

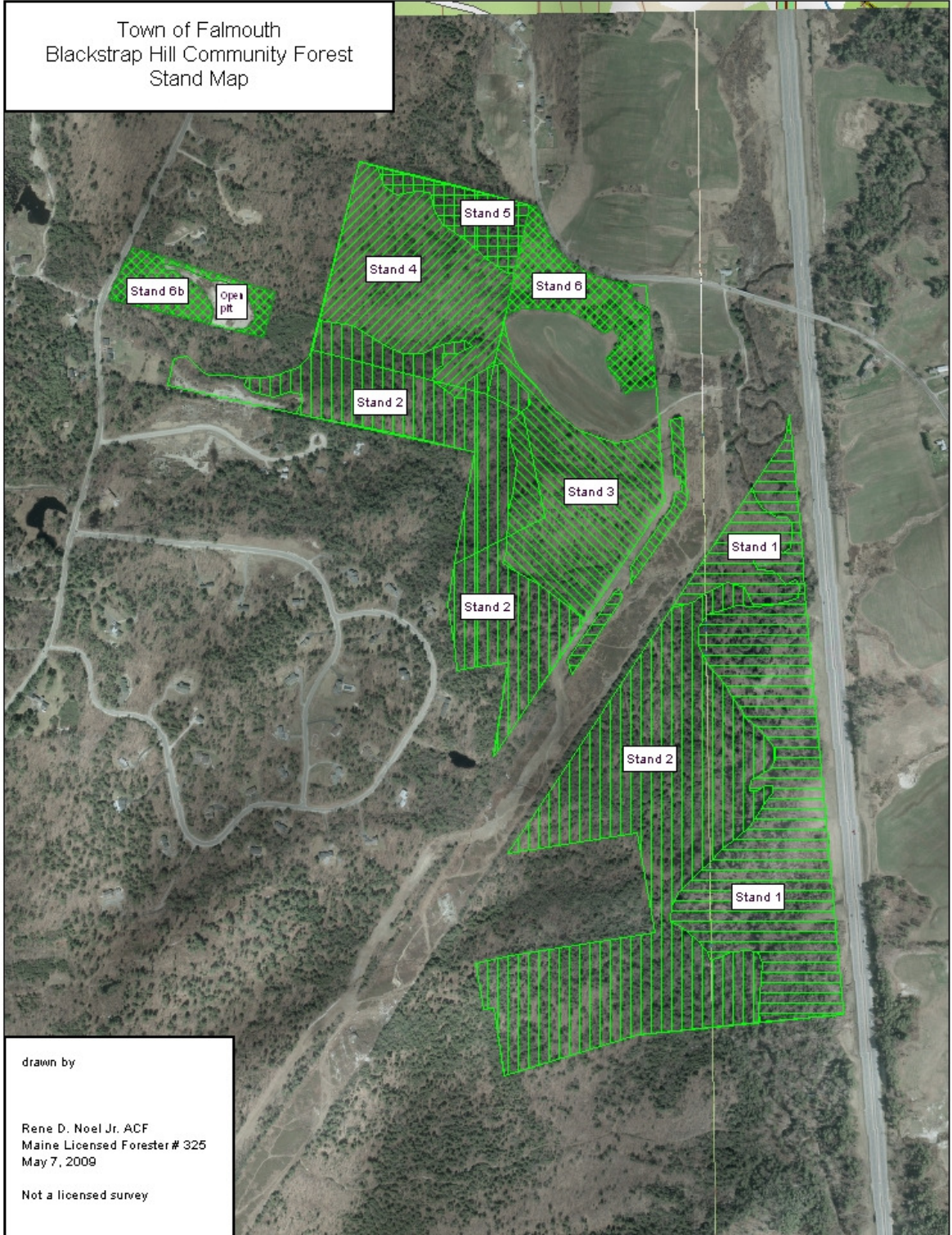
FOREST DESCRIPTIONS AND RECOMMENDATIONS

Blackstrap Hill Preserve

Between Hurricane Road, Old Gray Road and Route 95

Introduction: This is one of the larger parcels included in the inventory and plan. It is a conglomeration several lots which were acquired over time. The forest shows variation consistent with the past history of land ownership and use. A right of way corridor for electric transmission and a gas pipeline pass through the property. A number of trails cross the property. Snowmobile/ATV trails appear to get regular maintenance. Some walking trails are established and marked, but do not appear to get a lot of use. Nor are the markings or trails maintained in some areas.

Growth: There is a total of 186 acres with commercial stocking on this lot. These acres grow 27,493 board feet of sawtimber, and 207.6 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 262.6 cords per year, or 1.41 cords per acre, per year. The value of this growth is approximately \$7,851.08, which is \$42.21 per acre, per year. These numbers are good for forests in this area. Annual volume growth is near biological capacity; however, value growth can be improved. Harvesting lower quality trees will shift growth to higher value stems and increase the value of the wood growing on the parcel.



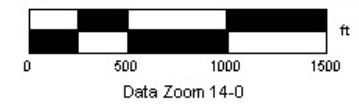
Town of Falmouth
Blackstrap Hill Community Forest
Stand Map

drawn by

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May 7, 2009

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Total Volume and Value of all Trees Six Inches and Larger DBH

Total Acres 179

Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per MBF	Wt. avg. per cord.
White pine	247,950	174	\$48,138.00	\$1,740.00	\$194.14	\$10.00
W. pine pallet	24,690	0	\$995.00	\$0.00	\$40.30	
Hemlock	397,200	1,427	\$37,748.60	\$24,259.00	\$95.04	\$17.00
Spruce & Fir	1,940	56	\$291.00	\$560.00	\$150.00	\$10.00
Red oak	145,790	0	\$31,204.00	\$0.00	\$214.03	
White oak	1,610	0	\$241.50	\$0.00	\$150.00	
White ash	12,760	0	\$1,914.00	\$0.00	\$150.00	
White birch	18,630	0	\$1,490.40	\$0.00	\$80.00	
Yellow birch	17,990	0	\$1,349.25	\$0.00	\$75.00	
Soft maple	25,330	0	\$1,899.75	\$0.00	\$75.00	
Hard maple	22,860	0	\$4,244.50	\$0.00	\$185.67	
Beech	6,050	0	\$75.15	\$0.00	\$12.42	
Popple	0	163	\$0.00	\$4,075.00	0	\$25.00
Hardwood	4,740	3,880	\$213.30	\$77,600.00	\$45.00	\$20.00
Totals	927,540	5,700	\$129,804.45	\$108,234.00		
per acre	5,182	32				
Total per acre		42				

Stand Descriptions

Blackstrap Hill Preserve Stand 1

Pole to Small Sawlog Size Hemlock, White pine and Hardwoods, Stand I					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
33	128.0	6.0	438.9	162.5	1.02

Location: East boundary along the Maine Turnpike.

Terrain and Soils: Terrain is flat along the flood plain of the Piscataqua River. Away from river there is some rolling terrain and steep banks of gullies that have eroded along intermittent streams and water flows. Soils are mostly heavy Sufield and Buxton silt loams. These are productive timber growing soils, but are seasonably wet. When wet they do not bear weight well and can be damaged by operating heavy equipment. The soils should be dry or frozen when heavy equipment is to be used.

Access: A walking trail parallels the river. Old skid trails lead out north to a farm road that is accessed from Hurricane Road. A skid trail crosses the river to access the area between the highway and the river. Because of terrain and soils, long skids to extract wood from the southern reaches of this area are unavoidable.

Composition and Quality: This is a mix of old-field type and second growth with scattered older residuals. This stand was cut about ten years ago and sawlog quality stems harvested. Most remaining stems appear to be between 60 and 70 years of age. Hemlock, eastern white pine, red oak and soft maple are the most common species. Scattered stems of hard maple, white ash, white and yellow birch and beech are found. Stems range from small pole to medium sawlog size, with most being in large pole to small sawlog size. Quality is below average. In places there are more than adequate numbers of good quality stems to occupy the site. Other areas have a fairly sparse stocking of poor quality trees.

Understory: Regeneration varies and is heavy where cutting was done. It is composed of the same species that make up the overstory. Honeysuckle has aggressively invaded many areas of the stand.

Recommendations: The stand is in need an improvement cut to remove low quality, damaged, diseased and overstocked stems. White pine and red oak will be the most productive timber species on most of the soils found in this stand and should be favored. Basal area should be reduced to 90 to 100 square feet per acre. .

It is recommended that about a quarter of the standing volume be removed in an improvement cut/thinning. This would result in 250 to 300 cords of wood being removed from the stand.

A combination of selection and shelter wood systems of silviculture should be used for the long-term management of this stand. The goal should be a cutting cycle of about ten years.

Invasive plants mostly honeysuckle are found throughout the stand and in some places are very vigorous. These should be controlled. It will take a concerted effort over a number of years to achieve this.

Wildlife: This stand is heavily used by wildlife. There is plentiful browse for deer and an obvious travel corridor used by many species parallel the Piscataqua River. Snags and wildlife trees were left during the previous cut and should be preserved to the extent possible. Scattered apple trees are found and would benefit from release. Oaks and some beech should be retained for the mast they produce

Blackstrap Hill Preserve Stand 2

Mixed White pine, Hemlock, Hardwood Second Growth, Stand 2					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
89	138.6	6.2	126.4	162.5	1.02

Location: This stand makes up the southwestern part of the lot.

Terrain and Soils: Terrain is mostly rolling with some steep banks down towards the river. Soils transition from the heavy silt loams of the Sufield series nearer the river to stony loams of Paxton and Hollis series on the more upland sites. These soils provide good sites for tree growth. Those areas dominated by Hollis soils are somewhat excessively drained and most productive when growing pine. The same cautions as to use of heavy equipment apply on the Sufield soils found here. The Paxton and Hollis series have better internal drainage and provide longer seasons when they will bear the weight of heavy equipment without soil damage.

Access: Walking, snowmobile and ATV trails are found in the stand. There are a few remnants of old trails that were used to extract forest products. A trail system needs to be established to extract any wood to be harvested. The northern two thirds of the stand can be accessed from the north and out to Hurricane road fairly easily. The southern most part of the stand is a long distance from a possible staging area at the north end of the property. It may make sense to cooperate with the Falmouth Land Trust and extract the wood to the south across their property.

Composition and Quality: This type is a mixed growth tending toward softwood. In disturbances in the adjacent pine stand, the most common hardwood is red oak. Seedlings and saplings of white ash, cherry and white pine is also common. Scattered residual stems of white pine also exist in this type. The hardwood stems are mostly in the 4 to 8 inch diameter and are of good quality. The few pine are large and of good quality.

Understory: Regeneration is scattered, composed mostly of hemlock, and beech. It has been a long time since there has been any disturbance to the canopy of this stand and most of the understory is composed of shade tolerant species. Some areas of honeysuckle are found in the southern and eastern portions of the stand.

Recommendations: The stand would benefit from a thinning and improvement cut. White pine and red oak are the most productive timber species and should be favored. Basal area should be reduced to 100 to 110 square foot range. This will result in a harvest of 600 cords of all products.

Long-term management should be by a combination of selection and shelterwood systems of silviculture. A cutting cycle of about ten years is recommended.

Wildlife: Few species of wildlife utilize this stand heavily. Red squirrels and canopy dwelling birds being common. Small rodents no doubt live on the forest floor. Deer, turkey, porcupines and several predator species pass through and feed in the stand. Thinning will allow light to reach the forest floor allowing more

vegetation to grow at ground level. Red oak, white oak and some beech should be left for the mast they produce. Snags and other wildlife trees should be left as practical.

A number of invasive plants were found along the east side of stand IIB. These should be controlled while the populations are still small.

Blackstrap Hill Preserve Stand, Stand 3

Pole Hardwood Second Growth, Stand 3					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
22	144.4	4.1	1153	74.3	1.13

Location: Found between the large hay field, the power line and stand 2

Terrain and Soils: The area is fairly flat with the exception of slopes along the valleys of several small streams that drain west to east across the stand. Soils are identified as silt loams, sandy loams and loamy sands of the Buxton, Limerick/Saco and Scantic series. These provide good sites for tree growth, but have seasonally high water tables. The same cautions about heavy equipment mentioned above apply here.

Access: ATV trails pass through this stand to the power line right of way. It appears this is likely an old logging road that can be utilized for that purpose again.

Composition and Quality: This type is a composite of hardwood poles with a softwood component of residual white pine and hemlock, and some areas of hemlock understory about the same age as the hardwood. Red oak, soft maple and white birch are the most common stems in the stand. The hardwood stems are mostly in the 4 to 6 inch diameter and are of good quality.

Understory: There is little regeneration established in this stand. Hemlock and beech that have become suppressed are the understory that exist. Some areas of honeysuckle and other invasives are found along the pipe and power line rights of way.

Recommendations: The stand would benefit from a thinning and low quality residual stems should be harvested. White pine and red oak are the most productive timber species and should be favored. Most of the white birch does not appear to be thrifty and should be targeted for removal. Basal area should be reduced to 100 to 110 square foot range. A small volume of round wood would be produced from the older residual stems and some firewood from the larger pole hardwood, but this is a stand that would likely be harvested for biomass fuel and 200 to 300 tons would be produce from a thinning.

This stand is young and several thinnings can be anticipated. Long-term management should be by a combination of selection and shelterwood systems of silviculture. However, white pine is well adapted to growing on these soils and may establish itself well in the understory. Where this occurs, shelterwood treatment would be recommended. A cutting cycle of about ten years is recommended.

A number of invasive plants were found along the rights of way. These should be controlled while the populations are still small.

Wildlife: Few species of wildlife utilize this stand heavily. The young pole size stems produce little mast. Dense shade allows little browse to grow. There is evidence of some wildlife travel along the right of ways and the dense patches of hemlock saplings may provide some escape cover. Red oak, white oak and some beech

should be left for the mast they produce. Snags and other wildlife trees should be left as practical. Thinning will likely improve wild life utilization for this area.

Blackstrap Hill Preserve Stand 4

Hardwood and Popple Pole Size, Stand 4					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
21	100.0	6.8	319.8	46.4	1.08

Location: This stand is found west of the large hayfield to the western boundary.

Terrain and Soils: Terrain is flat to rolling with some steep slopes down to a brook at the south end of the stand. Soils are mostly Windsor loamy sands that are fairly well drained and provide good sites for tree growth.

Access: A trail passes through this stand is used by ATV's. It again appears to be an old logging road and could easily be used to extract wood out to the field.

Composition and Quality: This type is similar to stand III but is somewhat older and popple replaces white birch as the early colonizer. Red oak and soft maple are the most common hardwoods. Scattered residual stems of hemlock also exist in this type. The hardwood stems are mostly in the 6 to 8 inch diameter and are of good quality.

Understory: Regeneration is scattered, composed mostly of hemlock, and beech. It is mostly composed of stems that have lost the battle and are now suppressed. Some invasives, mostly honeysuckle, are found in the stream valleys at the north and east sides of the stand.

Recommendations: The stand would benefit from a thinning and improvement cut. White pine and red oak are the most productive timber species. Basal area should be reduced to 60 square feet. This will result in a harvest of about 200 cords of all products.

Long-term management should be by a combination of selection and shelterwood systems of silviculture. A cutting cycle of about ten years is recommended.

A number of invasive plants, mostly honeysuckle, are along the stream valleys. These should be controlled while the populations are still small.

Wildlife: This is a pole size stand not heavily utilized by wildlife. Wildlife does seem to travel parallel to the small streams draining through it. Ruffed grouse are at a very low population level because of successive wet springs; however, popple is a favored species for winter-feeding. Thinning will allow light to reach the forest floor allowing more vegetation to grow at ground level. Red oak, white oak and some beech should be left for the mast they produce. Snags and other wildlife trees should be left as practical.

Popple or aspen is an important species for much wildlife. Small clear cuts 2-5 acres would be one method to regenerate this species and maintain an early successional stage used as nesting and feed cover for grouse, woodcock and other ground nesting birds.

Blackstrap Hill Preserve Stand 5

White pine, Hemlock Sawtimber, Stand 5					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
5	220.0	7.0	635.8	442.8	1.27

Location: This stand is found along the northern border.

Terrain and Soils: Terrain slopes down to a brook that drains through the stand. Soils are Suffield silt loams and provide good sites for tree growth. The same caution about heavy equipment stated above applies to this area.

Access: There is no developed access to this area, but wood can easily be extracted south through stand 4.

Composition and Quality: The overstory of this stand is mostly hemlock and white pine of sawtimber size. It appears to be a corner that was not cut when timber was removed from what is now stand IV. The hemlock is of average quality and the pine is fair to good quality.

Understory: Regeneration mostly of hemlock, and beech. It has been a long time since there has been any disturbance to the canopy of this stand and most of the understory is composed of shade tolerant species. Some areas of honeysuckle are found scattered in the stand.

Recommendations: The stand would benefit from a thinning and improvement cut. Basal area should be reduced to 170 to 180 square foot range. This will result in a harvest of 80 cords of all products.

Harvesting the hemlock understory at the time of a good pine seed year could result in many white pine seedlings becoming established. If this should happen, a shelterwood removal of the mature pine is recommended. Otherwise the long-term management should be by a combination of selection and shelterwood systems of silviculture. A cutting cycle of about ten years is recommended.

Wildlife: Deer utilize this stand. The dense understory is likely attractive cover. A number of snags exist and piliated woodpeckers have excavated feeding cavities. These snags and other wildlife trees should be left as practical. Maintaining the area in softwood will provide some diversity.

Blackstrap Hill Preserve Stand 6

White pine, Hemlock Saw timber, Stand 6					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
9	126.7	4.8	534.6	200.7	0.68

Location: There are two areas of this stand type. One is found between the Hurricane Road and the large hay field. Another is found on Blackstrap Road.

Terrain and Soils: Terrain is rolling with some steep slopes. Soils along Hurricane Road are of the Suffield series and along Blackstrap mostly excavated gravel pit.

Access: A trail passes along the south boundary of the old pit and wood can be easily extracted to the area of the pit. The area along Hurricane poses some challenges to extracting wood. A stream drains through the area and there are steep slopes. It is most practical to extract wood out to the bordering fields when soils are frozen.

Composition and Quality: This is an area between farm fields and is very diverse. There is evidence of cutting about ten years old. Old field white pine, hemlock and miscellaneous hardwoods compose the stand. Quality on the average is only fair but there are some good stems.

Understory: There is a fairly dense understory. Hardwoods and popple are common in some places. Honeysuckle and bittersweet are well established.

Recommendations: If adjacent areas are being cut, the low quality stems can be removed at any time. While soils are productive it is a difficult area to access for timber management. Slopes and the presence of a brook make the most practical access from the field edges.

Controlling the invasive plants should be a priority.

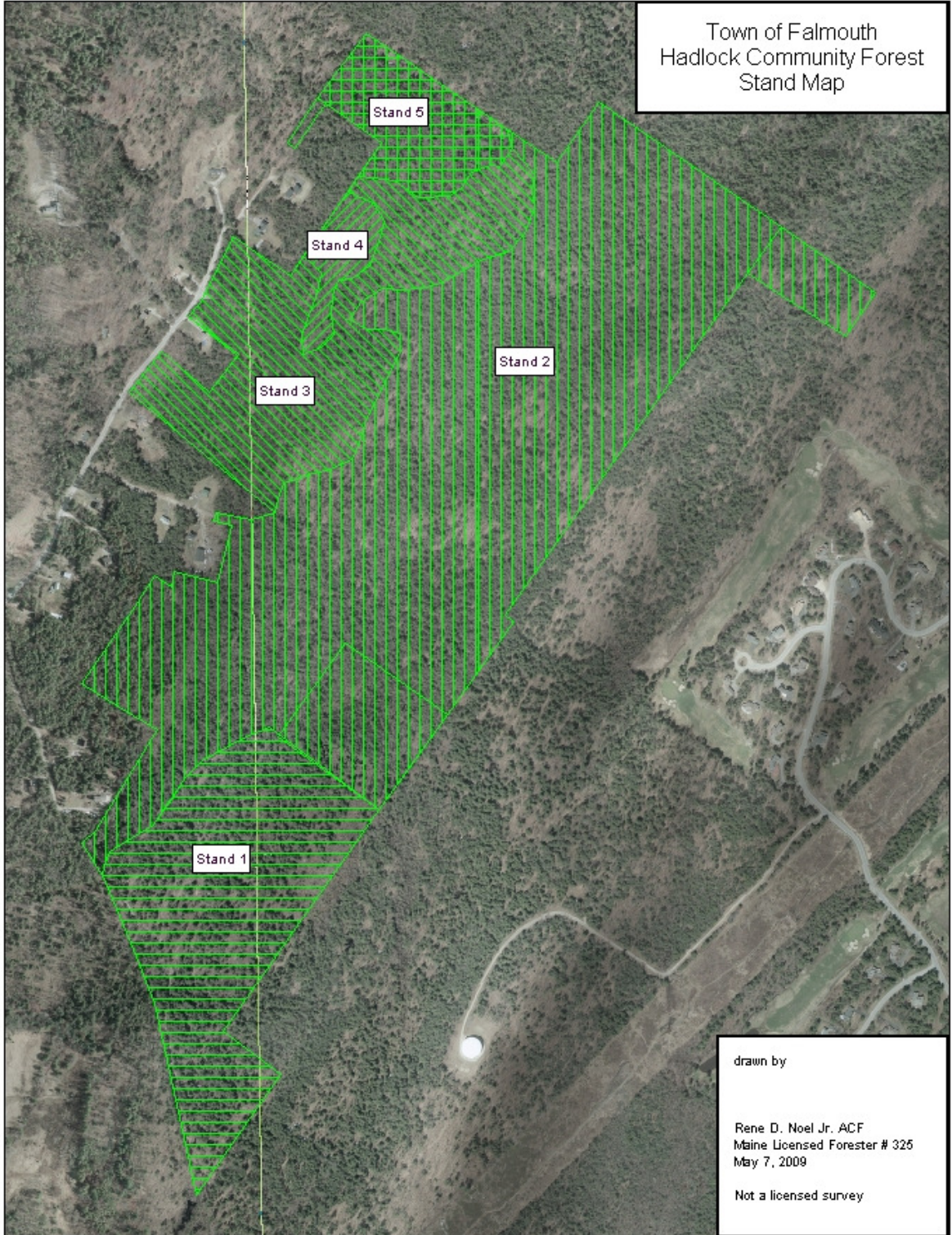
Wildlife: This area is utilized as a travel corridor. The dense understory and rich soils is likely attractive to woodcock. This area could be managed for early succession habitat. An area of brushland in CMP right of way would combine to provide a larger area of this type of cover.

Hadlock Community Forest

East of Hadlock Road

Introduction: This is another of the larger parcels included in the inventory and plan. Most of it is made up of a single lot with fairly uniform forests. There is some variation in the forest near the Hadlock Road, which may indicate, more intensive land uses in the past. A number of trails cross the property. Snowmobile/ATV trails appear to get regular maintenance. For Falmouth, parts of this lot are quite remote.

Growth: A total of 241 acres with commercial stocking were found on this lot. These acres grow 33,626 board feet of sawtimber, and 188.8 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 250.0 cords per year, or 1.04 cords per acre, per year. The value of this growth is approximately \$8,578.70, which is \$35.59 per acre per year. These numbers are average for forests in this area. Annual volume growth can be increased somewhat with good cultural practice. However, value growth can be improved considerably. Harvesting lower quality trees will shift growth to higher value stems. Also this forest has many good quality small stems as these small stems grow from cordwood products to sawlog size it will increase the value of the wood growing on the parcel.



Town of Falmouth
Hadlock Community Forest
Stand Map

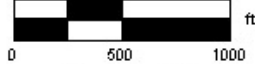
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Maine Licensed Forester # 325
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MN (15.9° W)

 ft
Data Zoom 14-0

Total Volume and Value of all Trees Six Inches and Larger DBH:						
Total Acres 241						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per cord.	Wt. avg. per cord.
White pine	511,440	660	\$102,288.00	\$6,600.00	\$200.00	\$10.00
W. pine pallet	7,580	0	\$379.00	\$0.00	\$50.00	0
Norway pine	8,650	0	\$432.50	\$0.00	\$50.00	0
Hemlock	565,560	3,453	\$36,761.40	\$58,701.00	\$65.00	\$17.00
Spruce & Fir	47,270	315	\$7,090.50	\$3,150.00	\$150.00	\$10.00
Red oak	115,210	0	\$43,203.75	\$0.00	\$375.00	
White birch	15,030	0	\$1,202.40	\$0.00	\$80.00	
Yellow birch	7,970	0	\$597.75	\$0.00	\$75.00	
Soft maple	4,040	0	\$303.00	\$0.00	\$75.00	
Popple	0	53	\$0.00	\$1,325.00		\$25.00
Hardwood	25,550	2,034	\$1,149.75	\$40,680.00	\$45.00	\$20.00
Totals	1,308,300	6,515	\$193,408.05	\$110,456.00		
per acre	5,429	27				
Total per acre		38				

Public Use: A snowmobile trail passes through the property and evidence of frequent use for hunting was seen during the field inspection.

Stand Descriptions

Hadlock Community Forest, Stand 1

Softwood Small Sawlog Size, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
48	126.2	9.4	233.7	162.7	0.58

Location: It is found in the southern most part of the lot along what is now being called Autumn Way.

Terrain and Soils: Terrain is flat to rolling and slopes generally to the west. An intermittent stream drains the stand to the west. Soils are very rocky fine sandy loams of the Hollis series. These tend to be well drained to excessively well drained. In some areas they are shallow to bedrock. They provide good sites for the growth of pine and fair sites for other species. These soils will support heavy equipment except for the wet times of year.

Access: A discontinued public way is the southern boundary of this stand and provides access to the stand. Legal use of this road has not been explored.

Composition and Quality: This is a softwood, tending towards mixed growth type. Hemlock and white pine are the most common softwoods. Red oak, soft maple and popple the most common broad-leaved trees. Scattered stems of hard maple, white ash, white and yellow birch and beech are found. This stand was cut about 15 years ago and sawlog quality stems harvested. Most remaining stems appear to be between 60 and 70 years of age and small sawlog size. Quality is average. In places there are more than adequate numbers of good quality stems to occupy the site. Other areas have a fairly sparse stocking of poor quality trees.

Understory: Regeneration varies and is heavy where cutting was done. It is composed of the same species that make up the overstory.

Recommendations: The stand is in need an improvement cut to remove low quality, damaged, diseased and overstocked stems and release desirable regeneration. White pine and red oak will be the most productive timber species on most of the soils found in this stand and should be favored. Basal area should be reduced to 90 to 100 square feet per acre. .

It is recommended that about a quarter of the standing volume be removed in an improvement cut/thinning. This would result in 300 to 400 cords of wood being removed from the stand. .

A combination of selection and shelterwood systems of silviculture should be used for the long-term management of this stand. The goal should be a cutting cycle of about ten years.

Wildlife: This stand is heavily used by wildlife. There is plentiful browse for deer. Young growth provides cover for snowshoe hare and other ground dwelling wildlife. Both fox and coyote tracks were seen during a field visit. Snags and wildlife trees were left during the previous cut and should be preserved to the extent possible. Oaks and some beech should be retained for the mast they produce

Hadlock Community Forest, Stand 2

Mixed growth pole to small Sawlog Size, Stand 2					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
139	162.2	8.7	355.1	141.4	0.86

Location: This stand makes up most of the lot except for the smaller stands to the south and east.

Terrain and Soils: Terrain is rolling with occasional steep slopes and rock outcrops. Most of the soils here are of the Hollis series. There is an area of Belgrade soils near the south end of the stand. As with any large glaciated area, soils vary within the mapped soil boundaries and there is small inclusion of other soils. Hollis soils tend to be well drained to excessively well drained. They provide good sites for the growth of pine and fair sites for other species. The area of Belgrade soils provides good to excellent sites for tree growth as will small inclusions of other soils and enriched areas.

Access: Numerous old skid trails feed out to the south or west towards Hadlock Road. When timber is harvested some of the wood will best be extracted to Hadlock Road and some south out to Autumn Way.

Composition and Quality: This is a mixed growth type very similar to Stand I. Hemlock and white pine are the most common softwoods. Red oak, soft maple and popple the most common broad-leaved trees. Scattered stems of hard maple, white ash, white and yellow birch and beech are found. This stand shows no evidence of harvesting for at least thirty years. The overstory is likely 100 to 130 years even though it is not of large diameter. The trees were suppressed for many years. Quality is variable. The quality of the white pine is good

and the red oak is moderate to good. It was cut about 15 years ago and best quality sawlog stems harvested. Most remaining stems appear to be between 60 and 70 years of age and small sawlog size. Quality is good. In places there are more than adequate numbers of good quality stems to occupy the site. Other areas have a fairly sparse stocking of poor quality trees.

Understory: Very little regeneration is present.

Recommendations: The stand is in need an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems and release desirable regeneration. White pine and red oak will be the most productive timber species on most of the soils found in this stand and should be favored. Basal area should be reduced to 90 to 100 square feet per acre. .

It is recommended that about a quarter of the standing volume be removed in an improvement cut/thinning. This would result in 1,000 to 1,200 cords of wood being removed from the stand.

A combination of selection and shelterwood systems of silviculture should be used for the long-term management of this stand. The goal should be a cutting cycle of about ten years.

Wildlife: This stand is lightly used by wildlife except for deer use as winter cover. There is minimal browse for deer. Though it is not recognized as a deer winter area it certainly has characteristics that make it suitable. A low ridge runs north south through the stand providing varying options for southerly and westerly sun. It is a fairly flat area and deer often favor stands with a southerly aspect. A field exam with snow two to three feet deep would tell. If deer are using it as winter cover retaining a certain amount of softwood cover would maintain its suitability for that use. More light penetrating to the forest floor would increase the amount of browse, other food and cover available to wildlife. Young growth provides cover for snowshoe hare and other ground dwelling wildlife. Snags and wildlife trees should be preserved to the extent possible. Oaks and some beech should be retained for the mast they produce.

Hadlock Community Forest, Stand 3

Mixed growth pole to small Sawlog Size, Stand3					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
38	126.7	8.5	298.8	55.5	0.77

Location: Stand is located at north end of lot between Hadlock way and stand 2

Terrain and Soils: Once again terrain is rolling and soils are mostly of the Hollis series. Comments made above apply here also.

Access: This stand is easily accessed out to Hadlock Road.

Composition and Quality: This is a mixed growth type very similar to Stands I & II. The primary difference is there is little pine in this stand. Hemlock is the most common softwood. Red oak and soft maple the most common broad-leaved trees. Scattered stems of hard maple, white ash, white and yellow birch and beech are found. This stand was cut about 15 years ago and best quality sawlog stems harvested. Most remaining stems appear to be between 50 and 60 years of age and pole to small sawlog size. Quality is good. In places there are more than adequate numbers of good quality stems to occupy the site. Other areas have a fairly sparse stocking of poor quality trees.

Understory: Little regeneration is present.

Recommendations: The stand is in need an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems and release desirable regeneration. White pine and red oak will be the most productive timber species on most of the soils found in this stand and should be favored. Basal area should be reduced to 90 to 100 square feet per acre. .

It is recommended that about a quarter of the standing volume be removed in an improvement cut/thinning. This would result in 200 to 250 cords of wood being removed from the stand. .

The selection system of silviculture should be used for the long-term management of this stand. The goal should be a cutting cycle of about ten years. Should white pine seedlings and saplings become established in any areas they should be nurtured by changing to a shelterwood regime.

Wildlife: Wildlife use is similar in this stand to the others above. Harvesting will increase the amount of browse and improve habitat for small animals. Oaks and some beech should be retained for the mast they produce.

Hadlock Community Forest, Stand 4

Soft Maple Wetland, Stand 4					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
4	162.2	8.7	355.1	55.5	0.77

Location: This stand is mostly surrounded by stand 3 and house lots to the east.

Terrain and Soils: Flat and poorly drained Scantic silt loam.

Access: Out through stand 3 to Hadlock Road.

Composition and Quality: This stand is composed mostly of soft maple. Some pine and spruce is found scattered through the stand. Quality of the stems is fair to poor. This area will never be productive at producing high quality sawlogs.

Understory: Soft maple saplings and shrub species occupy the understory.

Recommendations: The stand should be managed in conjunction with adjacent stands. When volumes of timber warrant harvesting they can be cut and removed when adjacent stands are cut.

Wildlife: This stand is best utilized as wildlife habitat. Three options exist for its management. Do nothing, allow trees to grow and fall as nature dictates. This favors a certain group of animals that utilize old forest. Manage by periodic patch cutting. This would provide a variety of age classes and cover types favoring those species that prefer varied habitat. Manage by clearcutting all or parts of stand. This provides young forest and even age groups for those species that utilize that type of habitat.

Hadlock Community Forest, Stand 5

White Pine, Hemlock Sawlog Size, Stand 5					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
12	173.3	9.8	296.1	328.8	0.49

Location: At the far north corner of the lot at end of improved section of Hadlock Road.

Terrain and Soils: This stand is found on more of the rolling, Hollis soils. The soils map shows a narrow band of Belgrade soil along the northwest boundary line.

Access: Hadlock road is the west boundary of this lot.

Composition and Quality: This is a softwood type composed mostly of hemlock and white pine. This stand is similar to that of Stand II but with less hardwood. This stand appears to have been cut about thirty years ago. The far end of the lot does not appear to have been cut. Most of the stems appear to be between 100 and 130 years of age and of sawlog size. Quality is of the pine is good and the hemlock fair.

Understory: The understory is composed of advanced sapling size stems. Many are tall, spindly and long overdue for release. Yellow birch, white birch, red oak and hemlock are the predominant species. Little or no plant is found close to the ground and available for wildlife.

Recommendations: A preparatory cut of a shelterwood to regenerate the stand is recommended. Hemlock saw logs and pine that are defective or at high risk of dying should be harvested to reduce basal area to about 120 square feet. Ideally this would be done during a good pine seed year. With cooperation from nature, regeneration with a composition similar to the existing overstory should become established. This new crop of trees will grow in the "shelter" of the existing overstory that should be removed in two or three cuts over the next thirty years or so. The initial cut will produce 200 to 250 cords of all products.

Wildlife: With a dense overstory and fairly limited understory there is little use by wildlife other than those species that use the canopy. If adjacent stands are used as deer wintering habitat it is likely that the use extends into this stand. Regenerating as recommended would maintain cover and allow browse to grow and be available to wintering deer.

Woods Road Community Forest

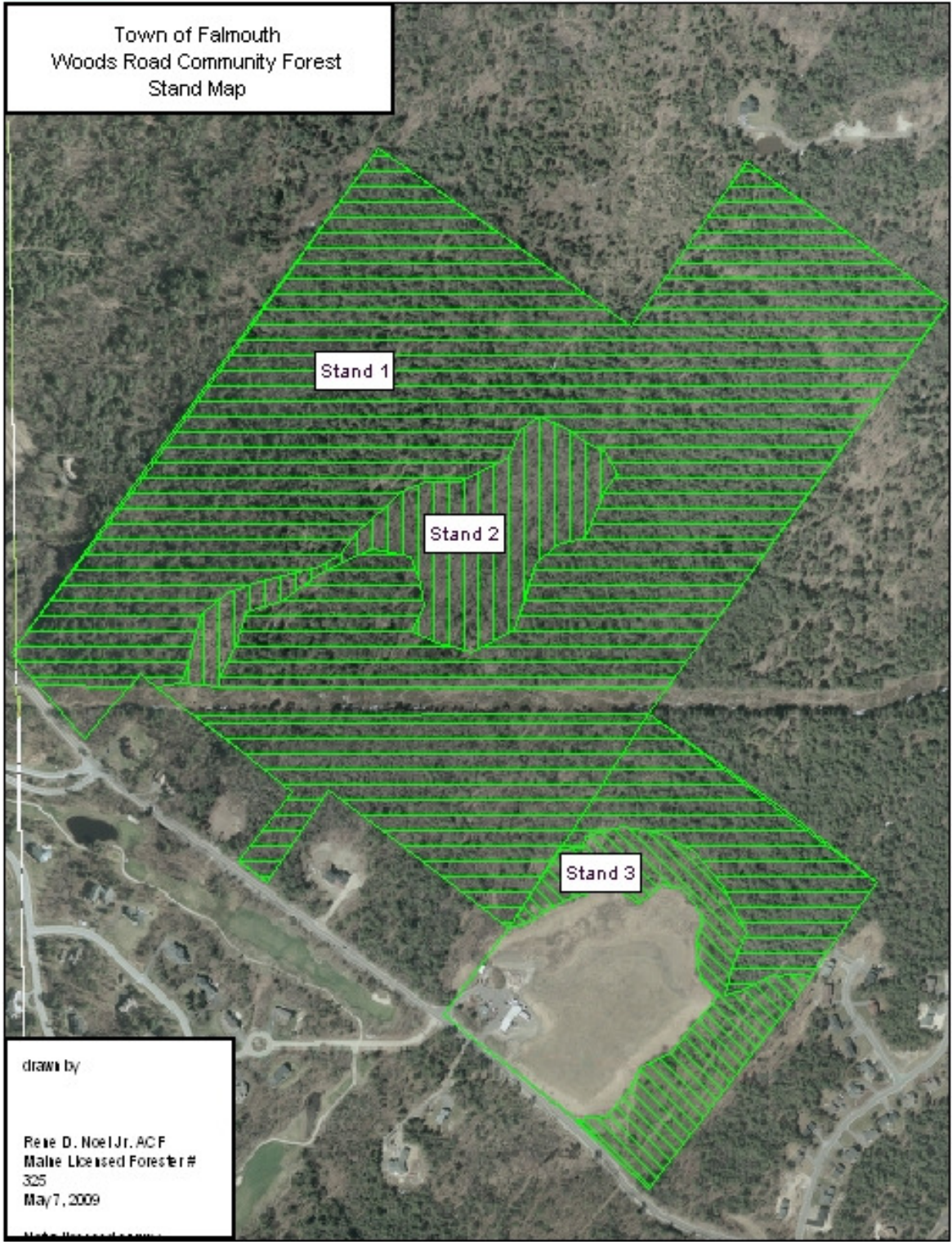
Northeast of Woods Road

Introduction

A medium size parcel in an area of town that is seeing fairly rapid residential growth. The Department of Inland Fisheries and Wildlife identifies this area as deer wintering habitat. The cover is certainly adequate, however there is very little understory to provide browse. A power line passes through the lot and is used by snowmobiles and ATVs. Another well-used trail exists from the power line north.

Growth

A total of 111 acres with commercial stocking was found on this lot and ten non-stocked acres. These acres grow 32,825 board feet of sawtimber, and 97.7 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 163.6 cords per year, or 1.47 cords per acre, per year. The value of this growth is approximately \$6,902.13, which is \$62.18 per acre per year. These numbers are good for forests in this area. Annual volume growth is close to biological potential. However, value growth can be improved considerably. Harvesting lower quality trees and lower value species will shift growth to higher value stems.



Town of Falmouth
Woods Road Community Forest
Stand Map

Stand 1

Stand 2

Stand 3

drawn by

Rene D. Noel Jr. ACF
Maine Licensed Forester #
325
May 7, 2009

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★
MN (15.9° W)

0 400 800 ft
Data Zoom 14-1

Total Volume and Value of all Trees Six Inches and Larger DBH:						
Total Acres 111						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per cord.	Wt. avg. per cord.
White pine	591,950	524	\$118,390.00	\$5,240.00	\$200.00	\$10.00
W. pine pallet	4,880	0	\$244.00	\$0.00	\$50.00	
Norway pine	6,210	0	\$403.65	\$0.00	\$65.00	
Hemlock	242,970	720	\$15,793.05	\$12,104.00	\$65.00	\$16.81
Spruce & Fir	118,730	124	\$17,809.50	\$980.00	\$150.00	\$7.90
Red oak	49,100	0	\$13,502.50	\$0.00	\$275.00	
White oak	7,630	0	\$1,144.50	\$0.00	\$150.00	
White ash	4,450	0	\$667.50	\$0.00	\$150.00	
White birch	18,500	0	\$1,480.00	\$0.00	\$80.00	
Yellow birch	6,740	0	\$505.50	\$0.00	\$75.00	
Soft maple	58,300	0	\$4,372.50	\$0.00	\$75.00	
Popple	0	31	\$0.00	\$775.00		\$25.00
Hardwood	0	1,427	\$0.00	\$28,540.00		\$20.00
Totals	1,109,460	2,826	\$174,312.70	\$47,639.00		
per acre	9,995	25				
Total per acre		45				

Stand Descriptions

Woods Road Community Forest, Stand 1

Softwood Small Sawlog Size, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
99	172.0	10.1	274.8	318.4	0.85

Location: This stand occupies a good part of the property.

Terrain and Soils: Terrain is flat to rolling. Soils are mostly Hollis very stony fine sandy loams. These soils tend to be well drained and can safely bear heavy equipment in all but the wet times of year. Hollis soils provide good sites for pine and fair sites for other species.

Access: A snowmobile trail cross the property. It appears that for much of its length it is on old logging trails. An old system of skid trails used in past logging exists and feeds south to the area of the transfer station.

Composition and Quality: This is a mixed wood tending towards a softwood type. Hemlock, white pine and red spruce are the most common softwoods. Red oak, soft maple, white ash and white birch the most common broad-leaved trees. Scattered stems of hard maple, yellow birch, white oak and popple are found. The southerly half of the lot west of the power line was cut lightly about fifteen years ago. The dominant stems appear to be between 100 and 120 years of age and are of sawlog size. Quality is average to good. Much of the red maple is of poor quality. The hemlock is of variable quality. Many white pine at the north end of the stand show evidence advanced red rot.

Understory: Regeneration varies from none to heavy where there has been previous harvesting or natural mortality. Hemlock, balsam fir and white pine make up most of these strata.

Recommendations: The stand is in need an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems and create conditions suitable for the establishment of desirable regeneration. White pine and red oak will be the most productive timber species on most of the soils found in this stand and should be favored. DIF&W holds an easement on this parcel. It reportedly must be managed as a deer wintering area. The basal area should be reduced to about 130 square feet per acre. The use of group selection with light thinning between groups that will maintain the integrity of the softwood cover and travel corridors. Much of the spruce does not appear thrifty; most of the stems of this species should be targeted for removal. Focusing on this species and low quality hardwoods in addition to stems that will need to be cut to allow equipment access will result in about the right amount of thinning to improve the wintering habitat.

It is recommended that about a quarter of the standing volume be removed in an improvement cut/thinning. This would result in 1,000 cords of wood being removed from the stand.

This combination of group selection and light thinning should be used for long-term management. A cutting cycle of about ten years is recommended.

Wildlife: This stand is reportedly a deer wintering area and management recommendations reflect that. There is little browse for deer. Thinning and group cuts would increase the amount of browse grown. Snags and cavity trees should be preserved to the extent possible for wildlife. Oaks and some beech should be retained for the mast they produce

Hemlock and white pine are the primary softwood species and are both long lived. This is fortunate as most of the overstory stems are near the same age. Softwood trees need to be thirty to forty feet tall to provide the cover deer need in winter. Growing in the open, pine and hemlock can achieve this height in about twenty-five years. With a competing overstory it will take somewhat longer to grow to this height. Once regenerating this stand is begun, it will take many decades to bring the next crop of trees up to a suitable height. The trees in the existing stand will be approaching an over mature state in 40 or 50 more years. The trees that need to be cut in the first harvest or two will be fairly evident. As the stand ages, the forester selecting trees to be cut will need to be well skilled to hold these big old trees together in a stand that will provide needed cover, release existing regeneration and create conditions favorable for continued regeneration establishment.

Stand 2

Soft Maple Wetland, Stand 2					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
12	136.0	9.5	136.0	108.9	1.09

Location: Found in central part of lot.

Terrain and Soils: Terrain is flat. Soils map indicate that the stand is on Swanton and Hollis Soils. The scale of the soils map is not this fine and it is likely that most of the stand is on Swanton fine sandy loam. This soil has a high water table and is only a fair site for the growth of trees. In most years the soil would need to be frozen to support heavy equipment.

Access: A snowmobile trail crosses a narrow part of this stand. However, better access for removing timber would be out to higher ground of stand 1 and then utilizing trails in that stand.

Composition and Quality: This is a hardwood stand composed primarily of soft maple. Small amounts of hemlock, white pine, balsam fir and red spruce are scattered through the stand. There is little evidence of prior cutting in this stand. The dominant stems appear to be between 70 and 80 years of age and are of sawlog size. Quality is poor to average.

Understory: Regeneration varies from shrubs and maple saplings to well establish white pine and balsam fir saplings.

Recommendations: The same three options mentioned for a soft maple wet land also exist for this stand. Do nothing, periodic patch cuts or various scenarios of clear cutting. In this case there is deer wintering habitat added to the mix. Hardwood provides little cover, however, this stand could be cut in such a way that deer could come out of the softwood cover to feed.

Wildlife: The cultural recommendations have been made to maintain and improve this area for deer wintering habitat. Other species that use forest of mixed age to mature forest as part of their habitat will also benefit.

Woods Road Community Forest, Stand 3

This ten-acre area is found around the perimeter of what is apparently the old landfill. It is an early successional shrub land and provides excellent wildlife habitat of a type that is in decline.

There is an opportunity to maintain this area in this type. It should be clearcut on a 15 to 20 year cycle.

It was not examined closely but some invasive species were noted. It is recommended that these be controlled before they spread into adjacent forest.

Falmouth Nature Preserve

Between Foreside Road and Route 1

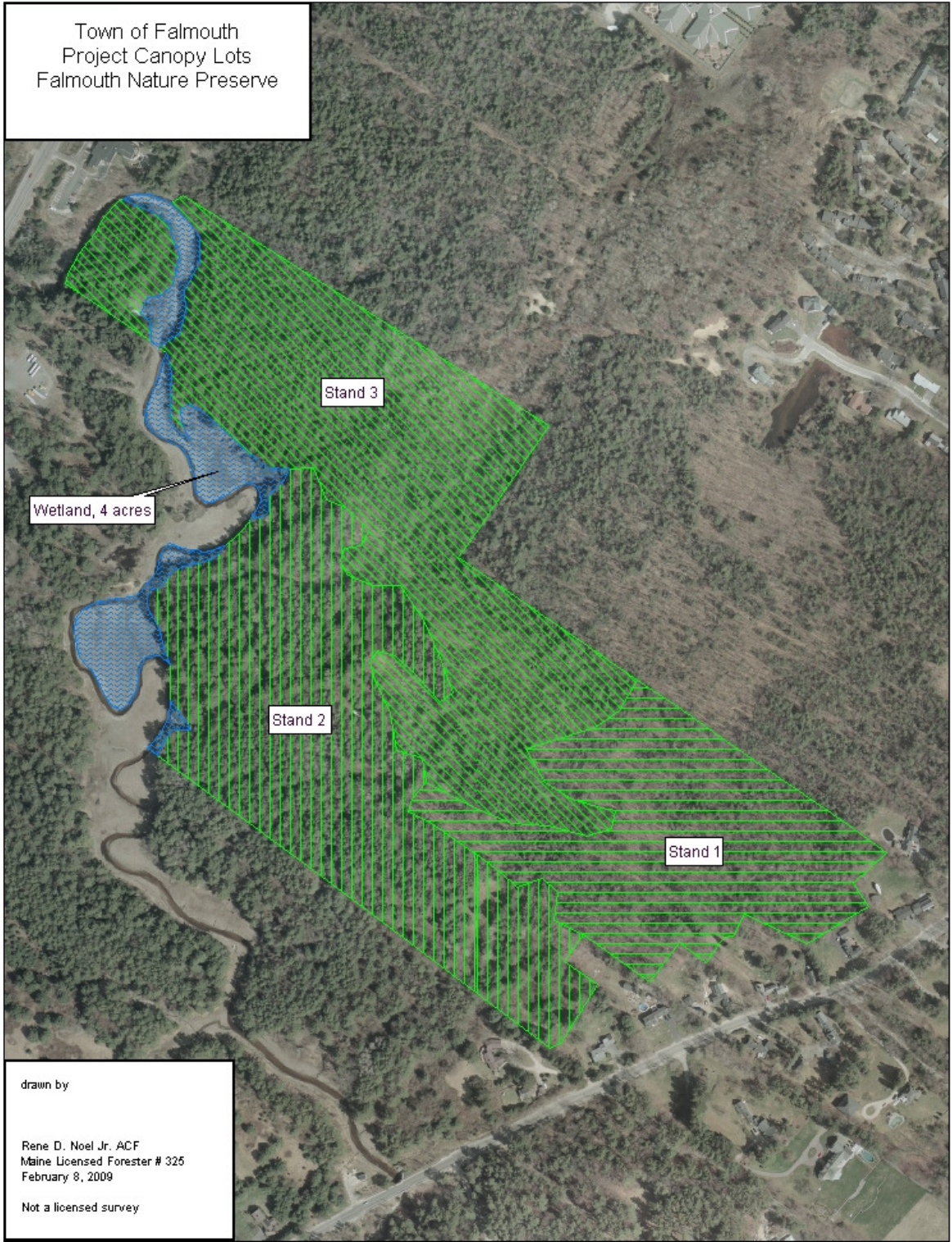
Introduction

This medium size lot sits between the commercial development of Route 1 and the residential area of the Foreside. A woods road is found along the north boundary that is used by neighbors for walking regularly. A creek on the west side of the property is tidal and has a small amount of salt marsh associated with it. It has an interesting mix of older stands that originated when agricultural use was abandoned about 100 years ago, and younger stands that originated in the mid 1900's, some from cutting and some from field abandonment.

Growth

A total of 78 acres with commercial stocking on this lot and 5 acres of non-stocked wetlands was found. These acres grow 12,194 board feet of sawtimber, and 40.8 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 65.2 cords per year, or .84 cords per acre, per year. The value of this growth is approximately \$2,716.75, which is \$34.83 per acre per year. These numbers are average for forests in this area. Annual volume growth is somewhat low because of slow growth and mortality of older stems and that younger stems replacing these old trees have not grown large enough to be counted. Both volume and value growth can be improved. Cultural treatments that encourage full stocking with vigorous trees will maximize volume growth. Harvesting lower quality trees and lower value species will shift growth to higher value stems.

Various deed and conservation easement restrictions on several of the four lots that make up the Falmouth Nature Preserve will preclude any forest management activities.



Total Volume and Value of all Trees Six Inches and Larger DBH:

Total Acres 78						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per cord.	Wt. avg. per cord.
White pine	227,700	320	\$34,254.20	\$2,810.00	\$150.44	\$8.78
W. pine pallet	42,030	0	\$2,101.50	\$0.00	\$50.00	
Norway pine	2,280	0	\$114.00	\$0.00	\$50.00	
Hemlock	43,270	411	\$1,223.95	\$3,128.00	\$28.29	\$7.61
Spruce & Fir	42,020	69	\$1,608.00	\$520.00	\$38.27	\$7.54
Red oak	54,490	0	\$5,462.50	\$0.00	\$100.25	
Yellow birch	2,190	0	\$72.75	\$0.00	\$33.22	
Soft maple	10,130	0	\$759.75	\$0.00	\$75.00	
Hard maple	0	0	\$0.00	\$0.00		
Beech	1,200	0	\$54.00	\$0.00	\$45.00	
Popple	0	70	\$0.00	\$0.00		\$0.00
Hardwood	2,230	492	\$43.65	\$6,060.00	\$19.57	\$12.32
Totals	427,540	1,362	\$45,694.30	\$12,518.00		
per acre	6,896	22				
Total per acre		36				

Stand Descriptions

Nature Preserve, Stand 1

Hardwood to mixed wood pole timber, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
16	172.7	9.9	278.7	256.5	0.9.2

Location: Southeast corner of the lot.

Terrain and Soils: Fairly flat to gently rolling. Soils at the south end of the stand are Au Gres loamy sands and Swanton fine sandy loam. Both of these are poorly drained and provide only fair sites for tree growth. As one moves back or northwest into the stand, the underlying soils are of the Hollis that are somewhat excessively well drained. Hollis soils provide good sites for pine and fair sites for other species.

Access: A woods road passes through this stand and provides good access.

Composition and Quality: This is a hardwood to mixed wood type. Hemlock, balsam fir, white pine and red spruce are the most common softwoods. Red oak, soft maple, white birch and yellow birch the most common broad-leaved trees. This stand became established after commercial clear cutting. It is a two-age stand with

the younger component between 50 and 60 years of age and is of pole to small sawlog size. The older component is composed of stems passed over in previous cutting and are now 100 plus years in age. Quality is average to good for the younger component and variable for the older stems.

Understory: Little regeneration is present because of the heavily stocked stand conditions. Small groups of hemlock and balsam fir are found.

Recommendations: The stand would benefit from an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems. Stocking is very high for a stand with this percentage of hardwood. In addition, about 50% of the standing volume is suitable only for low value pulpwood, firewood or biomass products. Removing these low quality trees will allow better stems to claim the space and soil resources. White pine and red oak will be the most productive timber species on most of the soils found in this stand and should be favored. The basal area should be reduced to about 110 square feet per acre. This recommendation will result in removing more of the stand than previously recommended, about a third of the stocking. This recommendation tries to strike a balance between removing all of the low quality trees and maintaining wind firmness of the stand. The use of group selection to remove patches of trees susceptible to wind throw, with light thinning between groups that will maintain wind firmness of the stand, is recommended.

It is recommended that about a third of the standing volume be removed in an improvement cut/thinning. This would result in 200 cords of wood being removed from the stand. .

This combination of group selection and light thinning should be used for long-term management. A cutting cycle of about ten years is recommended.

Wildlife: This stand is at a stage that it is used heavily only by a few species that mostly live in the canopy. Wildlife travels through and feeds in the stand evidently mostly on mast and mushrooms. Thinning would increase food production near the ground as well as increase cover. Snags, and other wildlife trees should be preserved to the extent possible. Some oak, beech and other mast producing species should be retained.

Heavy use for exercising dogs off of leashes also likely limits the use of this property by wildlife.

Nature Preserve, Stand 2

Softwood Small Sawlog Size, Stand 2					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
31	134.7	11.4	159.2	205.1	0.54

Location: Found in a band along the southern boundary line and north along the brook.

Terrain and Soils: Terrain is fairly flat in the southern parts of the stand, but there are steep gullies in that area nearer the brook. Soils in the southern part of the stand are somewhat poorly drained Buxton Silt Loams. The central part of the stand is on moderately well drained Deerfield Sandy Loams. Those areas adjacent to the brook are Suffield silt loams and Windsor loamy sands that range from moderately well drained to somewhat excessively well drained. All of these soils provide good tree growth.

Access: Trails in this stand lead out to north and connect with a woods road.

Composition and Quality: This is a softwood type. White pine is the dominant species. The stand is a mix of age and size classes. Some areas were evidently planted on old fields. Red oak, soft maple, beech, hemlock, Norway pine, red spruce and balsam fir stems are found scattered through the pine. Age of the stand varies,

with the younger stems being 40 to 50 years of age, to the oldest that are 100 plus years in age. Quality is also variable with some very poor and some very good.

Understory: Regeneration varies and consists of mostly shade tolerant species such as balsam fir. Invasives are well established at the Foreside Road end of the stand.

Recommendations: The stand would benefit from several treatments, including improvement cutting in some areas to target removal of low-grade trees and thinning and improvement cutting in other areas to salvage suppressed stems and space residual stems for better growth. Mature areas should be thinned to prepare them for regeneration. The average basal area should be reduced to about 120 square feet per acre. This is an average and as there is quite a lot of variation in the stand the residual basal area will also vary. It is recommended that about a third of the standing volume be removed in an improvement cut/thinning. This would result in 200 cords of wood being removed from the stand. .

Some areas of this stand should be managed with a shelterwood silviculture system and others with a selection system. A cutting cycle of about ten years is recommended.

There is a well-established population of invasive plants at the eastern end of this stand. Smaller populations and individual plants are establishing themselves further to the west. These should be controlled.

Wildlife: This stand provides some winter cover for deer and it is used heavily only by a few species that mostly live in the canopy. Wildlife travels through and feeds in the stand evidently mostly on mast and mushrooms. Thinning would increase food production near the ground as well as increase cover. Snags, and other wildlife trees should be preserved to the extent possible. Some oak, beech and other mast producing species should be retained. Use of the stand by deer is likely minimal due to the many dogs exercised in the preserve.

Nature Preserve, Stand 3

Softwood Small Sawlog Size, Stand 3					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
31	148.0	8.7	303.3	153.3	0.63

Location: Located through the center and northern part of the lot.

Terrain and Soils: Fairly gentle flat terrain in the southeastern part of the lot gives way to steep gullies nearer the brook. Much of the stand is found on Deerfield loamy sand that is well drained and provides good sites for tree growth. In the northern corner of the stand to either side of the brook is an area of Sufield silt loam.

Access: Trails lead south and east and connect to the woods road. The area to the west of the brook is difficult to access from the main part of the property.

Composition and Quality: This is a mixed wood type that is similar to Stand I and has a similar history. Less timber was removed from this area in the cutting that occurred 50 or 60 years ago. Hemlock, white pine and red spruce are the most common softwoods. Red oak, soft maple, and yellow birch the most common broad-leaved trees. It is again a two-age stand, with the younger 50 to 60 year old pole to small sawlog size component being a smaller portion of the stand. The older component is composed less of stems passed by in previous cutting and more of stems growing in areas that where no harvesting occurred. These are now 100 plus years in age. Quality is average to good for the younger component and poor to good for the older stems.

Understory: Regeneration varies and consists of mostly shade tolerant species such as balsam fir.

Recommendations: The stand would benefit from improvement cutting and thinning to remove low quality, damaged, diseased and overstocked stems. The red spruce is not in good condition and this species should be targeted to the extent practical. It is recommended that about a quarter of the standing volume be removed in an improvement cut/thinning. This would result in 150 to 200 cords of wood being removed from the stand.

A combination of shelterwood and selection methods of silviculture is recommended for the long-term management of this stand. A cutting cycle of about ten years is recommended.

Wildlife: This stand would provide some winter cover for deer but is unused due to the running of dogs. The stand is used heavily only by a few species that mostly live in the canopy. Wildlife travels through and feeds in the stand evidently mostly on mast and mushrooms. Thinning would increase food production near the ground as well as increase cover. Snags, and other wildlife trees should be preserved to the extent possible. Some oak, beech and other mast producing species should be retained.

North Falmouth Community Forest

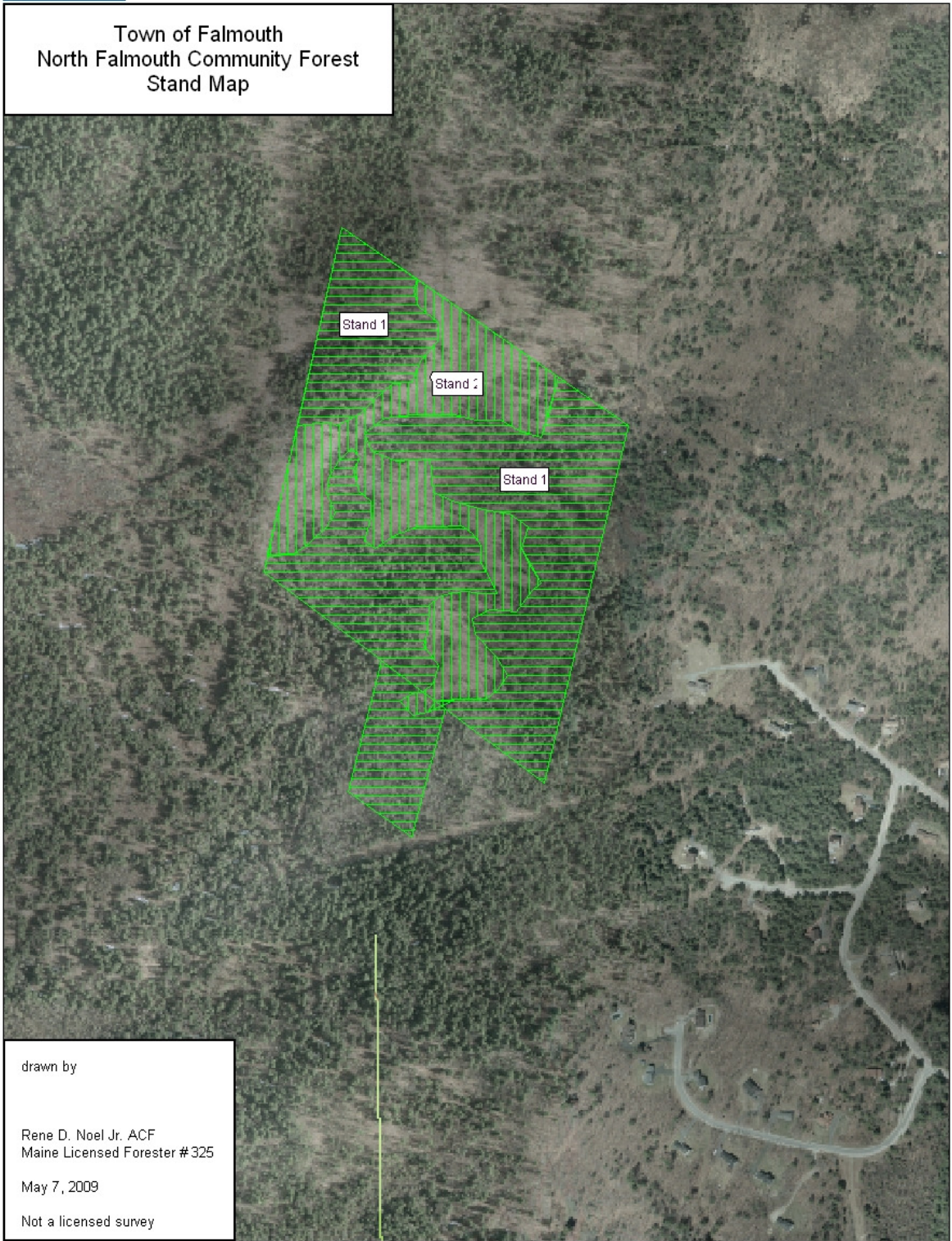
Off Blackstrap Road

Introduction: This is a small to medium size lot. It is back land and located in a large undeveloped woodland that begins in the Town of Gray, continues through Windham and into Falmouth. It is accessed by right of way from the Blackstrap Road. The woods road following the right of way ends at a landing on an abutting property several hundred yards short of the property.

Growth: All 49 acres of this lot to have commercial stocking. There is some wetland area on the property but most of it is forested soft maple wetland. These acres grow 6,294 board feet of sawtimber, and 34.4 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 47 cords per year, or .96 cords per acre, per year. The value of this growth is approximately \$1,570.36, which is \$32.04 per acre per year. These numbers are average for forests in this area. The volume growth is about what the potential is for a mixed growth forest on the glacial deposited soils found here. Softwood, particularly white pine could grow more volume. Cultural treatments that encourage full stocking and encourage softwood will maximize volume growth. Harvesting lower quality trees and lower value species will shift growth to higher value stems.

Total Volume and Value of all Trees Six Inches and Larger DBH:						
Total Acres 49						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per cord.	Wt. avg. per cord.
White pine	21,000	64	\$4,620.00	\$640.00	\$220.00	\$10.00
Hemlock	104,013	355	\$6,760.85	\$6,035.00	\$65.00	\$17.00
Red oak	59,510	0	\$16,365.25	\$0.00	\$275.00	
Soft maple	13,710	0	\$1,028.25	\$0.00	\$75.00	
Hardwood	0	444	\$0.00	\$8,880.00		\$20.00
Totals	201,503	863	\$28,774.35	\$15,555.00		
per acre	4,112	18				
Total per acre		26				

Town of Falmouth
North Falmouth Community Forest
Stand Map



drawn by

Rene D. Noel Jr. ACF
Maine Licensed Forester #325

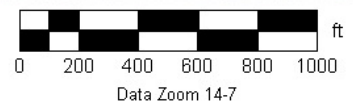
May 7, 2009

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Stand Descriptions

North Falmouth Community Forest, Stand 1

Hemlock, White Pine, Hardwood, Pole to Small Sawlog Size, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
34	135.7	9.5	243.0	166.2	0.68

Location: A convoluted shaped stand over the entire lot.

Terrain and Soils: Terrain is rolling. Soils are primarily Hollis stony fine sandy loams, which are excessively well drained. In the west corner there is an area of Peru stony fine sandy loams that are moderately well drained. Hollis soils provide good sites for pine growth and fair sites for the growth of other species. Peru provides good sites for the growth of most species.

Access: Access needs to be developed to this lot.

Composition and Quality: This is a mixed wood type tending towards softwood. Hemlock and white pine are the most common softwoods. Red oak, beech and soft maple, and yellow birch the most common broad-leaved trees. Most of the stems appear to be about 60 years of age. There are scattered stems which are residuals passed over when the previous stand was cut. These older stems are 100 plus years in age. Quality is average to good.

Understory: Regeneration is sparse and consists of beech, hemlock and occasional white pine saplings and seedlings.

Recommendations: The stand would benefit from an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems. Some of the residual beech and hemlock are of poor quality and/or defective and should be targeted for removal. White pine is the species best adapted to grow on the excessively well-drained sites and shallow soils found on some places on this lot and should be favored. The basal area should be reduced to about 90 square feet per acre. Following this recommendation would result in about 300 cords of wood being removed from the stand.

On the excessively well-drained and shallow soils, shelterwood is recommended to regenerate white pine. On the better soils where a mix of pine, hemlock and hardwoods can be expected to maintain them selves the selection system is recommended for the long term.

Beech is a native species. However, it too can act much like an invasive. It reproduces vigorously from stump and root suckers and can completely exclude other species. It is important to wildlife for the mast it produces. However, beech thickets are very slow growing and produce little mast. Where these thicket conditions exist or are likely to develop beech suckers should be controlled as any other invasive.

Wildlife: This stand is part of a large forested area. Adjacent land has been cut fairly heavily over the last 15 years. The oaks in this stand are large enough to be good mast producers and there was evidence that deer and turkey were both feeding heavily on these acorns. The softwood component is more mature than on adjacent properties and, while not ideal, does provide winter cover for wildlife. Abundant deer sign was seen mid winter indicates the area is used as winter cover. A portion of the stand provides some south and westerly exposure. Signs of turkey roosting and deer bedding were seen. Several trees have cavities excavated by

pileated woodpeckers and smaller birds. Managing this stand to maintain it similar to what it is now will benefit many species. Snags and other wildlife trees should be preserved to the extent possible. Some oak, beech and other mast producing species should be retained.

North Falmouth Community Forest, Stand 2

Hardwood, Pole to Small Sawlog Size, Stand 2					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
15	95.6	8.1	237.0	53.9	0.68

Location: Another convoluted shape stand fills in what is not stand 1 mostly through the center of the lot.

Terrain and Soils: Terrain again is rolling. Soils map shows this area to be mostly Hollis soils. A small intermittent stream flows through this stand and along its flood plane is an inclusion too small to have been mapped of wetter soils.

Access: Access needs to be developed to this lot.

Composition and Quality: This is a hardwood type composed primarily of Beech, red oak and soft maple. Many of the beech are of poor vigor and are infected with beech bark disease. Some of the red oak has some crown die back most likely from old gypsy moth defoliations. There are scattered stems of hemlock and in some places an understory of small hemlock. Most of the stems are 60 to 100 years old. Distribution of the species is not uniform. Much of the soft maple is found at the lower elevations along the waterways and in the small wetlands. The beech and red oak are found on the more upland sites. Soils range from wetland to excessively drained areas. There are some enriched sites also within the stand. Quality varies with the growing site. Where the soils provide good sites quality of the stems is good. Where soils are poor quality of the trees is poor.

Understory: Regeneration is sparse and consists of beech, hemlock and occasional white pine saplings and seedlings. On the wetland soils there are a fair number of shrub species found.

Recommendations: The stand would benefit from an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems. Some of the beech, soft maple and residual hemlock are of poor quality and/or defective and should be targeted for removal. On the poorer growing dry sites white pine should be encouraged as is recommended in stand I. On the better sites high quality hardwood can be grown and should be favored. The wetlands are mostly soft maple type and the three options for managing this area remain the same. On the average basal area should be reduced to about 70 square feet. Following this recommendation would result in about 50 to 60 cords of wood being removed from the stand.

Parts of this stand will eventually regenerate some softwood and blend with stand I and should be managed with the same treatments given that stand. The better soils on the lower slopes will likely maintain a hardwood forest and should be managed with a selection system. The wetland areas on this lot are small and any cultural treatments that rely on commercial harvesting will have to be done in conjunction with harvesting going on the rest of the lot. The options remain the same - do nothing, group selection and clear cutting.

Wildlife: The upland area of this stand sees the same wildlife uses as stand I and should be treated similarly to enhance the habitat. Releasing red oak crop trees will improve the mast production benefiting many species of wildlife. The wet land that follow the drainage's are heavily used by wildlife. As adjacent properties have been cut heavily in recent years, so fairly light treatments or no cutting in most of the wet areas of this property

is recommended. This will maintain habitat diversity over a larger area. As with stands on adjacent properties, this can be revisited and management of wetland areas changed.

Falmouth Community Park

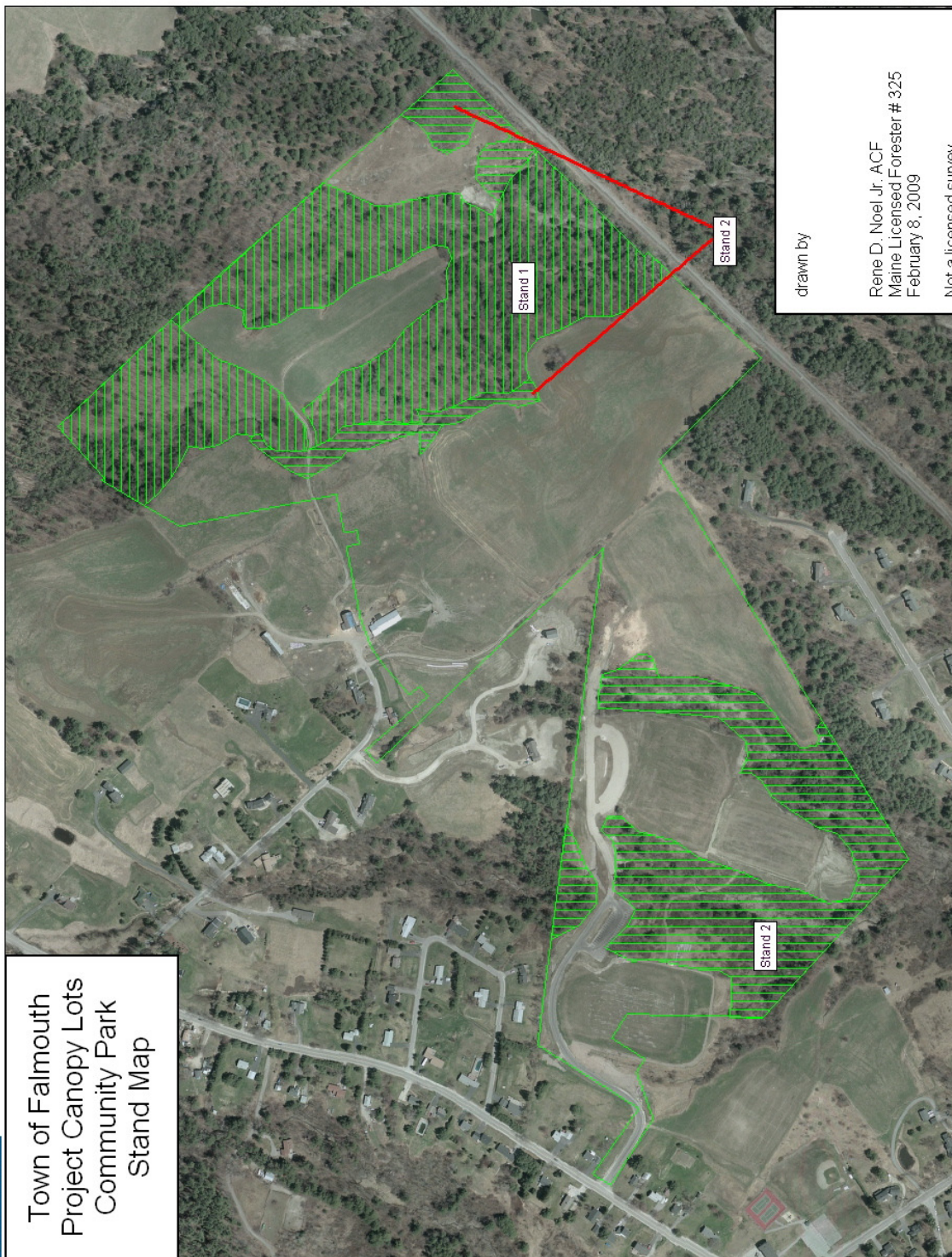
Between Winn Road and Central Maine RR Track

Introduction: This is a medium size lot located in a neighborhood of mixed residential and agricultural use. The lot itself is in mixed recreation, farm and farm wood lot land uses. It is a convoluted shaped property with the woodlands being interspersed amongst open land. The property is access via two routes from Winn Road.

Growth: All 28 acres of this lot have commercial stocking. Another 17 acres is in early succession brush and young forest. The commercially stocked acres grow 3,229 board feet of sawtimber, and 17.3 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 23.7 cords per year, or .84 cords per acre, per year. The value of this growth is approximately \$694.22, which is \$24.79 per acre per year. These numbers are low for forests in this area. Much of the productivity can be explained by the fact that there is a lot of young forest with small trees. These small trees do not contribute to volume growth until they reach minimum merchantable size about 5" diameter breast height. Then they do not add much to value growth until they attain higher value sawlog size, 9" DBH for softwoods and 11" for hardwoods.



Town of Falmouth Project Canopy Lots Community Park Stand Map



drawn by
 Rene D. Noel Jr. ACF
 Maine Licensed Forester # 325
 February 8, 2009
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Total Volume and Value of all Trees Six Inches and Larger DBH:						
Total Acres 28						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per cord.	Wt. avg. per cord.
White pine	26,130	111	\$4,703.40	\$1,110.00	\$180.00	\$10.00
W. Pine pallet	18,120	0	\$906.00	\$0.00	\$50.00	
Hemlock	21,220	64	\$1,379.30	\$1,088.00	\$65.00	\$17.00
Spruce & Fir	1,160	3	\$174.00	\$30.00	\$150.00	\$10.00
Red oak	3,960	0	\$891.00	\$0.00	\$225.00	
White ash	17,360	0	\$2,604.00	\$0.00	\$150.00	
White birch	3,180	0	\$254.40	\$0.00	\$80.00	
Yellow birch	1,280	0	\$96.00	\$0.00	\$75.00	
Soft maple	4,400	0	\$330.00	\$0.00	\$75.00	
Hard maple	10,360	0	\$1,554.00	\$0.00	\$150.00	
Beech	670	0	\$30.15	\$0.00	\$45.00	
Popple	0	17	\$0.00	\$425.00		\$25.00
Hardwood	0	291	\$0.00	\$5,820.00		\$20.00
Totals	107,840	486	\$12,922.25	\$8,473.00		
per acre	3,851	17				
Total per acre		25				

Stand Descriptions

Community Park, Stand 1

Old Farm Woodlot Mixed Everything Small Poles to Sawlog Size, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
28	121.3	9.0	233.2	166.2	0.68

Location: This lot is found at the northwest end of the property.

Terrain and Soils: Terrain is rolling with some steep embankments down to intermittent streams. Soils are primarily Sufield silt loams that are moderately well drained and provide good sites for tree growth.

Access: Access would be out to farm roads and fields abutting the stand.

Composition and Quality: This is a mixed wood type. Actually, it is a very mixed stand and is an artifact of many years of farm management. As wood was needed for firewood, timber and other uses it was cut leaving a very patchwork forest.

Hard maple and other northern hardwoods of very good quality are found in the northern portion of the stand. White ash dominates the easterly portion of the stand. The southerly portion of the stand is more of a mixture of hardwood species with red oak being common. Hemlock and white pine are the most common softwoods. Most of the stems appear to be about 60 years of age. There are scattered stems which are residuals passed over when the previous stand was cut. These older stems are 100 plus years in age. Quality is average too good to good.

Understory: Regeneration in the northern third of the stand is of advanced sapling size stems. Sugar maple, white ash and red oak are the primary species in that area. On the easterly side of the lot regeneration is scattered with a few sugar maple saplings found. The southerly portion of the stand has little regeneration present due to the dense stand conditions. Invasive plants are common throughout the southern two thirds of the stand.

Recommendations: The stand would benefit from an improvement cut and thinning to remove low quality, damaged, diseased and overstocked stems. Many of the larger stems are open grown and of poor quality, especially along the east side of the stand. These along with white pine and hemlock of poor quality and other defective stems should be targeted for removal. The basal area should be reduced to about 90 square feet per acre. Following this recommendation would result in about 300 cords of wood being removed from the stand.

Wildlife: This stand is part of a large forested area. Adjacent land has been cut fairly heavily over the last 15 years. The oaks in this stand are large enough to be good mast producers and there was evidence that deer and turkey both were feeding heavily on these acorns. The softwood component is more mature what is on adjacent properties and while it may not provide winter cover it is used by wildlife. Signs of turkey roosting and deer bedding were seen. Several trees have cavities excavated by pileated woodpeckers and smaller birds. Managing this stand to maintain similar to what it is now will benefit many species. Snags and other wildlife trees should be preserved to the extent possible. Some oak, beech and other mast producing species should be retained.

Community Park, Stand 2

Location: Around field edges and more recently abandoned agricultural areas throughout property.

Terrain and Soils: Terrain is rolling with some steep embankments down to intermittent streams. Soils are primarily Scuffed silt loams which are moderately well drained and provide good sites for tree growth.

Access: Out to farm roads and fields abutting stands.

These are areas which have recently reverted to forest and shrub land by natural seeding. They are heavily used by many species of wildlife.

This habitat type is becoming rare. This habitat could be maintained by periodic clear cutting.

Pine Grove Park

Between Forest side Road and Route 1

Introduction: This is as close to an urban park. It is in a heavily developed area of mixed commercial and residential use. There is fairly heavy public use. The school appears to be using a small area for an outdoor challenge course. There are numerous random walking trails throughout the property. The forest is fairly mature old-field white pine.

Growth: All 29 acres of this lot have commercial stocking. These acres grow 14,757 board feet of sawtimber, and 19.9 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 49.4 cords per year, or 1.70 cords per acre, per year. The value of this growth is approximately \$2,716, which is \$94 per acre per year. These numbers are good for forests in this area. The volume growth is near the potential of the land and will decline as the mature wood is harvested or dies a natural death. There are no small stems to replace these big trees and it will take some time for saplings and seedlings to grow. Value growth can be maintained, but may also dip before young trees attain the higher value of sawtimber.

Total Volume and Value of all Trees Six Inches and Larger DBH:						
Total Acres 29						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per MBF	Wt. avg. per cord.
White pine	534,920	501	\$106,984.00	\$5,010.00	\$200.00	\$10.00
W. pine pallet	127,220	0	\$6,361.00	\$0.00	\$50.00	0
Norway pine	47,050	0	\$2,352.50	\$0.00	\$50.00	0
Red oak	13,990	0	\$3,497.50	\$0.00	\$250.00	0
Soft maple	25,470	0	\$1,910.25	\$0.00	\$75.00	0
Popple	0	13	\$0.00	\$325.00		\$25.00
Hardwood	0	325	\$0.00	\$6,500.00		\$20.00
Totals	748,650	839	\$121,105.25	\$11,835.00		
per acre	25,816	29				
Total per acre		81				

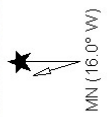
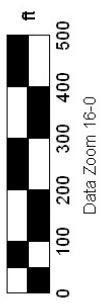


XMap® 5.2 GIS Enterprise

**Town of Falmouth
Project Canopy Lots
Pine Grove Park
Stand Map**



drawn by
 Rene D. Noel Jr. ACF
 Maine Licensed Forester # 325
 February 8, 2009
 Not a licensed survey



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Stand Descriptions

Pine Grove Park, Stand 1

Old Field White Pine from Sawlog to Large Sawlog Size, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
29	203.2	12.8	183.0	508.9	0.69

Location: This stands occupies the entire lot.

Terrain and Soils: The lot is fairly flat. There is an area of Hollis soil along Foreside Road. Soils over most of the lot are of Windsor loamy sands. These soils vary from moderately well drained to excessively well drained and provide good sites for the growth of pine and fair sites for other species. There is a band of wetter soils along the north boundary of the lot that consists of Au Gres sandy loams and Scantic silt loams. These provide fair sites for tree growth.

Access: There is easy access from the Foreside Road.

Composition and Quality: This is a softwood, white pine type. There is some variation in the stand with the west end having more hardwood and approaching a mixed wood type. The north end is younger and found on sandier soil than the south and large old-field pine in the southern part of the lot. Quality is good over much of the stand with larger lower quality stems found on and south of the slope running east to west but varies. The largest stems are somewhat rough and the midsize stems show the best quality. A number of red pine are found on the flat sand plane on the north east part of the stand. Many of these stems might be suitable as poles rather than just saw logs. This area probably reverted to forest in the period of the late 1800's into the early 1900's and most stems are in the 100 year old range.

Understory: Sparse with some hardwood. Red oak saplings and small pole timber are scattered throughout the stand. Some white pine seedlings are found along the west side of the stand under the hardwoods. Bittersweet is found in the north central portion of the lot near the old borrow pit.

Recommendations: It is time to think of replacing this stand. The small blow down that occurred along the northeast boundary is a warning of things to come. A preparatory cut to create conditions suitable for the establishment of pine seedlings is recommended. Reducing basal area to about 150 square feet by removing understory stems, high risk stems and low quality stems is recommended. Ideally this harvest should occur at the time of a good pine seed year. Once pine seedlings are established and a foot or two in height, a second cut should be applied to reduce basal area to about 150 square feet. The pine should then be monitored and removal cuts of the sheltering overstory done whenever annual height growth of the understory pine drops to 10 or 12 inches. Such a shelterwood replacement can be extended for a long time and the new crop of trees become fairly large before the final removal of the old stand. The caveat here is wind and how long and the risk that those tall pines will stand on the windy coast of Maine.

Following the cut first recommended would result in about 500 cords of wood being removed from the stand.

Invasive plants, bittersweet, in the north central part of the property should be controlled.

The use of herbicides both mist blown and basal application would help reduce the regeneration of hardwoods that are poorly suited to this dry site.

Wildlife: This forest is an island of natural habitat in an urban/suburban area. Nature does not function here as it would in a larger area of natural habitat. Wildlife uses this parcel but it is mostly wildlife common in suburban environments. Maintaining those features that are attractive to wildlife will provide some rare habitat in an urban setting. Some mast producing oaks should remain in any harvest. Snags and other wildlife trees should be preserved to the extent possible. The areas near the busy roads should not be improved. This may keep some animals out of traffic.

Town Forest

Corner of Field and Cumberland Center Road

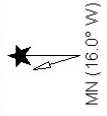
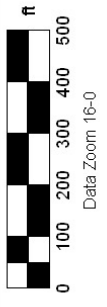
Introduction: This is a small lot but has lengthy road frontage on Winn Road and Field Road. A walking trail meanders northwest-southeast through the lot. The trail appears to get regular use. This is a very visible lot.

Growth: All 21 acres of this lot to have commercial stocking. These acres grow 7,442 board feet of sawtimber, and 13.9 cords of pulpwood and firewood per year. Looked at in a standard measure, the total merchantable growth is 28.9 cords per year, or 1.37 cords per acre, per year. The value of this growth is approximately \$1,653.18, which is \$78.72 per acre per year. These numbers are good for forests in this area. The volume growth is near the potential of the land. . Value growth can be increased somewhat by harvesting low quality and low value trees and allowing growth to accumulate on more valuable trees.

Total Volume and Value of all Trees Six Inches and Larger DBH:						
Total Acres 21						
Species	Board Feet	Cords	Sawtimber	Cordwood	Wt. avg. per MBF	Wt. avg. per cord.
White pine pallet	23,070	0	\$1,153.50	\$0.00	\$50.00	
Red oak	33,120	0	\$8,280.00	\$0.00	\$250.00	
White ash	4,920	0	\$861.00	\$0.00	\$175.00	
Soft maple	4,520	0	\$339.00	\$0.00	\$75.00	
Hard maple	6,005	0	\$1,201.00	\$0.00	\$200.00	
Popple	0	47	\$0.00	\$1,175.00		\$25.00
Hardwood	0	147	\$0.00	\$2,940.00		\$20.00
Totals	235,535	381	\$44,614.50	\$5,985.00		
per acre	11,216	18				
Total per acre		41				



Town of Falmouth Project Canopy Lots Town Forest Stand Map



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Stand Descriptions

Town Forest, Stand 1

Old Field Mixed wood Pole Size, Stand 1					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
5	138	12.0	142.9	416.6	0.62

Location: This stand is found at the southeast end of the lot.

Terrain and Soils: Terrain is flat. There is an area of Deerfield loamy sand along the Field Road but most of the stand is on Scantic and Suffield Silt loams.

Access: Access is out to Field Road.

Composition and Quality: This is an old-field type mix of popple, white pine and soft maple. Quality is fair to good. There are some good stems but a number of very rough open grown stems. This area likely reverted to forest in the mid 1900's and most stems are in the 50 to 60 year old range.

Understory: Honeysuckle and bittersweet is found scattered through the stand and well established in the small opening around the old house site.

Recommendations: The popple and rough pine should be harvested to release the better quality stems in a thinning. Basal area should be reduced to about 110 square feet. This would produce about 60 cords of wood.

Invasive plants, honeysuckle and bittersweet should be controlled.

Wildlife: This is a late stage old field and starting to decline as habitat for woodcock and other animals that utilize this type of habitat. If timber is the primary goal than habitat type will combine with Stand 1 and should be maintained in a similar manner.

There is the option of maintaining this area in an early succession type for wildlife habitat. Clearcutting the area would result in it regenerating heavily to popple. This could be done once over the entire area and repeated on a 20-year cycle or half could be done first and the second half in about twenty years. Then repeat cutting alternate blocks on 20-year cycles. This would give two age classes of popple for increased diversity.

Town Forest Stand 2

Old Field White Pine, Large Sawlog size, Stand 2					
Acres	Basal Area	Avg. DBH	Avg. Number Trees/ac	Growth Per acre	
				Board feet	Cords
21	132.0	12.0	153.8	155.3	0.78

Location: This stand occupies most of the lot.

Terrain and Soils: Terrain is fairly flat. There are areas of Hollis soils on the east and west sides of the stand. Most of the stand is found on Buxton silt loam and Ridgebury fine sandy loam. These soils are moderately to poorly drained. Heavy equipment should be operated only when conditions are very dry or frozen.

Access: There is long road frontage on both Winn Road and Field Road. It would be easiest to extract wood to the Field Road.

Composition and Quality: This is a softwood, white pine type. It is an old-field type and form and quality of the stems are typical of old-field pine. The quality varies considerably. Some trees are of poor quality with multiple stems. Others have smooth straight stems. Some show evidence of advanced red rot. Many stems have scars from damage done during an earlier harvest. There is some variation in composition with there being more hardwood in the stand at the west end. . Many of the red oak found in this stand are of good quality. A patch of high quality red oak near the Winn Road is in decline, possibly from road salt. A fair number of sugar maple is also found. This area likely reverted to forest in the early 1900's and most stems are in the 90 to 100 year old range

Understory: Fairly good hardwood regeneration throughout. Many advanced sapling size red oak are found on the better-drained soils. Honeysuckle and bittersweet is found scattered through the stand.

Recommendations: Harvesting this stand to release established regeneration is recommended. Group selection should be used where stems are of low quality and areas of better quality thinned. Basal area should be reduced by about a third to about 90 square feet. This will result in the harvest of about 200 cords of all products.

Invasive plants, honeysuckle and bittersweet should be controlled.

Wildlife: This stand is not particularly good habitat for wildlife other than canopy dwelling animals and small animals that live on the forest floor. Larger wildlife travels through and feeds on mast and other seasonal foods. Harvesting will open the soil to increase sunlight and plant growth. This will increase cover and food near the ground. Some of the mast producing hardwoods should be retained, as should snags and other wildlife trees.