

Forest Stewardship Plan

(10-Year Planning Period)



Town of Pelham
Gumpass Hill Road
Cutter/Spaulding Conservation Area
Pelham, NH
165.3 Acres
November 3, 2017

Michael F. Powers
NH LPF #379
469 Tanglewood Drive
Henniker, NH 03242
(603) 325-5430

Table of Contents

Table of Contents	page 1
Landowner Information/Current Use Acres	page 2
General Description	page 2
Landowner Goals and Objectives	page 6
Forest Products Summary	page 7
Maps	pages 8-11
General Management Strategies	page 12
Stand Descriptions & Recommendations	page 14
Management Summary	page 21
Concluding Remarks	page 21
Glossary of Forestry Terms	page 22
Appendix A: Soils Information	
Appendix B: Natural Heritage Bureau Data Check Letter.	

Property Owners: The Town of Pelham

Phone Number: 603 635-8233

Location: Off of Gumpass Hill Road and Wynderidge Circle

Total Acreage: GIS acres = 165.3, Tax Map acres = 183.8

Map/Lot Numbers: M 26 L 2-66; 2-76; Book 8166 Page 2181

M 27 L 2-65; Book 8296 Page 2473

M 27 L 2-77; Book 8166 Page 2473

M 33 L 1-161; Book 8596 Page 2297

M 39 L 1-159; Book 7607 Page 1756

Date Prepared: November 3, 2017

General Description of the Property

The property is located in the south western part of the Town of Pelham. There are two access points into the property. One is from the south via Wynderidge Circle and the other is from the north via Gumpass Hill Road. The property is mostly forested however there are two large wetland areas in the north-western part of the property in which there are mostly grasses and wetlands shrubs growing. There are an abundance of stone walls found throughout the property which would indicate that the land was utilized at some point in time as pasture for livestock. A main trail intersects the property which town residents are utilizing for hiking, snowmobiling and mountain biking. The property connects two other larger town forest properties, Gumpass Pond to the North and Merriam-Cutter to the south, creating approximately 500 acres of open space for the benefit of the residents of Pelham.

Boundaries

The southern part of the property, Map 33 Lot 161 has been surveyed but corner monumentation could not be located for this part of the property. The other northern lots that make up the property have not been surveyed and the maps that are included this plan have been created based off of Town tax maps. Many of the boundaries in the northern part of the property are stone walls, making them somewhat easy to locate, however there are sections of line in the central part of the property that are not discernable and may need to be surveyed by a licensed surveyor. Boundaries that are discernible can be blazed and painted to ensure ease of location in the future.

Access

Access for hiking and other recreational activities is very good. There are established trails and class 6 roads which provide access into the property for passive recreation and snowmobiling. Access points are from Sherburne Road in Pelham and Gowing Road in Hudson. Access into the property is limited for forestry equipment as there are no passable roads for wheeled vehicles, other than atvs. There are two options for accessing the property to conduct forestry operations. The first option is upgrading Gumpass Hill Road in the northern part of the property which is a class six road. The section of road that would need to be updated is approximately 2500' in length. The road would need to be widened and gravel would need to be added to areas where the road has washed out over time to make the road passable for larger logging trucks. A staging area would then need to be constructed in Stand 1, where forest products would be processed. The other option for accessing the property is from the south via Wynderidge Circle. There is a short section of property frontage along Wynderidge Circle and a new road and staging area would have to be constructed to the north into the property. The terrain in this part of the property is quite rocky so road construction could be challenging.

Forest Types & Harvest History

For management purposes, forests are broken down into management units called stands, which are areas of trees with similar species composition, size and frequency of occurrence. Five stands have been identified within the property. Like most of the forest types in the Town of Pelham, overstory tree composition is primarily made up of a mix of oaks and white pine. In general the forest can be described as being in the mid to late successional stage of development, with tree age being approximately 80-90 years old. The overstory trees tend to be in the small to large sawlog category or about 12"-24" in diameter (dbh). Other tree species found to a lesser extent in the overstory are white and black birch, red maple and hickory. Most of the property has not been harvested in quite some time, so it is densely stocked creating shady conditions in the understory. This limits tree regeneration and suppresses the growth of any already established understory trees. The southern part of the property was harvested in 2012 and as a result there is an abundance of white pine regeneration established and growing well in this part of the property. The overall forest in general could be described as being in good health, there were no visible signs of disease or insect infestation found within the property, however, as the cruise data indicates the stands are overstocked and tree mortality can be found throughout the property as a result of this overstocking.

Soils, Terrain, & Hydrology

Forests are essential for preventing erosion of existing soil and maintaining clean water. Riparian and wetland areas are the places that open water and upland sites meet. A riparian zone is the general term for the area where water and land meet, whereas a wetland is an area in a riparian zone that specifically has hydric, or wet, soils as well as vegetation that grows on that type of soil. Riparian areas are important for a number of reasons. They offer critical habitat for many wildlife species, providing shelter, food, water, and travel corridors. They are also very useful for flood control by acting as a

sponge during times of high water volume, and then releasing that water slowly and consistently over time. Without wetlands, streams would fluctuate greatly between periods of high flow and dry streambeds. Finally, riparian areas are key for filtering water as it travels from upland sites to the open water, keeping out many chemical impurities and keeping water silt-free. There are two large wetland areas in the north western part of the property located in Stand 1. These wetlands offers critical habitat to a variety of wildlife species that utilize these areas for forage, breeding and cover purposes. There are also several vernal pools found throughout the property. These pools have been mapped on the stand map and boundary map in this plan.

The terrain in the north and central part of the property can be described as being undulating but very accessible by forestry equipment. The terrain in the southern part of the property slopes to the south east. Soils within the property can be described as being moderately well drained to well drained, with the exception of the soils in and around the wetland areas which are poorly drained. There is a small stream located in the eastern part of the property which flows to the east off of the property and the soils along the edges of this stream are poorly drained.

Wildlife

Biological diversity can be described as the variety of plants and animals located in a given tract of land or landscape and the communities that are formed by that variety of species. Two of the biggest threats to biological diversity today are loss of due to forest conversion and invasive species altering native habitats. The forest habitat within the property tends to be homogeneous, as it essentially in the mid to late successional stage of development. Early successional or young forest habitat types seem to be lacking on this property. The abundant amount of red, black and white oak found on the property offers a beneficial food source to wildlife. **Red and White Oak**-acorns are an important food source for many mammals such as white tailed deer and turkey.

There were virtually no invasive plants seen on the property during the cruise, which is very encouraging considering the location of the property in the southeastern part of the state where invasive plants tend to be abundant. There were a few small glossy buck thorn plants found scattered around the property. It would be important to monitor the property for invasive plants and to make sure that any plants located on the property are dealt with as to prevent a larger infestation.

Timber Cruise

A detailed timber cruise was completed on the property using a 400' by 400' spacing, which yielded 44 plots of tree data. This data was used to tabulate the current tree growth on the property and the field notes made during this cruise helped to create many of the maps in this management plan. A cruise is a statistical sample that is used to determine the volumes of various forest products growing on the property. This cruise generates volumes in terms of cords (for all trees 6-11" in diameter, or trees larger than 11" that are not suitable for sawtimber) and board feet (for trees 12" and greater in diameter that could be sold and sawn into boards). The diameter of a tree is measured at

4.5' above the ground, which is an industry standard referred to as diameter at breast height (DBH). From this intensive cruise, a total of five stands are shown for this property. Stands are areas of trees with similar species composition, size, and frequency of occurrence. These stands are depicted on the Stand Map and are described in greater detail later in this plan.

Landowner Goals & Objectives

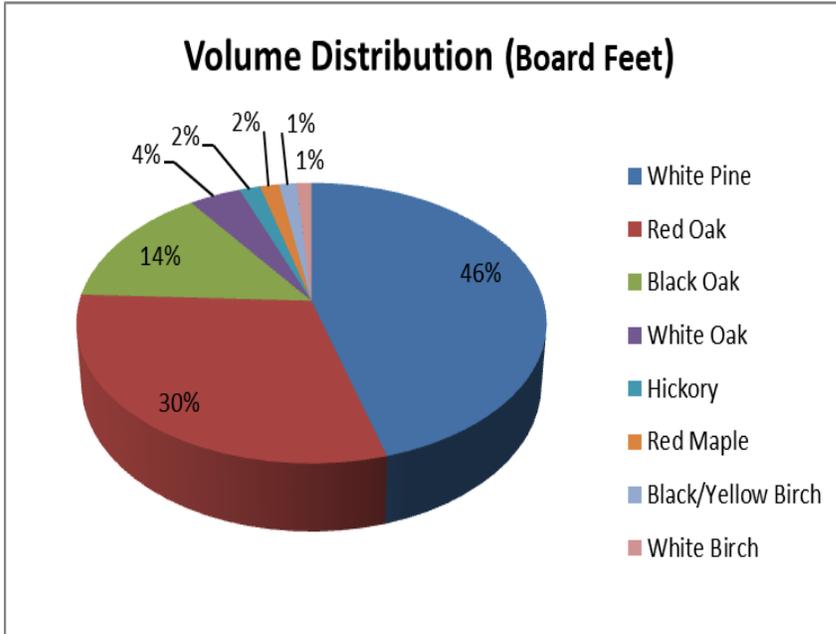
The town recognizes the importance of acquiring land and maintaining it as open space for passive recreation as well as maintaining and managing forest land for wildlife habitat. Many of these town parcels are associated with wetland areas that benefit greatly from the forested buffer they have instead of having pavement and lawns located in or close to the riparian zones. Forests protect water quality by providing a type of filter that keeps non-point source pollution such as sediment from entering wetlands, ponds or lakes directly.

The general goals of the town can best be summed up with the key words of the New Hampshire Tree Farm System, of which the town is a member: wood, water, wildlife, and recreation, meaning the town is interested in a multiple use concept for its forested properties. One of the many benefits that can be derived from long-term sustained yield forestry is the generation of periodic revenue from timber harvests. The benefits from a timber harvest are not only income production, but also the encouragement of quality wood growth on residual trees as well as the encouragement of regeneration of new trees; in order to grow tomorrow's forest beneath the forest of today. In short the main goal of long term forestry is to continually improve the overall health of the forest with each harvest entry, by removing low quality and mature trees.

The town owns many of its properties in order to protect sensitive wetland sites and waterways by maintaining a forested buffer between the open water and built-up areas. Because Pelham is a town with a growing population, the municipal officials recognize that the citizens of the town benefit from having wooded areas for walking and nature watching. The town hopes to keep these areas open to responsible recreation without compromising the other three goals.

Finally, the town recognizes that the native wildlife species of New Hampshire need areas for food, water, shelter, and raising young. To that end, diversity is encouraged by utilizing proper forest management practices.

**Forest Products Summary Table for Accessible Stands
Cutter/Spaulding Conservation Area – Pelham, NH
Total Acreage: 165.3 +/- acres**



Species	Board Feet
White Pine	593,909
Red Oak	393,236
Black Oak	186,603
White Oak	54,078
Hickory	21,898
Red Maple	19,942
Black/Yellow Birch	18,524
White Birch	15,420
Total	1,303,610¹

Hardwood Cordwood	1011
Softwood Pulpwood	454
Total Cordwood	1465²

¹ This sawtimber total represents all the trees of sawtimber quality 12 inches and greater in diameter found in this management unit. In order to capture this total volume, all trees of this specification would have to be harvested.

² These cordwood totals, both softwood and hardwood, represent all the standing trees with diameters of 6-11 inches found in this block, as well as trees of larger diameters that do not meet sawtimber quality specifications. In order to capture this total volume, all trees of this specification would have to be harvested.

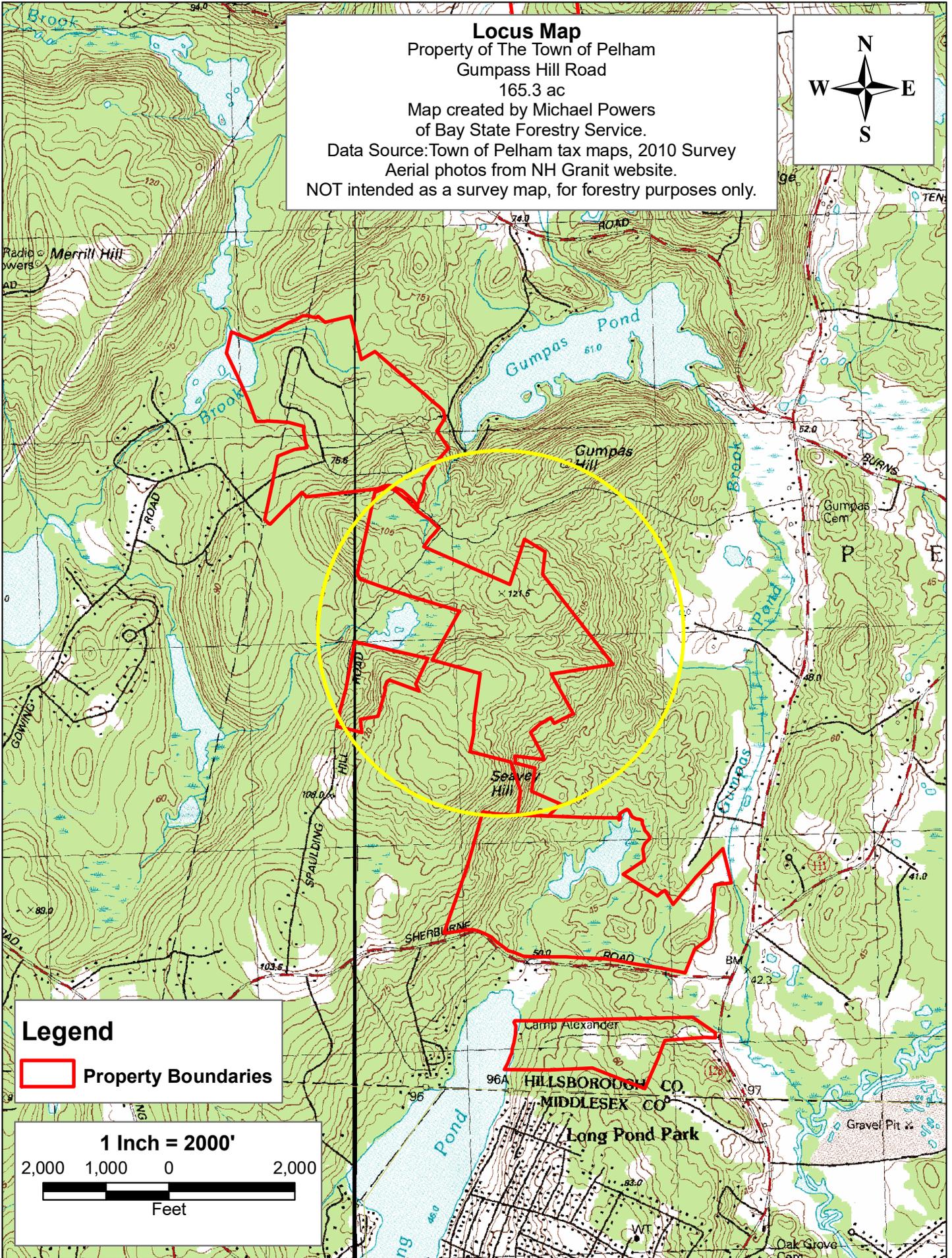
Locus Map

Property of The Town of Pelham
Gumpass Hill Road
165.3 ac

Map created by Michael Powers
of Bay State Forestry Service.

Data Source: Town of Pelham tax maps, 2010 Survey
Aerial photos from NH Granit website.

NOT intended as a survey map, for forestry purposes only.



Legend

 Property Boundaries

1 Inch = 2000'

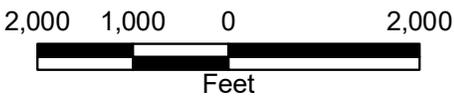


Photo Map

Property of The Town of Pelham
Gumpass Hill Road
165.3 ac

Map created by Michael Powers
of Bay State Forestry Service.

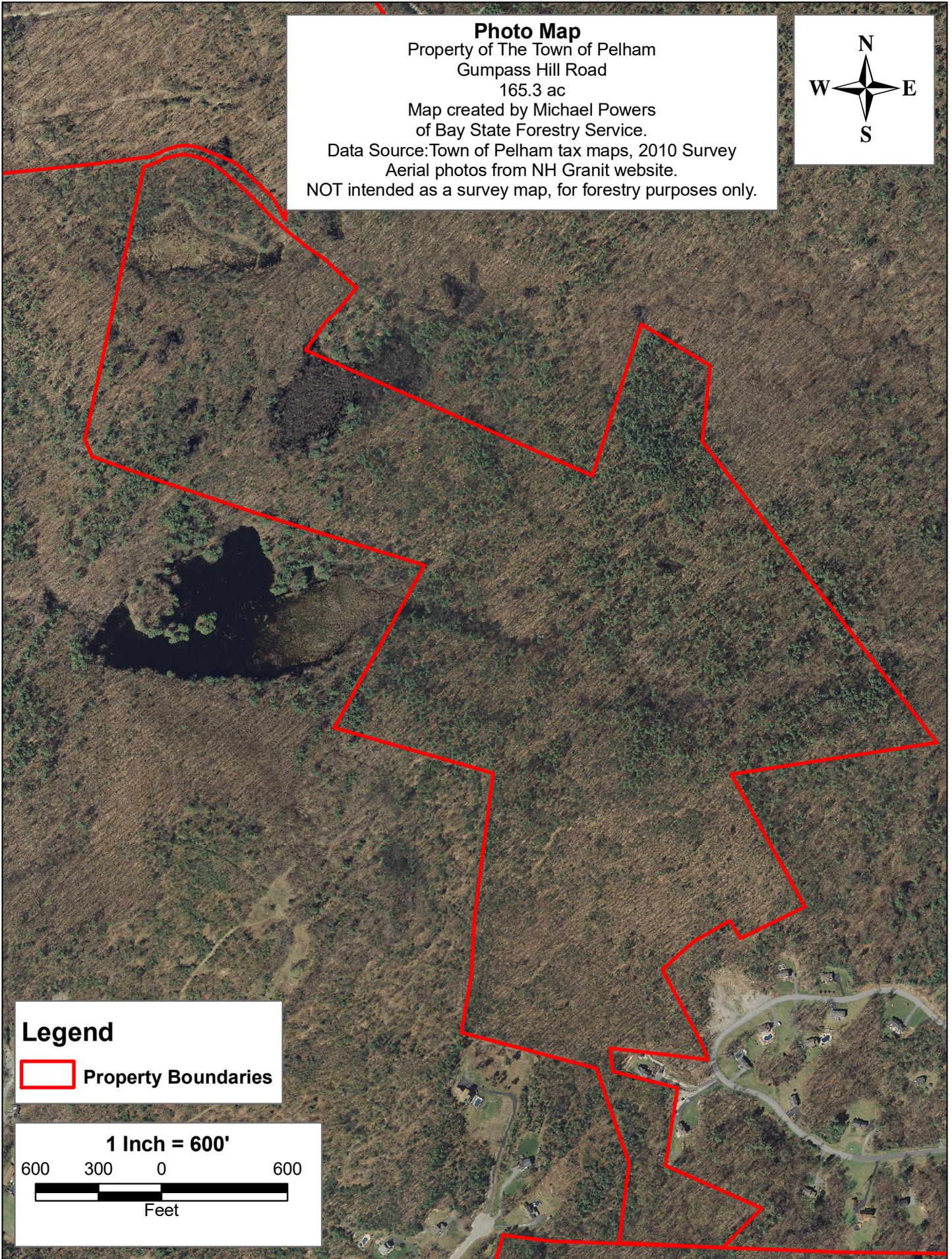
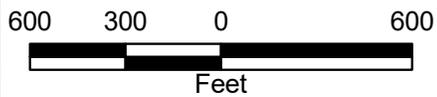
Data Source: Town of Pelham tax maps, 2010 Survey
Aerial photos from NH Granit website.
NOT intended as a survey map, for forestry purposes only.



Legend

 Property Boundaries

1 Inch = 600'



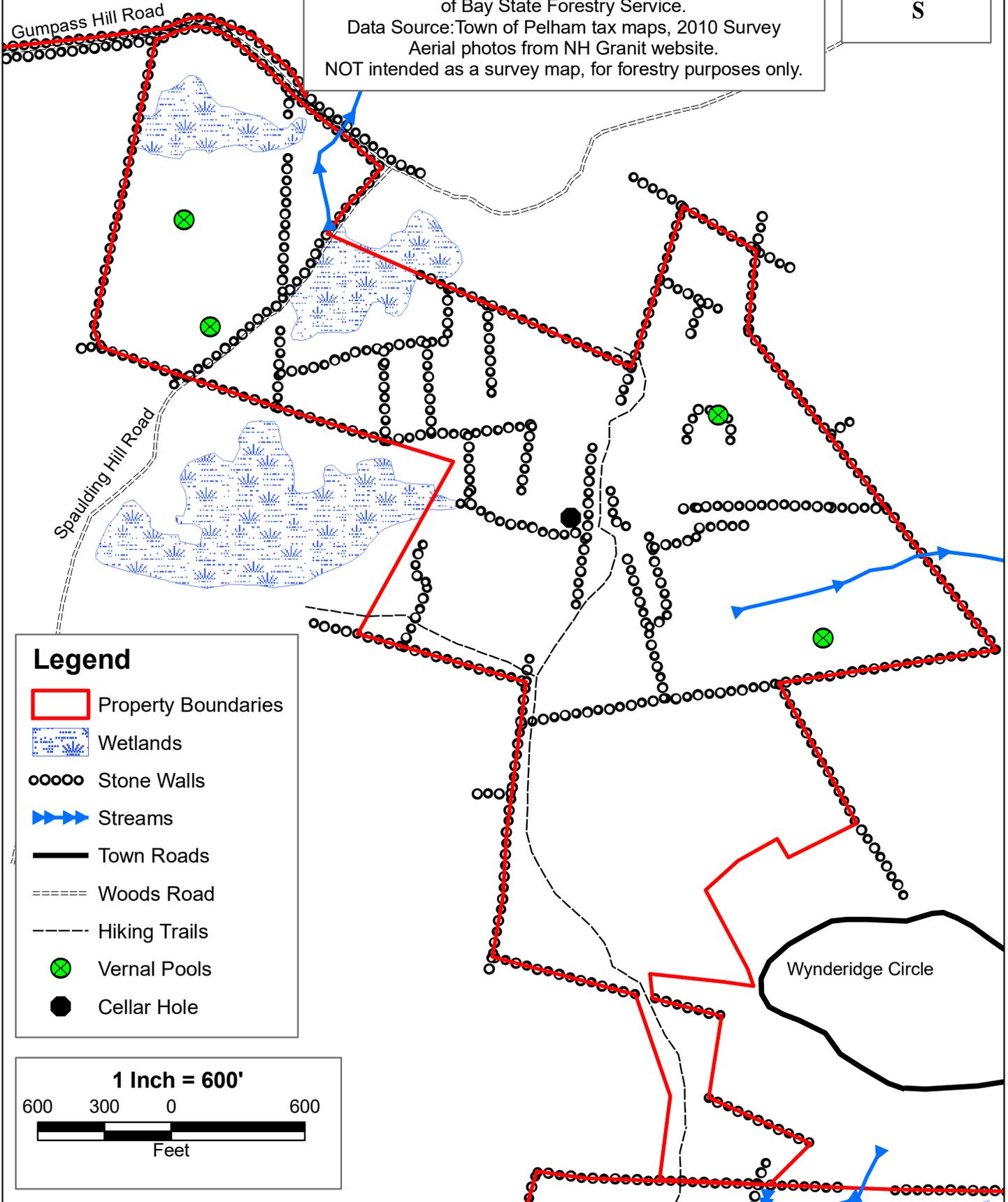
Stand Map

Property of The Town of Pelham
Gumpass Hill Road
165.3 ac

Map created by Michael Powers
of Bay State Forestry Service.

Data Source: Town of Pelham tax maps, 2010 Survey
Aerial photos from NH Granit website.

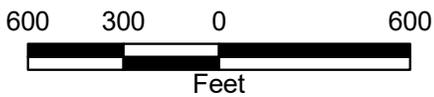
NOT intended as a survey map, for forestry purposes only.



Legend

-  Property Boundaries
-  Wetlands
-  Stone Walls
-  Streams
-  Town Roads
-  Woods Road
-  Hiking Trails
-  Vernal Pools
-  Cellar Hole

1 Inch = 600'

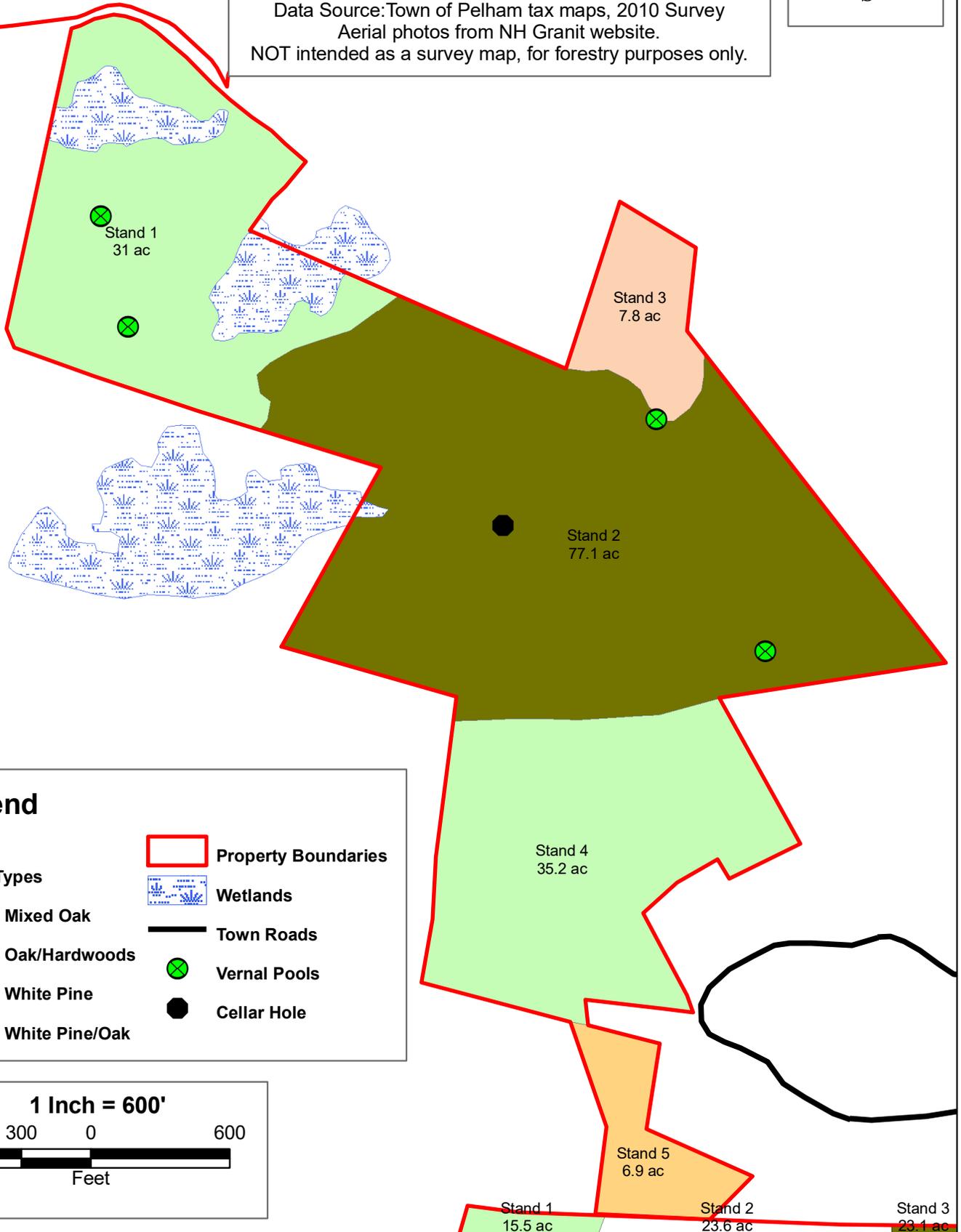


Stand Map

Property of The Town of Pelham
Gumpass Hill Road
165.3 ac

Map created by Michael Powers
of Bay State Forestry Service.

Data Source: Town of Pelham tax maps, 2010 Survey
Aerial photos from NH Granit website.
NOT intended as a survey map, for forestry purposes only.



Legend

Stands

Forest Types

- Mixed Oak
- Oak/Hardwoods
- White Pine
- White Pine/Oak

Property Boundaries

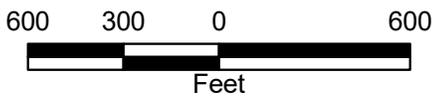
Wetlands

Town Roads

Vernal Pools

Cellar Hole

1 Inch = 600'



General Management Strategies

These strategies should be implemented if and when timber harvesting was to occur on the property.

Timber –Sound timber management is a way to maintain forest health and to produce periodic income. Management strategies and recommendations on a stand-by-stand basis is discussed later in this plan.

Fish/Wildlife Habitat – Fish/Wildlife Habitat – Although some activities can manage for a specific plant or animal (species specialists), most forest management activity focuses on habitat generalists by managing for a diversity of tree species, protecting and possibly enhancing existing habitat. The following practices should be implemented during harvest operations in an effort to enhance and retain various wildlife species:

- 1.) Seek diversity in species composition and in the stages of forest growth of species which make up the forest canopy. Patch cuts of varying sizes within mature stands or stands with marginal tree growth can result in tree regeneration, which in turn can serve as browse and cover for a wide variety of wildlife species. Group harvesting of mature species such as white pine and hemlock can also aid in creating openings for regeneration.
- 2.) Large diameter trees having cavity openings should be retained to serve as nesting and denning sites for mammal and bird use.
- 3.) Large diameter dead trees (especially hardwood species) should be retained as potential cavity sites and to serve as feed trees for insect eating wildlife.
- 4.) Primary hard mast producing trees such as red oak and beech should be retained as a food source for wildlife such as deer, turkey and squirrels. A stocking of at least 6 oaks per acre having diameters of 16 inches through 20 inches at DBH should be maintained, if possible. White oak is preferred over red and black oak for wildlife purposes.
- 5.) Trees containing hawk nests or trees exhibiting the three limb support characteristic which forms the platform for hawk nest construction should be retained.

Soil – Care will be taken to not harvest during wet times of the year, when the ground is too soft, or on excessive slopes, to minimize rutting and erosion during harvest operations. Landings will be seeded with a conservation mix and limed at the conclusion of the job to stabilize the soil. Waterbars will be installed on skid trails where necessary.

Water Quality – In accordance to NH best management practices, buffers will be left along streams and the edges of wetlands. This will provide soil stabilization along waterways and adequate shade. This shade will decrease water temperature and therefore increase the water’s oxygen-holding capacity. The wetlands and streams will be left intact to keep the water clean and silt-free. Poled fords, bridges or culverts will be used when crossing smaller streams to further prevent siltation. Fueling of machines will not take place near the water’s edge to prevent pollution.

Wetlands – In order to preserve the integrity of more sensitive areas of this property, *forested* wetlands will only be harvested under dry or frozen conditions if at all.

Recreational Resources – Skid roads can provide a nice network of trails for recreational opportunities, both for walking and wildlife viewing. To this end, trails will be kept free of slash where possible.

Aesthetic Values – To maintain aesthetics, logging operations will minimize rutting and soil disturbance and will chip or cut up the tops of trees so they lay close to the ground for rapid decay.

Cultural Features – Care will be taken to avoid breaching or breaking the stone walls during timber harvests unless no openings exist to allow the trees to be skidded to the landing. To accomplish this, loggers will use existing barways for skidding.

Forest Protection – The diversity of tree species does well to protect this property from a forest pest looking for a monoculture of timber. By keeping logging slash low to the ground, decay is speeded up; this prevents too much of a buildup of fuels as a fire hazard. There has been only a few indications of invasive plant species found on the property, however the property should be continued to be monitored over time to ensure that there are no future infestation. This is especially important after a timber harvest when invasive plants tend to spread after a disturbance.

Threatened/Endangered Species and Unique Natural Communities –The NH Natural Heritage Inventory data base has been consulted. The Natural Heritage Data check results letter is attached to this plan as Appendix B.

Forest Management Plan

Stand 1	Mixed Oak	31	Acres
Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
White Pine	24	1,660.0	51,460
Red Oak	59	4,516.0	139,965
Black Oak	43	3,029.0	93,899
Red Maple	5	0.0	0
White Oak	1	0.0	0
White Birch	4	0.0	0
Sawtimber Total:	136	9,205	285,324
		Cords/ac.	Total Cords
Cordwood		7.6	236
Softwood Pulp		2.8	87
Total Cordwood			323
Total BA/acre	136		

Description:

Overstory Species Composition and Size Class: Red Oak, Black Oak, White Oak: Large pole to medium sawlog size.

Mid-Story Species Composition and Size Class: Medium to high density. Suppressed red maple, white pine: Medium sapling to small pole size.

Regeneration: Medium to high density, suppressed white pine and white oak 1-4' tall. Witch hazel and high bush blueberry in and around wetland and vernal pool.

Forest Health Concerns: The stand is overstocked, mid story trees and regeneration is being suppressed and is starting to show mortality.

Slope/Aspect: Flat, but undulating.

Soil Drainage: Moderately well drained to well drained. Scattered surface boulders 1-3' in diameter.

Recommendations:

There has been no significant harvesting that has taken place within this stand for quite some time. As can be seen by the cruise data, the stand is overstocked which means that growth will be slowed as the trees compete for sunlight and nutrients in the soil. It is recommended that a single tree/group selection harvest takes place within this stand targeting low quality and suppressed trees and retaining high quality red and white oak for future growth. Thinning out this stand will increase growth rates on the residual trees as well as help to stimulate growth on already established tree regeneration and will also

encourage new seedling germination. Retaining red and white oak will also be beneficial to wildlife in terms of acorn production as a food source. As growing space increases for these trees, the crowns will continue to expand over time and acorn production should increase per acre.

Stand 2	White Pine/Oak	77.1	Acres
Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
White Pine	46	5,675	437,543
Red Oak	32	2,119	163,375
Black Oak	16	925	71,317
White Oak	10	557	42,945
Hickory	7	222	17,116
Red Maple	8	220	16,962
Yellow/Black Birch	6	200	15,420
White Birch	3	78	6,014
Hemlock	2	0	0
White Ash	1	0	0
Sawtimber Total:	131	9,996	770,692
		Cords/ac.	Total Cords
Cordwood		5.7	440
Softwood Pulp		2.3	177
Total Cordwood			617
Total BA/acre	131		

Description:

Overstory Species Composition and Size Class: White Pine, Red Oak, Black Oak, White Oak: Large pole to medium sawlog size.

Mid-Story Species Composition and Size Class: Medium to high density. Suppressed white pine, red maple, hickory: Large sapling to medium pole size.

Regeneration: Sparse, suppressed white pine seedlings and saplings. High bush blueberry found in low lying wet areas. Low bush blueberry found in higher elevation, drier sites within the stand. Some patches of witch hazel can be found scattered throughout the stand. Suppressed hemlock regeneration can also be found in the western part of the stand near the large wetland area.

Forest Health Concerns: The stand is overstocked, growth rates will be stagnant and regeneration and trees growing in the understory are suppressed.

Slope/Aspect: Generally flat but undulating. In the eastern part of the stand the terrain slopes gently to the east.

Soil Drainage: Moderately well drained to well drained. Scattered rocks and surface boulders found throughout the stand.

Recommendations:

This large stand is located in the central part of the property. The main tree species found in the overstory are white pine and mixed oaks. Some parts of the stand are heavier to oak growth in the overstory and other sections are heavier to pine growth. Tree quality also varies considerably within the stand. In the south-central part of the stand where the elevation is at its highest, the soils are very well drained, and the quality of the pine and oak seems to be lower. The quality of the trees in the overstory seems to be higher in the western part of the stand. Because the stocking levels within the stand are quite high, it is recommended that a single tree/group section harvest be carried out within the stand to target low quality pine and suppressed hardwoods in the understory and overstory for removal. It is also recommended that groups of trees or patch clear cuts be implemented within the stand in areas where there is an abundance of low quality trees growing. These group removals will encourage new tree germination within the patches. Over time as the new trees germinate and begin to grow, this young forest growth will provide cover, and foraging opportunities for wildlife. Very little red and white oak should be removed from the stand. These trees should be retained for future growth. These trees will also provide an important food source in terms of hard mast for wildlife such as deer, turkey and squirrels. Hickory within the stand can also be retained for future growth. These trees also produce hard mast in the form of nuts and provide an essential food source for wildlife.

Stand 3	White Pine	7.8	Acres
Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
White Pine	140	11,712	91,354
Red Oak	20	2,399	18,712
Yellow/Black Birch	30	398	3,104
Red Maple	10	382	2,980
Sawtimber Total:	200	14,891	116,150
		Cords/ac.	Total Cords
Cordwood		5.4	42
Softwood Pulp		18.5	144
Total Cordwood			186
Total BA/acre	200		

Description:

Overstory Species Composition and Size Class: White Pine: Small to large sawlog size. Scattered red and black oak: Small to large sawlog.

Mid-Story Species Composition and Size Class: Medium density. Suppressed white pine, black and yellow birch: Large sapling to medium pole size.

Regeneration: Sparse, suppressed hemlock and black birch: Seedling to medium sapling size.

Forest Health Concerns: The stand is overstocked. There is considerable white pine mortality in the understory.

Slope/Aspect: Slopes very gently to the north east.

Soil Drainage: Moderately well drained.

Recommendations:

The cruise data shows that this stand is overstocked and there is quite a bit of mortality occurring in the understory especially with the white pine. It is recommended that this stand be thinned, targeted the removal of low grade white pine with suppressed tops. The better quality pine with healthy crown structures can be retained for future growth. Most of the poor quality understory trees should be removed from the stand because the crowns are so suppressed. Thinning in this manner should increase the growth rates on residual trees as well as help to stimulate new tree regeneration.

Stand 4	Mixed Oak	35.2	Acres
Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
Red Oak	52	1,759.0	61,917
Black Oak	9	449.0	15,805
White Pine	4	385.0	13,552
White Oak	1	53.0	1,866
Hickory	2	0	0
Sawtimber Total:	68	2,646	93,140
		Cords/ac.	Total Cords
Cordwood		7.60	268
Softwood Pulp		0.4	14
Total Cordwood			
Total BA/acre	68		

Description:

Overstory Species Composition and Size Class: Red Oak: Small to medium sawlog size.

Mid-Story Species Composition and Size Class: Medium to high density, white pine, red maple, red oak: Large sapling size.

Regeneration: White pine, medium to high density: Small to medium sapling size.

Forest Health Concerns: There are no health concerns in this stand.

Slope/Aspect: The stands slopes gently to the south east.

Soil Drainage: Moderately well drained to well drained. Very rocky in sections of this stand. Boulders are approximately 2-4' in diameter.

Recommendations:

This stand was last harvested in 2012. The cruise data shows that the basal area is still somewhat low as the stand continues to grow over time. Because the stand was harvested approximately 5 years ago, the mid-story and understory trees are growing very well due to the additional sunlight the harvest provided to these trees. It is recommended that little harvest activity occur in this and that the stand be allowed to grow and develop over the next 5 years.

Stand 5	Oak/Hardwoods	6.9	Acres
Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
Red Oak	15	1,343.0	9,267
White Oak	25	1,189.0	8,204
Black Oak	15	809.0	5,582
hickory	10	693.0	4,782
White Pine	5	0.0	0
Yellow/Black Birch	5	0.0	0
Sawtimber Total:	75	4,034	27,835
		Cords/ac.	Total Cords
Cordwood		3.80	26
Softwood Pulp		1.2	8
Total Cordwood			
Total BA/acre	75		

Description:

Overstory Species Composition and Size Class: Black Oak, White Oak: Small to medium sawlog size. Scattered red maple and black birch: Large pole to small sawlog.

Mid-Story Species Composition and Size Class: Medium to high density. White Pine, red oak, black oak, black birch.

Regeneration: Sparse due to the dense amount of pole-size trees found in the understory.

Forest Health Concerns: There are no health concerns in this stand.

Slope/Aspect: Slopes severely in the northern part of the stand to the east.

Soil Drainage: Moderate to moderately well drained. Very rocky in the north eastern part of the stand, large surface boulders.

Recommendations:

Like Stand 4, the basal area in this stand is somewhat low. It appears the stand was harvested 20-30 years ago when the area was being developed. It is recommended that no harvesting takes place in this stand for the next five years, which will allow the trees within the stand to continue to grow and develop. This stand could be harvested in conjunction with Stand 4 in the future.

Management Schedule

2017-2018

- Prepare the forest management plan.
- Blaze and paint identifiable boundary lines.
- Construct an access road or upgrade the existing class 6 road and conduct a biomass timber harvest in accessible areas.
- Seed and lime the landing at the conclusion of the timber harvest.

2019-29

- Monitor the woodlot for wind damage, ice damage, fire, invasive plants or disease and take appropriate corrective actions as needed to ensure the continued health of this forested parcel.
- Re-assess the property in 10 years and write a new 10-year management plan.

Concluding Remarks

The recommendations proposed in this 10-year management plan should be implemented within the next 10 years, although timing will depend on landowner priorities, market conditions, and environmental conditions such as pest outbreaks and weather. Through sound silvicultural practices and using best management practices (BMP's), mature, diseased, and defective trees will be harvested to provide healthier more vigorous growing trees more growing space, and to stimulate regeneration on the forest floor. This forest should be monitored for pest outbreaks and destructive weather events; corrective action should be taken as needed over the next 10 years in response to any such events. These recommendations are silviculturally and operationally sound and should result in meeting the landowners' objectives for their property. Implementing these recommendations will help ensure that this forestland is being managed with long-term sustainability in mind.

Respectfully Submitted,

Michael F. Powers, Consulting Forester
N.H. License #379

Glossary of Forestry Terms

Basal Area - Cross sectional area of a tree stem at a height of 4.5 feet (diameter at breast height) expressed in square feet per acre.

Browse - The twigs and leaves of woody plants, that are edible to wildlife.

Butt - The base of a tree; the lower end of a log.

Canopy - The upper layer of branches and foliage, or tree crowns, in a forest.

Crop Tree - A tree identified to be grown to maturity and not removed from the forest before the final harvest cut. Usually selected on the basis of its quality and location with respect to other trees.

Cull - A tree or log of merchantable size but with little or no market value.

DBH - The diameter of a tree as measured at breast height which is taken at 4.5 feet from the ground surface.

Dominant - Trees with crowns able to receive full sunlight from above and partially from the side.

Form - The shape of a tree or log.

Habitat - The local environment in which a plant or animal lives.

Harvesting - In general use, removing all or portions of trees on an area.

Mast - Acorns or other fruits or nuts edible to wildlife.

Maturity - For a given species or stand, the approximate age beyond which growth falls off or decay begins to increase at a rate likely to reduce economic importance.

Merchantable - pertains to a log or tree with qualities that would permit an economically profitable harvest

Mean Stand Diameter - The mean diameter of all trees within a stand or compartment.

Merchantable Mean Stand Diameter - The mean diameter of all trees considered as sawlog stocking within a compartment or stand.

Pole - A tree whose diameter at DBH ranges from 5.1 through 11 inches.

Pulpwood - Roundwood converted into specific lengths or chips for commercial use as in paper making or as a fuel.

Regeneration - New forest growth by artificial reproduction, by means of seeding or planting; or natural reproduction, from natural seeding or sprouting.

Sapling - A small tree, usually defined as being between 2 and 4 inches at DBH.

Sawtimber - Trees that will yield logs suitable in size and quality for the production of lumber; generally having a minimum diameter at DBH of 11.1 inches.

Sawlog - That part of a tree which has economic value as sawed lumber.

Site - An area evaluated as to its capacity to produce a particular forest or other vegetation based on the combination of biological, climatic, and soil factors present.

Site Index - A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and co-dominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Silviculture - The science of producing and caring for a forest by applying the principals of forest management within a sound economic framework.

Snag - A standing dead tree; a portion of tree remaining standing.

Stand - A grouping of trees occupying a site and sufficiently uniform in composition, age, and condition so as to be distinguishable from the forest on adjoining areas.

Stand Density - An expression referring to the total stocking of a stand of trees, usually expressed in square feet of basal per area.

Stocking - The degree of occupancy of trees on land, by measurement and/or the number of trees in a stand.

Thinning - The reduction in density of stocking by harvesting trees to prevent overcrowding and stagnation of a stand of trees.