

**FOREST MANAGEMENT PLAN
for**

Property of

Norman C. & Valentena Illsley

in

Randolph & Braintree, Vermont

Prepared by

NEW ENGLAND FORESTRY CONSULTANTS, INC.

INTRODUCTION

This document is a forest management plan update for the property of Norman C. & Valentena Illsley in Randolph and Braintree, Vermont. The grand list description is Farm and 2 Dwellings, 272.5 for Braintree, 50.3 acres for Randolph, parcel ID for Braintree is 08-006, and 102055 for Randolph and SPAN is 075-023-10357 for Braintree and 507-159-2141 for Randolph. 172 acres are wooded and in active forest management, 148.8 acres are agricultural, and 6 acres are reserved from Use Value Appraisal. The land is located in the Northern Vermont Piedmont biophysical region.

The goals of management for the woodland are to maintain a healthy forest and wildlife habitat and provide firewood and periodic income from the sale of woodland products. Vermont's Acceptable Management Practices (AMPs) will be employed during the harvesting of any timber.

In order to evaluate the possibility of meeting the objectives for the property, a field cruise was undertaken to gather data about the woodland in November and December, 2016. Specific information regarding timber types, tree size, age, quality, limitations on harvesting, and site quality was collected using systematic sampling procedures. Basal Area Factor (BAF) used in this cruise was 15.

Orthophoto numbers 140164 & 136164, 2012, were used in the preparation of the forest management map.

Activities in the stands of this woodlot have been minor, primarily firewood removal of dead and dying trees from the old sugarwoods. No other stand history is available.

General information: The Illsley property is a 322 .8 acre parcel located in Braintree and Randolph, Vermont. The property remains a working farm and the Illsley family has chosen to do the scheduled harvesting themselves.

STAND #1

Ilsley

Acres: 17 in Braintree Site Class I from soils
 Access distance less than one mile.

STAND DESCRIPTION

Uneven-Aged
 Forest Type: northern hardwoods
 Size Class: sapling, poles, sawtimber
 Mean Stand Diameter: 10.5
 Total BA/A: 90
 Acceptable BA/A: 68
 Unacceptable BA/A: 23
 Expected Residual BA/A: 80
 Stems/acre: 126.4
 Average site index: 65 for sugar maple
 Insects or disease problems: none observed
 Stocking: Adequate but variable
 Invasive species: few observed
 Scheduled Activity: 2020 continue single tree selection
 Reference: NE 603

Data developed from information collected on 4 prism points.

Species name	BA/AC	% of Total BA
Black cherry	4	4.2%
Red maple	8	8.3%
Sugar maple	38	41.7%
White ash	30	33.3%
Yellow birch	11	12.5%

STAND NOTES

This stand is located in the southwest corner of the property, aspect is northeasterly and the terrain slopes steeply to Alger brook. Some entry has taken place in this stand. It should continue with the single tree selection method, focusing on mature stems as well as improving the ratio of acceptable growing stock, favoring sugar maple and yellow birch as residuals. Access will be from a right of way road leading to the adjacent property.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Target DBH: 18"
 Cutting cycles: 15 years
 Scheduled activity: 2017 continue with single tree selection harvest.

Area : Trees/Acre & BA/Acre

3/16/2017

11:54 AM

PAGE 1

g_FOREST NAME Illsley Cruise

g_FOREST CODE

g_CRUISE DATE 3/13/2017

COMPARTMENT NAME

COMP ID

COMP ACREAGE

Enter a name

1

114

Area : 1

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
6	2.0	38.2	7.5
8	2.0	21.5	7.5
10	3.0	20.6	11.3
12	2.0	9.5	7.5
14	3.0	10.5	11.3
16	5.0	13.4	18.8
18	2.0	4.2	7.5
20	4.0	6.9	15.0
22	1.0	1.4	3.8

AREA ACRES

OF STATIONS

17

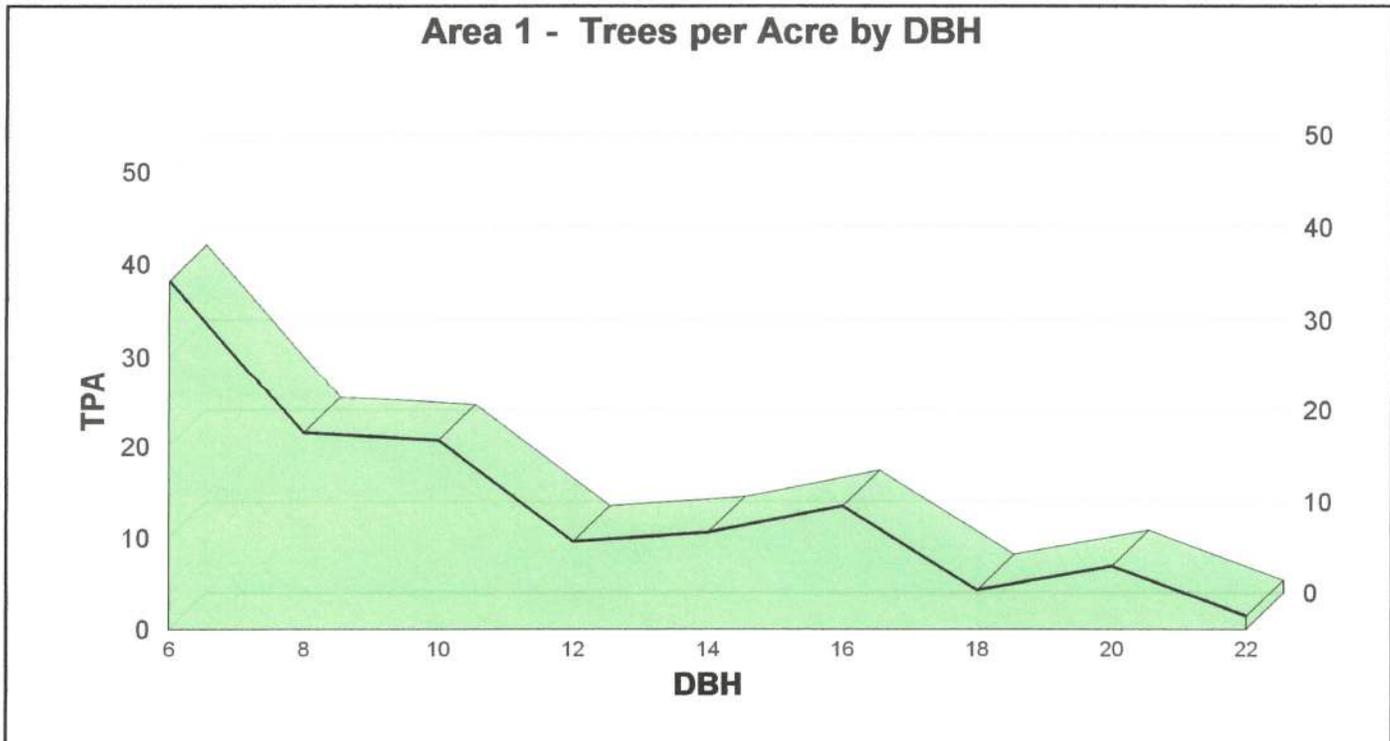
4

TOTALS FOR AREA 1:

126.4

90.0

Area 1 - Trees per Acre by DBH



STAND #2 Illsley

Acres: 2 in Braintree Site Class I from soils
Access distance less than one mile.

STAND DESCRIPTION

Even-aged
Forest Type: Red pine plantation
Size Class: poles, sawtimber
Mean Stand Diameter: 8.7
Total BA/A: 165
Acceptable BA/A: 135
Unacceptable BA/A: 30
Expected Residual BA/A: 100
Stems/acre 387.5
Average site index: 70 for white pine
Insects or disease problems: none observed
Stocking: overstocked
Invasive species: moderate infestation of honeysuckle on the stands periphery
Scheduled Activity: 2017 thinning
Reference: NE 603

Data developed from information collected on 1 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
Red pine	150	90.9%
Black cherry	15	9.1%

STAND NOTES

This stand is a small red pine plantation located on the western side of the property. The stand has not been entered and appears to be stagnating, blown down and broken stems were observed. This stand can be easily accessed through the adjacent agricultural field.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Stand age: 50
Rotation age: 70
Scheduled activity: 2017 thinning

_FOREST NAME Illsley Cruise

COMPARTMENT NAME Enter a name

TREE COUNT TREES PER ACRE BA PER ACRE

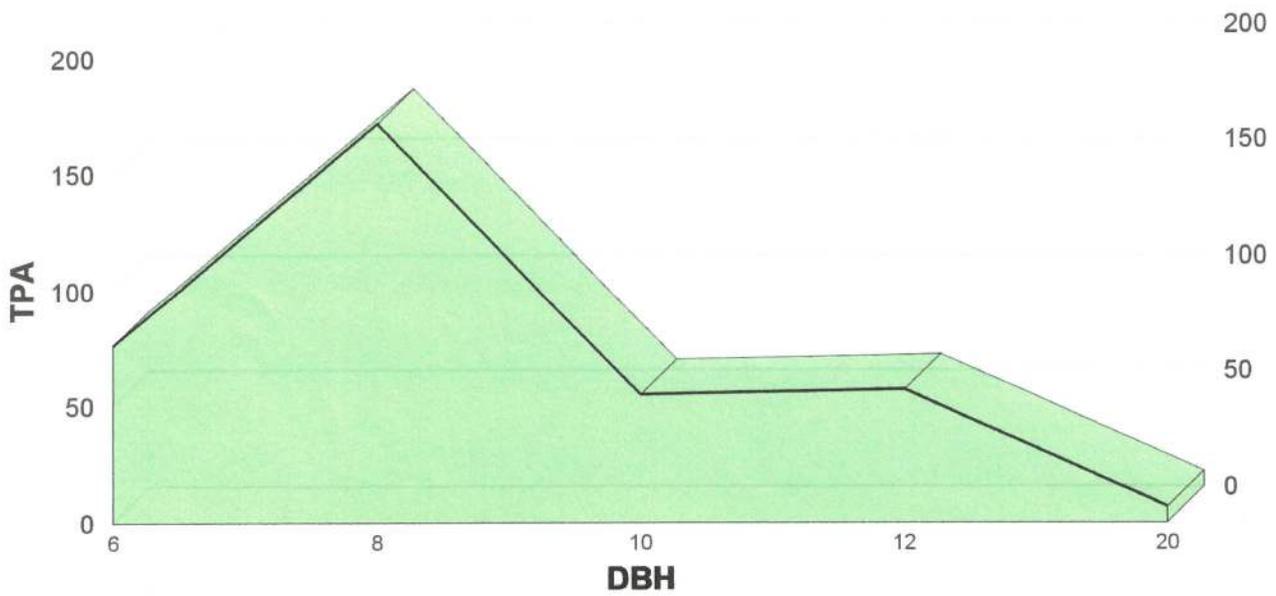
Area : 2

AREA ACRES 2 **# OF STATIONS** 1

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
6	1.0	76.4	15.0
8	4.0	171.9	60.0
10	2.0	55.0	30.0
12	3.0	57.3	45.0
20	1.0	6.9	15.0

TOTALS FOR AREA 2: 367.5 165.0

Area 2 - Trees per Acre by DBH



STAND #3 Ilsley

Acres: 45 in Braintree Site Class I from soils
Access distance less than one mile.

STAND DESCRIPTION

Even-aged
Forest Type: pioneer
Size Class: sapling, and scattered poles
Mean Stand Diameter: n/a
Total BA/A: n/a
Acceptable BA/A: n/a
Unacceptable BA/A: n/a
Expected Residual BA/A: n/a
Stems/acre: 500
Average site index: 60 for sugar maple
Insects or disease problems: white pine weevil and blister rust
Stocking: variable
Invasive species: Honeysuckle and barberry on the stands periphery
Scheduled Activity: none
Reference: NE 603

Data developed from information collected on 0 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
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STAND NOTES

This stand is an area of reverting pasture with saplings moving into the pole class, with some scattered areas of white pine that is somewhat older. Invasive plants are present particularly on the stands periphery next to the adjacent agricultural field. Access to this stand will be from the adjacent agricultural field.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Stand age: 25 to 30 years
Rotation age: 60 years
Scheduled activity: growth

_FOREST NAME Illsley Cruise

COMPARTMENT NAME Enter a name

TREE COUNT TREES PER ACRE BA PER ACRE

Area : 3

AREA ACRES

OF STATIONS

DBH

TREE COUNT

TREES PER ACRE

BA PER ACRE

45

1

0.0

TOTALS FOR AREA 3:

Area 3 - Trees per Acre by DBH

TPA

DBH

STAND #4 Illsley

Acres: 16 in Braintree Site Class I from increment borings
Access distance less than one mile.

STAND DESCRIPTION

Even-Aged
Forest Type: mixed softwood
Size Class: saplings, poles, sawtimber
Mean Stand Diameter: 11.9
Total BA/A: 90
Acceptable BA/A: 60
Unacceptable BA/A: 30
Expected Residual BA/A: n/a
Stems/acre: 102.2
Average site index: 60 for red spruce
Insects or disease problems: none observed
Stocking: variable
Invasive species: none observed
Scheduled Activity: none
Reference: NE 603

Data developed from information collected on 4 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
Beech	4	4.2%
Hemlock	53	58.3%
Red spruce	15	16.7%
Sugar maple	4	4.2%
White ash	4	4.2%
Yellow birch	11	12.5%

STAND NOTES

This stand is located on a steep bank adjacent to Bear Hill Road and is a mixed stand with approximately 75% of the stocking being softwood. No entries have been made into this stand over the past ten years. The stand remains at approximate C line stocking for a mixedwood stand. Therefore, growth is being recommended. Access to this stand will be from existing skid trails leading to Bear Hill Road.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Stand age: 60 years
Rotation age: 80 years
Scheduled activity: growth

_FOREST NAME Illsley Cruise

COMPARTMENT NAME Enter a name

TREE COUNT TREES PER ACRE BA PER ACRE

Area : 4

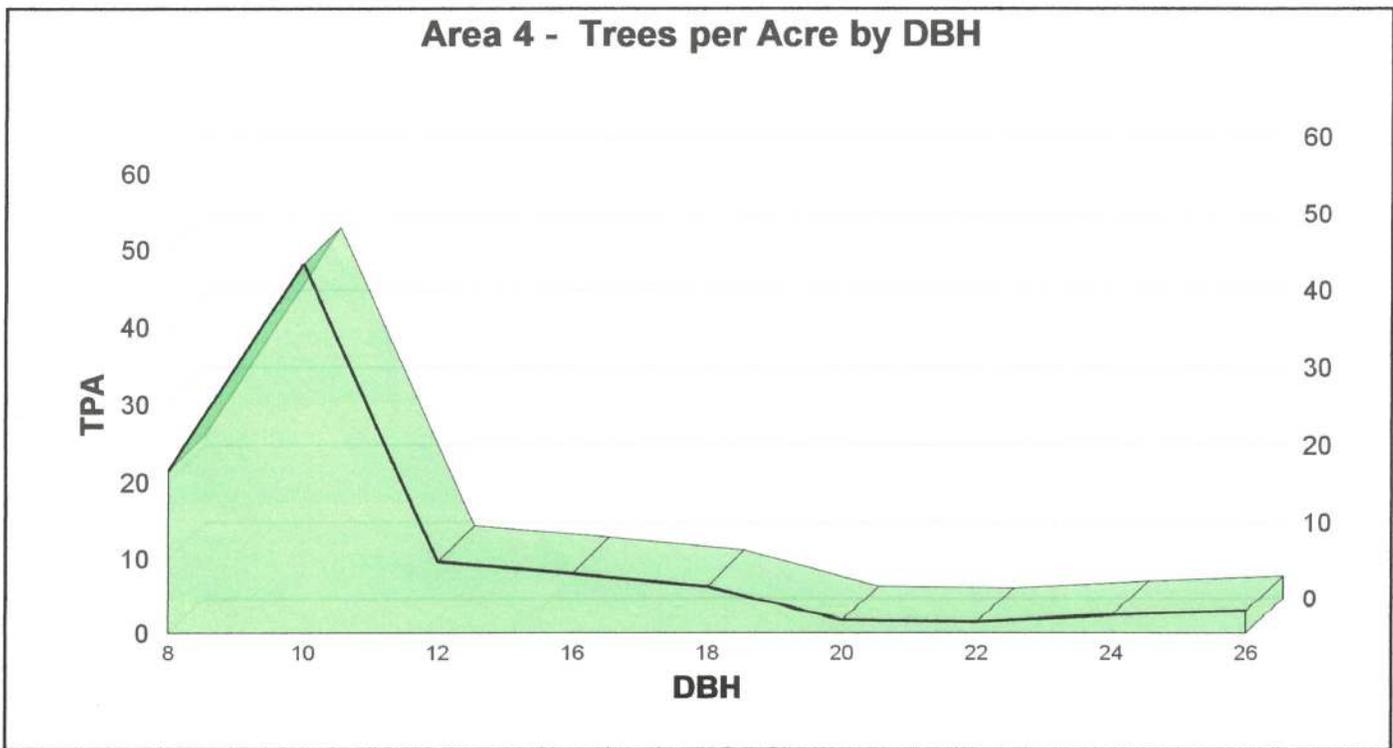
AREA ACRES # OF STATIONS

16 4

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
8	2.0	21.5	7.5
10	7.0	48.1	26.3
12	2.0	9.5	7.5
16	3.0	8.1	11.3
18	3.0	6.4	11.3
20	1.0	1.7	3.8
22	1.0	1.4	3.8
24	2.0	2.4	7.5
26	3.0	3.1	11.3

TOTALS FOR AREA 4: 102.2 90.0

Area 4 - Trees per Acre by DBH



STAND #5 Illsley

Acres: 24 in Braintree, 6 in Randolph Site Class II from soils
Access distance less than one mile.

STAND DESCRIPTION

Uneven-Aged
Forest Type: mixed
Size Class: sapling poles, sawtimber
Mean Stand Diameter: 10.7
Total BA/A: 100
Acceptable BA/A: 80
Unacceptable BA/A: 20
Expected Residual BA/A: 80
Stems/acre: 140.3
Average site index: 55 for sugar maple
Insects or disease problems: none observed
Stocking: variable
Invasive species: none observed
Scheduled Activity: 2020 continue single tree selection
Reference: NE 603

Data developed from information collected on 6 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
Beech	3	2.5%
Basswood	3	2.5%
Other hardwood	3	2.5%
Red maple	10	10.0%
Sugar maple	18	17.5%
White ash	5	5.0%
Yellow birch	13	12.5%
Hemlock	40	40.0%
Red spruce	5	5.0%
White pine	3	2.5%

STAND NOTES

This stand is a mixed wood stand located on the northern end of the property. The stand slopes northwesterly to West Street. The stand has had some entry in the past ten years and this work should continue focusing on improving the ratio of acceptable growing stock. Regeneration is becoming established in this stand with few invasive plants observed. Access to this stand is from existing skid trails leading to West Street.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Target DBH: 16 for hemlock, 18 to 20 for northern hardwoods

Cutting cycles: 15

Scheduled activity: 2020 single tree selection harvest

TREE COUNT TREES PER ACRE BA PER ACRE

Area : 5

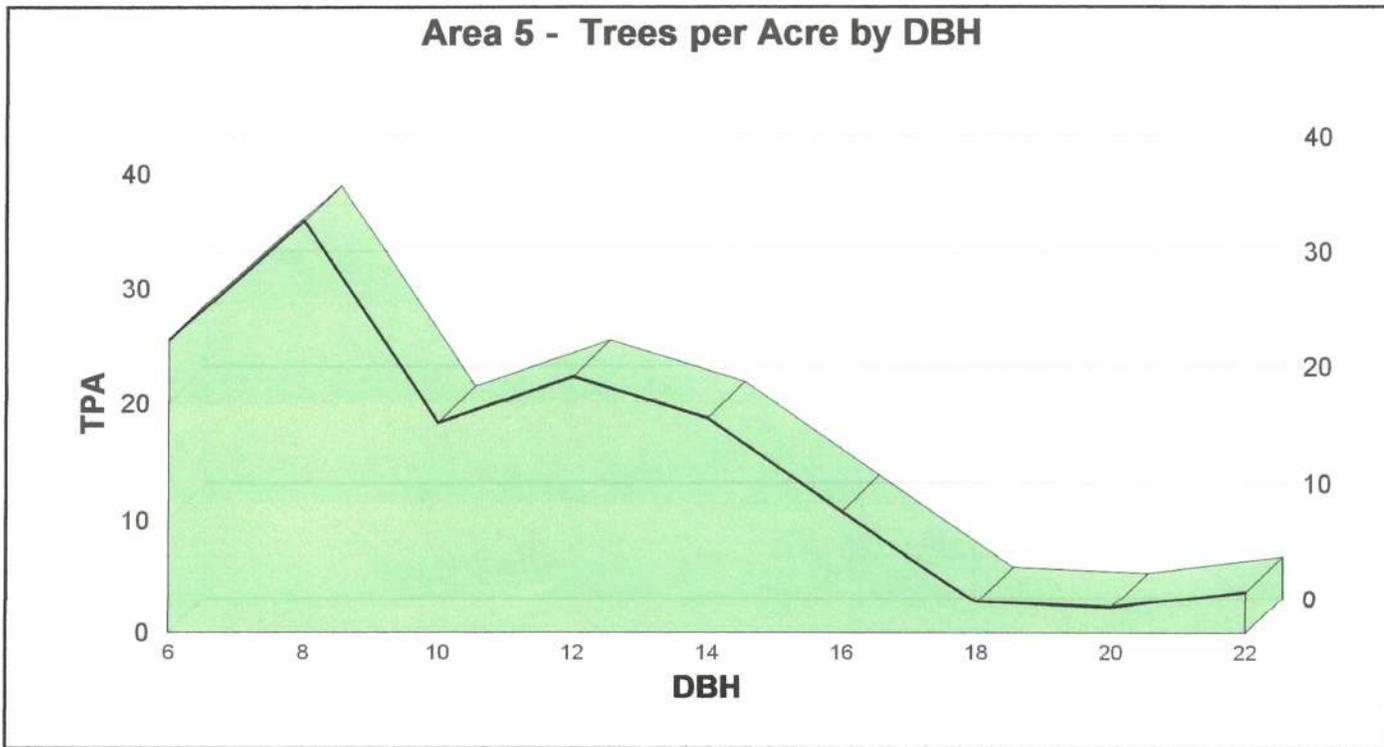
AREA ACRES # OF STATIONS

30 6

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
6	2.0	25.5	5.0
8	5.0	35.8	12.5
10	4.0	18.3	10.0
12	7.0	22.3	17.5
14	8.0	18.7	20.0
16	6.0	10.7	15.0
18	2.0	2.8	5.0
20	2.0	2.3	5.0
22	4.0	3.8	10.0

TOTALS FOR AREA 5: 140.3 100.0

Area 5 - Trees per Acre by DBH



STAND #6

Illsley

Acres: 28 in Randolph, 7 in Braintree
 Access distance less than one mile.

Site Class I from soils

STAND DESCRIPTION

Uneven-Aged

Forest Type: sugar maple

Size Class: saplings, poles, sawtimber

Mean Stand Diameter: 10.2

Total BA/A: 69

Acceptable BA/A: 54

Unacceptable BA/A: 15

Expected Residual BA/A: n/a

Stems/acre: 93

Average site index: 65 for sugar maple

Insects or disease problems: beech scale nectria, fungal pathogen

Stocking: variable

Invasive species: moderate infestations of honeysuckle

Scheduled Activity: firewood cutting

Reference: NE 603

Data developed from information collected on 6 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
Beech	11	15.6%
Black cherry	2	3.1%
Basswood	4	6.3%
Red maple	2	3.1%
Sugar maple	43	62.5%
White ash	4	6.3%
Yellow birch	2	3.1%

STAND NOTES

This stand is a sugarbush and it should be noted that there has been some mortality in this stand likely due to a fungal pathogen. Dead and down maple were observed. The stand has been entered to salvage dead and dying trees and some firewood cutting has occurred. Regeneration is present in the stand mostly beech and sugar maple in the seedling and sapling classes. The stand is moderately infested with invasive honeysuckle which at this time is being exceeded by native regeneration

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Target DBH: 20"

Cutting cycles: 15 years

Scheduled activity: continue firewood cutting

TREE COUNT TREES PER ACRE BA PER ACRE

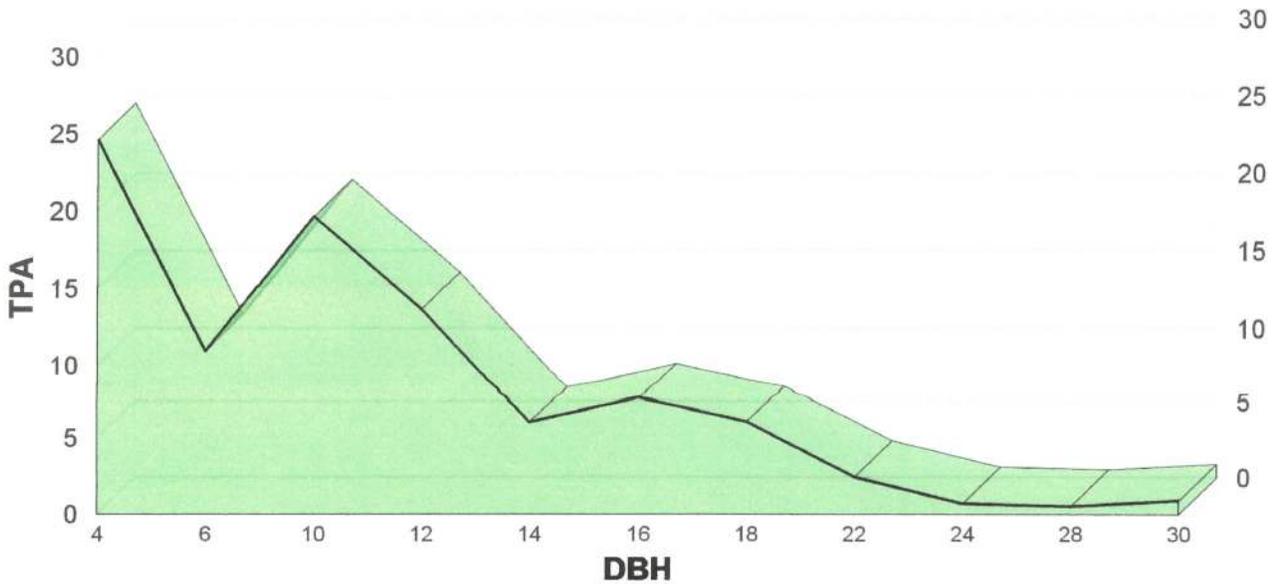
Area : 6

AREA ACRES 28 # OF STATIONS 7

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
4	1.0	24.6	2.1
6	1.0	10.9	2.1
10	5.0	19.6	10.7
12	5.0	13.6	10.7
14	3.0	6.0	6.4
16	5.0	7.7	10.7
18	5.0	6.1	10.7
22	3.0	2.4	6.4
24	1.0	0.7	2.1
28	1.0	0.5	2.1
30	2.0	0.9	4.3

TOTALS FOR AREA 6: 93.0 68.6

Area 6 - Trees per Acre by DBH



STAND# 7

Illsley

Acres: 13 in Braintree Site Class I from soils
 Access distance less than one mile.

STAND DESCRIPTION

Even-Aged
 Forest Type: mixedwood
 Size Class: saplings, poles, sawtimber
 Mean Stand Diameter: 9.2
 Total BA/A: 130
 Acceptable BA/A: 100
 Unacceptable BA/A: 30
 Expected Residual BA/A: 110
 Stems/acre: 244.9
 Average site index: 50 for sugar maple
 Insects or disease problems: none observed
 Stocking: adequately stocked
 Invasive species: honeysuckle and barberry, moderate on the stands periphery
 Scheduled Activity: 2020 thinning
 Reference: NE 603

Data developed from information collected on 3 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
Beech	10	7.7%
Hemlock	55	42.3%
Red maple	35	26.9%
White birch	25	19.2%
White pine	5	3.8%

STAND NOTES

This stand is slightly above B line stocking and is a reasonably good quality mixedwood stand. The Illsley family wishes to remove some hemlock and poor quality pine in this area for their own use, so some thinning will be appropriate in this area. Poor quality hardwoods should be harvested for firewood as well. Regeneration is present in the more open areas of this stand, mostly spruce seedlings. Invasive plants are present on the stands periphery but few were observed in the stands interior. Access will be from existing farm roads leading to the adjacent field.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Stand age: 50
 Rotation age: 80
 Scheduled activity: 2020 thinning

_FOREST NAME Illsley Cruise

COMPARTMENT NAME Enter a name

TREE COUNT TREES PER ACRE BA PER ACRE

Area : 7

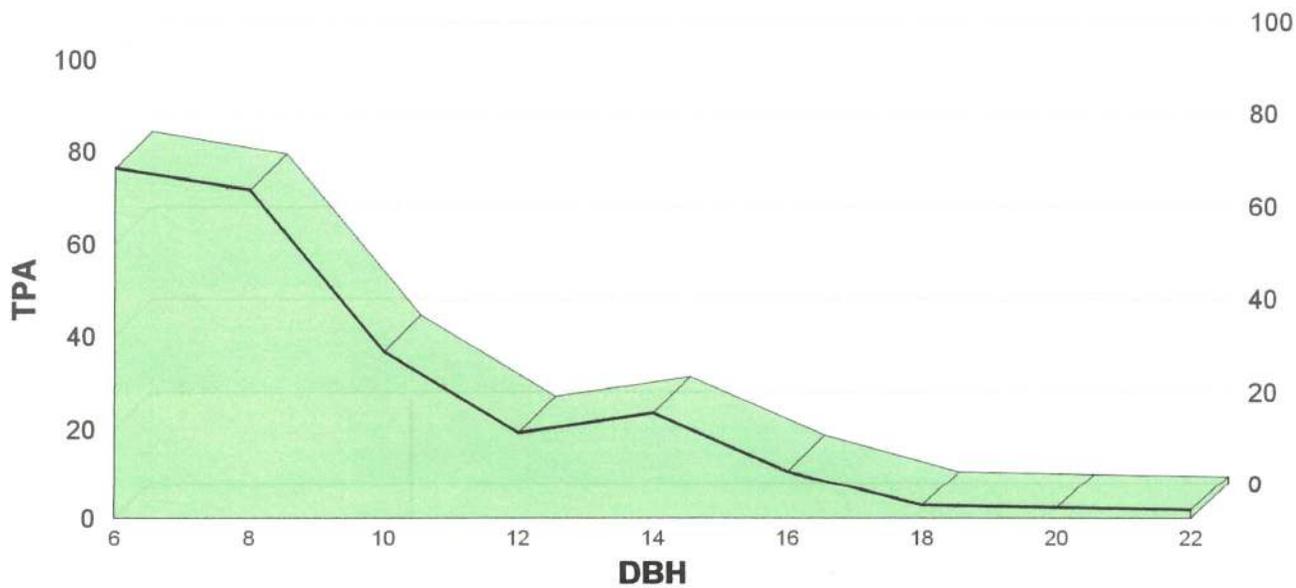
AREA ACRES # OF STATIONS

13 3

DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
6	3.0	76.4	15.0
8	5.0	71.6	25.0
10	4.0	36.7	20.0
12	3.0	19.1	15.0
14	5.0	23.4	25.0
16	3.0	10.7	15.0
18	1.0	2.8	5.0
20	1.0	2.3	5.0
22	1.0	1.9	5.0

TOTALS FOR AREA 7: 244.9 130.0

Area 7 - Trees per Acre by DBH



STAND #8 Illsley

Acres: 8 Site Class I from soils
Access distance less than one mile.

STAND DESCRIPTION

Even-Aged
Forest Type: Norway spruce plantation
Size Class: poles, sawtimber
Mean Stand Diameter: 9.8"
Total BA/A: 240
Acceptable BA/A: 240
Unacceptable BA/A: 0
Expected Residual BA/A: 120
Stems/acre: 438.1
Average site index: 55 for spruce
Insects or disease problems: weevil
Stocking: overstocked
Invasive species: weevil
Scheduled Activity: 2020 thinning
Reference: Spruce-fir guide

Data developed from information collected on 1 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
Norway spruce	240	100%

STAND NOTES

This is an overstocked Norway spruce plantation that needs to be thinned as soon as possible. Regeneration is sparse in this stand due to dense crown closure. Invasive plants were noted on the edge of the adjacent field.

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Stand age: 50 years
Rotation age: 70 years
Scheduled activity: 2020 thinning

_FOREST NAME Illsley Cruise

COMPARTMENT NAME Enter a name

TREE COUNT TREES PER ACRE BA PER ACRE

Area : 8

AREA ACRES 8

OF STATIONS 1

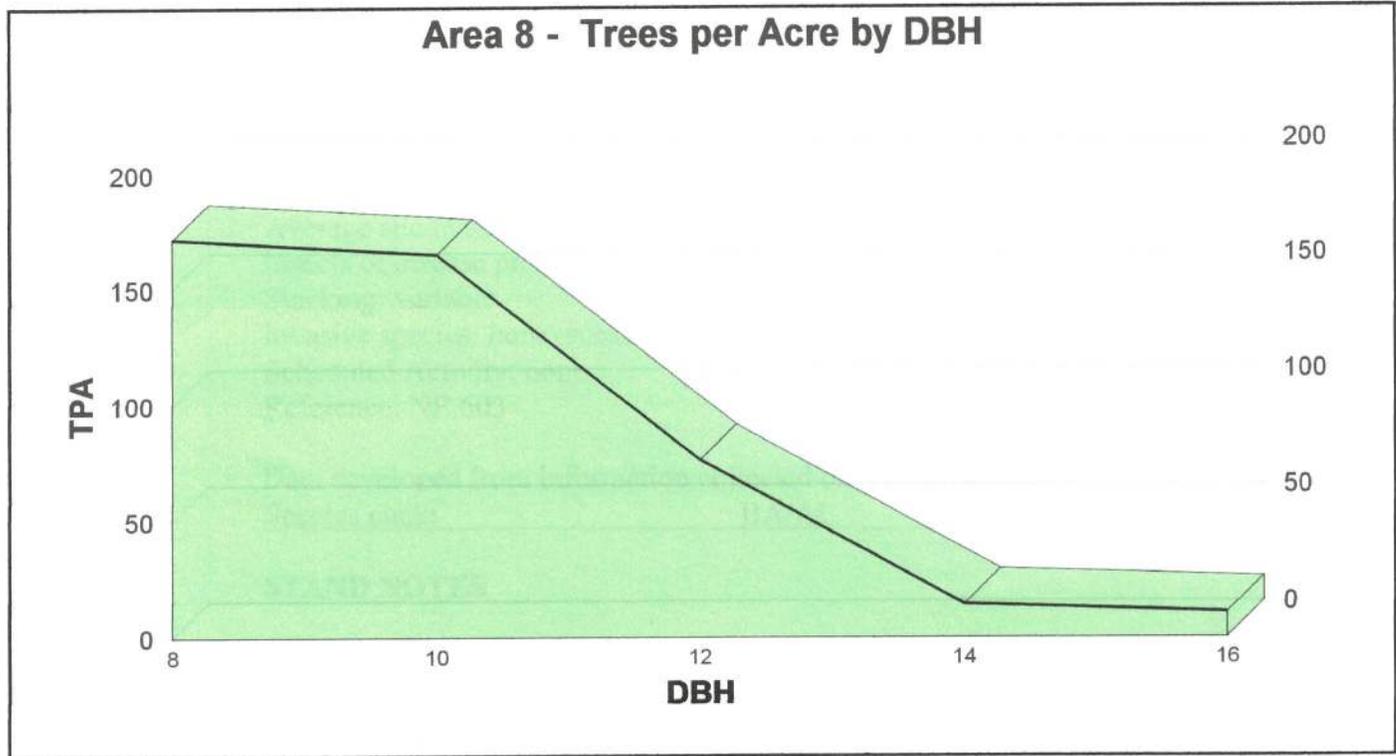
DBH	TREE COUNT	TREES PER ACRE	BA PER ACRE
8	4.0	171.9	60.0
10	6.0	165.0	90.0
12	4.0	76.4	60.0
14	1.0	14.0	15.0
16	1.0	10.7	15.0

TOTALS FOR AREA 8:

438.1

240.0

Area 8 - Trees per Acre by DBH



STAND #9 Illsley

Acres: 17 Site Class I from increment soils
Access distance less than one mile.

STAND DESCRIPTION

Even-Aged
Forest Type: pioneer
Size Class: saplings, poles
Mean Stand Diameter: 4
Total BA/A: n/a
Acceptable BA/A: n/a
Unacceptable BA/A: n/a
Expected Residual BA/A: n/a
Stems/acre: 1000 plus
Average site index: 60 for sugar maple
Insects or disease problems: none observed
Stocking: variable
Invasive species: honeysuckle, barberry
Scheduled Activity: none
Reference: NE 603

Data developed from information collected on 0 prism points.

<u>Species name</u>	<u>BA/AC</u>	<u>% of Total BA</u>
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STAND NOTES

This is a developing stand comprised of saplings and small poles. Species composition is sugar maple and red maple as well as yellow and white birch with some open grown white pine scattered throughout. The stand is located in the northeast corner of the property. The land adjacent to this stand is agricultural and reverting agricultural fields. There is a moderate to heavy infestation of invasive plants on the eastern edge of the area. Access to this stand is from the adjacent field

MANAGEMENT OBJECTIVES and SILVICULTURAL TREATMENTS

Stand age: 20
Rotation age: 20
Scheduled activity: growth

MANAGEMENT SCHEDULE

	Stand Number	Activity
2017	Stand 1	complete single tree selection harvest
2017	Stand 2	thinning
2020	Stand 5	continue single tree selection
2017	Stand 6	continue firewood cutting
2020	Stand 7	thinning
2020	Stand 8	thinning
2027		Update forest management plan.
2017-2027		File Forest Management Activity Report prior to February 1 st of each year that

Footnote: Specific harvest dates are required by statute to be in the management schedule. In reality, the statute also contains a flexible window of plus or minus three years surrounding any given date to accomplish the prescribed treatment.