

**USE VALUE APPRAISAL
Forest Management Plan**

Name(s): [REDACTED]	Town Where Land Located: [REDACTED] Phone: (802)
Street Address: [REDACTED]	Property Location [REDACTED]
City, State, Zip [REDACTED]	Acreage/Grand List 132.8 Acres/ house, barn, outbuildings
School Property Account(SPAN) [REDACTED]	Biophysical Region: Taconic Mountains
Sampling Method: Prism Factor/Plot Size 10BAF Inventory Date: Fall 2020	Orthophoto #/year 108104, 108108, 112104, 112108/ 2011, 2016

STAND 1 - STAND DESCRIPTION & TREATMENT PLAN

Stand # 1	Stand Cover Type White Ash/White Pine	Age Class Structure Uneven
Acres 16.0	Natural Community(ies) Northern Hardwood Forest, including Sugar Maple/White Ash/Jack-in-the-Pulpit Variant	History: Old Pasture
Access <0.2 mile	Soil Type(s) 44C Dutchess Silt loam 42F Macomber-Taconic complex, rocky 47CD Dutchess Silt loam, very stony 148B Bomoseen-Pittstown Soils	Long Range Objective(s) Production of high quality hardwood sawtimber, while encouraging diverse habitat and biodiversity; Encourage retention of ash for genetics.
Site Class I Site Index SM-62 RO-72 Soils, site	Forest Health Concerns Deer browse on regeneration, maple leaf cutter, earthworm, drought, Ash yellows, white pine blister rust, old weevil, butternut canker	Significant Habitat or Special Sites: No state listed RTE species or natural communities identified on the state database; No VT mapped wetlands; No FORI; no winter deer yard; Special sites include stone walls, panoramic views.
Reg. Stocking Adequate	Regeneration: black cherry, hophornbeam, red oak, white ash, sugar maple, basswood, white pine, striped maple, bitternut hickory Saplings: hophornbeam, bitternut hickory Shrubs: alternate leaved dogwood, blackberry, chokecherry, grape, raspberry, Virgin's bower, Virginia creeper.	BA: 113 AGS: 113 UGS/CULL: -- Trees/Acre: 109.5 Mean Stand DBH: 13.8"
	Invasives Present: Asiatic bittersweet, Japanese barberry, common buckthorn, European barberry, burning bush, multiflora rose, Tartarian honeysuckle. Infestation Level: moderate.	Overstory Stocking Level: Almost A-line; adequate to overstocked (hardwood guide)

# of Points 3	Wildlife Sign identified in 2020 Inventory: Deer	Volumes BF/Acre: 12,000 Cords/Acre: +/- 13
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STAND 1 DATA
Current Basal Area

BA "	Tree Status			Stand Total
	AGS	UGS	CULL	
6-10"	16.7	--	--	16.7
12-14"	26.7	--	--	26.7
16"+	70.0	--	--	70.0
Stand Total	113.3	--	--	113.3

Percentage Basal Area by Species

BA Species	Tree Status	
	AGS	Stand Total
white ash	55.9%	55.9%
white pine	20.6%	20.6%
black cherry	5.9%	5.9%
red maple	5.9%	5.9%
American elm- northern	2.9%	2.9%
bitternut hickory	2.9%	2.9%
red oak	2.9%	2.9%
sweet birch	2.9%	2.9%
Stand Total	100.0%	100.0%

Trees/Acre

TPA DBH (inches) ²	Tree Status	
	AGS	Stand Total
6-10"	37.4	37.4
12-14"	29.4	29.4
16"+	42.6	42.6
Stand Total	109.5	109.5

Species Totals

Species	Data		
	BA	TPA	QMD
white ash	63.3	52.9	14.8
white pine	23.3	22.2	13.9
black cherry	6.7	4.8	16.0
red maple	6.7	8.5	12.0
American elm- northern	3.3	9.5	8.0
bitternut hickory	3.3	3.1	14.0
red oak	3.3	2.4	16.0
sweet birch	3.3	6.1	10.0
Stand Total	113.3	109.5	13.8

STAND 1 - UNEVEN-AGED TREATMENTS

<p>Year</p> <p align="center">2024</p> <p>Current "Q": 1.0 15% poletimber 85% sawtimber Target "Q": 1.5 40% poletimber 60% sawtimber</p>	<p>Description & Treatment: Stand 1 is dominated by white ash and white pine in the canopy. Although the terrain drops steeply to the east, it is a narrow stand, next to the field and easy to access. Invasive plants are present and may prove to inhibit regeneration following thinning activities. If feasible, treatment of invasives prior to thinning is preferable.</p> <p>Apply single tree and small group selection reducing basal area by 1/3 outside of small groups, or +/-80 square feet per acre residual. Focus on removal of unacceptable white pine stems and reducing the percentage of ash in the canopy. Retention of ash in the canopy is important to long term genetic diversity. Landowner may cut low quality stems for firewood for personal use. Leaving tops high during harvesting may improve the chance of diversifying species composition in the regeneration and sapling age classes. Retention of low quality senescent trees as potential cavities will also add diversity to available habitat. Large cull stems may also be girdled to protect the residual stand. Follow AMP guidelines for water quality on roads, and ongoing trail maintenance.</p>
	<p>Residual Basal Area: +/-80sq. ft/acre, or not more than 1/3 of basal area. Regeneration Group Sizes: < 0.2acre % of Stand in Groups: 15% or less</p>
<p>Cutting Cycle 15 years</p>	<p>Species to be Retained/Regenerated: white ash, sugar maple, black cherry, red oak, sweet birch, white pine</p>
<p>Species/Diameter Objectives(Uneven) WA- 14-16"; SM-22"; SB-16"; BC-18"; RO-24"; WP-24"</p>	<p>Wildlife: Primary wildlife objective in this stand is to encourage a diversity of age classes and species. Along with deer, It is likely that coyote, fox, black bear, bobcats, porcupine, fisher, and many other mammals are present or use this as a travel corridor. It is also important as escape cover along the edge of a hay field. Creation of small groups should help to increase shrub layer, soft mast and may benefit white-throated sparrow, veery and Eastern wood Pewee.</p>

STAND 2 - STAND DESCRIPTION & TREATMENT PLAN

<p>Stand # 2</p>	<p>Stand Cover Type Maple/Pine/Oak</p>	<p>Age Class Structure : Uneven-aged</p>
<p>Acres 58.7</p>	<p>Natural Community(ies) Mesic Red Oak-Northern Hardwood Forest; Northern Hardwood Forest, Beech-Red Maple-Hemlock variant</p>	<p>History: 2018-2021 Variable Retention Thinning, creating young forest habitat.</p>
<p>Access <0.1-0.6 mile</p>	<p>Soil Type(s) 47CD Dutchess silt loam, very stony 42CDF Macomber-Taconic complex, rocky 149B Bomoseen and Pittstown soils, very stony</p>	<p>Long Range Objective(s) Production of high quality mixed wood sawtimber encourage young forest habitat; protect water quality;</p>

		Provide diverse cover for wildlife.
Site Class I Site Index SM-63 RO-68 WP-66 Soils, site	Forest Health Maple leaf cutter, earthworm, <i>Eutypella</i> canker, White pine weevil, white pine blister rust, <i>Nectria</i> canker, red rot in white pine, windthrow and sugar maple borer.	Significant Habitat or Special Sites: No state listed RTE species; No Rare, Threatened or Endangered species or Natural Communities; No VT mapped wetland; VT mapped winter deeryard in southwestern corner; No FORI; Vernal pool; springs; Stone walls; picnic site; Old Sugaring Arch.
Reg. Stocking Adequate,	Regeneration: hophornbeam, white ash, sugar maple, red oak, bitternut hickory, black cherry, red maple, common serviceberry, striped maple, white pine, American elm, sweet birch, bigtooth aspen Saplings: sugar maple, hophornbeam, white pine, striped maple, white ash, sweet birch Shrubs: alternate leaved dogwood, blackberry, chokecherry, grape, huckleberry, June pink, lowbush blueberry, mountain maple, meadowsweet, raspberry, currant Invasives Present: Japanese barberry, European barberry, Tartarian honeysuckle Infestation Level: low patchy	BA: 90 AGS: 75 UGS/CULL: 15 Trees/Acre: 92 Mean Stand DBH: 13.4" Overstory Stocking Level: B+ line adequate stocking (hardwood guide) Above C line(mixed wood guide)
# of Points 8	Wildlife identified in 2020 Inventory: deer	Volumes BF/Acre: +/- 7,500 Cords/Acre: +/- 12

STAND 2 DATA
Current Basal Area

BA	Tree Status			
DBH (inches)2	AGS	UGS	cull	Stand Total
6-10"	10.0	3.8	-	13.8
12-14"	32.5	5.0	-	37.5
16"+	32.5	3.8	2.5	38.8
Stand Total	75.0	12.5	2.5	90.0

Percentage Basal Area by Species

BA	Tree Status			
Species	AGS	UGS	cull	Stand Total
sugar maple	15.3%	8.3%	1.4%	25.0%
white pine	18.1%	1.4%	0.0%	19.4%
red maple	13.9%	2.8%	0.0%	16.7%
red oak	12.5%	1.4%	0.0%	13.9%
white ash	9.7%	0.0%	0.0%	9.7%
black cherry	5.6%	0.0%	0.0%	5.6%
sweet birch	2.8%	0.0%	0.0%	2.8%

bigtooth aspen	1.4%	0.0%	1.4%	2.8%
basswood	1.4%	0.0%	0.0%	1.4%
bitternut hickory	1.4%	0.0%	0.0%	1.4%
paper birch	1.4%	0.0%	0.0%	1.4%
Stand Total	83.3%	13.9%	2.8%	100.0%

Trees/Acre

TPA	Tree Status			Stand Total
	DBH (inches)2	AGS	UGS	
6-10"	22.2	8.2	-	30.4
12-14"	36.7	5.9	-	42.7
16"+	16.5	1.8	0.6	18.9
Stand Total	75.5	15.9	0.6	92.0

Species Totals

Species	Data		
	BA	TPA	QMD
sugar maple	22.5	30.2	11.7
white pine	17.5	12.8	15.9
red maple	15.0	20.6	11.6
red oak	12.5	5.3	20.9
white ash	8.8	9.6	13.0
black cherry	5.0	4.2	14.7
sweet birch	2.5	3.2	12.0
bigtooth aspen	2.5	0.7	24.9
basswood	1.3	1.6	12.0
bitternut hickory	1.3	2.3	10.0
paper birch	1.3	1.6	12.0
Stand Total	90.0	92.0	13.4

STAND 2 - UNEVEN-AGED TREATMENTS

Year	<p>Description & Treatment: Stand 2, though dominated by sugar maple, has some areas of almost pure white pine interspersed with red maple in the southern portion of the stand. This is also where most of the invasive plants are located. This stand will likely be mostly hardwood in the future with scattered white pine throughout the stand. The scheduled variable retention thinning, along with creating young forest is almost complete. This focused on reducing crown cover in all ages, removing overtopped stems, half of intermediate crown class and 15% of co-dominants. The increased sunlight should help to encourage diverse regeneration and young forest growth. Monitoring these openings for response to the thinning is important especially to make sure invasive shrubs do not take over these openings. Once thinning is complete, seeding roads and landings with a mix of pollinator plants, and legumes and grasses will help to maintain it as open land and allow landowner ability to mow where it is feasible to keep the trails open for hiking, but also for foraging and nesting habitat. The</p>
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2036	<p>vernal pool in this stand was protected with a buffer surrounding it during logging. There are drainages, small seeps and streams within this stand all part of the Otter Creek watershed. Landowner may cut low quality stems for firewood on an annual basis as well as treat invasive plants as needed. Follow AMP guidelines for water quality. Allow this stand to grow for up to 15 years.</p> <p>Apply thinning using single tree and small group selection. Focus on expanding gaps created around groups in 2018-2021. New groups may also be created up to 2.0 acres in size.</p>
<p>Current Q – 1.0 16% poletimber 84% sawtimber Future Q Goal- 1.4 35% poletimber 65% sawtimber</p>	<p>Residual Basal Area: +/-80 sq. ft/acre Regeneration Group Sizes: up to 2 acres % of Stand in Groups: <15%</p>
<p>Cutting Cycle 15 years</p>	<p>Species to be Retained/Regenerated: sugar maple, red oak, white pine, white ash, basswood, bitternut hickory, red maple</p>
<p>Species/Diameter Objectives(Uneven) SM- 20"; WA- 14-16"; RO-20"; WP-24"; BH- 16"; RM- 16-18"</p>	<p>Wildlife: Retain an average of 2 snags and/or cavity trees > 10 inches diameter per acre. Retention of at least 25% of understory and midstory to encourage habitat diversity. Monitoring bird activity will help to determine the success of this thinning. Bird species that may benefit from this previous thinning are the Eastern wood pewee, wood thrush, black-throated green warbler, blue-headed vireo, scarlet tanager, white breasted nuthatch, tufted titmouse, black-billed cuckoo, wild turkeys, least flycatcher and yellow-bellied sapsucker. Invasives: Remove if found, especially in open areas, where shrubs are more likely to produce fruit.</p>

STAND 3 - STAND DESCRIPTION & TREATMENT PLAN

Stand # 3	Stand Cover Type: Red Oak/White Pine/Maple (Mixed Wood)	Age Class Structure (Current Age if Even) Uneven
Acres 36.2	Natural Community(ies) Northern Hardwood Forest, Beech-Red Maple-Hemlock variant; Mesic Red Oak-Northern Hardwood Forest; Dry Oak- Hickory-Hophornbeam Forest	History: Variable retention thinning 2018-21.
Access <0.3-0.6 mile	Soil Type(s) 11C Taconic-Hubbardton complex, very stony 47C Dutchess silt loam, very stony 42D Macomber-Taconic complex, rocky	Long Range Objective(s) Production of hardwood and pine sawtimber; protect watershed; encourage pockets of young forest to create habitat diversity and functional softwood cover.

Site Class II Site Index SM-56 WP-62 Soils, site	Forest Health Maple leaf cutter, sugar maple borer, deer browse, spruce gall aphid, historic gypsy moth, white pine blister rust	Significant Habitat or Special Sites: There are no Rare, Threatened or Endangered species or natural communities; No VT mapped wetland; VT mapped winter deer yard along western boundary; No FORI; Special site includes stone walls; ephemeral streams.
Reg. Stocking adequate	Regeneration: white pine, white ash, red oak, beech, common serviceberry, hophornbeam, black cherry, red maple, sweet birch, bitternut hickory, striped maple, paper birch Saplings: hophornbeam, white pine, red oak. Shrubs: blackberry, huckleberry, blueberry, meadowsweet, raspberry Invasives Present: Asiatic bittersweet, Japanese barberry, common buckthorn, European barberry, Tartarian honeysuckle Infestation Level: moderate, patchy	BA:94 AGS: 86 UGS/CULL: 8 Trees/Acre: 67 Mean Stand DBH: 16.1" Overstory Stocking Level: B-line stocking; adequate stocking(mixed wood guide) Volumes BF/Acre: +/-12,500 Cords/Acre: +/- 7
# of Points 5	Wildlife Sign Identified in 2020 Inventory: deer, coyote, fox, turkey, grouse, scarlet tanager, hermit thrush, ovenbird.	

Stand 3 Data
Basal Area Per Acre

BA	Tree Status			
DBH (inches)2	AGS	UGS	cull	Stand Total
6-10"	6.0	2.0	-	8.0
12-14"	18.0	-	-	18.0
16"+	62.0	2.0	4.0	68.0
Stand Total	86.0	4.0	4.0	94.0

Percentage Basal Area Per Acre

BA	Tree Status			
Species	AGS	UGS	cull	Stand Total
red oak	40.4%	2.1%	0.0%	42.6%
white pine	38.3%	0.0%	0.0%	38.3%
red maple	6.4%	0.0%	4.3%	10.6%
sugar maple	6.4%	2.1%	0.0%	8.5%
Stand Total	91.5%	4.3%	4.3%	100.0%

Trees Per Acre

TPA	Tree Status			
DBH (inches)2	AGS	UGS	cull	Stand Total
6-10"	13.1	3.7	-	16.7
12-14"	18.9	-	-	18.9

16"+	28.7	1.4	1.0	31.2
Stand Total	60.6	5.1	1.0	66.8

Stand Totals

Species	Data		
	BA	TPA	QMD
red oak	40.0	23.4	17.7
white pine	36.0	20.5	18.0
red maple	10.0	11.2	12.8
sugar maple	8.0	11.8	11.2
Stand Total	94.0	66.8	16.1

STAND 3- UNEVEN-AGED TREATMENTS

<p>Year</p> <p>2033</p> <p>Current "Q": <1.0 10% poletimber 90% sawtimber</p> <p>Target "Q": 1.4 35% poletimber 65% sawtimber</p>	<p>Description & Treatment:</p> <p>Stand 4 is dominated by red oak and white pine with sugar and red maple as associated species. The soils are a little more shallow in this stand, but still has good timber productivity with excellent quality. The variable retention thinning completed in 2020 in this stand has created small groups of young forest, released advanced regeneration, and removed poor quality stems while retaining high quality timber trees and also those that are beneficial to wildlife. This included mast and den trees as noted on the map. Landowner may cut low quality stems for firewood on an annual basis as well as treat invasive plants as needed. Ongoing annual bird assessments will help to determine the success of this thinning operation. Allow this stand to grow for up to 15 years.</p> <p>Apply thinning using single tree and small group selection. Focus on expanding gaps created around groups in 2018-2020. New groups may also be created up to 2.0 acres in size.</p>
<p>Cutting Cycle 15 years</p>	<p>Regeneration Group Sizes and % of Stand in Groups: Up to 2.0 acre not more than 15% of stand area in groups</p> <p>Residual Basal Area: 90 square feet per acre between groups in softwood, 70 square feet per acre in hardwood, or not more than 1/3 of basal area.</p> <p>Species Favored for Retention/Regeneration: red oak, white pine, sugar maple, red maple.</p>
<p>Species/Diameter Objectives(Uneven)</p> <p>SM- 18"; RM- 16"; WP- 24"; SB- 16-18"; BE- 18"; WA-14-16"; RO- 20"</p>	<p>Wildlife:</p> <p>There were many den trees retained in this most recent thinning, as well as snags and potential snags. Retention of low quality senescent trees as potential cavities will also add diversity to available habitat. Encourage mast producers including shagbark hickory. Bird species that may benefit from this thinning are the Eastern wood pewee, wood thrush, black-throated green warbler, blue-headed vireo, scarlet tanager, white breasted nuthatch, tufted titmouse, black-billed cuckoo, wild turkeys, least</p>

	flycatcher and yellow-bellied sapsucker. Invasives: Remove invasives if feasible. Monitor openings for invasives.
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Agricultural Land

Stand # AG	Stand Cover Type: Hay	History: Dairy Farm
Acres 19.9	Soil Type(s) 44C Dutchess Silt loam 148B Bomoseen-Pittstown Soils	Long Range Objective(s) Maintain as open land
	Wildlife: Although agricultural fields are not always considered diverse habitat for wildlife, they are essential for foraging, breeding and for hunting grounds for predators, hawks and owls. Field edges are excellent areas for small nesting birds, especially eastern bluebirds, red-eyed vireos, and many flycatcher species.	Significant Habitat or Special Sites: There are no Rare, Threatened or Endangered species or natural communities; No VT mapped wetland or VT mapped winter deer yard; No FORI.

MANAGEMENT SCHEDULE

TREATMENT YEAR	STAND #	MANAGEMENT ACTIVITY	SILVICULTURAL GUIDE OR TECH REF, PRESCRIPTION # OR LETTER IF APPROPRIATE
2024	1	Apply single tree and small group selection reducing basal area by 1/3 outside of small groups, or +/-80 square feet per acre residual. Focus on removal of unacceptable white pine stems and reducing the percentage of ash in the canopy. Retention of ash in the canopy is important to long term genetic diversity. Landowner may cut low quality stems for firewood for personal use.	<i>Silviculture with Birds in Mind. Prescription 2B Silvicultural Guide for Northern Hardwood Types in the Northeast (revised) Prescription D</i>
2021-2036	2	Landowner may cut low quality stems for firewood on an annual basis as well as treat invasive plants as needed. Follow AMP guidelines for water quality. Allow this stand to grow for up to 15 years.	<i>Silvicultural Guide for Northern Hardwood Types in the Northeast (revised) Prescription E</i>
2036	2	Apply thinning at that time using single tree and small group selection. Focus on expanding gaps created around groups in 2018-2021. New groups may also be created up to 2.0 acres in size.	<i>Silviculture with Birds in Mind. Prescription 2B</i>
2021-2036	3	Landowner may cut low quality stems for firewood on an annual basis as well as treat invasive plants as needed. Follow AMP guidelines for water quality. Allow this stand to grow for up to 15 years.	<i>Silvicultural Guide for Northern Hardwood Types in the Northeast (revised) Prescription E</i>
2033	3	Apply thinning using single tree and small group selection. Focus on expanding gaps created around groups in 2018-2020. New groups may also be created up to 2.0 acres in size.	<i>Silviculture with Birds in Mind. Prescription 2B Silvicultural Guide for Northern Hardwood Types in the Northeast (revised) Prescription D</i>

TREATMENT YEAR	STAND #	MANAGEMENT ACTIVITY	SILVICULTURAL GUIDE OR TECH REF, PRESCRIPTION # OR LETTER IF APPROPRIATE
2021+	All	Emerald ash borer(EAB) has been detected in Vermont and is a significant threat to ash species throughout the state. Management decisions in managing the ash component on this property will be to reduce the percentage of ash in stands with more than 25% ash where feasible; reduce diameter objectives to 14-16” in diameter; retain some ash stems in canopy; encourage regeneration of ash for genetic composition. If EAB is identified within 10 miles of this property, pre-emptive salvage of ash may be necessary. An amendment will be filed if this is deemed necessary.	<i>State of Vermont</i>
2021+	All	Treatment of any invasive shrub species within stands or along field edges may occur ongoing throughout property. Consult with a licensed Pesticide applicator when considering chemical methods.	<i>Vtinvasives.org</i>
2021+	All	Landowner may remove firewood on an annual basis for personal use.	<i>n/a</i>
2021+	All	Follow AMP guidelines for water quality for harvesting activities, stream crossings and trail maintenance. Landowner may cut low quality stems for firewood on an annual basis.	
2030	All	Inventory for Management Plan Update due April 1, 2031.	