New England
Forestry Consultants, Inc.

Forest Management Plan

New Durham Town Forest

February 28, 2011

Prepared by:

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NH LF #85

FOREST INFORMATION SUMMARY

LAND OF Town of New Durham
Selectmen's Office
4 Main Street
New Durham NH 03855

FOREST NAME New Durham Town Forest

TOWN New Durham town Strafford County NH

ROAD Berry Road and Stockbridge Corner Road

PARCEL ID

	TOWN	TAX MAP	LOT N	ACRES	BOOK	PAGE	ACRES
PRIMARY		251	21	84			
ADDITIONAL		251	23	56			

TAX MAP AC 140.0 DEED ACRES

PARCEL NOTES

REFERENCE MAPS

USGS
SURVEY
AERIAL PHOTO
FOREST TYPE
SOILS
OTHER(S)

OTHER DATA

FOREST CODE 3301704525121
OF COMPARTMENTS 1 TOTAL ACRES IN LB 133.7

MANAGEMENT OBJECTIVES: New Durham Town Forest

The forest management objectives for the New Durham Town Forest are to satisfy the conditions stated in the will of John C. Shirley which include:

1. Holding the land in perpetual trust, and periodically harvesting wood and lumber as it reaches maturity.

2. Using care to prevent stripping the land of immature growth.

3. That forestry work be done in accordance with the advice of the State Forestry Commission.

In keeping with the spirit of third objective, the work done on the forest will be conducted in a manner which is compliant with currently accepted standards regarding wildlife habitat, water quality protection, recreational use, esthetics, and other values not specifically stated in the donors will.

FOREST DESCRIPTION

The New Durham Town forest was a bequest of John C. Shirley. The Town and received upon his death in 1946. Apart from two land use changes (1 for a cemetery, and 1 for a gravel pit as approved by the Strafford County Probate Court) the land has been maintained primarily for the growth and harvesting of forest products. The objectives found in the Shirley will are broadly stated but have specific stewardship implications. These include maintaining the productivity of the woodlands by protecting "immature growth" so that the benefits provided by the forest resource accrue to future generations at a level commensurate with that of the present recipients. Further, the work performed should be done in accordance with standards as would be advocated by the "State Forestry Commission". This reasonably infers the Division of Forest and Lands, of the NH Department of Resources and Economic Development. Standards of practice, and the science of forestry have evolved over the decades since the land first came into the Town's possession. The most comprehensive guide to forestry practices in New Hampshire we have today are contained in the publication: Good Forestry in the Granite State: Recommended Voluntary Forest Management Practices in New Hampshire. Now in its second edition, this guide was developed cooperatively by representatives from Division of Forest and Lands, numerous conservation groups, forestry professionals, and forest researchers. It is the primary reference for the stewardship recommendations contained in this plan.

PROPERTY RESTRICTIONS

☐ Conservation Easement	☐ ROW to land	☐ Collaboraters	☐ Local Regulations
☒ Deeded	☐ ROW across land	☐ Abuttor Courtesy	☐ No Restrictions

The use of the land is constrained by the conditions of the John Shirley's will. Changes in use have been approved by petition to the Probate Court, notably in 1974 for the Cemetery and again in 1983 for the purposes of a gravel pit.

There is an out piece of property, approximately 3 acres in size that was deeded to the State of New Hampshire. This property is not indicated on the tax maps which were used as the basis for the forest management maps in this plan.

FOREST CERTIFICATIONS

This forest has no certifications at this time.

REPORT A1: Land Use Acreage by Forest

Report Date: 2/8/11

OWNER
Town of New Durham

FOREST
New Durham Town Forest

LAND USE CATEGORY / LAND USE TYPE	ACREAGES BY CATEGORY	ACREAGES BY TYPE
Exclusion	9.7	
Field		0.3
Gravel Pit		9.4
Forest	86.1	
Hemlock Hardwood		19.6
Mixed Softwood		9.2
White Pine		57.3
Unproductive	38.0	
Wetland		38.0
Total acreage for New Durham Town Forest:	133.7	
Total acreage for all Forests	133.7	

COMPARTMENT INFORMATION New Durham Town Forest

COMP ID **1** TOTAL ACRES *133.7* Compartment 1 of 1

COMPARTMENT DESCRIPTION / MANAGEMENT GUIDELINES

COMPARTMENT LOCATION AND EXTENT
This forest contains one compartment inclusive of the entire acreage.

ACCESS & FOREST PROTECTION
The forest has excellent access for management and protection purposes. Gravel pit sites are suitable for use as log landings, and the roads will support traffic by all forms of logging trucks. The land is bisected by the Stockbridge Corner Road and access to Area G of the forest, will be facilitated by temporary closure of the road during a timber harvest. Such action was taken during previous harvest in the 1980's and 1990's, and I have conferred with the Road Agent about this issue. With adequate advanced planning, a closure would not impose a significant problem.

BOUNDARIES
The property is mostly bounded by town road and inoperable wetlands. The remaining lines were found during the 2011 forest inventory, but the paint and blazes on these lines have faded and become almost obscure. Additional blazing and re-painting the lines is recommended prior to the next timber harvest. The combined length of the northerly and southerly lines in need of marking is 3900 feet.

(Continued)

Timber Management

The key elements to a successful timber management strategy include:

1. Growing the best quality trees to produce the highest value products,

2. Harvesting the trees at a rate that is an optimum balance between conditions for growth, operational efficiency, and the productive capability of the forest site.

3. Insuring that as mature trees are removed they are replaced by young trees (regeneration) of desired species, and of adequate vigor to reach maturity.

The 2011 inventory provides us with a picture of the current forest condition, as illustrated in the Tables and Charts on the following pages.

Total Timber Inventory
84 out of a total of the 134 acres sampled are suitable for timber management activity. On this acreage, the average timber volumes are 15.9 thousand board feet and 15.7 cords per acre. These are exceptionally high volumes and are indicative of the conservative management the property has received for many decades. Like a well-managed investment portfolio, the high value of the timber that has been accrued through long term stewardship provides the town with many more options for caring for the forest, and thus further insuring its future productivity.

Chart 1: Trees per Acres by Class and Diameter
This chart illustrates the distribution of acceptable (AGS), unacceptable (UGS), and wildlife quality trees sampled during the inventory. Acceptable growing stock are healthy trees with good form that are, or have the potential to be, higher value sawlog products. Unacceptable growing stock are trees that have defects that will prevent them from becoming sawlog products, or sawlogs that are of such poor quality or health such that they will decline in value during the next harvest interval. The chart indicates that in the smaller diameter classes, unacceptable trees are occurring at a rate higher than the acceptable trees. This is not an uncommon condition in New England woodlots. As an overstory of better quality trees is tended to maturity, less valuable hardwoods and hemlocks often begin to occupy the shaded openings created by partial harvesting. Due to their tolerance for shaded conditions, these trees will increasingly occupy the site, unless kept in check by silvicultural actions before and during commercial harvesting.

Chart 2: Trees per Acre by Family and Diameter
This chart illustrates the distribution of hardwood (deciduous) and softwood (coniferous) species by diameter class as sampled during the inventory. There is a similar shift with increasing diameter as found in the first example. The shift indicates that the high value pine overstory is being replaced by a lower value hardwood understory. A shift in softwood / hardwood composition is not in itself a problem, but closer examination of the data showed that there were very few valuable hardwoods (notably red oak) found in the small diameter classes.

Charts 3 & 4: Sawtimber and Pulpwood Distribution by Species
These charts illustrate the distribution timber volume in the sawlog and pulp product categories. The charts are viewed together because the ratio of pulp to sawlogs indicates the potential of different species to produce higher value products, and the influence of previous cutting practices on timber

quality. For example, hemlock composes less than 10 % of the sawlog volume but nearly 30% of the entire pulpwood volume. In contrast, white pine makes up roughly 55% of the pulpwood, but over 85 % of the sawtimber. These figures, and the field observations of the stand conditions, are indicative of a careful tending of the white pine resource. Similar inverse contrasts exist between red oak and the other hardwoods.

In summary, there is currently a high quality resource to work with, but to meet the 1st element of a sound timber management strategy, careful attention must be paid to silvicultural actions that prevent a long term downward shift in the timber quality. At this point we have a guide as to the 'what' to do, but we also want a complete strategy which includes the 2nd and 3rd elements, answering the 'when, where and how much to do' questions.

We have 85 acres of timber land to work with. It takes about 100 to 120 years for a white pine to grow to full maturity. A harvesting schedule can potentially range from a total clear cut in one year (then waiting 100+ years for a second cut) to cutting less than 1 acre per year until the harvest comes full cycle back to the first acre cut(in 100+ years). Obviously these extremes are impractical; the single cut being too severe, and the second option being operationally impractical. To figure out where the best middle ground is, we can apply the 'area regulation' model as shown on Page 2.3.1 of this section. A middle option will create a schedule of harvests which will generate income on a periodic basis, reduce the risk of holding a disproportionate amount of mature timber, create structural diversity for wildlife habitat, and mitigate the visual impact of any single harvest.

Based on experience, we can generally conduct a harvest within a productive stand or group of stands every 15 to 20 years. Each of these periodic harvests would include two broad types of cutting treatments; *intermediate harvests* and *regeneration harvests*. An intermediate harvest removes a portion of the trees in a stand with the goal of encouraging the continued development of the residual stand. A regeneration harvest is the removal of virtually all of an existing stand, with the goal of developing an entirely new forest stand. Regeneration cuts generally take the shape of cleared patches 1 to 3 acres in size. To obtain a guideline for how much of each type of cutting should be done, we can refer to the 'Area Regulation Guidelines Table'. For a forest with 84 of manageable acres, growing the timber to a average 120 year rotation, during a 15 year planning horizon, we would ideally expect to conduct intermediate harvesting on 38% of the acreage (32 acres), and regeneration harvesting on 12.5% of the acreage (10.5 acres). In actuality, for the 2011 – 2026 planning period, I have recommended 46 acres of intermediate and 8 acres of regeneration harvesting. The additional intermediate harvesting is a result of the current stand structure which is heavily stocked. The lower regeneration number is appropriate, as there no need to prematurely cut growing timber. After several harvest operating intervals, however, the forest structure will become more balanced. The average volume per acre will actually decrease from its current level of 15+ thousand board feet per acre to the order of 10 to 12 thousand board feet per acre. It is important to emphasize, again, that the shift in volume should also be concurrent with an increase in average quality so as to insure the continued flow of high value products into the future.

The Area Regulation Guidelines also indicate that from a stand age of about 10 to 35 years, investments be made in silvicultural improvements. These actions are needed to achieve the third element of the timber management strategy. White pine and red oak are the most valuable species we can grow in the current market. Given our climate and soils, it is a pretty sure bet they will also be the most valuable trees in future markets. Getting both of these species to regenerate in sufficient numbers, and then survive to become dominant and co-dominant trees in a stand, requires manipulation of forest

conditions early in stand development. Under natural conditions, there is a tendency for our forest cover to revert to shade tolerant species such as beech, hemlock, and on this forest site, black birch. These species can 'lie in wait', growing slowly in the understory until an opening occurs in the forest canopy, and then accelerate rapidly. White pine on the other hand, is slow growing in its early years, and less tolerant of shaded conditions. White pine is also at a disadvantage when it has to compete with hardwoods regenerating from stump spouts. These sprouted trees have the productive capacity of a root system from inception, but are much more likely to produce inferior quality timber due to crowding and rot associated with the stump from which they generate. Red oak also has similar competition problems, but not due to slow early growth. Its biggest problem in early development is from browsing by small mammals, deer, and moose.

Successful regeneration of these species first requires getting enough seed to reach a suitable seed bed. This issue can be addressed by timing harvests around years of heavy seed fall. These are frequently concurrent in oak and pine, and occur generally at 3 to 4 year intervals. The trees have evolved a seed production pattern that keeps their predator populations out of synch, improving chances for germination and survival. When a seed year does occur, the chances of germination are improved if the seed bed is slightly disturbed and some mineral soil exposed. Logging operations and equipment are ideal for creating such conditions, if the ground is free of snow. This disturbance whether, incidental or deliberate is referred to as *soil scarification*.

Once the seedlings are established, a *release* treatment can reduce the competition from sprouts and established shade tolerant trees. Once the seedlings have made it successfully to the sapling and pole stage, over-crowding becomes more of an issue, as well as the continued presence of tenacious competitors. At the sapling pole stage a pre-commercial thinning is recommended. Both of these treatments are labor intensive and most effectively done with power tools. Trained forestry technicians are the most appropriate workers to perform these treatments.

During the inventory, areas in need of silvicultural investment treatments were identified. These areas are sites with the highest potential for successful treatment. Unfortunately we observed as much or more area where, since the last harvest in the early 1990's, the growth of hardwood/hemlock competition is now so far advanced that the opportunity for successfully regenerating white pine has been missed. Some of these hardwood patches appear as breaks in the forest canopy in the 1998 aerial photography, in both Areas A and C.

As an overall strategy for silvicultural investment, I recommend that about 10% of the revenue from timber harvesting be reinvested in improvements. This is roughly equivalent to the amount a timber purchaser will pay to the town in timber tax. For the planning period 2011 until 2026, I have recommended 8 acres specifically for silvicultural investment, with the potential identification of up to 2 more acres possible.

In the Areas chapter of this plan, I have included the details of the recommended treatments for timber management including area location, acreage, and estimated cash flows.

ESTIMATED TIMBER INVENTORY AND VALUE

New Durham Town Forest

Compartment 1 of 1

YEAR OF INVENTORY	END YEAR OF ESTIMATE	ESTIMATED GROWTH RATES % PER YEAR
2010	2010	SFTWD .02 HDWD .015 PULP .02

SPECIES /PRODUCT	VOLUME		$/UNIT	TOTAL $
White Pine	1,110.6	MBF	160.0	177,696.0
Spruce /Fir	6.0		90.0	538.3
Hemlock	131.1		50.0	6,553.0
Red Pine	3.4		50.0	170.7
Other softwood				
Softwood Pal/Tie	42.7		50.0	2,133.7
Red Oak	42.0		350.0	14,710.9
Black Oak				
White Oak				
Sugar Maple				
White Ash				
White Birch				
Yellow /Black Birch	3.6		100.0	364.5
Black Cherry				
Red Maple	1.9		80.0	152.0
Beech				
Other Hardwood				
Hardwood Pallet	12.3		80.0	986.4
Softwood Pulp	750.0	CORDS	3.0	2,250.0
Spruce/Fir pulp				
Hemlock Pulp	400.0		5.0	2,000.0
Hardwood Pulp				
Gr Stock: Softwood				
Gr Stock: Hardwood				
			ESTIMATED TIMBER VALUE	$207,555.34

NOTE: This table displays the estimated timber inventory at the "end" year. It is based on the following:

1. Starting inventory volumes are from the year of the cruise displayed.
2. Growth of the starting volume using the percentages displayed, compounded annually.
3. Less any harvest occurring in the interim years, and subsequent changes in compounded growth.

INVENTORY METHODS: Variable plot, 20 BAF cruise. Uniform grid of sample points 5x5 chain spacing. Softwood sawlogs 9.6" dbh to 8" top minimum. Hardwood sawlogs 11.6" dbh mnimum to a 10" top minimum. Pulpwood 7" dbh minimum to 4" top minimum. Pricing based on current market 3/1/2011, after timber tax. Note "liquidation value" limited by deed constraints on harvesting, and current market top diameter restrictions (9"minimum).

Chart 1: Compartment Trees/Acre by Tree Class

g_FOREST NAME New Durham Town Forest

g_FOREST CODE 3301704525121

g_CRUISE DATE 2/7/2011

COMPARTMENT NAME	COMP ID	COMP ACREAGE	AREA ACRES	# OF STATIONS
Comp 1 of 1	1	92.48	19.63	35

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
4	7.0	45.8	4.0
6	9.0	26.2	5.1
8	12.0	19.6	6.9
10	25.0	26.2	14.3
12	27.0	19.6	15.4
14	50.0	26.7	28.6
16	52.0	21.3	29.7
18	41.0	13.3	23.4
20	19.0	5.0	10.9
22	19.0	4.1	10.9
24	9.0	1.6	5.1
26	4.0	0.6	2.3
28	2.0	0.3	1.1
	TOTALS FOR COMP 1:	210.4	157.7

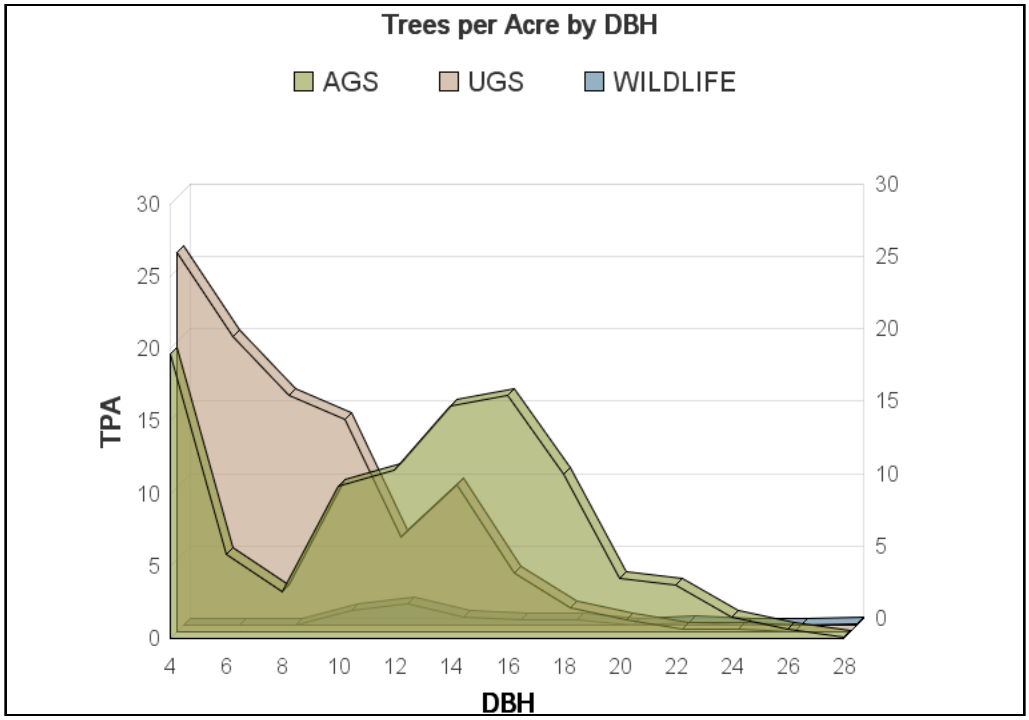


Chart 2: Compartment : Trees/Acre by Tree Family

g_FOREST NAME New Durham Town Forest

g_FOREST CODE 3301704525121

g_CRUISE DATE 2/7/2011

COMPARTMENT NAME	COMP ID	COMP ACREAGE	AREA ACRES	# OF STATIONS
Comp 1 of 1	1	92.48	19.63	35

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
4	7.0	45.8	4.0
6	9.0	26.2	5.1
8	12.0	19.6	6.9
10	25.0	26.2	14.3
12	27.0	19.6	15.4
14	50.0	26.7	28.6
16	52.0	21.3	29.7
18	41.0	13.3	23.4
20	19.0	5.0	10.9
22	19.0	4.1	10.9
24	9.0	1.6	5.1
26	4.0	0.6	2.3
28	2.0	0.3	1.1
	TOTALS FOR COMP 1:	210.4	157.7

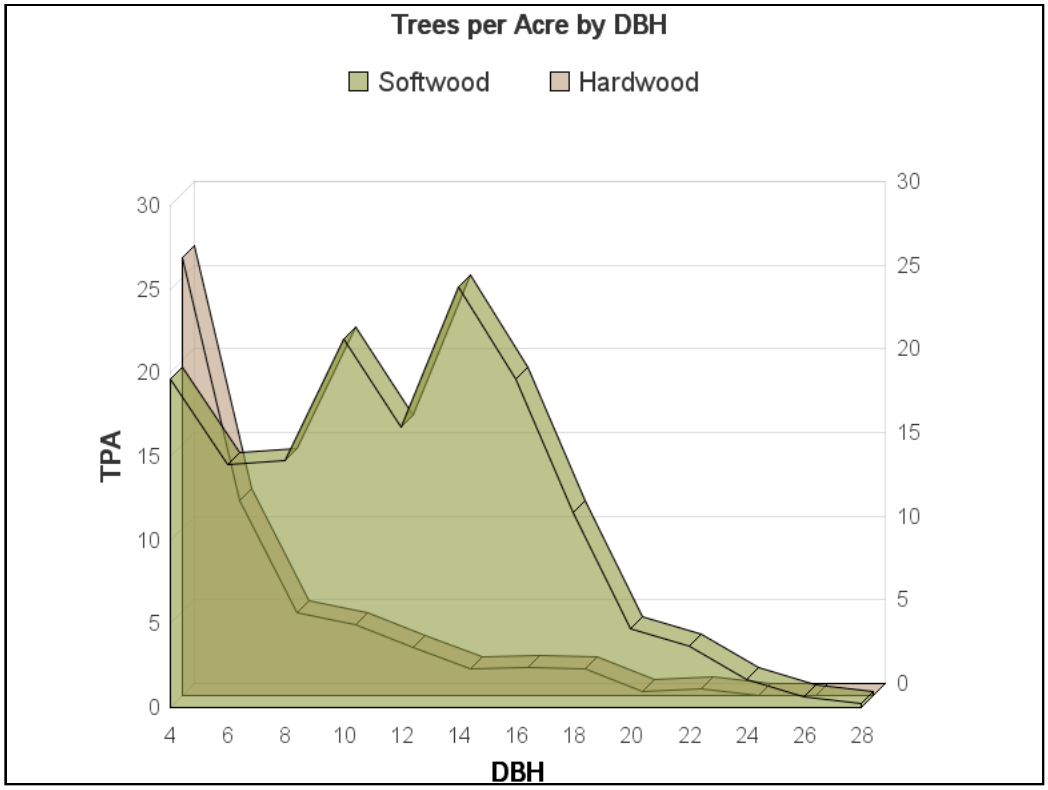


Chart 3: Sawtimber Volume Distribution by Species

Forest New Durham Town Forest

Cruise Date 2/7/2011

Comp: Comp 1 of 1

Number of Stations: 35

SPECIES NAME	MBF TOTAL	%
WHITE PINE	1,153.3	85%
RED OAK	54.4	4%
OTHER HARDWOOD	15.0	1%
HEMLOCK	131.1	10%

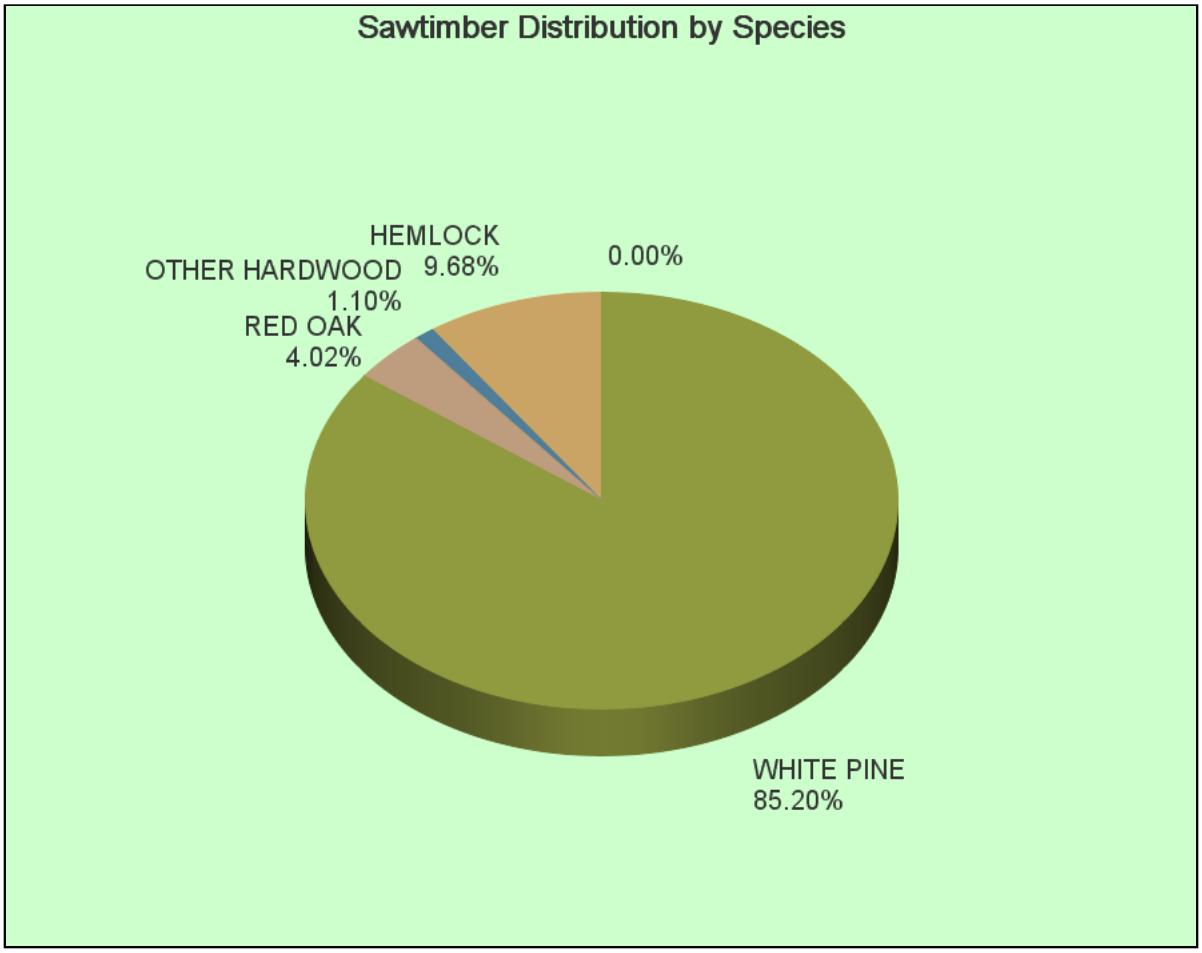


Chart 4: Pulpwood Volume Distribution by Species

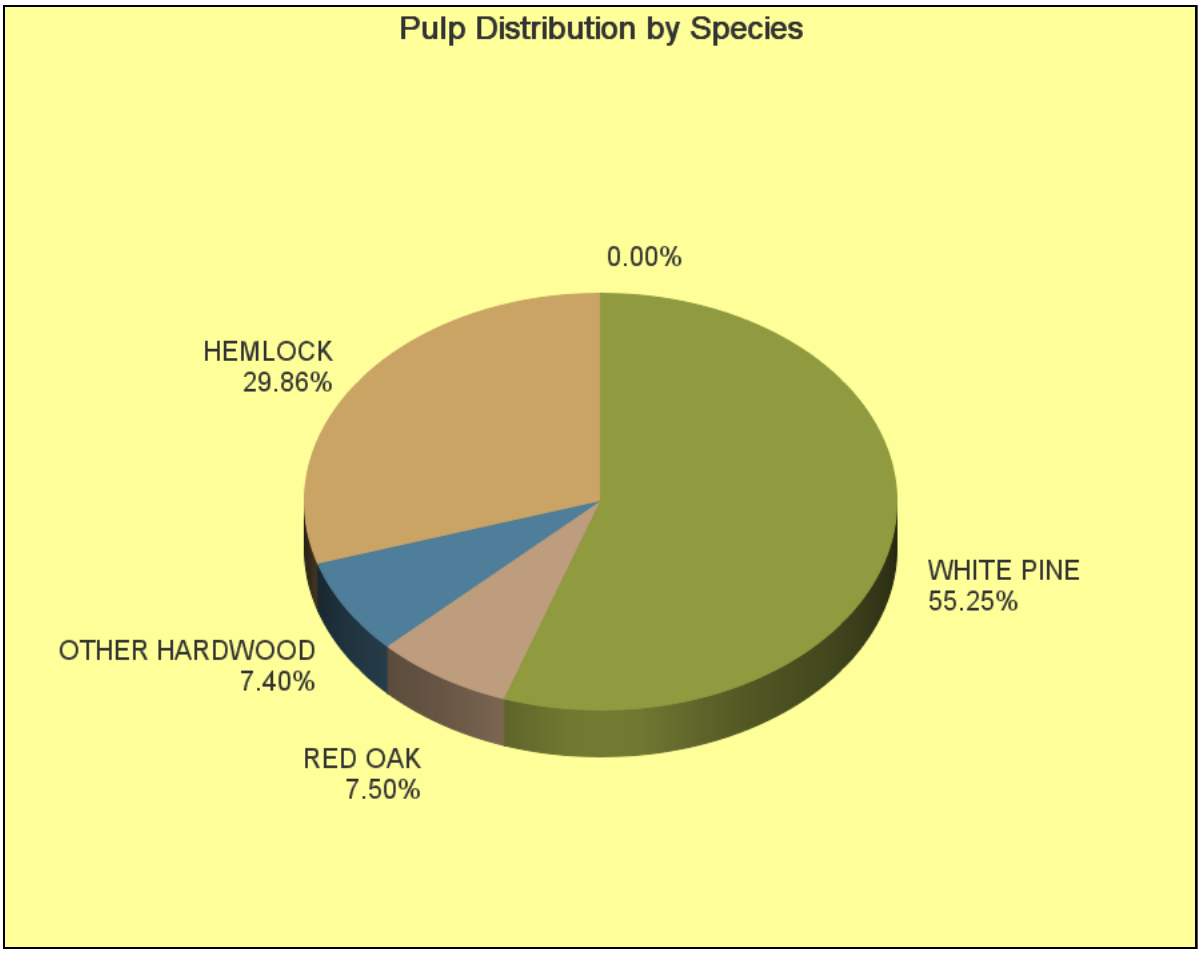
Forest New Durham Town Forest

Cruise Date 2/7/2011

Comp: Comp 1 of 1

Number of Stations: 35

SPECIES NAME	CORDS TOTAL	%
WHITE PINE	740	55%
RED OAK	100	7%
OTHER HARDWOOD	99	7%
HEMLOCK	400	30%



AREA REGULATION METHOD GUIDELINES

New Durham Town Forest

Compartment 1 of 1

To properly manage a forest for timber production and wildlife habitat, harvesting levels must be regulated so as to prevent over cutting. Traditional forestry theory provides for two methods of harvest regulation; Area and Volume. The table which follows here is a simplified illustration of the theoretical guidelines for area regulation on a forest of this size. This illustration is based on the following assumptions and definitions:

1. TIMBER MANAGEMENT ACRES - The total acreage available for commercial timber production, based on the records contained in the *Areas* file.

2. ROTATION AGE - The maximum age to which commercial timber trees are grown before harvest. In mixed species management, the species to be grown the longest would define the rotation age.

3. OPERATING OR AGE CLASS INTERVAL - This is the average amount of time between the treatments which will be conducted during the course of one rotation. This definition assumes that the operating interval is the same throughout the rotation, and that a consistent series of treatments will be applied to the timber management acreage as a whole.

4. PLANNING HORIZON - The time frame for which this particular evaluation is being considered.

5. TREATMENT COVERAGE GOALS - Once the criteria have been established for the above terms, we can calculate the expected acreage to be affected by each treatment. These figures can be compared with the report from the *Recommended Treatments* file (Rec Trt by Type - Forest) to see how the suggested treatments compare with the theoretical guidelines.

AREA REGULATION GUIDELINES TABLE

TIMBER MGMNT ACRES	ROTATION AGE	OPERATING OR AGE CLASS INTERVAL	PLANNING HORIZON
84.3	120	20	20

SUGGESTED TREATMENT COVERAGE GOALS BY AGE CLASS

ENDING AGE	TREATMENT TYPE	% OF ACRES	# OF ACRES
20	Silvicultural Invest - Release seedl/sap	16.7%	14.1
40	Silvicultural Investment - PC thinning	"	"
60	Intermediate harvest - 1st thinning	"	"
80	Intermediate harvest - 2nd thinning	"	"
100	Intermediatde harvest - 1st shelterwood	"	"
120	Regneration Harvest - 2nd shelterwood	"	"
		"	"
		"	"
		"	"

REPORT RT 1: Summary of Recommended Treatments

By Forest, Compartment and Type

Report Date: 3/1/2011

Owner: Town of New Durham

Forest: New Durham Town Forest 3301704525121

From: 2012 to 2013

Planning Horizon: years

COMP ID 1 Compartment 1 of 1

Treatment Type: Harvest Inter

YEAR	COMP	AREA	SUB TYPE	ACRES
2012	1	A	Harvest Inter	23.0
2012	1	B	Harvest Inter	8.5
2012	1	E	Harvest Inter	10.0
2012	1	K	Harvest Inter	4.3
			Total for Harvest Inter	45.8

Treatment Type: Harvest Regen

YEAR	COMP	AREA	SUB TYPE	ACRES
2012	1	A	Harvest Regen	3.3
2012	1	B	Harvest Regen	3.6
2012	1	K	Harvest Regen	1.0
			Total for Harvest Regen	7.9

Treatment Type: Silvi Investment

YEAR	COMP	AREA	SUB TYPE	ACRES
2013	1	A	Silvi Investment	5.3
2013	1	E	Silvi Investment	1.5
2013	1	G	Silvi Investment	1.2
			Total for Silvi Investment	8.0

WILDLIFE & FISH HABITAT

The New Durham Town Forest is an important component in a larger wildlife habitat landscape which includes adjacent private and publically owned lands. In particular, it is a mostly a upland land type adjacent to the Merrymeeting River/Coffin Brook marsh. Portions of this upland/wetland complex have received some of the highest conservation ratings possible in a recent GIS study conducted jointly by NH Fish and Game and the Society for the Protection of New Hampshire Forests (www.forestsociety.org). The most important action that can be taken to protect this lands contribution to habitat values is to keep the land open and undeveloped as intended originally by John Shirley.
Secondly, in connection with the management of the property we can attend to conserving individual habitat elements that collectively contribute to more diverse and abundant wildlife use. These habitat elements include:

1. Wildlife Trees – These trees include live trees with partially rotted boles, cavities, branching patterns suitable for nesting sites, or insect infestations that can serve as a wildlife food source. They also include recently dead standing snags, with similar, but more advanced structural defects. These types of tree are used frequently by bird and mammal species. During the inventory, we tallied wildlife quality trees, along with the merchantable timber. The frequency of occurrence of all wildlife trees was 4.1 trees per acre, with less than half of those in the more desirable 14" and larger diameter class. A rate of 6 wildlife trees per acre is considered good. During management, trees with wildlife potential, particularly those of large diameter, will be reserved. These reservations can occur where there is low potential for timber management or unusually oversized trees that cannot be commercially harvested. In some cases, where timber management potential can be increased, some large trees could be girdled to create dead standing snags. This should not be done, obviously, where recreational use is frequent.

2. Red Oak and White Pine – Both of these preferred timber species are prolific seed producers and therefore contribute food value to the wildlife habitat. Generally the larger the tree the greater the seed volume produced. The recommended program of sawtimber production is very compatible with maintaining the quality of wildlife habitat.

3. Dead and Down Logs – Large dead trees, also called coarse woody debris, lying on the forest floor provide important sites for the growth of fungi, mosses, and insect colonies. These features contribute to habitat quality as food and shelter sites. Although not specifically quantified during the inventory, the general presence of these logs was observed to be infrequent. This is not uncommon on managed land, as large trees both sound and defective are most typically removed as forest products. Girdling and leaving very poor quality trees in place, as well as returning oversize un-merchantable blocks from the landing to the woods will help improve the frequency of this habitat element.
4. Wetlands – These are an important habitat element particularly for reptiles, amphibians, and bird species. Keeping logging activity in wetlands to a minimum makes all around operational sense as well as for conserving habitat quality. It should be noted that harvesting trees on the edge or near wetlands is not necessarily a bad practice – trees have been falling in them since the ice age. What will be moderated to conserve habitat, is the total amount of activity on the wetland edge, so that the relative impact of management is not far different from natural events.
5. Hemlock Cover – Dense softwood, and hemlock stands in particular, can provide important shelter for deer during harsh winter weather. Area B has a significant component of hemlock.

We did not observe any specific deer yarding evidence during the cruise, but having this component of forest cover does at least add that opportunity. It is evident from the results of the most recent harvesting in the 1990's that hemlock will not have difficulty regenerating on this site. As it is not a high value timber species, management for hemlock will be secondary to the retention and growth of red oak and pine. However due to its ability to persist in the understory and mid story layers, we will be able to have a good representation without compromising the productivity of a large acreage. On the lowest slopes of Area C there are also inclusions of poorly drained soils where the hemlock will persist and thrive well, regardless.

RECREATION & ESTHETICS

In conjunction with the last harvest a central trail was developed that is now primarily used in winter for snowmobiling. Other recreational use includes hunting and to some unknown extent walking. Motorized off road vehicles are prohibited. A suggestion was made at the first public hearing regarding this plan, as to the creation of a loop walking trail that would integrate with the existing trail. We adequate notice in advance, this trail can be laid out and cut in conjunction with a commercial timber harvest. This would not incur any additional cost to the Town, unless equipment was hired to groom the trail post-harvest, as was done previously.

The primary considerations for conservation of recreational values coincide with those of maintaining high esthetic values. The following general actions will be taken in regard to these values:

Keep all slash off of designated trails.
Avoid logging when ground conditions will result in rutting
Lop all tops to within 3 feet or less of the ground, and cut off any leaning or bent over saplings.
Mark timber and use directional felling so that intermediate cutting minimizes residual stand damage.
On regeneration sites, thoroughly cut all stems 2" and larger, with the exception of snags and other wildlife trees designated for keeping.
Layout all major trails in advance of harvest, to minimize skid road visibility and damage.
Maintain a high stand density with larger diameter groups of trees distributed throughout the forest.
Upon completion of harvesting, clean landings of log debris, and grade the landing and truck roads.

WATER QUALITY, WETLANDS, & RIPARIAN ZONES

The wetlands are the most significant water feature on the property. There are no first order, year round streams indicated on the USGS topographic map. There are several seasonal drainages which would be crossed in a logging operation. Generally the following actions will be taken to protect water quality on the forest:

Install temporary crossing structures, pole fords, culverts, or skidder bridges when crossing a seasonal drainage that is flowing.
Do not run logging equipment in the wetlands, unless in conjunction with a crossing that is appropriately installed as in item 1.

CULTURAL & HISTORIC FEATURES

Although it is almost a certainty that this land was still mostly open pasture as recently as the early 1900's, there was no evidence of stone walls, foundations, or other non-forest use found on the

property. If after the snow is gone, or if evidence is brought to our attention that there are cultural and historic features on the property, then these can be added to the GIS project for the property.

FOREST HEALTH: INSECTS & DISEASE

No forest disease or insect problems needing immediate attention were observed during the inventory. The only problems appear to be with individual trees, that are either over-mature have dwindling crowns due to overcrowding.

FOREST HEALTH: INVASIVE & EXOTIC SPECIES

No invasive species or exotic species were observed during the inventory.

BIODIVERSITY: RARE & ENDANGERED SPECIES

There are no rare and endangered species indicated for this site in the NH Natural Heritage Inventory database.

REFERENCES

Technical Guide to Forest Wildlife Habitat Management In New England. Richard M DeGraaf, Mariko Yamasaki, William B. Leak, Anna M. Lester. 2006 University of Vermont Press. http://www.wildlife.state.nh.us/Wildlife/Northeast_Hab_Mgt_Guide.htm

Best Management Practices for Forestry: Protecting New Hampshire's Water Quality. University of NH Cooperative Extension. http://extension.unh.edu/forestry/Docs/FormBMP.pdf

NH Natural Heritage Inventory. GIS data layers for New Hampshire NH GRANIT. Provided on request. http://www.granit.sr.unh.edu https://www2.des.state.nh.us/nhb_datacheck/

Good Forestry in the Granite State: Recommended Voluntary Forest Management Practices for the State of New Hampshire. Second edition 2010. http://extension.unh.edu/goodforestry/index.htm
Copyright 2010 by the New Hampshire Department of Resources and Eonomic Development, Division of Forest and Lands, and UNH Cooperative Extension.

Good Forestry in the Granite State fulfills State Law (RSA 227-I:4) requiring the New Hampshire Dept. of Resources and Economic Development, Division of Forests and Lands to provide educational tools identifying recommended voluntary forest management practices. The mission of the division is to "protect and promote the values provided by trees and forests." The division "executes all matters pertaining to forestry, forest management, and forest land within the jurisdiction of the state..." Primary responsibilities of the agency include managing state-owned reservations and forests, preventing and controlling forest fires, monitoring and protecting forest health, enforcing forest protection laws, and gathering statistics and information.

AREA DESCRIPTIONS

New Durham Town Forest

This Section of the management plan contains descriptive information about each of the land areas that collectively make up a Compartment. Each Area was delimited based on key attributes which make it reasonable to treat that acreage as a management unit. The key attributes can be related to one or more of a variety of features from human defined land uses, to distinct or limiting natural features. Some examples are:

Land Use Characteristics: Timber management, Agriculture, Wildlife management, recreational use, reserve or buffer lands, historic and esthetic sites.

Natural Features: Soil types, terrain, accessibility, or biological features, such as plant communities, wetlands, water bodies, and habitat types.

The attributes are not necessarily exclusive, and are more frequently interrelated than discreet features. The size of the areas is also dependent on the key attributes. Generally the higher the value or importance of the attribute, the smaller the area can potentially be. For general timber management purposes the upper size is limited by what is a practical planning unit as determined by operations layout/timing and by the forester's ability to manage the area within a single operating interval. In simple terms the Area unit defines the "where" in the standard " where, what, how much, and when" management query.

Compartment 1 of 1

Area Id	**A**	*Total Acres*	38.5	*Timber Mgmnt Acres*	38.5

Land Use Forest, White Pine

Soil Type(s) 111C,

Mgmnt Priorities Timber - W Pine, Esthetics & Recreation

Restrictions

Timber Management Data

Size Class Sawlog

Crop Tree Stocking Good

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	**6%**	**14%**	**80%**	**0%**

Total Basal Area	157	*Ba Ags*	111	*Ba Ugs*	44	*Mean Stand Diameter*	11.7
Volume / Acre Mbf	20,256	*Volume/acres Cords*	13.5			*Trees/acre*	167.3

Major Tree Species	*Ba Ft2*	*% Total Ba*
WHITE PINE	119	75%
RED OAK	16	10%
HEMLOCK	9	6%
RED MAPLE	9	6%
BEECH	1	1%

Narrative This forested area has primarily of white pine cover type. The area has the most matures and highest volumes per acre found on the forest. The forest stand has reached and age where continued thinning will result in little improvement in growth rates or tree quality. Further intermeidate harvesting in this stand will be focused on capturing tree at high risk of mortatlity due to stagnation, damage, or disease. On the lower slopes there are portions of this stand where white pine became established following the 1990's harvest. These pines are still suitable for release by a combination of commericial harvesting and silvicultural investment. On the upper slope of the area that same harvest created openings where hardwood regeneration what more aggressive. Opportunities for silvicultural investment in white pine thinning are more scatterred but still worth pursuing. A combination of intermediate and regeneration harvest are recommended, followed by the silvicultural investment where stand potential is good.

Recommended Treatment(s)

2011	Harvest Inter	Thinning	23	acres
	Thinning from below and some first shelterwood. Capture potential mortality and highest risk single trees. Improve spacing, but a high percentage of mature timber.			
2011	Harvest Regen	Patch Cut	3	acres
	Patch cuts in 3 locations, final site to be determined.			
2012	Silvi Investment	PC Thinning	5	acres
	Combination of release and thinning			

Area Id	**B**	Total Acres	19.6	Timber Mgmnt Acres	19.6

Land Use Forest, Hemlock Hardwood

Soil Type(s) 112D, 111C

Mgmnt Priorities Timber - Mixed Type, Wildlife

Restrictions

Timber Management Data

Size Class Pole Sawlog

Crop Tree Stocking Fair

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	**10%**	**26%**	**64%**	**0%**

Total Basal Area	143	Ba Ags	80	Ba Ugs	58	Mean Stand Diameter	11.2

Volume / Acre Mbf	10,084	Volume/acres Cords	19.6	Trees/acre	177.0

Major Tree Species	Ba Ft2	% Total Ba
HEMLOCK	90	63%
WHITE PINE	30	21%
RED MAPLE	10	7%
RED OAK	10	7%
WHITE BIRCH	3	2%

Narrative This forested are has a hemlock hardwood cover type. Stocking within the stand is highly variable ranging from poor to good. Generally the lower slopes of the area have inclusions of poorly drained soils and consequently have poorer quality trees. The upper slopes have better drainage and higher percentages of pine and oak. As discussed in the wildlife portion of the compartment descriptions, white pine and red oak crop trees will be favored in this stand. The hemlock component will continue to be a significant component of the forest cover. Intermediate and regeneration harvests are recommended. There were no opportunities for silivicultural investment found during the inventory, but a prescription may be added should any appropriate sites be found.

Recommended Treatment(s)

2011	Harvest Inter Thinning. Primaryly focus on crop tree release of oak and pine	First Shelterwood	9 acres
2011	Harvest Regen Patch cuts with scarification	Patch Cut	4 acres

Area Id **C** Total Acres 8.2 Timber Mgmnt Acres

Land Use Unproductive, Wetland Soil Type(s) 295,

Mgmnt Priorities Wildlife - Wetlands,

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	0%	0%	0%	0%

Total Basal Area Ba Ags Ba Ugs Mean Stand Diameter

Volume / Acre Mbf Volume/acres Cords Trees/acre

Major Tree Species Ba Ft2 % Total Ba

Narrative Shrub and hardwood cover on the edges, shrub cover and limited open water internally. No management activity in this area.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id **D** Total Acres 4.7 Timber Mgmnt Acres

Land Use Exclusion, Gravel Pit Soil Type(s) 298,

Mgmnt Priorities None,

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	0%	0%	0%	0%

Total Basal Area Ba Ags Ba Ugs Mean Stand Diameter

Volume / Acre Mbf Volume/acres Cords Trees/acre

Major Tree Species Ba Ft2 % Total Ba

Narrative In active gravel pit area. Police shooting range site.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	**E**	Total Acres	13.4	Timber Mgmnt Acres	13.4

Land Use	Forest, White Pine	Soil Type(s)	12B,
Mgmnt Priorities	Timber - W Pine, Esthetics & Recreation		
Restrictions			

Timber Management Data

Size Class	Sawlog	%	Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
Crop Tree Stocking	Excellent		**0%**	**0%**	**28%**	**72%**	**0%**

Total Basal Area	193	Ba Ags	123	Ba Ugs	70	Mean Stand Diameter	9.8
Volume / Acre Mbf	16,518	Volume/acres Cords	20.6			Trees/acre	313.0
Major Tree Species	WHITE PINE	Ba Ft2	193	% Total Ba	100%		

Narrative

This forested area has a white pine cover type. No other species were tallied in the stand. The stand is consistently heavily stocked with small to medium sizes sawlog trees, except for the easterly end beyond the cemetery. This end of the area has a well stocked pole size stand of white pine. The basal area averages almost 200 square feet, and could be reduced by almost half and still be considered well stocked. The last thinning in the 1990's was light, and some stand damage is evident along old skid trails site. An intermediate harvest is recommended with a focus on removing the the lowest vigor and previously damaged trees. Slash management along the road will be a high priority. After the harvest, a pre commercial thinning is recommended in the easterly end of the area.

Recommended Treatment(s)

2011	Harvest Inter	Thinning	10 acres
	Thinning and some first shelterwood. Thinning from below and damaged trees. No regneration harvest recommended at this time		
2012	Silvi Investment	PC Thinning	2 acres
	Thin pole stands on far side of cemetery. Brush treatment needed to comply with slash laws and fire hazard along roads. Possible mechanical pre-treatment during harvest to help manage slash issue		

Area Id	***F***	*Total Acres*	0.3	*Timber Mgmnt Acres*	

Land Use Exclusion, Field

Soil Type(s) 12B,

Mgmnt Priorities Esthetics & Recreation,

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	**0%**	**0%**	**0%**	**0%**

Total Basal Area *Ba Ags* *Ba Ugs* *Mean Stand Diameter*

Volume / Acre Mbf *Volume/acres Cords* *Trees/acre*

Major Tree Species *Ba Ft2* *% Total Ba*

Narrative This non-forested area is a small field on the corner of Berry Road and Stockbridge Corner Road. It appears to be maintained by regular mowing.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	G	Total Acres	7.4	Timber Mgmnt Acres	7.4

Land Use Forest, Mixed Softwood

Soil Type(s) 12B, 112D

Mgmnt Priorities Esthetics & Recreation, Timber - W Pine

Restrictions

Timber Management Data

Size Class Sapling Pole

Crop Tree Stocking Good

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	**13%**	**43%**	**45%**	**0%**

Total Basal Area	150	Ba Ags	115	Ba Ugs	25	Mean Stand Diameter	7.7
Volume / Acre Mbf	12,534	Volume/acres Cords	12.6	Trees/acre	330.0		

Major Tree Species	Ba Ft2	% Total Ba
WHITE PINE	80	53%
HEMLOCK	45	30%
RED OAK	15	10%
RED MAPLE	5	3%
RED SPRUCE	5	3%

Narrative This forested area has a variable mixed cover type including white pine, hemlock and pine hardwood cover. The primary attribute of the area is its location between the Merrymeeting marsh and the town road. Stockin and quality in the stand is good enough to warrant management activity despite the narrow width of the area and the difficulty of access. The area was a site of a patch cut in the 1980's which has regenerated very well and it in need of precommercial thinning. An intermediate harvest is recommended.

Recommended Treatment(s)

2012	Silvi Investment Thinning of 1980's patch cut site.	PC Thinning	1 acres

Area Id **H** Total Acres 29.8 Timber Mgmnt Acres

Land Use Unproductive, Wetland Soil Type(s) 197,

Mgmnt Priorities Wildlife - Wetlands,

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	0%	0%	0%	0%

Total Basal Area Ba Ags Ba Ugs Mean Stand Diameter

Volume / Acre Mbf Volume/acres Cords Trees/acre

Major Tree Species Ba Ft2 % Total Ba

Narrative This is a large wetland which is contiguous with the Merrymeeting marsh and NH Fish and Game reserve. The wetland type also includes unusual islands of upland with pine timber. These inclusions will become reserves of large diameter legacy trees by default.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id **I** Total Acres 4.7 Timber Mgmnt Acres

Land Use Exclusion, Gravel Pit Soil Type(s) 298,

Mgmnt Priorities None,

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	0%	0%	0%	0%

Total Basal Area Ba Ags Ba Ugs Mean Stand Diameter

Volume / Acre Mbf Volume/acres Cords Trees/acre

Major Tree Species Ba Ft2 % Total Ba

Narrative A second area of gravel pit, on the northerly side of Stockbridge Corner Road.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	**J**	*Total Acres*	1.7	*Timber Mgmnt Acres*	

Land Use Forest, Mixed Softwood

Soil Type(s) 12B,

Mgmnt Priorities Esthetics & Recreation,

Restrictions

Timber Management Data No sample data available

Size Class Pole Sawlog

Crop Tree Stocking N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	**0%**	**0%**	**0%**	**0%**

Total Basal Area *Ba Ags* *Ba Ugs* *Mean Stand Diameter*

Volume / Acre Mbf *Volume/acres Cords* *Trees/acre*

Major Tree Species *Ba Ft2* *% Total Ba*

Narrative This forested area has a mixed softwood, pine hardwood cover type. It is similar to Area G, but drops much more steeply down to the wetlands. In addition the area fronts on paved town road which would make it much more difficult to access with logging equipment. Due to this difficulty this area is excluded from the timber management acreage. The area also includes some additional field on the corner of the road intersections. No treatment is recommended.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	K	Total Acres	5.3	Timber Mgmnt Acres	5.3

Land Use	Forest, White Pine	Soil Type(s)	26A,
Mgmnt Priorities	Timber - W Pine, Wildlife		
Restrictions			

Timber Management Data

Size Class	Pole Sawlog	%	Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
Crop Tree Stocking	Good		0%	0%	15%	85%	0%

Total Basal Area	130	Ba Ags	100	Ba Ugs	10	Mean Stand Diameter	13.5
Volume / Acre Mbf	14,125	Volume/acres Cords	11.0			Trees/acre	120.3
Major Tree Species	WHITE PINE	Ba Ft2	130	% Total Ba	100%		

Narrative

This forested area has a white pine cover type. Teh timber stocking is generally very good, but the quality of the timber is lower than that found in other stands in the forest. The soils are sandy and very well drained. As a result white pine regeneration has been easier to establish on the site than in areas with heavier soils such as A and C. An combination of intermediate and regeneration harvesting has been recommended for this area. One limitation on the site is the access. In the 1990's harvest it appears that a trail across the wetlands (Area H) was built to gain access. This trail is still suitable, but appears to have settled significantly. This may be in part due to the diameter of the material used in its construction, or just the depth of the wetland soil beneath. In any case the addtion of a layer ot 6" erosion stone will help build the road back up. No expansion of the road footprint or wetlands fill is required.

Recommended Treatment(s)

2011	Harvest Inter Thinning and first shelterwood	Thinning	4 acres
2011	Harvest Regen Second shelterwood - advance regen protection and release	Shelterwood 2	1 acres

SOILS REPORT

New Durham Town Forest

The following soil types are found on this property:

GROUP IB SOILS IN STRAFFORD COUNTY,NH

The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well and well drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group have successional trends toward a climax of tolerant hardwoods, predominantly beech. Successional stands, especially those which are heavily cutover, are commonly composed of a variety of hardwood species such as red maple, aspen, paper birch, yellow birch, sugar maple, and beech, in combinations with red spruce, balsam fir, hemlock, and white pine. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent

111C GsC Gloucester very stony fine sandy loam, 8 to 15 percent slopes

DRAINCLASS	Somewhat excessively	HYDROLGRP	A
SHWT	-	BEDROCK	From >60 to >60in.

112D GtD Gloucester extremely stony fine sandy loam, 8 to 25 percent slopes

DRAINCLASS	Somewhat excessively	HYDROLGRP	A
SHWT	-	BEDROCK	From >60 to >60in.

GROUP IC SOILS IN STRAFFORD COUNTY,NH

The soils in this group are outwash sands and gravels. Soil drainage is somewhat excessively to excessively drained and moderately well drained. Soil moisture is adequate for good softwood growth, but is limited for hardwoods. Successional trends on these coarse textured, somewhat droughty and less fertile soils are toward stands of shade tolerant softwoods, i.e., red spruce and hemlock. White pine, red maple, aspen, paper birch, and grey birch are common in early and mid-successional stands. Hardwood competition is moderate to slight on these soils. Due to less hardwood competition, these soils are ideally suited for softwood production. With modest levels of management, white pine can be maintained and reproduced on

12B HaB Hinckley loamy sand, 3 to 8 percent slopes

DRAINCLASS	Excessively drained	HYDROLGRP	A
SHWT	-	BEDROCK	From >60 to >60in.

26A *WdA* Windsor loamy sand, 0 to 3 percent slopes

DRAINCLASS	Excessively drained	HYDROLGRP	A
SHWT	-	BEDROCK	From >60 to >60in.

GROUP NC SOILS IN STRAFFORD COUNTY,NH

Several mapping units in the survey are either so variable or have such a limited potential for commercial production of forest products they have not been considered. Often an on-site visit would be required to evaluate the situation.

197 *Fa* Fresh water marsh

DRAINCLASS	Very poorly drained	HYDROLGRP	D
SHWT	0 - 0	BEDROCK	From >60 to >60in.

295 *Mp* Muck and peat

DRAINCLASS	Very poorly drained	HYDROLGRP	A/D
SHWT	0 - 0	BEDROCK	From >60 to >60in.

298 *Gv* Gravel and borrow pits

DRAINCLASS		HYDROLGRP	A
SHWT	-	BEDROCK	From --- to ---in.

Recommended Treatment Report

New Durham Town Forest

2011 - 2026

By year, these are the recommended activities, with their estimated cash flow:

Comp	Area	Acres	Treatment Type, subtype Description	Net Cash Flow
2011				
All	All		Management Plan , New Plan Recommended New Plan and Inventory	-$2,600
1	All		Boundary , Locate,blaze, paint Recommended Renew the northerly land southern lines with additional blazing and fresh paint. 3900 feet total distance	-$550
1	All		Harvest , Budget Estimate (Areas A,B,E, G&K Recommended Combination of intermediate and regeneration harvesting. Income estimate based on inventory sample.	$47,500
1	A	23.0	Harvest Inter , Thinning Recommended Thinning from below and some first shelterwood. Capture potential mortality and highest risk single trees. Improve spacing, but a high percentage of mature timber.	
1	A	3.3	Harvest Regen , Patch Cut Recommended Patch cuts in 3 locations, final site to be determined.	
1	B	8.5	Harvest Inter , First Shelterwood Recommended Thinning. Primaryly focus on crop tree release of oak and pine	
1	B	3.6	Harvest Regen , Patch Cut Recommended Patch cuts with scarification	
1	E	10.0	Harvest Inter , Thinning Recommended Thinning and some first shelterwood. Thinning from below and damaged trees. No regneration harvest recommended at this time.	

1	K	4.3	Harvest Inter , Thinning Recommended Thinning and first shelterwood	
1	K	1.0	Harvest Regen , Shelterwood 2 Recommended Second shelterwood - advance regen protection and release	

2012

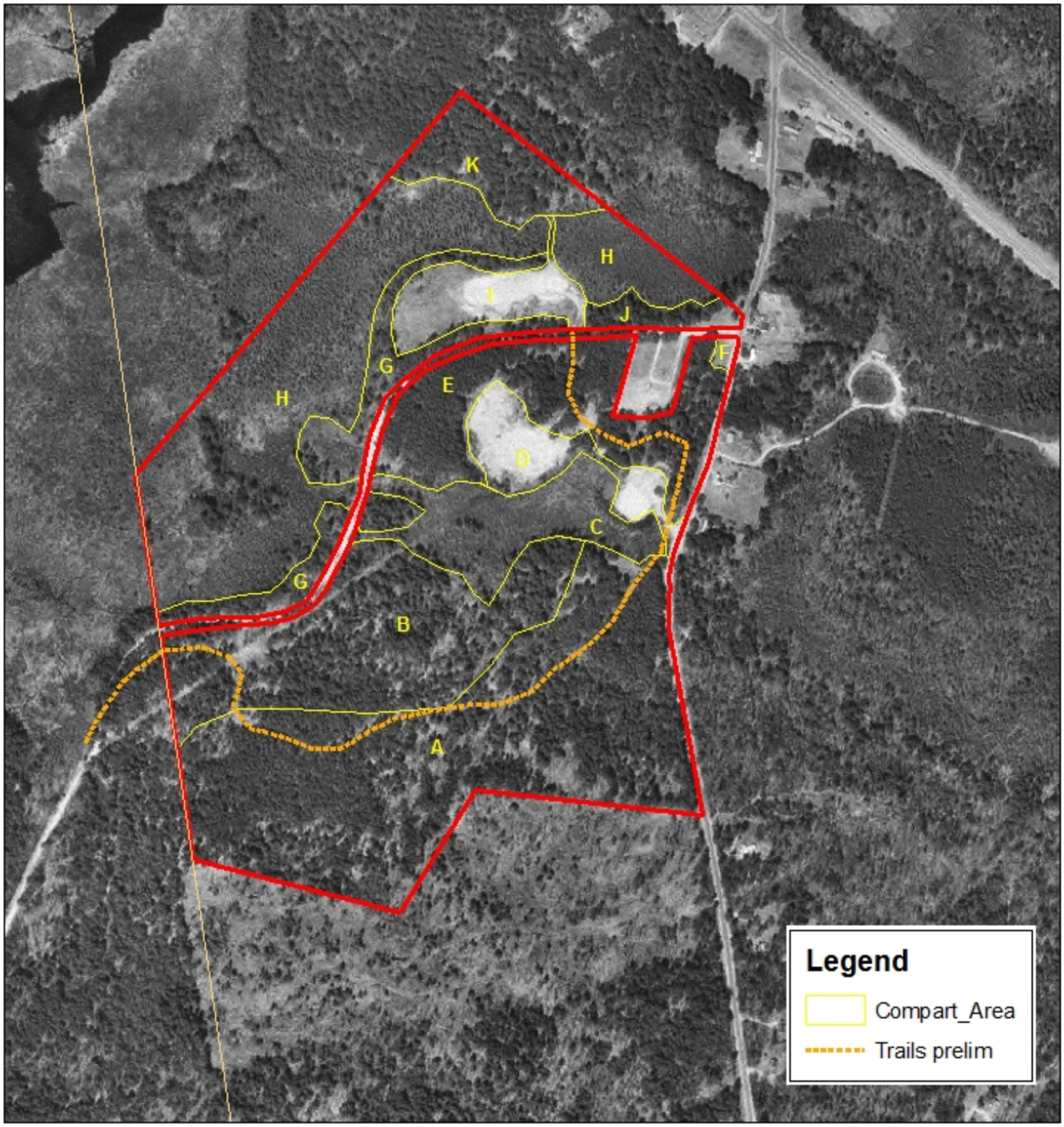
1	All		Silviculture Invest , Budget Estimate (A,G,E) Recommended Release and pre-commercial thinning acitivities. 8 acres as mapped, potential additional 2 acres. Cost per acre including forestry contractor and project administration - $400 per acre	-$4,000
1	A	5.3	Silvi Investment , PC Thinning Recommended Combination of release and thinning	
1	E	1.5	Silvi Investment , PC Thinning Recommended Thin pole stands on far side of cemetery. Brush treatment needed to comply with slash laws and fire hazard along roads. Possible mechanical pre-treatment during harvest to help manage slash issue.	
1	G	1.2	Silvi Investment , PC Thinning Recommended Thinning of 1980's patch cut site.	

2026

All	All		Management Plan , Update Recommended Update the plan, inventory the timber, and evaluate management strategy. New recommendations for the next 15 years	-$1,500

Estimated net cash flow from all compartments on this forest is: $38850

This is a proposed plan of work and subject to change based on the owner's needs and goals. Timing of activites may be changed based on market conditions or other influences. Dollar figures are based on "today's dollars" and do not reflect changes due to inflation or market fluctuations. All figures are estimates, actual costs and income are subject to change based on detailed estimates, service work orders, and contracts.



0 385 770 1,540 Feet

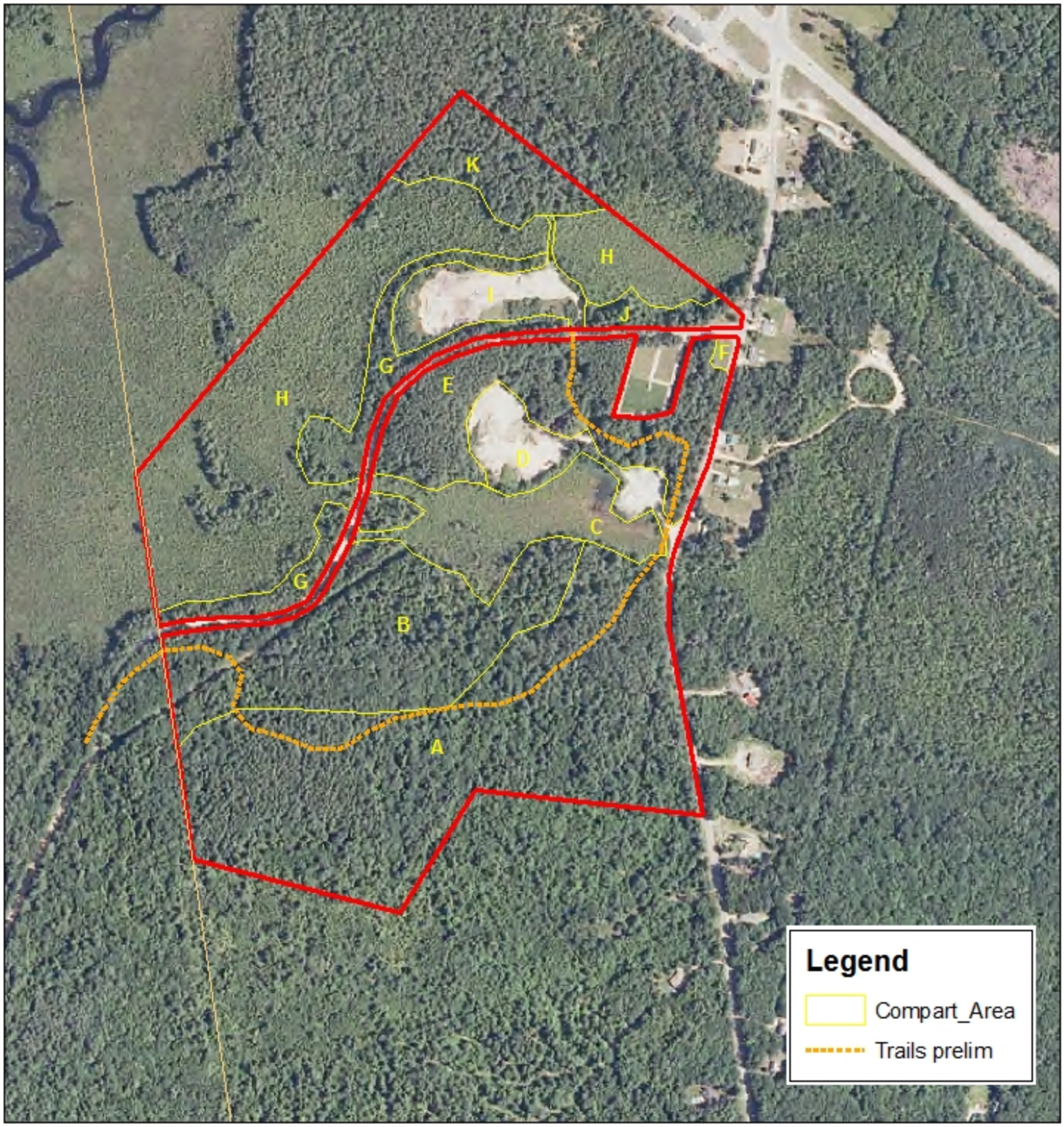
N

New Durham Town Forest
New Hampshire
Map 251 Lots 21 & 23

Forest Areas Map
1998

Map Drawn by Peter Farrell, NHLF #85
February 2011. This is not a survey.

New England
Forestry Consultants, Inc.



0 385 770 1,540 Feet

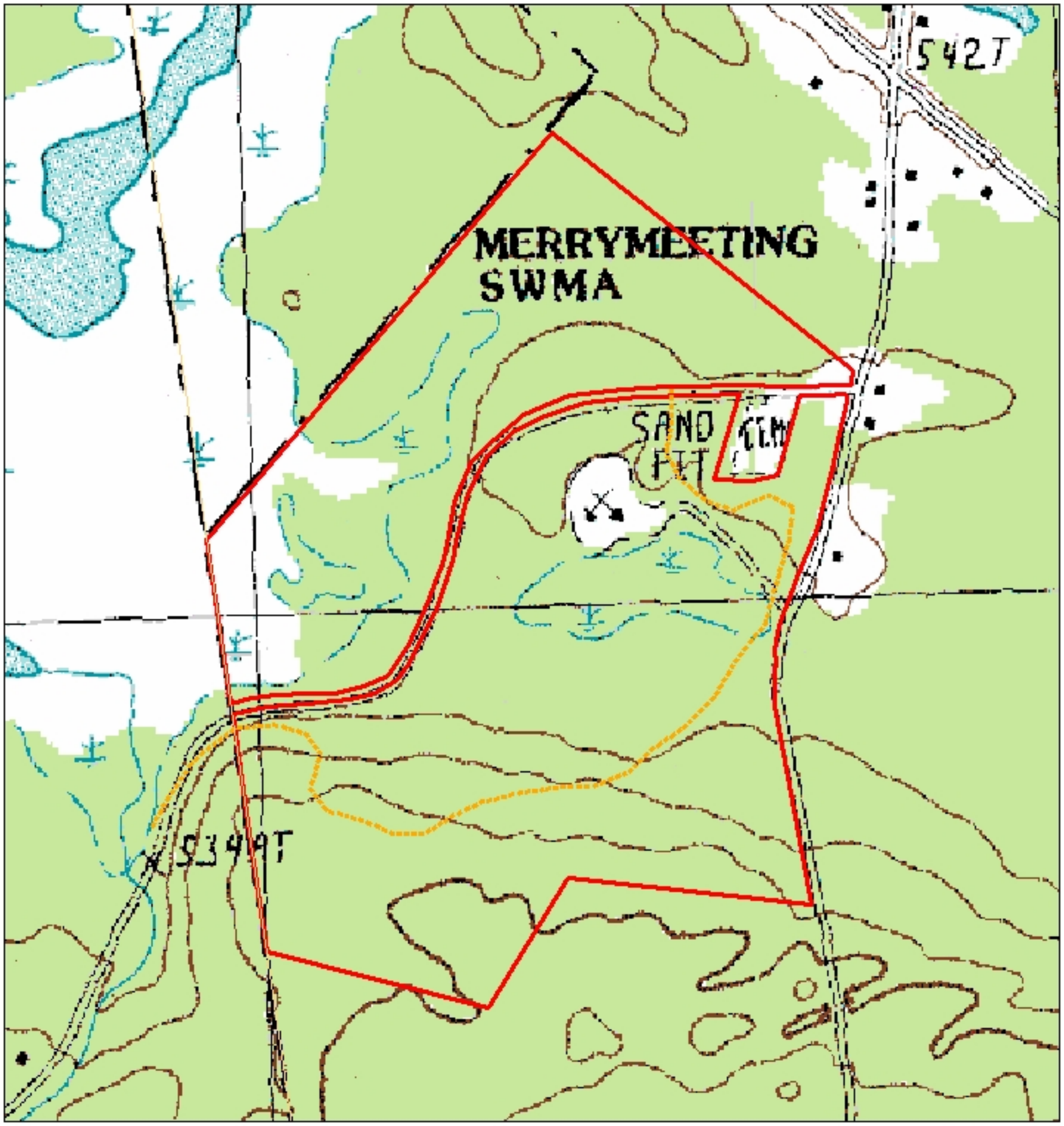
N

New Durham Town Forest
New Hampshire
Map 251 Lots 21 & 23

Forest Areas Map
2009

Map Drawn by Peter Farrell, NHLF #85
February 2011. This is not a survey.

New England
Forestry Consultants, Inc.



0 355 710 1,420 Feet

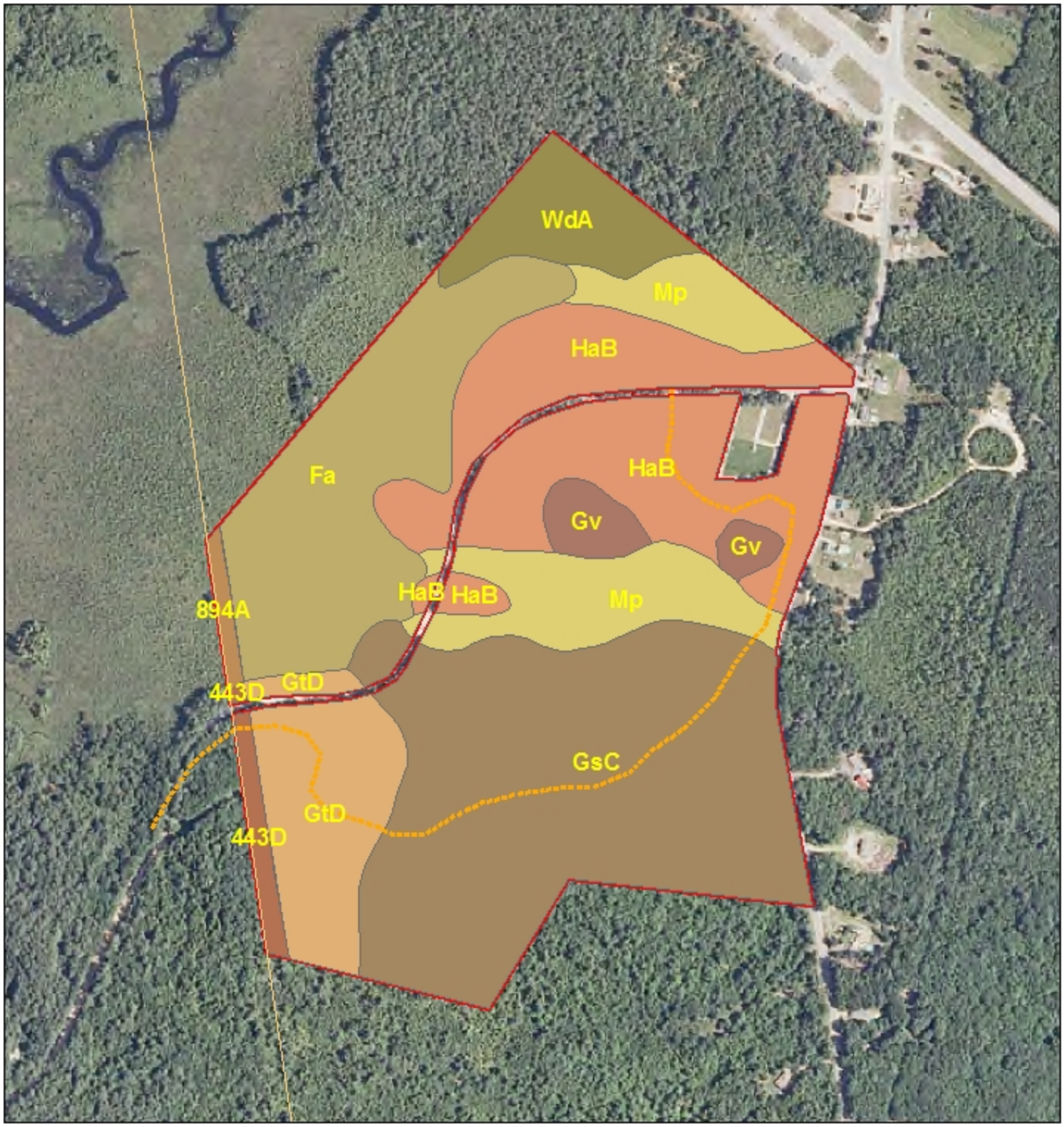
N

New Durham Town Forest
New Hampshire
Map 251 Lots 21 & 23

USGS Topographic Map

Map Drawn by Peter Farrell, NHLF #85
February 2011. This is not a survey.

New England
Forestry Consultants, Inc.



0 355 710 1,420 Feet

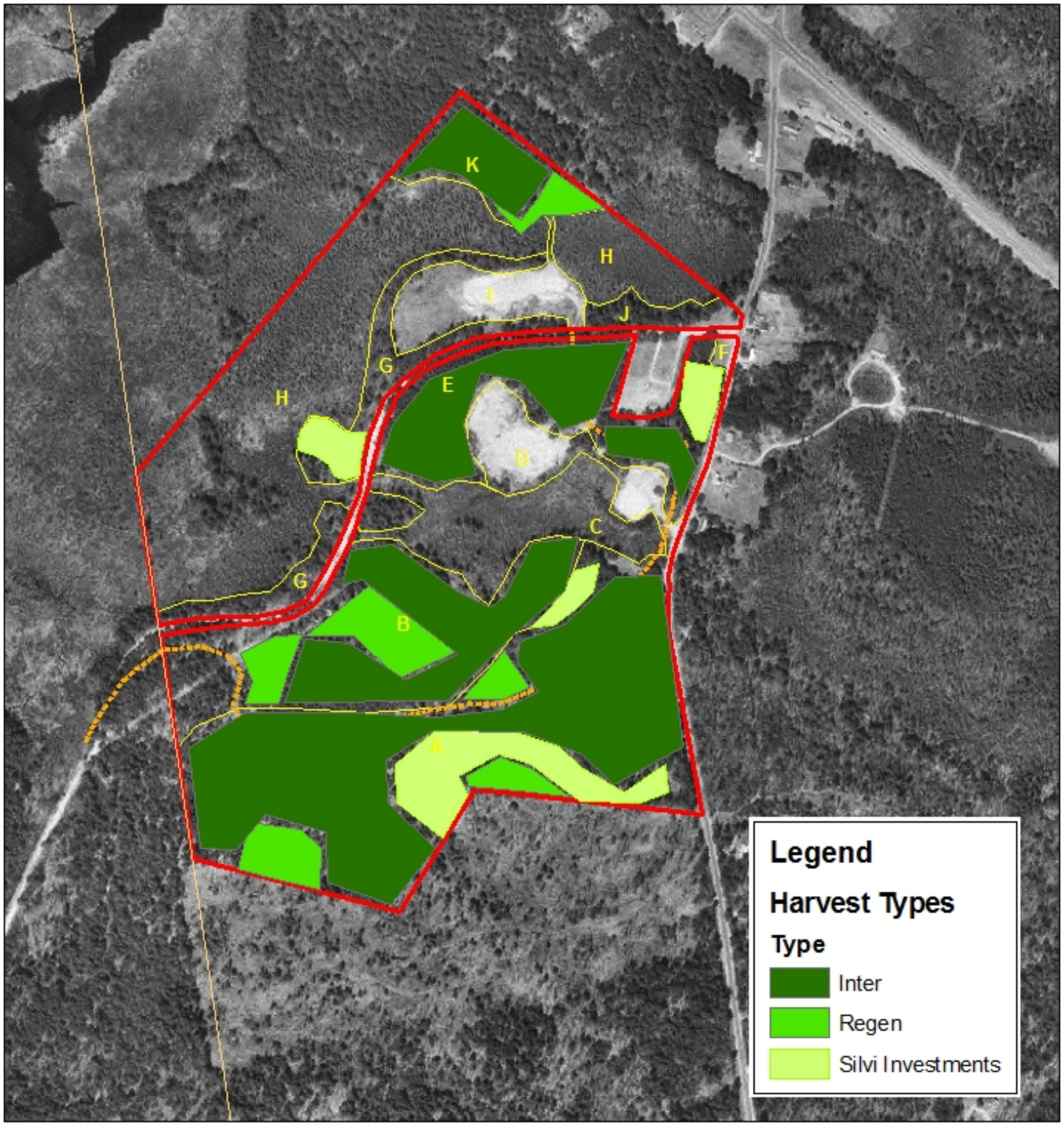
N

New Durham Town Forest
New Hampshire
Map 251 Lots 21 & 23

Strafford County Soils Map

Map Drawn by Peter Farrell, NHLF #85
February 2011. This is not a survey.

New England
Forestry Consultants, Inc.



0 385 770 1,540 Feet

N

New Durham Town Forest
New Hampshire
Map 251 Lots 21 & 23

Map Drawn by Peter Farrell, NHLF #85
February 2011. This is not a survey.

New England
Forestry Consultants, Inc.

Recommended Treatments
2011 - 2026