservation Commission

Jared Nunery
Orleans County Forester
VT Licensed Forester
148.0122274

Forest Management Plan Approval

This Forest Management Plan was prepared by Jared Nunery, Orleans County Forester at the Request of the Newport Conservation Commission.

Printed Name	Signature	Date
Jared Nunery		11/12/2025

We certify that we have read and approve of the 2025 Newport Town Forest Vance Hill Rd Management Plan and agree to implement this plan to the best of our abilities. This Forest Management Plan includes the application of silvicultural practices and the best available applied ecological research, as well as the full implementation of the "Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont" to control stream siltation and soil erosion.

Printed Name	Signature	Date
Dennis DeLaBruere	Dennis DeLaBruere	11/10/2025
Dwight E. Brunnette		11/10/2025
Glenn Foster		11/10/2025
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Purpose of Forest Management Plan

The purpose of the following Forest Management Plan is to provide information and guidance to be used by the Newport Conservation Commission (NCC) and the Newport Town Selectboard for the management of the 97.9-acre forest owned by the Town of Newport off Vance Hill Road. This plan provides management guidance for a ten-year period beginning in 2025. The plan should be updated in 2035, including the completion of a new forest inventory. The information in this plan combines ecological, economic and social information to help the NCC make informed decisions based on long-term management objectives for this land.

This report combines a comprehensive summary of information from the bottom (bedrock and soils) to the top (trees) and everything in between within the forest. This plan is written to be used as both a guidance document for the NCC as well as a potential tool for community members interested in better understanding the tremendous asset owned by the people of Newport that are the Municipal Forest lands. Much of the general information included in this plan is applicable to the forests of the Town of Newport and will also be applicable to the many private forestland owners in the Town.

Location

The Newport Town Forest is located near the village of Newport Center, with access directly off Vance Hill Road from the town Transfer Station. Additional pedestrian access is available from the 6 acre Newport Town Wastewater property. This second access provides pedestrian access directly to the Newport Town Elementary School, including walking access to an area in the southwestern portion of the property that is used as an outdoor classroom by the school.

Management goals and objectives

Below are the goals identified by the Newport Conservation Commission for the Vance Hill Road Town Forest.

- Provide recreational opportunities for use by town residents.
- Provide educational opportunities for the Newport Town Elementary School, including continued use of the land as an outdoor classroom for students.
- Provide periodic income to the Town through the sustainable harvest of forest products.
- Protect water resources on the property, including the 3 town wells located in the current agricultural fields on the property.

The report below provides both a comprehensive background of the Newport Town Forest, as well as a complete overview of the current conditions and a pathway forward for the next 10 years to help achieve the goals above. This report is intended to be a useful tool to all residents of the Town of Newport, as much of the information included in this report is also relevant to adjacent private landowners within the Town.

Historical Background

Historic Land Use

Much of the Vance Hill Road Town Forest shows signs of use as agricultural land at one time. Most of the land was likely used as pasture and agricultural production, with the most recent abandonment likely occurring in the area identified as Stand 1 (see map in Appendix A). Aerial imagery from the 1960's show much of what is now Stand 1, and portions of Stand 2 were open field less than 60 years ago.

Figure 1: Aerial imagery from 1963. Newport Center Village is shown in the bottom right, and the railroad can be identified on the right and Dunn Brook on the left to locate the Vance Hill Road Property. All of Stand 1 was open field at this time.

Historical Timber Management

There are no signs of recent forest management on the property. The majority of the parcel has regrown from agricultural clearing, with Stand 1 having been most recently abandoned (see 1963 aerial imagery above).

Boundary Line Status

Figure 2: Example of old blaze and barbed wire on western property line.

The eastern property boundary is delineated by the railroad tracks, and is accessed from the town road developed to access the town transfer station. The western boundary is a mixture of old blazes which are difficult to find, and sporadic barbed wire. The northern property line includes barbed wire following the VAST trail that runs from the river uphill to the adjacent field. The town should maintain at a minimum, flagging along the western boundary where the line can be located, and work to clearly delineate the northern property line.

Ecological Background

The forest inventory of the Newport Town Forest was completed in July of 2025. Much of the Newport Town Forest is comprised of hydric soils and wetland conditions located in isolated areas throughout both stands. The young forest in Stand 1 includes areas of low stocking populated by many woody shrubs and herbaceous plants producing prolific mast (choke cherry, high bush cranberry, apple trees, etc.). Bear, deer, and coyote sign were all observed during the inventory. The "soft edges" provided in the transition zones within Stand 1 to Stand 2, provide excellent foraging habitat for a wide variety of wildlife, especially songbirds and edge specialists such as deer and bear. These areas are also highly susceptible to invasion of non-

native species such as buckthorn and honeysuckle. See forest stand descriptions below for more information on this topic.

Geologic Information (bedrock and soils)

The Newport Town Forest lies on the transition from two different bedrock types, divided nearly evenly down the middle of the property. The western portion of the property, which comprises the majority of the forestland, is underlain with the Ottauquechee Formation, a phyllite, metasedimentary bedrock formed in the Cambrian era. The eastern half of the property is underlain by the Coburn Hill Metabsalt bedrock, which is also a phyllite, metasedimentary rock formed in the early Ordovician era. This transition is part of a larger transition that occurs in Orleans County, where the bedrock shifts from the schist bedrock of the Green Mountains, to the much more calcium rich bedrock of the Northern Vermont Piedmont. What this all means for the Newport Town Forest is that it lies on a transition point, where the bedrock includes more calcium, which is released into the soil over time, meaning it's a great place to grow trees.

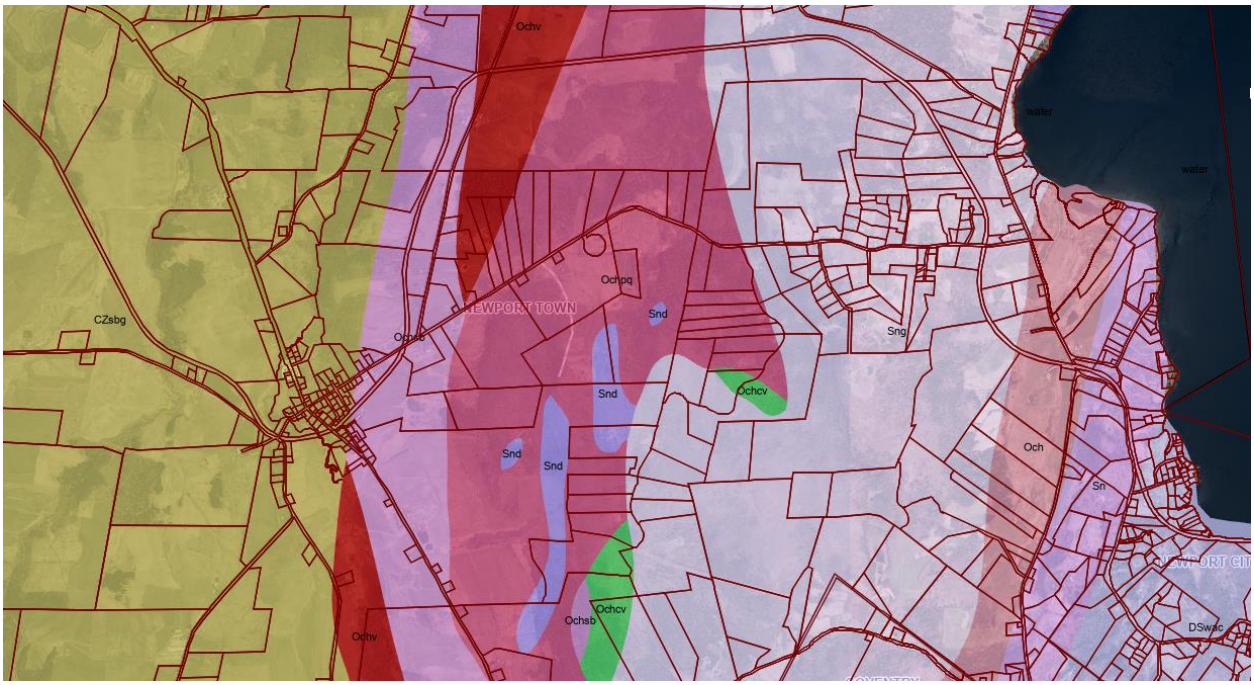

Figure 3: Bedrock maps showing the transition of numerous bedrock types that occurs just east of Newport Center Village. The lighter shade of purple to west represent transition to the Waits River Formation (DSwac) that occurs in Newport City.

Soils within the Newport Town Forest are largely dominated by hydric soils. Soils identified in Stand 1 and 2 are comprised mostly of Cabot soil types, whereas the soils within the areas currently in agricultural production are underlain by Lamoine silt loam soils, a slightly more well-drained and productive soil type. See forest stand descriptions below for additional information on soils.

Watershed

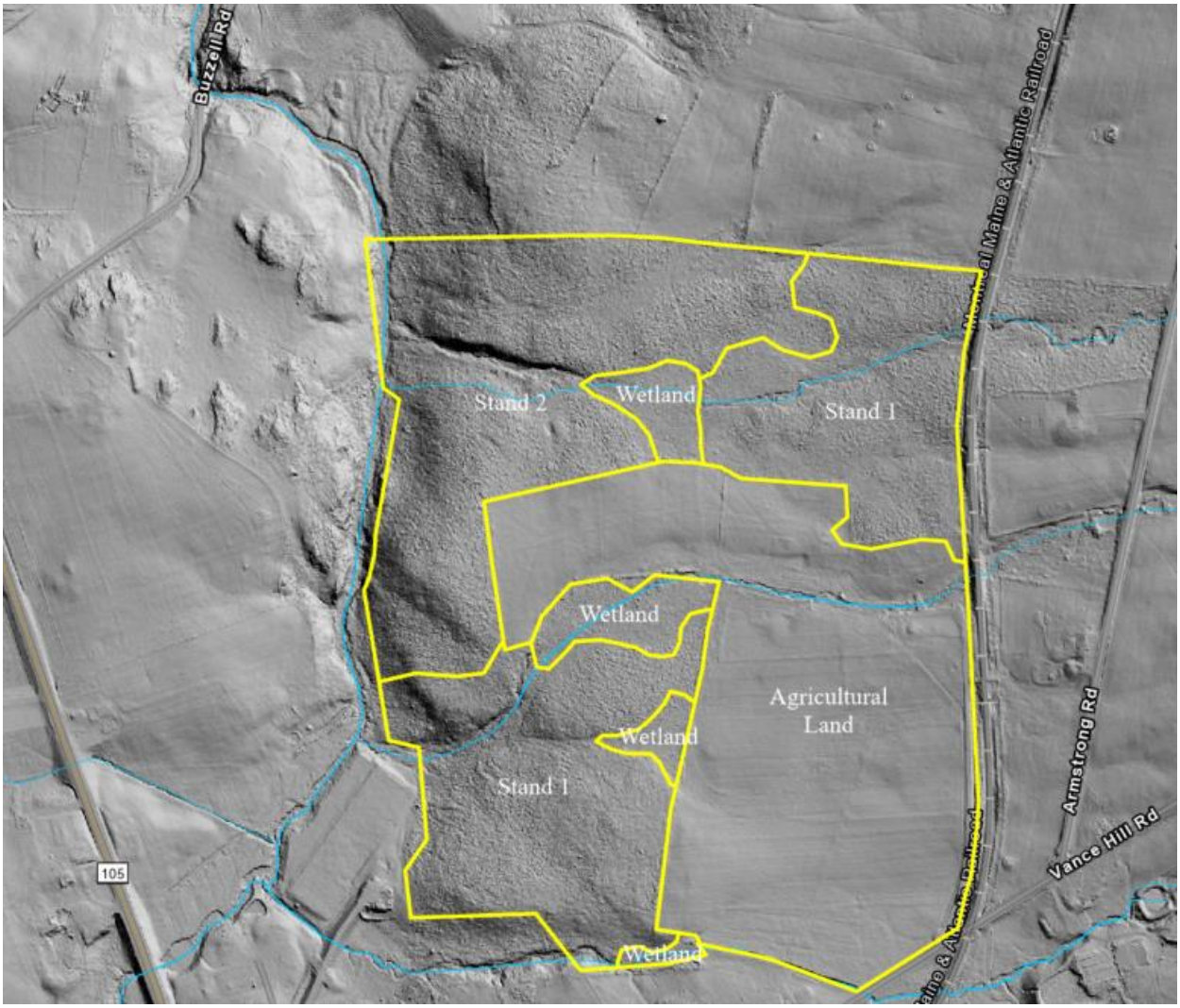

Figure 4: LiDAR imagery showing drainage of Newport Town Forest into Dunn Brook.

This parcel lies entirely within the Missisquoi River Watershed. All water from this parcel flows either directly into Dunn Brook, or into three separate tributaries of Dunn Brook.

Dunn Brook originates in the southern east corner of the Town of Newport, and travels north through town, ultimately forming the western property line of the Vance Hill Road Town Forest, before continuing to the northwest across the town border to Troy and northward into Quebec where the brook ultimately joins the mainstem of the Missisquoi River. From that point water travels westward on a path to Lake Champlain, then north onward to the Richelieu River and into the St Lawrence River before ultimately reaching the Atlantic Ocean.

Wetlands

The Newport Town Forest includes five distinct mapped Class II Wetlands. These areas are small in nature, generally less than an acre or two, and tied to seeps and hydric soils along the flowages and smaller tributary streams that feed into Dunn Brook. Any management and trail development on the property will need to consider the location and impact of management activities on these sensitive areas.

Wildlife

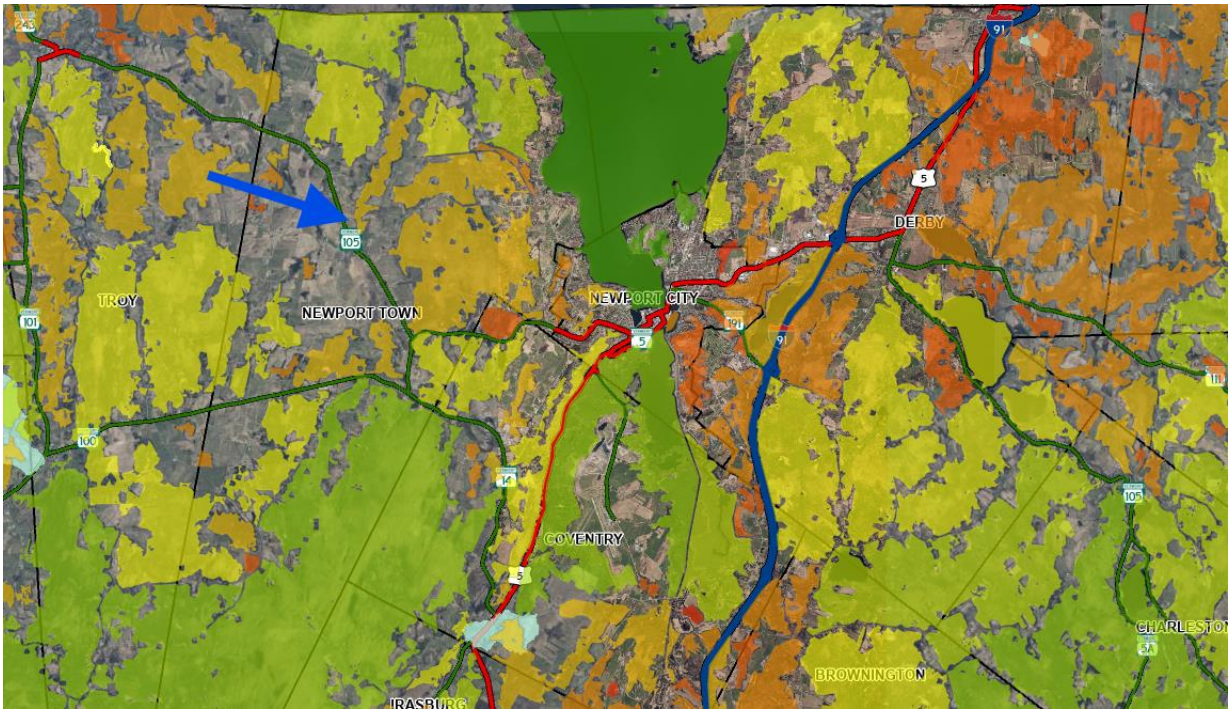

Figure 5: Map showing the location of the Newport Town Forest relative to mapped habitat blocks. Darker green shades represent larger, more intact habitat blocks (Lake Memphremagog is mapped as dark green as waterbodies are considered habitat as well)

The varied forest conditions found within the two identified stands on this parcel offer a unique suite of niches for a variety of wildlife. During the field inventory, signs of deer, porcupine, bear, coyote, and ruffed grouse were observed. Although many signs of wildlife can be observed on this land, it is important to recognize that many species are using this land as part of a larger territory. This was most obvious in the western portions of Stand 2, along Dunn Brook, as well as the northeastern portion of Stand 1, north of the VAST trail where well-worn game trails exist.

The landscape positioning of this parcel is also critical to consider when discussing wildlife habitat. The Newport Town Forest lies in one of most heavily fragmented portions of Orleans County, and the wooded riparian corridor along Dunn Brook and the feeding tributaries to the north, represent an important travel corridor for wildlife. This area offers a small passageway across the agricultural areas of Newport and Troy, ultimately connecting to a much larger

habitat block traveling from Newport and Coventry southward to the Lowell Mountain Range and onward to the Worcester Woods. Large blocks of forestland exist to the north as well, just over the Canadian border in Quebec, running along the western side of Lake Memphremagog. The Newport Town Forest is the southern terminus of a narrow pathway of forestland bisecting the agricultural fields of northern Orleans County. For this reason, consideration of wildlife movement and habitat connectivity is vitally important.

Rare Threatened and Endangered Species and Significant Natural Communities

No rare, threatened or endangered (RTE) species were identified during the forest inventory. A review of the Vermont Department of Fish and Wildlife's database also confirmed that there are no know occurrences of RTE species on this parcel.

Biophysical Region

The Newport Town Forest lies the Northern Piedmont, a region characterized by more gentle topography a more moderate climate relative to regions to the west (Northern Green Mountains) and east (Northeastern Highlands). To the west is the Northern Green Mountain Biophysical region, an area characterized by more acidic metamorphic rocks (especially when compared to those of the Northern Vermont Piedmont), cooler temperatures and increased levels of precipitation. For a full detailed description of each biophysical region see the book Wetlands, Woodlands and Wildlands[1].

Forest Health

In general, no significant forest health issues were observed during the 2025 field inventory. The largest forest health issue noted was the excessive browse on hardwood regeneration and non-native invasive species. Another issue worth noting was the presence of balsam wooly adelgid (BWA) identified on overstory balsam fir trees in Stand 2. This insect has been observed throughout Orleans County over the last seven years. It largely attacks stressed trees and is limited to only balsam fir trees as a host. It can result in a rapid decline in health, and in some cases can lead

Figure 7: Balsam wooly adelgid (small white fluffy patches in the picture above) observed on a balsam fir tree.

[1] Thompson, E.H., and E.R. Sorenson: Wetland, Woodland, Wildland: A guide to the Natural Communities of Vermont, (2005). The Nature Conservancy and the Vermont Department of Fish and Wildlife

to mortality when combined with other stressors. The majority of mature balsam fir in Stands 2 are rapidly declining or have died as a result of BWA and likely other stresses as well. The stand prescriptions described below consider the impact of BWA on the overall stand development.

Very few non-native invasive species were identified in Stand 2, however, the early successional forests in Stand 1 have moderate infestations of common buckthorn, honeysuckle and isolated patches of Japanese barberry. Infestations are the most severe in the southern portion of Stand 1 and along field edges. See stand descriptions below for management recommendations of invasive plants.

Detailed identification of each of these species can be found at www.vtinvasives.org. If any plants are observed or concerns regarding the presence of an invasive species are raised, the

Management Considerations

Recreational Use

Figure 8: Trail signage on trail leading from outdoor classroom to stream.

Recreational use is one of the primary uses of the Newport Town Forest, and has been identified as a priority management goal and objective for this land. The Newport Town Forest

is located within walking distance of the village of Newport Center, with excellent parking and accessibility from the Town Clerk's office, and from the transfer station off Vance Hill Road. The parcel is also accessed from the southwestern corner of Stand 1 via the adjoining property owned by the Newport Center Town Sewar District. This is the primary access for students from the Newport Town Elementary School, who utilize a small area of Stand 1 as an outdoor classroom space.

Several skiing and hiking trails have been developed that traverse the forestland, and a well-utilized VAST trail bisects the northern portion of Stand 2, before entering the fields and crossing the property.

It is the goal of the Newport Conservation Commission to further develop recreational walking and skiing trails throughout the Town Forest.

Educational Use

Figure 9: Outdoor classroom located in the Town Forest, used by the Newport Elementary School.

An area in the southwestern corner of the property is easily accessed by the Newport Elementary School. The staff from the school, along with the help of the Conservation Commission, have developed an outdoor classroom that is regularly used by students to explore the forest. A trail leads from this

classroom to access Dunn Brook, as well as a second trail that travels uphill to the east though Stand 1 to access the upper fields. Students use the forest year-round, including on skis in the winter.

Forest Inventory and Stand Delineation

For the purposes of forest management, areas within the forest of similar age, species and structure are delineated as Forest Stands. Dr. David Smith in his text "The Practice of Silviculture: Applied Forest Ecology"[2] defines a stand as a "*contiguous group of trees sufficiently uniform in species composition, arrangement of age classes, site quality, and condition to be a distinguishable unit"*. In comparison Dr. Ralph Nyland[3] defers to the Society of American Foresters definition when delineating a stand which states "*communities or groups of trees that grow together at a particular place, and that foresters can effectively manage as a unit"*. Both of these definitions include trees; however, one looks more holistically at the stand, age and structure of the forest. This is a critical difference, as the success of all future management practices is directly correlated to the site conditions as well as historic land use of a given piece of land. For the purposes of this report, stands were based not only on similar species arrangements, but also common abiotic features within the forest (i.e. the soils and hydrology) and how these features interact with the biotic features (i.e. the trees). This type of delineation within a forest is commonly referred to as a *Natural Community.* In the stand information below you will also see Natural Communities for each stand identified. The Natural Community is an interacting assemblage of organisms, their physical environment, and the natural processes that affect them.[4]

Applying silviculture in this forest

Management of the forest is conducted at the stand level through the application of *Silvicultural Treatments*. This extensive body of collective knowledge of how forests grow and function is aggregated and distilled into applied science through the practice of Silviculture. The U.S. Forest Service defines silviculture as "*the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis*."[5] In general this is a decent definition, however, it lacks the recognition of the incredible complexity of the multitude of variables that must be considered when practicing silviculture . A more common simplification of this complexity is the fact that silviculture is not rocket science, it is far more complex. It is for this reason that when implementing the silvicultural treatments outlined within this report, the Town is strongly encouraged to employ the services of a Licensed Forester. Additionally, given the goals and objectives defined by the NCC above, it is also

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[2] Smith, D.M., B.C. Larson, M.J. Kelty, and P.M.S. Ashton: The Practice of Silviculture: Applied Forest Ecology, (1997) 9th edition. John Wiley & Sons Inc.

[3] Nyland, R.D.: Silviculture: Concepts and Application, (1996). McGraw-Hill Companies Inc.

[4] Thompson, E.H., and E.R. Sorenson: Wetland, Woodland, Wildland: A guide to the Natural Communities of Vermont, (2005). The Nature Conservancy and the Vermont Department of Fish and Wildlife

[5] Helms, J.A., ed: The dictionary of forestry. (1998) Society of American Foresters. P.210.

encouraged that any work completed under the guidance of this plan is shared with the broader community, to help demonstrate applied silvicultural practices, as well as educate residents on the benefits of such practices.

Forest Inventory

An inventory of the entire parcel was completed in July of 2025 by the Orleans County Forester. Variable radius point sampling was completed using a 10 Basal Area Factor prism. Point sampling is a method of selecting trees to be tallied based on their sizes rather than by their frequency of occurrence[6]. Sample points, analogous to plot centers, are located along a grid generated in ArcPro (a computer mapping program). Once a grid is generated, points are located using a georeferenced map and the Avenza mapping application, which is used to navigate to each point. Within a variable radius plot, the probability of tallying a given tree is based on the cross-sectional area (at 4.5 feet above the forest floor), and the sighting angle (in this case a prism) used. For all inventory work, a 10 Basal Area Factor prism was used, and Vermont State Lands Inventory Protocol was used[7]. Data was collected using a handheld tablet and processed and stored using the Vermont State FOREX Inventory Database System.

In all cases within this report, AGS refers to Acceptable Growing Stock. Acceptable Growing Stock Basal Area (AGS BA) consists of that portion of trees tallied as total basal area that are of commercial species and have the potential to produce sawlog-quality or better material now or in the future. Commercial species are those tree species that are commonly acceptable as being commercially valuable. UGS refers to Unacceptable Growing Stock. Unacceptable Growing Stock Basal Area (UGS BA) consists of that portion of trees tallied as total basal area that are NOT of commercial species, or do not have the potential to produce sawlog or better quality material now or in the future. Non-commercial species typically include such species as alder, apple, chokecherry, ironwood, gray birch, hawthorn, striped maple, pin cherry and willow spp. AGS and UGS Basal Area (BA) are presented in the following pages to describe stocking of overstory trees within each stand.

Below is a table showing the general summary statistics as well as the number of sample points included in each stand.

Stand	Mapped Acres	Points	Basal Area	Trees Per Acre	Acceptable Growing Stock	QMD (in)
1	31	9	41.0	123.0	8.0	9.22
2	24	11	94.0	202.4	47.0	7.82

Figure 10: This table shows the general summary statistics for each stand as well as the number of sample points in each stand. All basal areas are presented in square feet/acre and QMD represents the quadratic mean stand diameter at breast height for each stand.

[6] Avery, T.E., and H.E. Burkhart: Forest Measurements. (1975) McGraw-Hill Inc.
[7] Vermont Department of Forests, Parks and Recreation: Timber Cruise Manual v1.1. (2014)

Management Summary

A management activity summary is provided below.

Year	Activity
2026	Stand 2 – Irregular Group Shelterwood
2026	Stand 1 – Invasive Species Control
2026	Refresh paint on boundary lines
Annually	Monitor for invasive species

Forest Stand 1

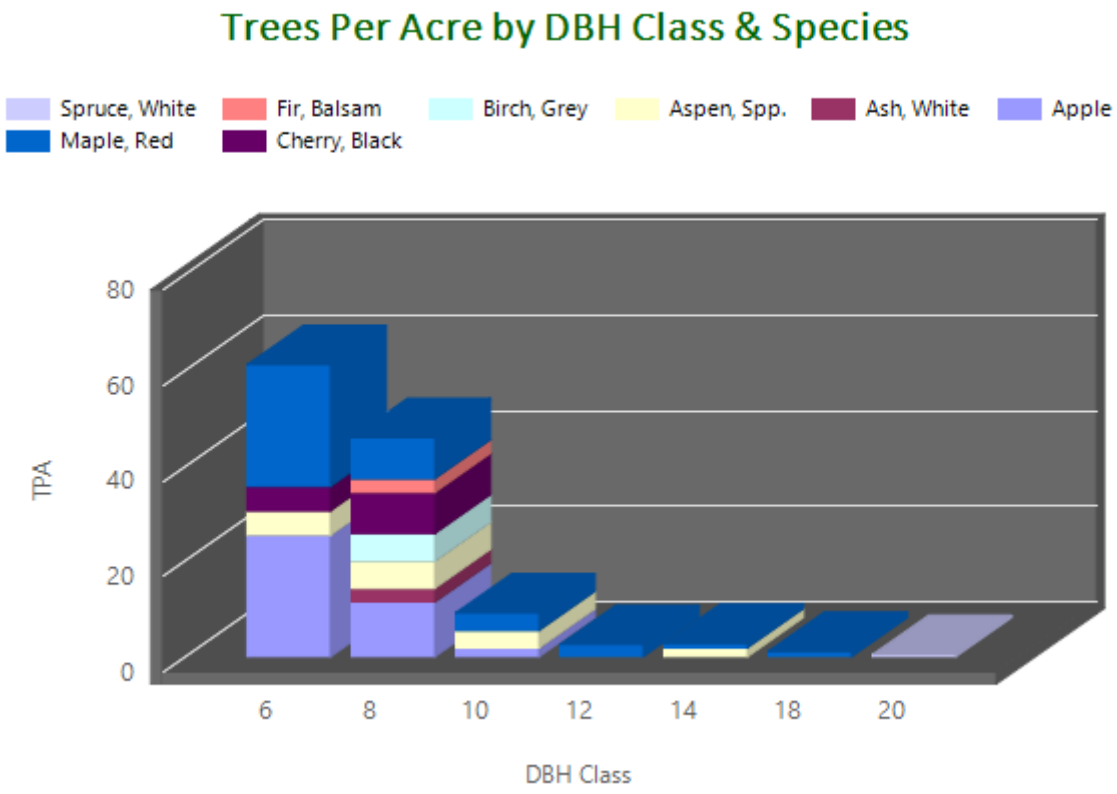
Stand description: This 31-acre pioneer forest is dominated by early successional species with minimal timber value but excellent wildlife habitat value. This stand is comprised of two separate areas found in the northeastern and southeastern portions of the town forest. Review of the 1963 aerial imagery shows the entirety of these areas were open fields 60 years ago. Given the young age of this forest, this is little need for silvicultural intervention at this time, however several areas in the southwestern portion of this stand would benefit from invasives species control.

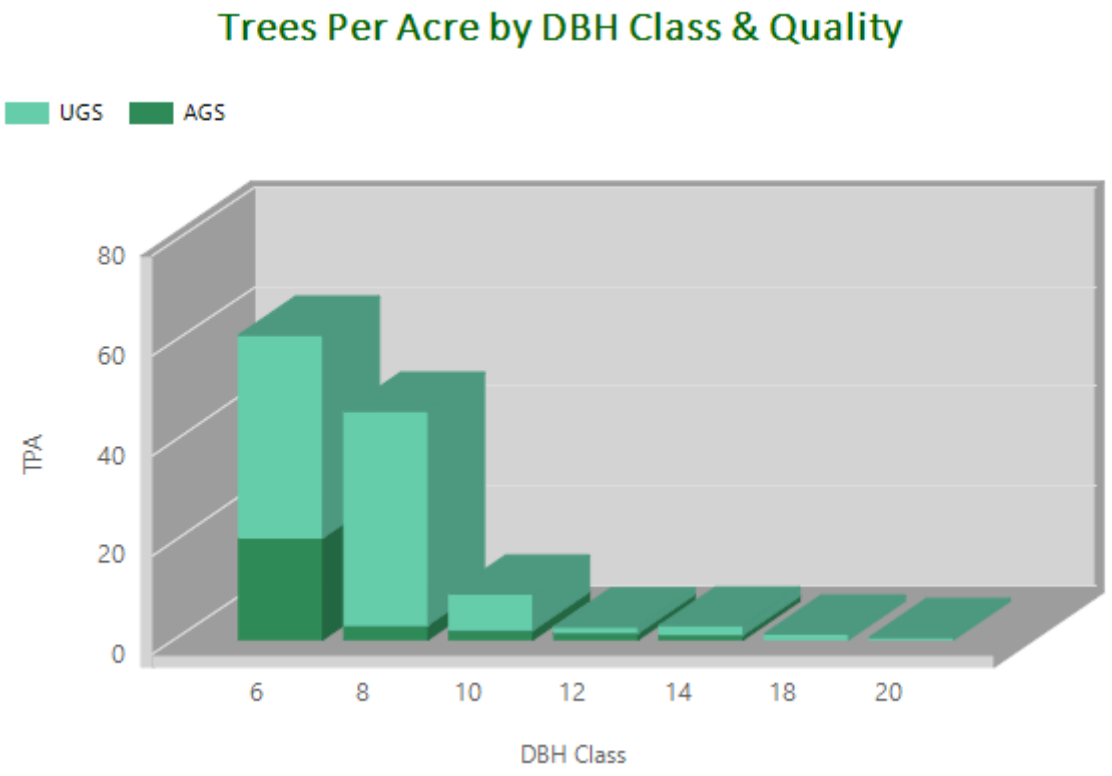
Figure 11: Aerial imagery from 1999 showing the progression of growth in portions of Stand 1 following agricultural abandonment in the 1980s.

Stocking Data:

	BA	TPA
Mean	41.0	123.0
St. Dev	17.9	59.1
AGS	8.0	27.3
UGS	33.0	95.7
80% Range	(33.2-48.8)	(97.1-148.9)

Snags<12"	Snags 12-16"	Snags>16"	Total Snags/Acre
23.65	0.00	0.00	23.65





Overstory Species Composition:

Species	BA	%BA	TPA	QMD	Rel Density	BF Vol	Pulp Vol
Apple	10.00	24.39	38.76	6.88	9.73		
Ash, White	1.00	2.44	2.87	7.99	0.87		0.15
Aspen, Spp.	7.00	17.07	16.36	8.86	3.24		1.28
Birch, Grey	2.00	4.88	5.73	8.00	1.81		
Cherry, Black	4.00	9.76	13.69	7.32	3.55		0.39
Fir, Balsam	1.00	2.44	2.87	7.99	0.50		0.09
Maple, Red	15.00	36.59	42.34	8.06	12.93	169.02	0.94
Spruce, White	1.00	2.44	0.46	19.96	0.25		0.17
Totals	41.00	100.01	123.08	7.82	32.88	169.02	3.02

Understory Species*:* Dominated by herbaceous plants such as goldenrod and raspberries

Natural Community Designation: Northern Hardwood Forest will likely develop overtime.

Forest Health: The southern section of Stand 1 has the greatest density of non-native invasive species. Mature, seed producing common buckthorn and Japanese honeysuckle plants were identified throughout this area. The greatest density is along the field edge on the eastern side of the southern portion of Stand 1. Mechanical removal of these plants would be difficult given the current infestation level. Use of herbicides would be most effective in controlling these plant populations, however caution would need to be taken to consider both the existing wetlands as well as proximity to the town wells that are located on the property. Any use of herbicides would need to be completed under the supervision of a Vermont Certified Pesticide Applicator. Management efforts to control the non-native invasive species populations should begin as soon as possible.

Figure 12: Japanese barberry found along the River Trail near the outdoor classroom.

Silvicultural Long-term Objectives: Overtime this forest will be managed to develop as a multi-aged forest. Current stand conditions have limited structural diversity as a result of recent agricultural abandonment.

Silvicultural prescription: Due to the low stocking in Stand 1, this Stand should be allowed to continue to grow for the next 10 years. Efficacy of invasive species control should be continually monitored on an annual basis due to the large volume of seed within the area.

Forest Stand 2

Stand Description: This 24 acre stand is the oldest forested area on the property, and largely consist of balsam fir, spruce and red maple. Areas along the riparian corridor of Dunn Brook include hemlock as well. One canopy opening of approximately one acre exists along the northern property boundary (see tan area in LiDAR imagery below). Additional canopy openings are beginning to form as the overstory balsam fir continues to decline. Much of the decline in the balsam fir can be attributed to the high levels of balsam wooly adelgid found in this stand, which is a significant stress on these trees.

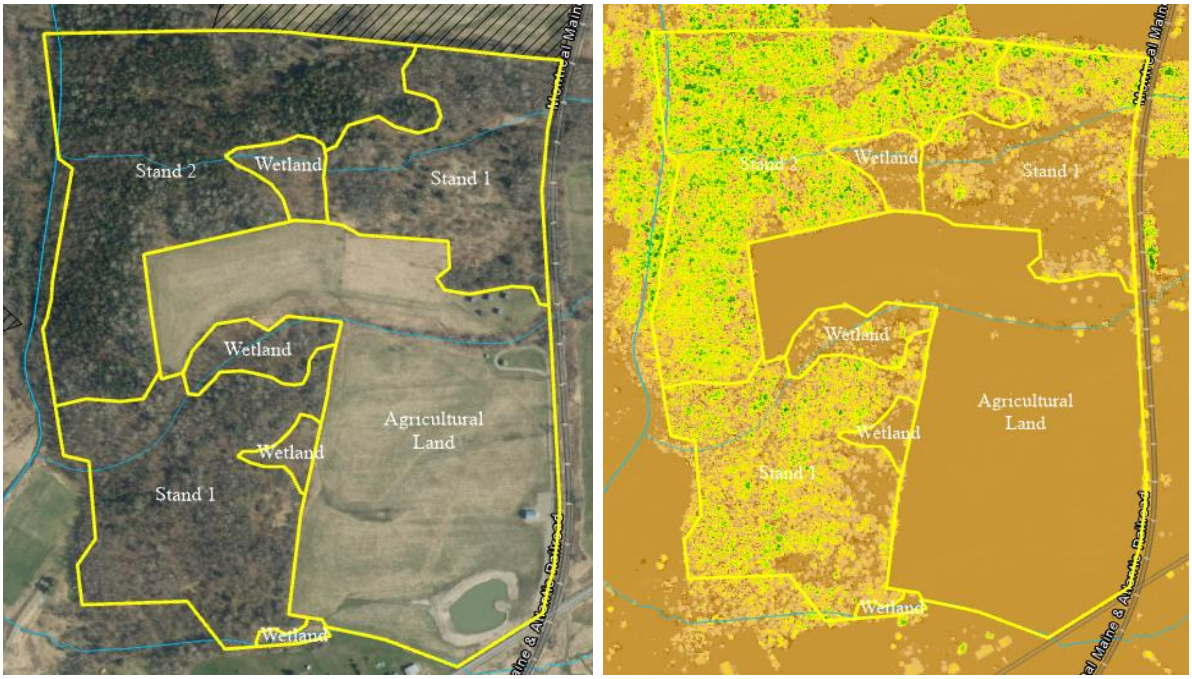


Figure 13: Aerial imagery compared to LiDAR imagery showing the canopy tree heights. In the image of the right (LiDAR) the darker green colors represent taller trees (mostly spruce and hemlock trees), where as tan color represents shorter trees.

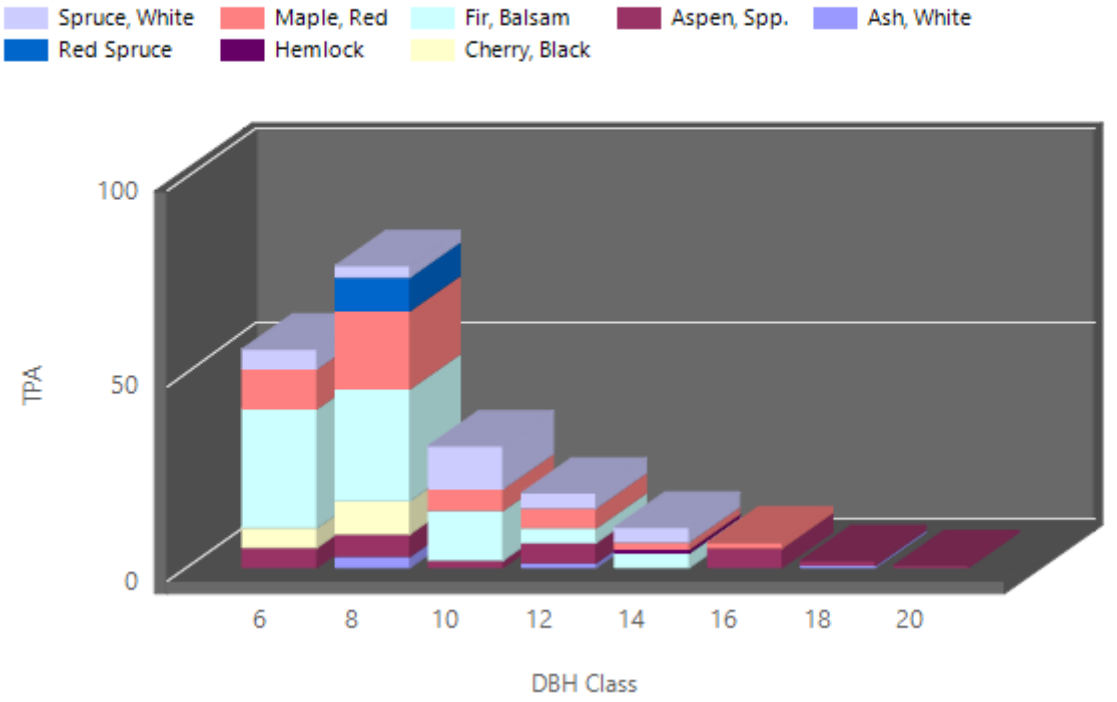
In the image, groups of light green pixels represent the pockets of balsam fir that are beginning to decline in health. Limited regeneration is found in these areas, meaning when the overstory trees continue to decline in health, there are not young trees waiting to replace them.

Stocking Data:

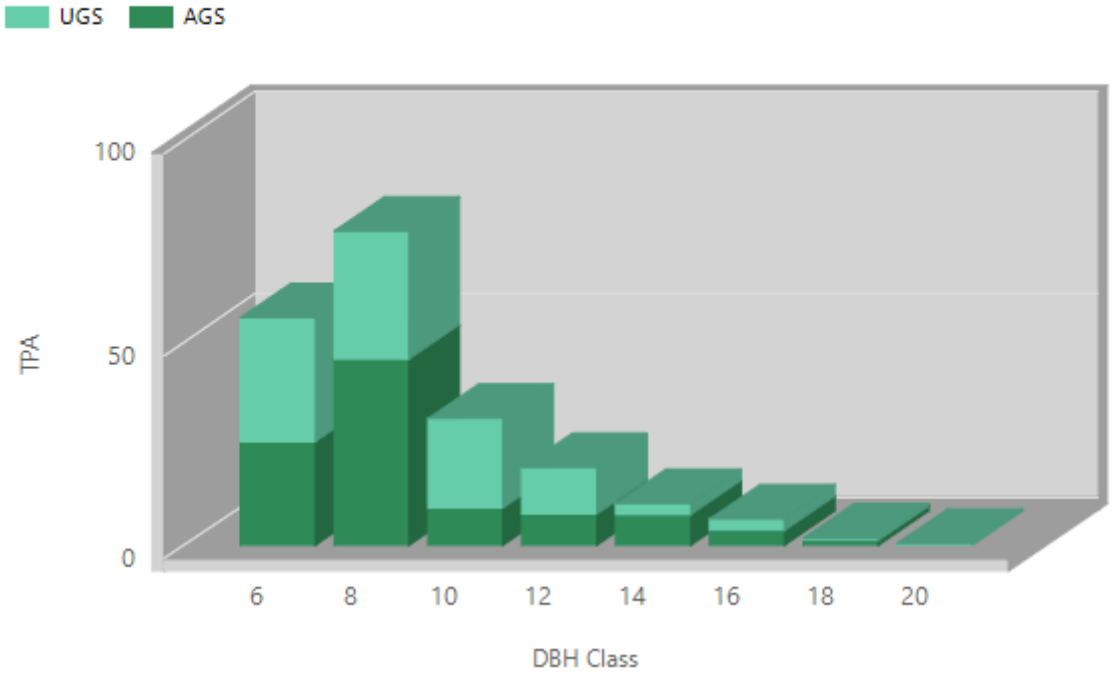
	BA	TPA
Mean	94.0	202.4
St. Dev	24.1	60.7
AGS	47.0	100.2
UGS	47.0	102.1
80% Range	(83.5-104.5)	(175.8-229.0)

Snags<12"	Snags 12-16"	Snags>16"	Total Snags/Acre
16.96	6.62	3.17	26.75

Trees Per Acre by DBH Class & Species



Trees Per Acre by DBH Class & Quality



Overstory Composition:

Species	BA	%BA	TPA	QMD	Rel Density	BF Vol	Pulp Vol
Ash, White	3.00	3.19	4.70	10.82	2.46	84.00	0.43
Aspen, Spp.	18.00	19.15	24.35	11.64	8.20	462.36	2.01
Cherry, Black	4.00	4.26	13.69	7.32	3.55		0.35
Fir, Balsam	30.00	31.91	79.61	8.31	13.97	1256.87	2.89
Hemlock	1.00	1.06	0.94	13.97	0.47		0.17
Maple, Red	20.00	21.28	44.14	9.11	16.87	456.07	2.58
Red Spruce	3.00	3.19	8.60	8.00	1.49	111.05	0.40
Spruce, White	15.00	15.96	26.52	10.18	5.99	709.32	1.95
Totals	94.00	100.00	202.55	9.22	53.00	3079.67	10.78

Understory Species: Limited regeneration is located throughout this stand. Areas with recent fir mortality have responded with a combination of hardwood advance regeneration as well as *rubus* (raspberries). Areas with limited mortality have little understory growth.

Natural Community Designation: Lowland Spruce-Fir Forest or Northern Hardwood Forest

Forest Health: Moderate to high levels of balsam woolly adelgid were observed throughout the stand. Mortality has occurred over the last 5 years and can be expected to continue over the coming 5 years.

Regeneration: Established regeneration is limited throughout this stand. Several plots were stocked with hardwood regeneration, however moderate browse pressure from deer was observed on most stems. The majority of plots lacked established regeneration.

Silvicultural Long-term Objectives: Overtime this forest will be managed to develop as a multi-aged forest. Current stand conditions are developing increased heterogeneity as canopy gaps are created through the declining balsam fir overstory. Silvicultural objectives should strive to enhance the development of a second cohort and to diversify the age structure of this stand. The purpose of this objectives is to increase the stand resiliency overtime, though increasing the diversity of species and the ages of trees within this stand.

Silvicultural prescription: Given the high proportion of rapidly declining fir in the overstory, it is suggested that this stand is regenerated over an extended period of time to promote higher

Figure 14: Example of area where a group would be located to release established regeneration.

quality trees. This work will be the first entry of an Irregular Group Shelterwood[8], a silvicultural system designed to develop a multi-aged forest (a forest with three or more distinct age classes of trees). The objective of this treatment is to regenerate the stand over the course of multiple entries spanning a period of 60 years. At each entry, three different silvicultural strategies will be employed:

- Tending/Thinning: This treatment involves the removal of the poorest quality trees to allocate resources to the best quality trees that remain following the harvest.
- Establishment: This treatment involves the creation of conditions that favor the germination of more shade tolerant tree species (red spruce, hemlock, sugar maple and balsam fir). By controlling the amount of filtered sunlight allowed to hit the forest floor, a forester can determine the tree species that will most likely germinate.
- Overstory Removal (OSR): Once tree seedlings are established and growing well, the remaining overstory trees can be removed to allow full sunlight to access the established trees.

The first entry should be completed as soon as possible and focus on the rapidly declining balsam fir within the stand, with subsequent entries occurring on a 15-year entry cycle. This system allows for adaptation to variability within the stand through including both the removal of overstory trees in small groups where regeneration is present (Overstory Removal treatment described above), creating areas of sheltered conditions to establish regeneration where it is lacking (Establishment treatment described above), and allowing for the flexibility to retain overstory trees for structural and other ecological values.

[8] Raymond, P. et al (2009) The Irregular shelterwood System: Review, Classification and Potential Application in Forests Affected by Disturbance. Journal of forestry, December, pages 405-13

The first entry in this stand will begin a slow process of developing multiple age classes within this stand through the removal of overstory trees in small groups (~¼ to ½ acre in size) over no more than 6 acres of the stand. Due to the rapidly declining overstory, establishment groups will be utilized, where groups of rapidly declining balsam fir will be harvested, but the group size should be limited to ½ acre in size to maintain partial shade within the canopy opening to encourage mid to shade tolerant species regeneration such as red spruce, balsam fir, yellow birch, and red maple. Groups should be located in pockets of declining balsam fir, and red spruce should be favored for retention both within groups and in establishment areas between groups. Establishment cutting will occur between groups in areas dominated by declining balsam fir where the stocking will be reduced to 80 sq ft/ac to maintain shaded conditions and reduce the proliferation of sedge and ferns within the stand. As part of this effort, establishment cutting will take place on not more than 10 acres. Wherever possible yellow birch, hemlock and red spruce should be retained as both growing stock and for seed production. In subsequent entries, tending between groups will focus on the removal of declining balsam fir stems in areas where stocking exceeds 90 sq ft/ac.

Rotation Age: 100 years **Stand Acreage: 15 acres**	**Entry Period**				
Treatment Type	Entry 1 (2025)	Entry 2 (2040)	Entry 3 (2055)	Entry 4 (2070)	Entry 5 (2085)
Tending/Thinning (Thin to 90 sq ft)	0 ac	4 ac	4 ac	4 ac	4 ac
Establishment (Reduce BA to 80 sq ft)	7 ac	4 ac	4 ac	3 ac	0 ac
Overstory Removal/Establishment Groups (¼ to ½ acre groups)	6 ac	4 ac	2 ac	2 ac	4 ac
Total Acres Treated:	*13 ac*	*12 ac*	*10 ac*	*9 ac*	*8 ac*

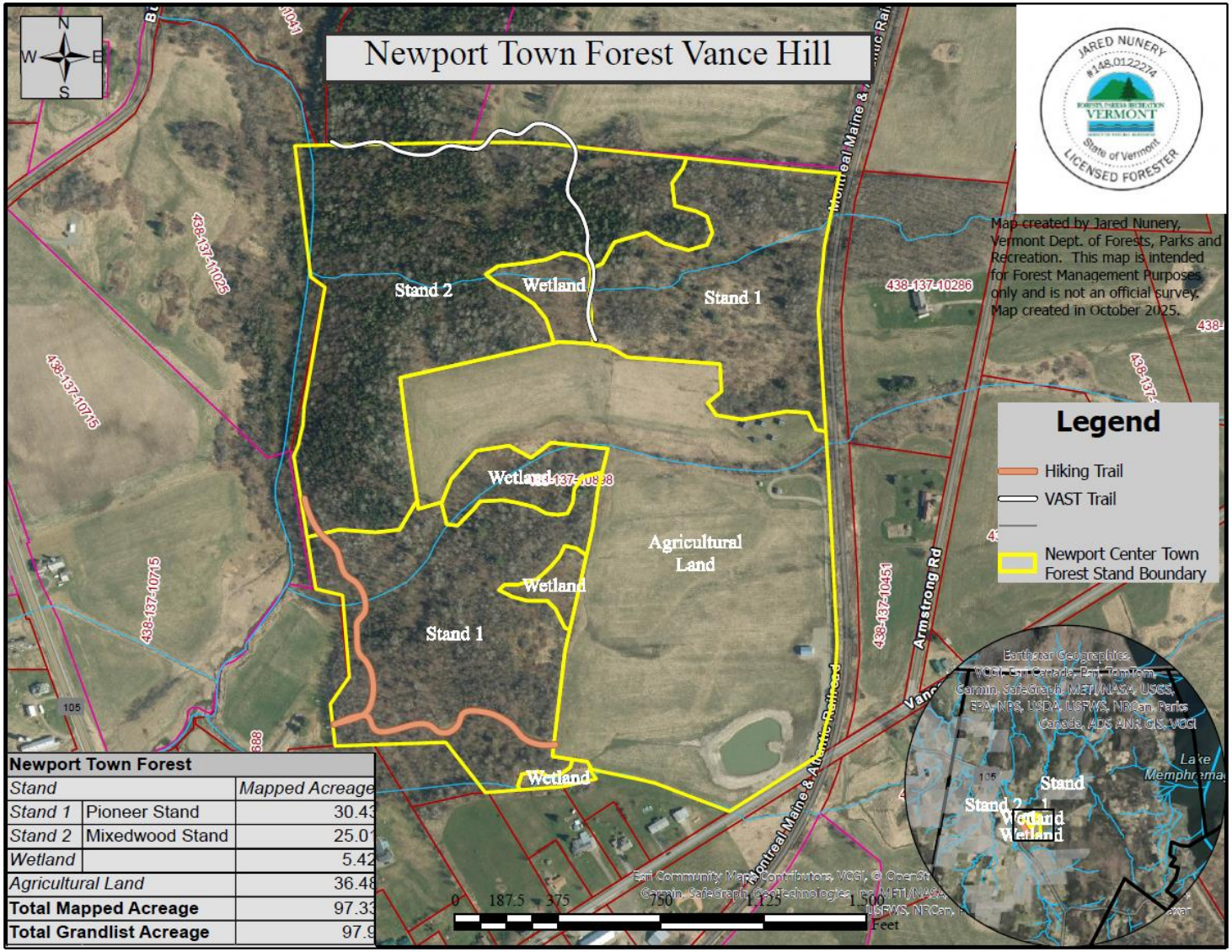
Table 1: Approximate schedule of harvest activities. Subsequent entries will be amended based on observed response within the forest to each harvest entry

The process of slowly regenerating the stand can begin by treating up to 13 acres as described above. The increased treatment acres in the first entry reflects the rapidly declining overstory. Future entries will strive for a more balanced approach reflected in the table above.

Forest Stand 3 – Non-productive forestland

Stand Description: These 5 discrete areas, consisting of a total of approximately 5 acres, are mapped Class II wetlands. These areas are found within seeps and along intermittent streams that bisect the parcel. Hydric soils and wetland obligate plants can be found throughout these areas. Any management operations should avoid these areas, and observe appropriate buffers to minimize any disturbance to these sensitive soils. Any future trail building should also avoid these areas. The existing VAST trail bisects one of the mapped wetland areas. This trail should continue to be limited to winter use only, and ditch work and drainage of this area should be avoided.

Appendix 1: Town Forest Stand Map



Newport Town Forest		
Stand		*Mapped Acreage*
Stand 1	Pioneer Stand	30.43
Stand 2	Mixedwood Stand	25.01
Wetland		5.42
Agricultural Land		36.48
Total Mapped Acreage		97.33
Total Grandlist Acreage		97.9