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FOREST MANAGEMENT PLAN

FOR THE

VIRGINIA STRANAHAN MEMORIAL
TOWN FOREST

MARSHFIELD, VT

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PURPOSE

The purpose of this plan is to provide guidance to the Town of Marshfield for present and future forest management on the Virginia Stranahan Memorial Town Forest. It summarizes the existing conditions of the 24 identified forest stands and prescribes vegetative management for the 500 acres of forest available for long-term sustainable management and the production of forest products.

FOREST INVENTORY

The Stranahan forest parcel was inventoried between January and August 2008. Russ Barrett and Matt Leonard, foresters for the VT Dept. of Forests, Parks and Recreation, and Ed Jalbert, a private forester and Marshfield resident, conducted the inventory. Measurements were taken at 265 randomly located sample plots. Two separate, but compatible, inventory methods were used.

STAND 1

Acres: 4.6

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- White pine/White cedar

Stocking level: ----- Adequate – just above b-line on white pine stocking
guide

Quadratic mean stand diameter: -- 16.1”

Total basal area: -----133 square feet

Acceptable basal area: -----113 square feet

Relative density: -----53 %

Sampling data:

Number of sample points: -----3

Prism factor: -----20 factor for basal area measurement and 80 factor for
tree measurements

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Stand description:

This is a sawlog size white pine/white cedar stand. The stand make up is 55% white pine, 25 % white cedar and 20% balsam fir and hemlock. There appears to have been some harvesting within the last ten years. Spruce/fir regeneration is generally adequate and established.

Management strategy:

The stand is presently even-aged - convert to all-aged management. Diameter objective for white pine - 26", for white cedar 14". Cutting cycle – 15 to 20 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson road heading south towards the Light farm.

Scheduled treatment:

No treatment scheduled for this planning period.

Special considerations:

There are no surface water buffer zones (SWBZ) or vernal protection areas mapped in stand 1.

Timber Volume:

Standing inventory is approximately 33 mbf sawtimber and 9.9 cords of pulpwood. White pine accounts for over 90% of the volume.

STAND 2

Acres: 52.1

Stand data:

Age class distribution: ----- Even-aged
Forest type: ----- Mixedwood
Stocking level: ----- Adequate – just below b-line on mixedwood stocking
guide
Quadratic mean stand diameter: --- 9.3"
Total basal area: ----- 92 square feet
Acceptable basal area: ----- 67 square feet
Relative density: ----- 63%

Sampling Data:

Number of sample points: ----- 26
Prism factor: ----- 20 factor for basal area and 80 factor for tree
measurements
Date sampled: ----- winter of 2008

Stand description:

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This is a mixedwood stand with pole and small sawtimber size trees. The stand make up is 30% balsam fir, 20% red maple, 13% sugar maple, 13% black cherry and associated species. Portions of this stand received some cutting within the last 10 to 15 years. Most of the area is wet with scattered patches of alder growing. Regeneration is adequate and established; spruce, fir, sugar maple and white ash being most common.

Management strategy:

The stand is presently even-aged but will be converted to all-aged. Cutting cycle will be 20 years between entries. Diameter objective for balsam fir is 14", red spruce is 18", red maple is 20". The mapped natural community for this stand is _____. Cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson road heading south and the Jake Martin road heading south.

Scheduled treatment:

No treatment scheduled for this planning period.

Special considerations:

11.2 acres of stand 2 are mapped as SWBZ. Manage as per easement recommendations.

Timber Volume:

Standing inventory is 127 mbf sawtimber and 514 cords of pulpwood. Balsam fir accounts for approximately 35% of the volume with the remainder being fairly evenly split between cherry, sugar maple, hemlock, white ash, spruce and yellow birch.

STAND 3

Acres: 11.7

Stand data:

Age class distribution: ----- even-aged
Forest type: ----- Spruce/fir
Stocking level: ----- Adequate, but variable. Just above b-line on spruce/fir
stocking guide.
Quadratic mean stand diameter: -- 8.9"
Total basal area: ----- 136 square feet
Acceptable basal area: ----- 111 Square feet
Relative density: ----- 81%

Sampling data:

Number of sample points: ----- 5
Prism factor: ----- prism for basal area measurement and 80 factor for
tree measurements

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Stand description:

This is a spruce/fir stand that is generally small sawtimber size. The stand make-up is 40% balsam fir, 15% spruce, 15% black cherry and 20% associated species. Stocking level and regeneration levels are somewhat variable. Soils range from wet to dry. Harvest should be in winter of a good seed year.

Management strategy:

The stand is presently two-aged – convert to all aged management. Diameter objective for balsam fir is 14 inches and 18 inches for spruce. Cutting cycle should be 15 to 20 years. The mapped natural community is _____. Cutting treatments should encourage and/or enhance the restoration of this community. Management access will be via the Thompson road, south towards the Light farm.

Scheduled treatment:

Conduct a harvest within 5 years. Use individual tree and group selection to salvage declining balsam fir and release pockets of established regeneration.

Special considerations:

3.4 acres of area 3 are mapped as SWBZ and should be managed s per easement recommendations.

Timber volume:

Standing inventory is approximately 20 mbf and 41 cords. Most of sawlog volume is spruce and majority of pulp volume is balsam fir.

Stand 4

Acres - 1.9

Stand data:

Age class distribution: ----- Even aged
Forest type: ----- White pine
Socking level: ----- Adequately stocked – between a and b-line on white
pine stocking guide and above a-line on mixedwood
guide
Quadratic mean stand diameter: --- 11.6”
Total basal area: ----- 200 square feet
Acceptable basal area: ----- 160 square feet
Relative density: ----- 115%

Sampling data:

Number of sample points: ----- 3
Prism factor: ----- 20 factor for basal area measurement and 80 factor
for tree measurements

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Stand description:

A small, but nice stand of white pine sawlogs and associated species. The stand consists of 40% white pine, 20% red maple and 10% each of fir, spruce, white birch and cherry. There appears to have been some light cutting within the last 15 years and scattered regeneration.

Management strategy:

Manage as an even aged stand for the next 30 to 40 years. The stand is 60 to 70 years old now – grow to 100 years thinning every 15 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson Road heading south towards the Light farm.

Scheduled treatment:

Conduct intermediate thinning within the next 5 years. Thin to b-line on the managed white pine stocking guide.

Special considerations:

There are no SWBZ or vernal pool protection areas mapped within this stand.

Timber Volume:

Standing inventory is approximately 35 mbf sawtimber and 10 cords of pulpwood.
Standing inventory is approximately 35-mbf sawtimber and 10 cords of pulp. All timber recorded white pine and pulp is primarily red maple and black cherry.

STAND 5

Acres: 19.4

Stand data:

Age class distribution: ----- Even-aged (2-aged)

Forest Type: ----- Northern hardwood – sugar maple

Stocking level: ----- Adequate - between a and b-line on hardwood stocking guide

Quadratic mean stand diameter: -- 11.3”

Total basal area: ----- 106 square feet

Acceptable basal area: ----- 81 square feet

Relative density: ----- 86%

Sampling data:

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Number of sample points: ----- 18

Prism factor: ----- 20 factor for basal area and 80 factor for tree measurements

Stand description:

This is a medium sawtimber size stand of northern hardwoods dominated by sugar maple. The stand make up is 55% sugar maple, 14% red maple, 13 % yellow birch, 9% white ash and 9% associated species. There is a noted absence of sugar maple regeneration within the stand. This stand was tapped for sugaring 25 or more years ago and preliminary plans call for leasing this stand to a local sugar maker in the near future.

Management strategy:

This stand will be managed as a sugarbush using all-aged management. Diameter objective for sugar maple will be 26". Cutting cycle will be between 20 and 25 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. The sugarbush will be managed to meet Northeastern Organic Farmers Association of Vermont (NOFA-VT) guidelines. Management access will be via an open field at the northern terminus of Jake Martin Rd.

Scheduled treatment:

Conduct a timber sale within the next 5 years. Use individual tree and small group selection to convert the stand to un-even aged management. Leave sufficient non-maple species to help buffer the stand from climatic extremes and/or biotic agents.

Special considerations:

There are no SWBZ or vernal pool protection areas mapped in this stand

Timber Volume:

The standing inventory is approximately 77-mbf sawtimber and 173 cords of pulp. Sugar maple and white ash make up a majority of this volume.

STAND 6

Acres:15.7

Stand data:

Age class distribution: ----- Even aged

Forest Type: ----- Hemlock/hardwood

Stocking level: ----- Slightly understocked - c-line on mixedwood stocking guide

Quadratic mean stand diameter: -- 15.7

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Total basal area: ----- 91
Acceptable basal area: ----- 76
Relative density: ----- 56%

Sampling data:

Number of sample points: ----- 7
Prism factor: ----- 20 factor for basal area and 80 factor for tree measurements

Stand description:

This is a mixed wood stand dominated by hemlock and red maple. The stand is made up of 32% hemlock, 22% red maple, and 13% sugar maple with the balance being associated species including a fair representation of black ash. The stand is wet and borders on a mapped wetland. There is little sign of past harvesting in this area any harvesting would be limited to frozen winter conditions. Regeneration is scattered and inadequate.

Management strategy:

The stand is presently even aged - convert to even-aged management. Diameter objective for hemlock is 20", for red spruce is 18", for hardwood species is 18". Cutting cycle – 20 to 25 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance restoration of this community. Management access will be via either the Thompson road heading south or towards the field at the end of Jake Martin road.

Scheduled treatment:

No treatment scheduled for this planning period.

Special considerations:

3.8 acres of stand 6 are mapped SWBZ. Manage as per easement recommendations.

Timber Volume:

Standing inventory is 28 mbf of sawtimber and 83 cords of pulp. A majority of this volume is hemlock.

STAND 7

Acres: 40.2

Stand data:

Age class distribution: ----- Uneven-aged
Forest Type: ----- Hemlock/hardwood - mixedwood

Stocking level: ----- Adequate – between a and b-line on mixedwood stocking guide

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Quadratic mean stand diameter: -- 9.2”
Total basal area: ----- 133 square feet
Acceptable basal area: ----- 103 square feet
Relative density: ----- 83%

Sampling data:

Number of sample points: ----- 30
Prism factor: ----- 20 factor for basal area measurement and 80 factor for tree measurements

Stand description:

This is a nice, un-even aged hemlock/hardwood stand with a classic range of diameter distribution. The stand make up is 44% hemlock, 13% white ash, 10% sugar maple, 10% balsam fir, and associated species. Regeneration is variable, but generally inadequate with medium to heavy deer browsing noted. There are rich site indicators on the east sloping banks and some hay scented fern present.

Management strategy:

Continue un-even aged management. Diameter objective for hemlock – 20”, for white ash – 22”, for sugar maple – 22” and balsam fir – 14”. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. There is a fairly good road system present in this stand and access for management will be via the Jake Martin road.

Scheduled treatment:

Conduct a timber sale within the next 5 years. Use single-tree and group selection to maintain this stands un-even aged structure. Develop and apply marking guides to meet goals for residual basal-area structure, tree condition, and regeneration.

Special considerations:

There are 12.8 acres of mapped vernal pool protection area and 1.5 acres of SWBZ. Manage as per easement recommendations. Area 7 is not mapped as deer wintering cover, although a portion of it probably serves that function.

Timber Volume:

Standing inventory is approximately 272-mbf sawtimber and 535 cords of pulpwood. Approximately 80% of the volume is hemlock with mixed hardwoods accounting for most of the remainder.

STAND 8

Acres: 17

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Stand data:

Age class distribution: ----- Even-aged
Forest Type: ----- Yellow birch/softwood
Stocking level: ----- Adequate

Quadratic mean stand diameter: -- 11.2”
Total basal area: ----- 124 square feet
Acceptable basal area: ----- 95 square feet
Relative density: ----- 83%

Sampling data:

Number of sample points: ----- 10
Prism factor: ----- 20 factor for basal area measurements and 80 factor for tree measurements

Stand description:

This is a yellow birch/softwood stand consisting of pole size yellow birch and sawlog size softwood. The stand make up is 38% yellow birch, 15% balsam fir, 11% hemlock, 11% red maple, 10% spruce and various associated species. The quality of the yellow birch poles is excellent. There is no sign of recent harvesting and the stand appears to have grown in from abandoned pasture. The area is relatively flat and will require a stream crossing for management access.

Management strategy:

This stand is presently even-aged – manage using even-age system for the next 30 to 60 years, then convert to all-aged system. Rotation age should be between 100 and 120 years, with intermediate thinning every 20 to 25 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson road heading north or possibly through neighboring lands.

Scheduled treatment:

Plan for the first intermediate thinning between 2015 and 2020. Thin to 110 square feet of basal area removing UGS and declining balsam fir. Timber stand improvement should be incorporated into the sale contract to release the more promising yellow birch poles.

Special considerations:

There is approximately ½ acre of mapped SWBZ and approximately 8 acres of mapped deer wintering area in stand 8.

Timber Volume:

Standing inventory is approximately 49 mbf sawtimber and 248 cords of pulpwood. Hemlock and spruce account for about 70% sawlog volume and yellow birch accounts for about 65% of the pulpwood volume.

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STAND 9

Acres: 60.7

Stand data:

Age class distribution: ----- Even-aged (2 aged)
Forest Type: ----- White pine/northern hardwood
Stocking level: ----- Adequate – $\frac{3}{4}$ between b and a-line on mixedwood stocking
guide
Quadratic mean stand diameter: -- 10.5
Total basal area: ----- 151 square feet
Acceptable basal area: ----- 119 square feet
Relative density: ----- 80%

Sampling data:

Number of sample points: ----- 37
Prism factor: ----- 20 factor for basal measurements and 80 factor for tree
measurements

Stand description:

White pine sawtimber over and/or mixed with northern hardwood poles and small sawtimber. The stand make up is 52% white pine, 11% sugar maple, 11% red maple, 8% balsam fir and various associated species. There is a component of very large, high quality pine that is reaching merchantable maturity.

Management strategy:

The stand is presently even-aged (2-aged) – convert to uneven-aged management. Diameter objectives will be 26” for white pine and 22” for northern hardwood. Cutting cycle – 20 years. The mapped natural community for this stand is _____; cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson Road, heading north towards the Pitkin farms.

Scheduled treatment:

Conduct a timber sale within the next 5 years. For the white pine component, thin to remove UGS, diseased and mature trees. Target UGS in the hardwood component. Residual basal area should be about 110 square feet, with a more balanced diameter distribution. Some pines may be designated as future “legacy” trees and left to grow through their natural life span.

Special considerations:

Stand 9 has 6 acres of mapped SWBZ and 28 acres of mapped vernal pool protection area. Manage as per easement recommendations.

Timber Volume:

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Standing inventory is approximately 983 mbf sawtimber and 598 cords of pulpwood. White pine accounts for 90% of the sawtimber volume, but less than 20% of the pulpwood volume.

STAND 10

Acres: 49.6

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Spruce/fir with hardwood

Stocking level: ----- C-line on spruce/fir guide and adequate on mixedwood
stocking guide

Quadratic mean stand diameter: -- 9.8

Total basal area: ----- 126

Acceptable basal area: ----- 103

Relative density: ----- 59%

Sampling data:

Number of sample points: ----- 22

Prism factor: ----- 20 factor for basal area measurements and 80 factor for tree
measurements

Stand description:

Stand 10 is actually a combination of what some might call spruce/fir sub –stands. Conditions are variable within these sub-stands, but all are spruce/fir dominated. Stand make up is 38% balsam fir, 22% spruce (red and white), 10% white pine, 11% red maple and 11% white birch. The sub-stands include some blowdown and varied stocking and diameter levels.

Management strategy:

Stand 10 is presently even-aged. – Convert to uneven-aged by making a series of partial harvests or timber stand improvement operations at intervals not exceeding 5 to 10 years. These cutting should remove small groups of several trees scattered throughout the stand to stimulate regeneration where needed. The mapped natural community for this stand is _____; cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson Road, heading north and possibly through neighboring properties.

Scheduled treatment:

Start series of small group selection cutting within the next 5 years. Target declining balsam fir and release areas where regeneration is established.

Special considerations:

Stand 10 has 8 acres of mapped SWBZ, 19.2 acres of mapped vernal pool protection area and 15 acres of mapped deer wintering area. Manage as per easement recommendations.

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Timber Volume:

Standing inventory is approximately 468-mbf sawtimber and 358 cords of pulpwood. Balsam fir and white pine account for 70% of the sawtimber volume while pulpwood is evenly divided among the species present.

STAND 11

Acres:3

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Sugar maple

Stocking level: ----- Adequate – halfway between b and a-lines on hardwood
stocking guide

Quadratic mean stand diameter: -- 12.4

Total basal area: ----- 93

Acceptable basal area: ----- 59

Relative density: -----73

Sampling data:

Number of sample points: ----- 3

Prism factor: ----- 20 factor for basal area measurements and 80 factor for tree
measurements

Stand description:

Stand 11 is a small area of northern hardwoods dominated by sugar maple. Stand make-up is 78% sugar maple, 7% black cherry, and 7% balsam fir. A nice stand of maple, but it is probably too small, and too far from the primary sugaring areas to be considered for tapping.

Management strategy:

The stand is presently even-aged – convert to uneven-aged management. Diameter objective for sugar maple will be 22". Cutting cycle will be 20 to 25 years. The mapped natural community for this stand is _____; cutting treatments should encourage and/or enhance the restoration of this community. Management access will be via the Thompson road heading north.

Scheduled treatment:

No treatment scheduled for this planning period. Re-examine in 10 years.

Special considerations:

Stand 11 has 0.4 acres of mapped SWBZ and 0.1 acres of vernal pool protection area. Manage as per easement recommendations.

Timber Volume:

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Standing inventory is approximately 11 mbf and 12 cords of pulpwood. Sawtimber volume is mostly sugar maple and cordwood is mixed.

STAND 12

Acres: 3.7

Stand data:

Age class distribution: ----- Even-aged
Forest Type: ----- White pine/white cedar
Stocking level: ----- Overstocked

Quadratic mean stand diameter: -- 12.1
Total basal area: ----- 208
Acceptable basal area: ----- 160
Relative density: ----- 94%

Sampling data:

Number of sample points: ----- 5
Prism factor: ----- 20 factor for basal area measurement and 80 factor for tree measurements

Stand description:

A small, sawlog size stand of White pine/white cedar. The stand is very dense with little to no regeneration. Stand make-up is 45% white cedar/ 31% white pine, 8% tamarack, 8% red maple and associated species.

Management strategy:

The stand is presently even-aged – convert to all-aged management. Diameter objective for white pine is 26” and 14” for white cedar. Cutting cycle is 5 to 10 years. The mapped natural community for this stand is _____; cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson road, heading north.

Scheduled treatment:

Conduct a timber harvest within the next 5 years. To convert this stand to uneven-aged management, make a series of partial harvests at intervals not exceeding 5 to 10 years. These cuttings should remove small groups of several trees scattered throughout the stand to stimulate regeneration.

Special considerations:

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There are no SWBZ or vernal pool protection areas mapped in this stand. It is not mapped as a deer wintering, but may serve this function

Timber Volume:

Standing inventory is 57-mbf sawtimber and 36 cords pulpwood. **90%** of this volume is white pine and white cedar.

STAND 13

Acres:8

Stand data:

Age class distribution: ----- Even-aged
Forest Type: ----- Old field white pine
Stocking level: ----- Understocked

Quadratic mean stand diameter: -- 26.4 (misleading! - there was only 1 tree measurement)

Total basal area: ----- 50 square feet

Acceptable basal area: ----- 40 square feet

Relative density: ----- 16%

Sampling data:

Number of sample points: ----- 4

Prism factor: ----- 20 factor for basal measurement and 80 factor for tree measurements

Stand description:

This is a stand of white pine that has become established on recently abandoned agricultural land. The area appears relatively open in the 1974 aerial photos. The pine here is of relatively low quality and overtopping a well-established stand of sapling size northern hardwoods. The stand make-up is 90% white pine and 10% associated species.

Management strategy:

Manage as an even-aged pine/hardwood for the next 40 years, and then start the conversion to uneven-aged management. Diameter objective for white pine is 24", for hardwoods is 22". The mapped natural community for this stand is _____; cutting treatments should encourage and/or enhance the restoration of this natural community. Management access will be via the Thompson road, heading north.

Scheduled treatment:

Within the next 5 years conduct an improvement harvest and/or timber stand improvement to remove the worst of the large, low quality pine and help release the hardwood understory.

Special considerations:

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Stand 13 has no mapped SWBZ and 3.1 acres of mapped vernal pool protection area. Manage as per easement recommendations

Timber Volume:

The inventory indicates a standing inventory of 36 mbf sawtimber and 0 cords of pulpwood. 90% of this volume is white pine. This volume data is based on measurement of one tree and is not reliable.

STAND 14

Acres: 3.7

Stand data:

Age class distribution: ----- Even-aged (two ages)

Forest Type: ----- mixed softwood

Stocking level: ----- Regenerating – overstory is understocked

Quadratic mean stand diameter: -- 11.4

Total basal area: ----- 53 square feet

Acceptable basal area: ----- 33 square feet

Relative density: ----- 23%

Sampling data:

Number of sample points: ----- 3

Prism factor: ----- 20 factor for basal area measurements and 80 factor for tree measurements

Stand description:

Stand 14 is a stand of mixed softwoods that has successfully regenerated following a heavy cut or possibly salvage cut 15 to 20 years ago. Remaining overstory make up is 37% balsam fir, 25% spruce, 25% red maple and 13% yellow birch. Regeneration is a mixture of hemlock, white pine, balsam fir, spruce and associated hardwood species. The overstory does not appear to be hampering growth of the understory. A stream bisects this stand.

Management strategy:

The stand is presently two-aged. Manage as even-aged for the next 40 years or so. The mapped natural community is _____, cutting treatments should encourage/or enhance the restoration of this community. Management access will be via the Thompson road heading north toward the Pitkin farm.

Scheduled treatment:

No treatment scheduled for this planning period.

Special considerations:

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Stand 14 has 1.1 acres of mapped SWBZ and no area of mapped vernal pool protection area. The stand is not as deer wintering cover, but it may function as one in the future.

Timber Volume:

Standing inventory is approximately 25 cords of pulpwood. Spruce and Fir account for 100% of this volume.

STAND 15

Acres: 18.6

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Hemlock/mixed softwood

Stocking level: ----- Adequate on the spruce/fir stocking guide

Quadratic mean stand diameter: -- 11.2

Total basal area: ----- 140 square feet

Acceptable basal area: ----- 102 square feet

Relative density: ----- 68%

Sampling data:

Number of sample points: ----- 10

Prism factor: ----- 20 factor for basal area measurement and 80 factor for tree measurements

Stand description:

This is a small sawlog size stand of hemlock with mixedwood associates. The stand make up is 49% hemlock, 14% balsam fir, 13% spruce, 9% sugar maple and minor amounts of hardwood associates. Adequate mixedwood regeneration was noted in 50% of the sample plots.

Management strategy:

This stand is presently even-aged – convert to all-aged management. Diameter objective for hemlock – 20”, for spruce – 18”, for balsam fir – 14” and for northern hardwoods – 22”. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance this community. Management access for this stand will be via the Thompson heading north or possibly through the Dix property to the west.

Scheduled treatment:

Conduct an all-aged harvest within the next 10 years. Target mature trees and unacceptable growing stock for removal, while striving to balance diameter class distribution.

Special considerations:

Stand 15 has 3.0 acres mapped as SWBZ and 9.1 acres mapped as deer wintering cover. Manage as per easement recommendations.

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Timber Volume:

Standing inventory is approximately 203 mbf sawtimber and 195 cords of pulpwood. 63% of the volume is hemlock with spruce/fir making up 90% of the balance.

STAND 16

Acres:4.6

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Northern hardwood

Stocking level: ----- Slightly understocked – c-line on hardwood stocking guide

Quadratic mean stand diameter: -- 8

Total basal area: ----- 50 square feet

Acceptable basal area: ----- 50 square feet

Relative density: ----- 40%

Sampling data:

Number of sample points: ----- 2

Prism factor: ----- 20 factor for basal area measurement and 80 factor for tree measurements.

Stand description:

This is a mixedwood stand reverting to northern hardwood. Plot measurements indicate stand make-up is 40% sugar maple, 40% white ash and 20% white birch. There are mature softwood trees scattered throughout the stand. There is a small wind damaged area within the stand.

Management strategy:

The stand is presently even-aged – convert to all-aged over time. Diameter objective will be 22” for sugar maple, yellow birch and white ash. Cutting cycle - 20 to 25 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson road, heading south or through neighboring land owned by Babic.

Scheduled treatment:

No treatment scheduled for this planning period, although salvage of mature softwood trees could be done if working in an adjacent stand.

Special considerations:

The entire stand is mapped as deer wintering cover.

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Timber Volume:

Standing volume is approximately 4 mbf sawtimber and 20 cords of pulpwood.

STAND 17

Acres:37.1

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Mixed softwoods with minor hardwood component

Stocking level: ----- Adequate – above b-line on mixedwood stocking guide

Quadratic mean stand diameter: -- 10.6”

Total basal area: ----- 129 square feet

Acceptable basal area: ----- 100 square feet

Relative density: ----- 67%

Sampling data:

Number of sample points: ----- 17

Prism factor: ----- 20 factor for basal area measurement and 80 factor for tree measurements.

Stand description:

This is a small sawlog size stand of mixed softwood with hardwood associates. The stand make-up is 38% hemlock, 13% balsam fir, and 11% spruce with associated hardwood species including sugar maple, white ash and yellow birch. The stand includes a small area of pure pine and a small area of recent blow down. Statistically it is very similar to stand 15 although the management access will be different. There are areas of good softwood regeneration. Soils range from wet to dry.

Management strategy:

The stand is presently even-aged – convert to all-aged management. Diameter objective is 20” for hemlock, 18” for spruce and 20” for northern hardwoods. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Thompson road, heading south.

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Scheduled treatment:

Conduct a commercial improvement cut within the next 5 years. Remove low quality overstory stems leaving a residual basal area of about 100 square feet. Salvage small areas with noticeable decline in white spruce and balsam fir.

Special considerations:

The entire stand is mapped as deer wintering cover. 1.6 acres is mapped as SWBZ and 1.1 acres is mapped as vernal pool protection area. Manage as per easement recommendations.

Timber Volume:

Standing volume is approximately 329-mbf sawtimber and 320 cords of pulpwood. 50% of the volume is hemlock and 25% is spruce/fir.

STAND 18

Acres: 5.3

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- White pine plantation

Stocking level: ----- Adequate – between b and a-line on white pine stocking guide

Quadratic mean stand diameter: -- 12.7"

Total basal area: ----- 180 square feet

Acceptable basal area: ----- 160 square feet

Relative density: ----- 71%

Sampling data:

Number of sample points: ----- 3

Prism factor: ----- 20 factor for basal area measurement and 80 factor for tree measurements.

Stand description:

This is a small sawlog size stand of white pine that was planted approximately 40 years ago. The stand make-up is 93% white pine and 3% red spruce.

Management strategy:

Manage as an even-aged stand for approximately 60 more years and then convert to all-aged management for future stand. Present stand age is 40 – plan a rotation age of 100. There could be 3 to 5 intermediate thinnings of this stand over the next 60 years. Management access will be via the Thompson road, heading north or possibly through neighboring property owned by D. wells.

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Scheduled treatment:

Conduct the first intermediate thinning within the next 5 years. Thin to b-line on managed white pine stocking guide. Harvest should coincide with work scheduled in stand 10.

Special considerations:

The entire stand is mapped as deer wintering cover. There are no mapped SWBZ or vernal pool protection areas.

Timber Volume:

Standing volume is approximately 57-mbf sawtimber and 47 cords pulpwood. 90+ % of the volume is white pine.

STAND 19

Acres: 20.9

Stand data:

Age class distribution: ----- Even-aged
Forest Type: ----- White pine
Stocking level: ----- Adequate
Quadratic mean stand diameter: -- 8.6
Total basal area: ----- 125 square feet
Acceptable basal area: ----- 40 square feet
Relative density: ----- 63%

Sampling data:

Number of sample points: ----- 8
Prism factor: ----- 10 factor for basal area and tree measurements

Stand description:

This is an even-aged white pine stand located on an old pasture site. The stand make-up is 72% white pine, 8% white ash, 8% white spruce, 6% balsam fir with minor amounts of red spruce and red maple. Basal area is somewhat variable, ranging from 100 square feet to 200 square feet. Advanced regeneration was noted in a majority of the sample points. Heavy deer browse was also noted.

Management strategy:

Manage as an even aged stand for the next 40 years and then convert to all aged management. The stand is approximately 60 years old, plan on a rotation age of 100 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the

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Thompson road, heading south or via the adjacent property to the west. There is an old road that may have accessed the original sugarhouse entering from the neighboring property to the west.

Scheduled treatment:

Conduct an intermediate thinning within the next 5 years. Thin to b-line on white pine stocking guide.

Special considerations:

Stand 19 has 0.5 acres of mapped SWBZ, 13.31 acres of mapped vernal pool protection area and 16.7 acres of mapped deer wintering cover. Manage as per easement recommendations.

Timber Volume:

Standing inventory is approximately 173-mbf sawtimber and 340 cords of pulpwood. White pine accounts for over 90 % of the volume.

STAND 20

Acres: 7.1

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Mixedwood – hemlock/hardwood

Stocking level: ----- Adequate – between a and b-lines on mixedwood stocking
guide

Quadratic mean stand diameter: -- 12.0”

Total basal area: ----- 133 square feet

Acceptable basal area: ----- 97 square feet

Relative density: ----- 63%

Sampling data:

Number of sample points: ----- 3

Prism factor: ----- 10 factor for basal area and tree measurements

Stand description:

Stand 20 is a small sawlog size stand of mixedwood. Stand make-up is 55% hemlock, 17% sugar maple, 12% white pine, 5% white birch and 5% balsam fir. There are some very large sugar maple trees within the stand that were probably tapped in the past. 6 deer beds were noted during January inventory. Sugar maple saplings were noted in 1/3 of the sample plots.

Management strategy:

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Stand 20 is presently even-aged – convert to all-age management. Diameter objectives will be 20” for hemlock and 22” for hardwoods. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access will be via the Thompson road, heading south or via the adjacent property to the west.

Scheduled treatment:

No treatment is scheduled for this planning period.

Special considerations:

Stand 20 has 0.6 acres of mapped SWBZ, 4.8 acres of mapped vernal pool protection area and 3.6 acres of mapped deer wintering cover. Manage as per easement recommendations.

Timber Volume:

Standing inventory is approximately 67-mbf sawtimber and 133 cords of pulpwood. Hemlock accounts for 57% of the volume and white pine accounts for 20%.

STAND 21

Acres: 25.1

Stand data:

Age class distribution: ----- Even-aged – 2 ages

Forest Type: ----- Sugar Maple

Stocking level: ----- Adequate – between a and b-lines on the northern hardwood stocking guide

Quadratic mean stand diameter: -- 12.7”

Total basal area: ----- 96 square feet

Acceptable basal area: ----- 63 square feet

Relative density: ----- 77%

Sampling data:

Number of sample points: ----- 7

Prism factor: ----- 10 factor for basal area and tree measurements

Stand description:

Stand 21 is a medium sawlog size stand of northern hardwood dominated by sugar maple. Stand make-up is 81% sugar maple, 7% paper birch, 5% yellow birch with lesser amounts of hemlock, aspen and black cherry. There is a noted absence of sugar maple regeneration within the stand. Beech and eastern hop hornbeam saplings dominate much of the understory. This area was last tapped 25 or more years ago. Remnants of an old sugarhouse indicate the stand has a long history of being tapped. Preliminary plans call for leasing this stand to a local sugar maker for tapping.

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Management strategy:

This stand will be managed as a sugarbush using all-aged management. Diameter objective for sugar maple will be 26". Cutting cycle will be between 20 and 25 years. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. The sugarbush will be managed to meet Northeastern Organic Farmers Association of Vermont (NOFA-VT) guidelines. Management access will be via Thompson road, heading south.

Scheduled treatment:

Conduct a timber sale within the next 5 years. Use individual tree and small group selection to convert the stand to un-even aged management. Leave sufficient non-maple species to help buffer the stand from climatic extremes and/or biotic agents.

Special considerations:

This stand has 1.2 acres of mapped SWBZ, 5 acres of mapped vernal pool protection area and 10.9 acres of mapped deer wintering cover. Manage as per easement recommendations.

Timber Volume:

Standing inventory is approximately 147-mbf of sawtimber and 300 cords of pulpwood. 85% of the volume is sugar maple.

STAND 23

Acres: 77.6

Stand data:

Age class distribution: ----- Even-aged
Forest Type: ----- Mixed softwood

Stocking level: ----- Understocked on both mixedwood and spruce/fir stocking
guides

Quadratic mean stand diameter: -- 8.8"
Total basal area: ----- 75 square feet
Acceptable basal area: ----- 45 square feet
Relative density: ----- 40%

Sampling data:

Number of sample points: ----- 39
Prism factor: ----- 10 factor for both basal area and tree measurements

Stand description:

This is a small sawlog size stand of mixed softwood with a minor component of hardwood associates. Stand make-up is 35% balsam fir, 22% hemlock, 16% red maple, 12% red spruce

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with lesser amounts of yellow birch and sugar maple. The basal is variable, ranging from 170 square feet to 20 square feet. The balsam fir component is generally mature and declining in health and value. Deer browse is quite heavy and hay scented fern is a common, and undesirable herbaceous layer. Regeneration noted is almost entirely balsam fir.

Management strategy:

The stand is generally even-aged – convert to all-aged management. Diameter objective will be 20” for hemlock, 14” for balsam fir, 18” for red spruce and 20” for hardwoods. Cutting cycle – 15 to 20 years. The mapped natural community is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access for this stand will be via the Jake Martin road or adjacent properties to the south.

Scheduled treatment:

Conduct an all-aged harvest within the next 5 years. Use individual tree and small group selection to salvage declining fir and make small openings to enhance regeneration and minimize wind throw.

Special considerations:

Stand 23 has 8.8 acres of mapped SWBZ and 47 acres of mapped deer wintering cover. There are no mapped vernal pool protection areas. Manage as per easement recommendations.

Timber Volume:

Standing inventory is approximately 231 mbf sawtimber 616 cords pulpwood.

STAND 24

Acres: 18.0

Stand data:

Age class distribution: ----- Even-aged

Forest Type: ----- Black cherry/red maple with balsam fir

Stocking level: ----- understocked

Quadratic mean stand diameter: -- 14.28

Total basal area: ----- 33 square feet

Acceptable basal area: ----- 23 square feet

Relative density: ----- 13%

Sampling data:

Number of sample points: ----- 6

Prism factor: ----- 10 factor for basal area and tree measurements

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Stand description:

Stand 24 is a red maple/black cherry type with scattered pockets of balsam fir. The inventory indicates species make-up being 40% balsam fir, 30% black cherry, 20% red maple, with lesser amounts of white pine and tamarack. Average stem diameter is relatively high while the quality and stocking levels are relatively low. Rubus, alders and ferns dominate the understory – probably a result of over browsing by deer.

Management strategy:

This stand might be best suited to manage for wildlife with an emphasis on enhancing breeding habitat for a few of Vermont Audubon's *responsibility species* songbirds. In general, manage using un-even age management techniques. Because of the present condition of the stand, it will take a long series of improvement cuts and selection/group selection to gradually improve the condition of the stand. The mapped natural community for this stand is _____, cutting treatments should encourage and/or enhance the restoration of this community. Management access will be via Eaton Cemetery road to the south.

Scheduled treatment:

No commercial treatment scheduled for this planning period, although some non-commercial improvement work might be considered.

Special considerations:

This stand has 3.5 acres of mapped SWBZ and 8.9 acres of mapped deer wintering cover deer. There is no vernal pool protection area mapped. Manage as per easement recommendations.

Timber Volume:

Standing inventory is approximately 28 mbf sawtimber and 113 cords of pulpwood. Most of the volume is balsam fir and black cherry