TREE GROWTH
FOREST MANAGEMENT PLAN
UPDATE

PREPARED FOR:
Ron Vilasuso
12 Ashley Lane
Orrington, ME 04474
Phone: (207) 356-0661

FOR PROPERTY LOCATED IN:
Etna, Penobscot County, ME
Map 6, Lot 4 and Map 8 Lots 1-1 and 1-2

PLAN PREPARER:
James Woodside, LF #4201 (Provisional)
207-827-3700
James.Woodside@afmforest.com

PLAN APPROVER:
Thomas Pelletier, LF #3186
207-827-3700
Tom.Pelletier@afmforest.com

PLANNING PERIOD: April 2022 to April 2032
PLAN PREPARATION DATE: April 4, 2022
EXPIRATION DATE: April 3, 2032
REVISION DATES (IF ANY): N/A
TOTAL ACREAGE: 148.7 (GIS acres)
FORESTED ACREAGE: 148.7 (GIS acres)

This plan has been prepared to meet or exceed the requirements of the Maine Tree Growth Tax Law.

AMERICAN FOREST MANAGEMENT

American Forest Management, Inc.
WE'RE IN THIS TOGETHER®
40 Champion Lane
Milford, Maine 04461
americanforestmanagement.com

BOUNDARY LINE CONDITIONS

(check all that apply):

☒ Blazed & painted ☐ Wire fence ☒ Rock wall

☐ Adequately flagged ☒ Old flagging

☐ Cleared of brush with good line of sight

☐ All corner markers found

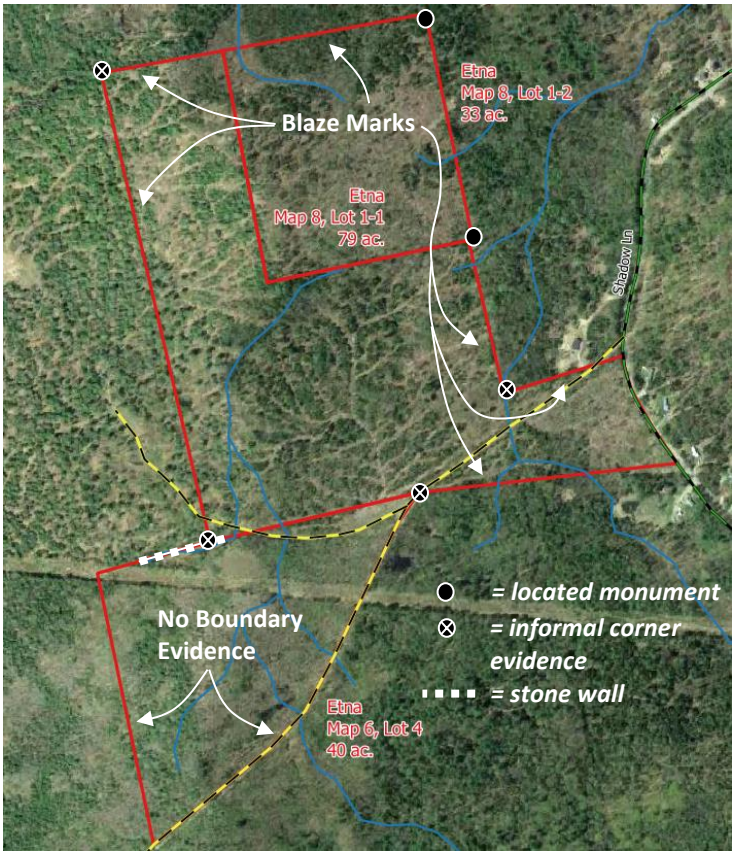
☒ Partial corner markers found

☐ Other boundary line markings (_____)

Overall condition of boundary lines

☐ Excellent ☐ Good ☐ Fair ☒ Poor ☐ Non existent

Boundary Line Notes: The quality of boundary corners and lines varies. Only two established corners could be located in the field. Other corners were informally indicated by the intersection of blaze marks, but lacked any kind of monument. For Lot 6, the southeast boundary can be approximated by the route of the forest road, and portions of the west boundary may be indicated by old pink flagging. However, no blazes, pins, stakes, or other monuments could be located to verify the boundary. For lots 1-1 and 1-2, the quality of blaze marks varies. Some stretches of boundary have more recent blaze marks with evidence of paint. The west boundary of Lot 1-1 has particularly poor blaze marks that are healed over and have no evidence of paint. Work to restore boundary line evidence should be undertaken as soon as possible while existing blaze marks can still be found in the field. A licensed surveyor may be required to reestablish the boundary of Lot 6.



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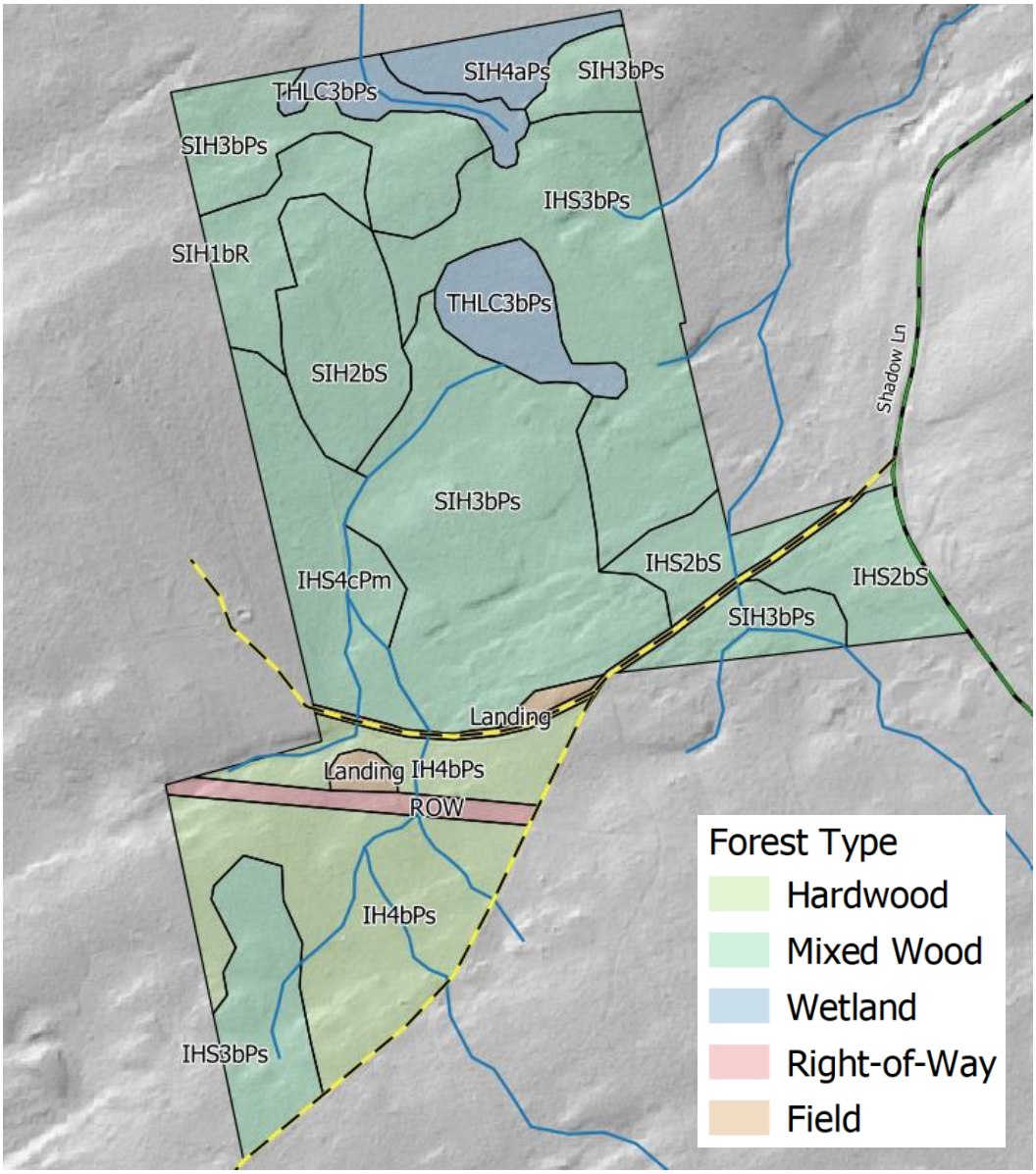
APRIL 2022


Left: northeast corner of Lot 1-2, with old blaze marks and a rebar pin; right: aging blaze mark example with no paint remaining

Forest Type Map

This map has been prepared for the purposes of planning forest management actives on the property. The map depicts the different forest types present on the property as well as the different stands described on following pages. **The maps included in this plan are not a legal survey.**



FOREST STAND INFORMATION & PRESCRIPTIONS

STAND TYPING GUIDE

There are 9 primary forest types on the property classified by **species group**, **height**, and **crown spacing**. Some of the forest types comprise separate stands throughout the property. Stand classification and types are described on the following pages.

Stand Type Key

Species Group	Description	Species Group	Description
HE	**Hemlock:** minor amounts of other species	**SF**	**Spruce and balsam fir:** minor amounts of other species
IH	**Intolerant hardwoods:** Aspen/white birch mix	**SIH**	**Softwood with intolerant hardwoods:** Spruce, fir, pine, maples, birches, beech, and other hardwoods
HIS	**Intolerant hardwoods with softwoods:** Aspen/white birch with fir, spruce, pine, hemlock	**STH**	**Softwood with tolerant hardwoods:** Spruce, fir, pine, maples, birches, beech, and other hardwoods.
LC	**Lowland conifers:** Cedar, black spruce, eastern larch mix	**TH**	**Tolerant hardwoods:** Maples, yellow birch, beech, and other hardwoods
PE	**Pines:** white pine and/or red pine	**THS**	**Tolerant hardwoods with softwood:** Maples, birch, beech, spruce, fir, and pine

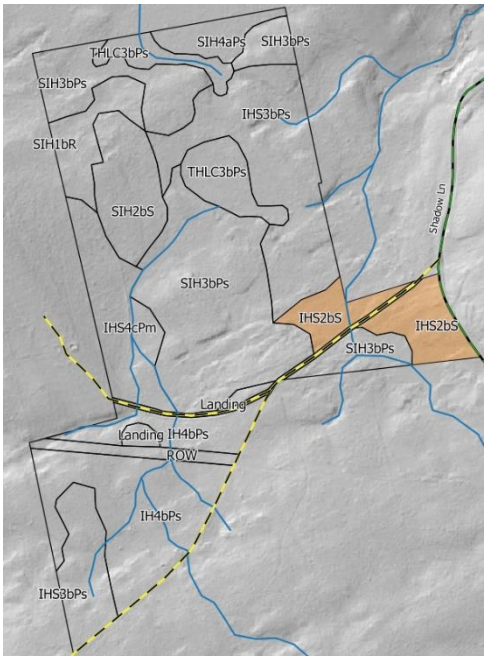
Height	Description	Crown Spacing	Description
1	0 to 10 feet tall	**a**	81% to 100% crown closure
2	10 to 30 feet tall	**b**	61% to 80%
3	30 to 50 feet tall	**c**	31% to 60%
4	50 feet and up	**d**	0% to 30%

Stand Development	Description
R	**Regenerating:** hardwood <5', softwood <3' in height
S	**Sapling:** hardwood >5' in height, softwood >3' in height
Ps	**Pole (submerchantable):** average DBH 3" to 5" DBH
Pm	**Pole (merchantable):** average DBH 6" to 9"
L	**Log:** average DBH 10+"

Examples:

TH3aPm	Maple / birch stand, up to fifty total height with a closed canopy. Based on the stand development rating of Pm (Pole merchantable) this stand could have a commercial thinning implemented as the trees are large enough. This is likely a stand that has not had a timber management action in the past 20 years.
SF3bL/SF1aR	Spruce/fir stand, up to fifty feet total height with a somewhat open canopy composed of sawlog sized trees as would be expected after a thinning harvest treatment. The forward slash indicates this stand is two storied, meaning a younger stand of densely growing spruce fir is regenerating in the understory that is less than 3' in height.
IH1aS	A sapling sized aspen or white birch stand that is densely growing. This might be the result of a final harvest in a mature aspen stand where the new stand starts from seed or sprouts.

FOREST STAND DESCRIPTIONS AND RECOMMENDATIONS



Stand Name: IHS2bS
Description: developing stand of intolerant hardwood with some softwood; 10-30 feet tall; 60% to 80% crown closure
Acreage: 9.2
Dominant tree species: white birch, aspen, red maple, minor amounts of spruce, fir, and white pine; scattered overstory of red maple and white pine.

Condition of understory/regeneration: This is a young sapling stand that regenerated following a heavy cut. Although pine and maple were left as a seed source, the primary regeneration is white birch.

Average basal area per acre (>= 5" DBH): 15-30

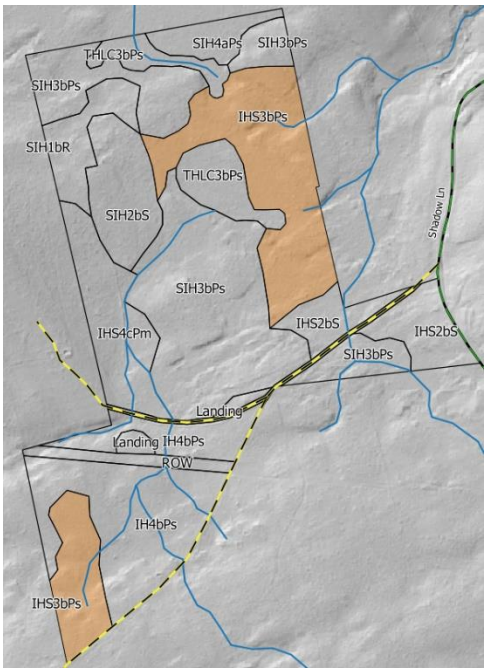
Recommended silvicultural treatment:
☐Clearcut- Patch Cuts ☐ Seed tree
☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Crop Tree Release

Regeneration Method:
☐ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☒ N/A

Description of regeneration or preferred future regeneration: This stand is on a long-term cycle to develop a crop of intolerant hardwoods while intermediate or shade tolerant hardwoods and softwoods initiate in the understory.

Written prescription/recommendations:
This stand should be left to grow for now. In future, a crop tree release could be considered. The stand should be reevaluated before such work is engaged.

Stand Name: IHS3bPs
Description: intolerant hard wood stand with softwoods; 30-50 feet tall; 60% to 80% crown closure; submerchantable poles
Acreage: 28.9
Dominant tree species: white birch, aspen, sugar maple, red oak



Condition of understory/regeneration: This stand is in an intermediate stage of development. Some beech is present throughout the stand, with other species reflective of the overstory present in small openings and old skid trails.

Average basal area per acre (>= 5" DBH)**:** 30-40

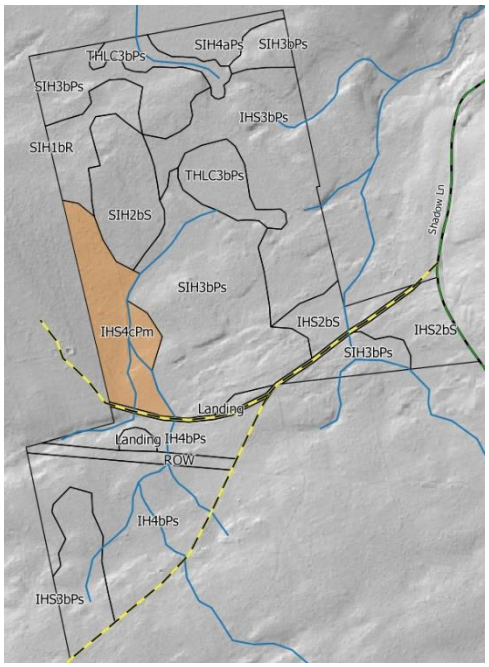
Recommended silvicultural treatment:
☐Clearcut- Patch Cuts ☐ Seed tree
☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Crop Tree Release

Regeneration Method:
☐ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☒ N/A

Description of regeneration or preferred future regeneration: There are valuable maples and oaks present in this stand and it will be desirable to foster their reinitiation during future silvicultural steps.

Written prescription/recommendations:
This stand should be left to grow for now. In future, a shelterwood system could be used to establish preferred regeneration. Areas with a heavy beach component may need to eventually be clearcut, although it will be many years before the stand is ready for a harvest of that type.

Stand Name: IHS4cPm
Description: intolerant hardwoods and softwoods with white pine; 50 or more feet tall; 40% to 60% crown closure; merchantable poles
Acreage: 48.0
Dominant tree species: Aspen, red maple, sugar maple, white pine



Condition of understory/regeneration: The understory of this stand is reflective of the overstory, with the addition of some fir.

Average basal area per acre (>= 5" DBH)**:** 40-60

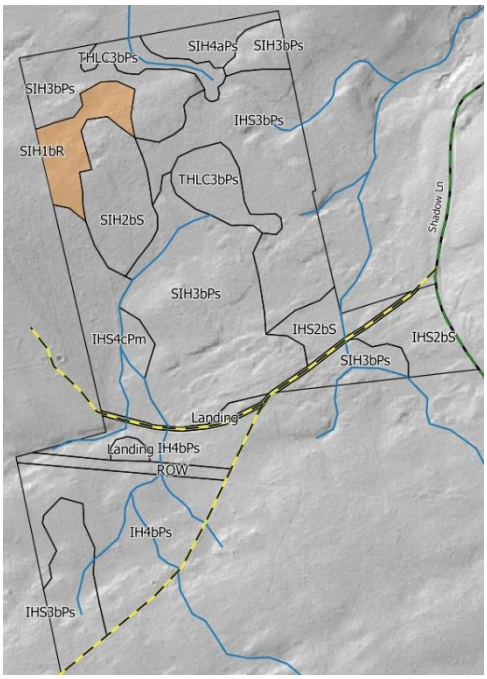
Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Release

Regeneration Method:
☐ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☒ N/A

Description of regeneration or preferred future regeneration: This stand was recently established following a shelterwood harvest. White pine is successfully established along with the primary hardwood species. Some fir is seeding in from adjacent areas.

Written prescription/recommendations:
This stand should be left to growth for the next ten years. Some overstory must be maintained in order to protect the regenerating white pine from the damaging effects of the white pine weevil. These overstory trees can eventually be removed in the future once the stand has developed further. However, care must be taken that regeneration is not damaged in the process.

Stand Name: SIH1bR
Description: softwoods with some intolerant hardwoods; 0 to 10 feet tall; 61% to 80% crown closure; regenerating
Acreage: 5.8
Dominant tree species: spruce, fir, hemlock, aspen, red maple



Condition of understory/regeneration: the regeneration is not evenly distributed at present, but is otherwise established, vigorously growing, and is of desirable species. In the coming years, remaining gaps within the stand will likely fill in with new seedlings.

Average basal area per acre (>= 5" DBH)**:** nominal

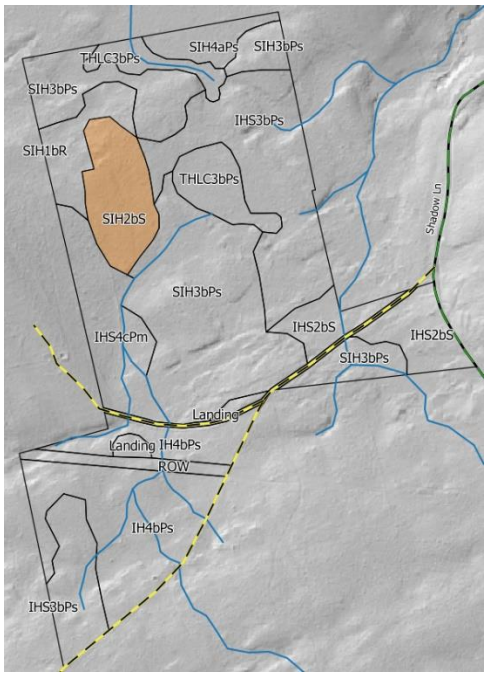
Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Release

Regeneration Method:
☐ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☒ N/A

Description of regeneration or preferred future regeneration: This regenerating stand contains a high proportion of spruce, which is a very desirable species.

Written prescription/recommendations:
This stand should be left to grow for the foreseeable future. Depending on how dense the stand grows in over the next years, a pre-commercial thinning could be considered. The stand should be reevaluated before such work is engaged.

Stand Name: SIH2bS
Description: softwoods with some intolerant hardwoods; 10 to 30 feet tall; 61% to 80% crown closure; saplings
Acreage: 9.0
Dominant tree species: spruce, fir, aspen, red maple; overstory of aspen and red maple



Condition of understory/regeneration: this stand consists of a thickly stocked mixed wood understory with an overstory of intolerant hardwoods.

Average basal area per acre (>= 5" DBH)**:** 30-40 square feet

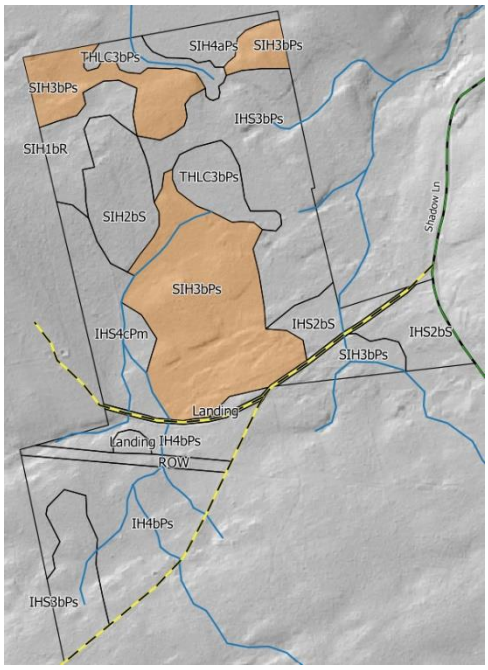
Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☒ Release

Regeneration Method:
☒ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☐ N/A

Description of regeneration or preferred future regeneration: This regenerating stand contains a high proportion of spruce, which is a very desirable species.

Written prescription/recommendations:
This stand should be left to grow for the foreseeable future. This stand is very well stocked, and a pre-commercial thinning could be considered in the future. The stand should be reevaluated before such work is engaged. An alternative would be to let the stand grow for some years until the overstory trees are of merchantable size. At this point, the overstory could be removed in order to release the understory.

Stand Name: SIH3bPs
Description: softwoods with intolerant hardwoods; 30-50 feet tall; 60% to 80% crown closure
Acreage: 38.5
Dominant tree species: spruce, fir, hemlock, aspen, some cedar



Condition of understory/regeneration: This stand is fully stocked and ranges in size from sapling to submerchatable poles

Average basal area per acre (>= 5" DBH): 20-40

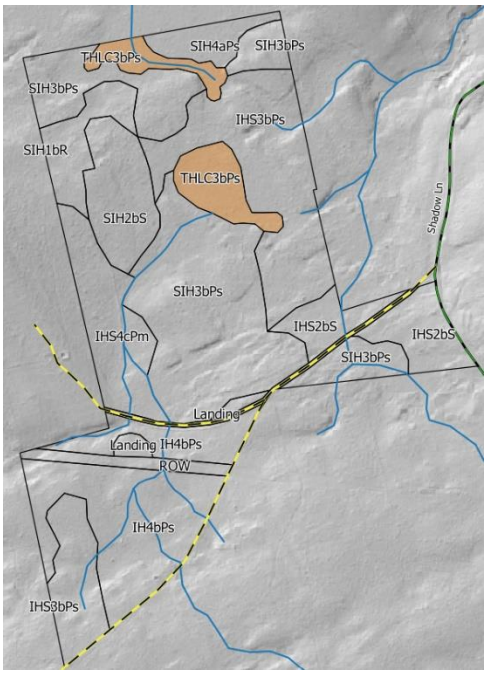
Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommercial Thinning ☐ Release

Regeneration Method:
☐ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☒ N/A

Description of regeneration or preferred future regeneration: There is a noticeable component of fir in this stand. In future, targeting fir for removal will increase the proportion of more valuable and longer-lived species.

Written prescription/recommendations:
This stand should be left to grow for the time being. In future, a shelterwood establishment cut could be carried out, but this will be many years in the future.

Stand Name: THLC3bPs
Description: tolerant hardwoods and lowland conifers; 30 to 50 feet tall; 61% to 80% crown closure; submerchantable poles
Acreage: 8.3
Dominant tree species: red maple, cedar, spruce



Condition of understory/regeneration: This stand is a forested wetland with an uneven aged distribution from seedling to submerchantable pole. Wetter portions of the stand are fairly open with hardwood brush under red maple. Other portions resemble softwood thickets

Average basal area per acre (>= 5" DBH)**:** 40-50

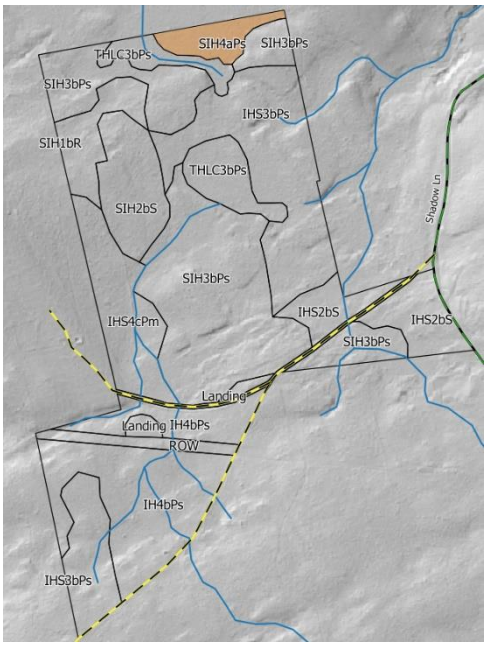
Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Release

Regeneration Method:
☐ Existing natural regeneration
☐ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☒ N/A

Description of regeneration or preferred future regeneration: This stand is not suited to active silvicultural management.

Written prescription/recommendations:
This stand should be left to grow in perpetuity. A selection harvest may be feasible when adjacent stands are scheduled for a harvest.

Stand Name: SIH4aPs
Description: softwoods with intolerant hardwoods; 50 feet tall or greater; 80% to 100% crown closure; submerchantable poles
Acreage: 8.3
Dominant tree species: spruce, cedar, red maple



Condition of understory/regeneration: This stand is a closed canopy forested wetland. Some spruce and cedar seedlings and saplings are present.

Average basal area per acre (>= 5" DBH)**:** 60-80

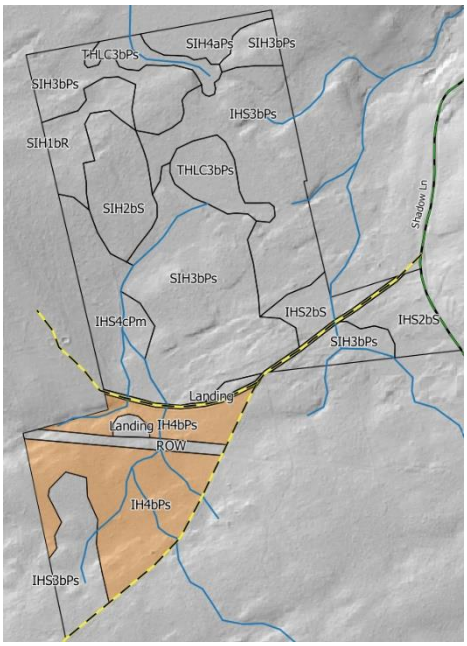
Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☒ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Release

Regeneration Method:
☒ Existing natural regeneration
☒ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☐ N/A

Description of regeneration or preferred future regeneration: Preferred existing regeneration would consist of the spruce.

Written prescription/recommendations:
This stand should eventually be considered for a shelterwood harvest in the future. Because this stand is so small, this should only be considered when harvesting in the adjacent stand. Since this stand is in a forested wetland, it should only be operated in during winter. If a summer harvest is more desirable in the adjacent stand, then this stand can be left to grow, again given its relatively small size.

Stand Name: IH4bPs
Description: intolerant hardwoods; 50 feet tall or greater; 60% to 80% crown closure; submerchantable poles
Acreage: 24.5
Dominant tree species: aspen, white birch, sugar maple, red maple, red oak
Condition of understory/regeneration: there is a noticeable component of beech in the understory. Future management of the stand should include a strategy to reduce or control the presence of beech.



Average basal area per acre (>= 5" DBH)**:** 60-80

Recommended silvicultural treatment:
☐Clearcut ☐ Seed tree ☐ Shelterwood
☐ Selection ☐ Thinning ☒ Let grow
☐Precommerical Thinning ☐ Release

Regeneration Method:
☒ Existing natural regeneration
☒ Natural regeneration will be established following harvesting
☐ Site will be planted following harvesting
☐ N/A

Description of regeneration or preferred future regeneration: Preferred future regeneration would consist of sugar maple and oak.

Written prescription/recommendations:
This stand should be left to grow for the time being. It contains valuable hardwoods that need time to grow into sawlog-size trees. Due to the presence of beech in the understory, it may be necessary to carry this stand to maturity and then execute a clearcut. Intermediate thinnings targeting the aspen and white birch could be conducted over time, depending on stand conditions. No action is necessary in the next 10 years.

TREE GROWTH TAX INFORMATION

Forest land used for commercial forest production

Type	Number of Acres		
a. Softwood			
b. Mixed wood	106.70		
c. Hardwood	24.50		
d. **TOTAL ACRES** (add lines 5a through 5c)		5d.	131.20

Land unsuitable for commercial forest production

Type	Number of Acres		
a. Natural water and man-made water areas			
b. Wetlands (swamp, marsh)	12.00		
c. Ledges and barrens			
d. **TOTAL ACRES** (add lines 6a through 6c)		6d.	12.00

Land not used primarily for commercial forest production

Type	Number of Acres		
a. Building area			
b. Fields	1.40		
c. Gravel pits			
d. Transmission line or pipeline right-of-way area	2.50		
e. Class I roads (includes culverts, ditching, gravel)			
f. Class II roads (unimproved haul road)			
g. Agricultural area (list)			
h. Other areas (list logging road right of way)	1.60		
i. **TOTAL ACRES** (add lines 7a through 7h)		7i.	5.50

TOTAL AREA OF PARCEL (Add 5d, 6d and 7i) 8. 148.70