

## **Compartment Review Presentation**

**Grayling Forest Management Unit** 

Compartment 72184 Entry Year 2026 Acreage: 1,766

**County: Crawford** 

Management Area: Camp Grayling

Stand Examiner: Joan Charlebois

**Legal Description:** 

T26N R04W Sections 19, 20, 21

#### **Identified Planning Goals:**

This compartment is comprised of Hanson Reserve Lands which contain the following deed restrictions: The lands are (1) to be used as a permanent encampment and maneuvering ground for the military, (2) to serve as a game preserve for the breeding and protection of game, and (3) to serve as a forest reserve. The primary goal is to provide for military training while maintaining forest health, productivity, sustainability, species and structural diversity throughout the compartment while meeting the Hanson deed restrictions.

#### Soil and topography:

The dominant soil series are Grayling and Graycalm-Grayling sands on rolling to steep terrain. The northwest outwash plains have Rubicon and Croswell sands, grading into the swamp's Tawas and Leafriver mucks.

#### Ownership Patterns, Development, and Land Use in and Around the Compartment:

Hanson Reserve Lands were given to the National Guard, DMA by Rasmus Hanson in 1913, with several deed restrictions as outlined under the management objective. These restrictions have tasked the DNR with managing the natural resources on these lands as long as management activities do not conflict with military needs. In addition, hunting is prohibited on these lands.

#### **Unique Natural Features:**

There is the potential for rare plants and animals to be associated with the Lake Margrethe basin, Bear Swamp, and dry upland pine sites.

#### Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration

#### **Special Management Designations or Considerations:**

This compartment is designated as a Military Special Conservation Area (SCA) and contains part of the fenced Small Arms Ranges and Camp Grayling Cantonment Area. It is also part of the Hanson Military Reserve, with goals and restrictions as noted above. The northwest edge of the compartment falls within a block of Dedicated Habitat for the Eastern Massasauga Rattlesnake (EMR). Those EMR Managed Lands are a type of High Conservation Value Area (HCVA).

#### Watershed and Fisheries Considerations:

The compartment borders the west side of Lake Margarethe, which is popular for cool water sport fishing and recreational watercraft use.

#### Wildlife Habitat Considerations:

Because it is part of the Hanson Refuge, hunting is prohibited. The Bear Swamp (most of it north of the compartment) contains a large block of EMR Managed Land.

#### Mineral Resource and Development Concerns and/or Restrictions

No known potential exists for commercial metallic mineral production in this part of the state. The closest known sand/gravel pit is less than two miles southeast, which is owned and operated by the DMVA. There is potential for sand & gravel within the compartment, but the DNR has no authority to extract aggregate resources or lease the rights to sand & gravel. The closest oil & gas production, past or present is roughly three miles away. The compartment is within the Camp Grayling reservation and long-term lease area and includes lands deeded to the State Military Board and Hanson grant lands. The State does not control the mineral rights within the compartment, and the mineral rights are classified as non-leasable.

#### Vehicle Access:

The compartment is entirely within the fenced Small Arms Range complex. Access within those areas is restricted and

managed by Range Control.

#### **Survey Needs:**

None needed

#### **Recreational Facilities and Opportunities:**

Due to the deed restrictions and fenced ranges, there are no designated recreational facilities, and dispersed use is limited.

#### **Fire Protection:**

The Camp Grayling Fire Department monitors active ranges for fire starts and conducts initial attack with on-camp resources. The MDNR assists with fire suppression at the military's request and with coordination through Range Control.

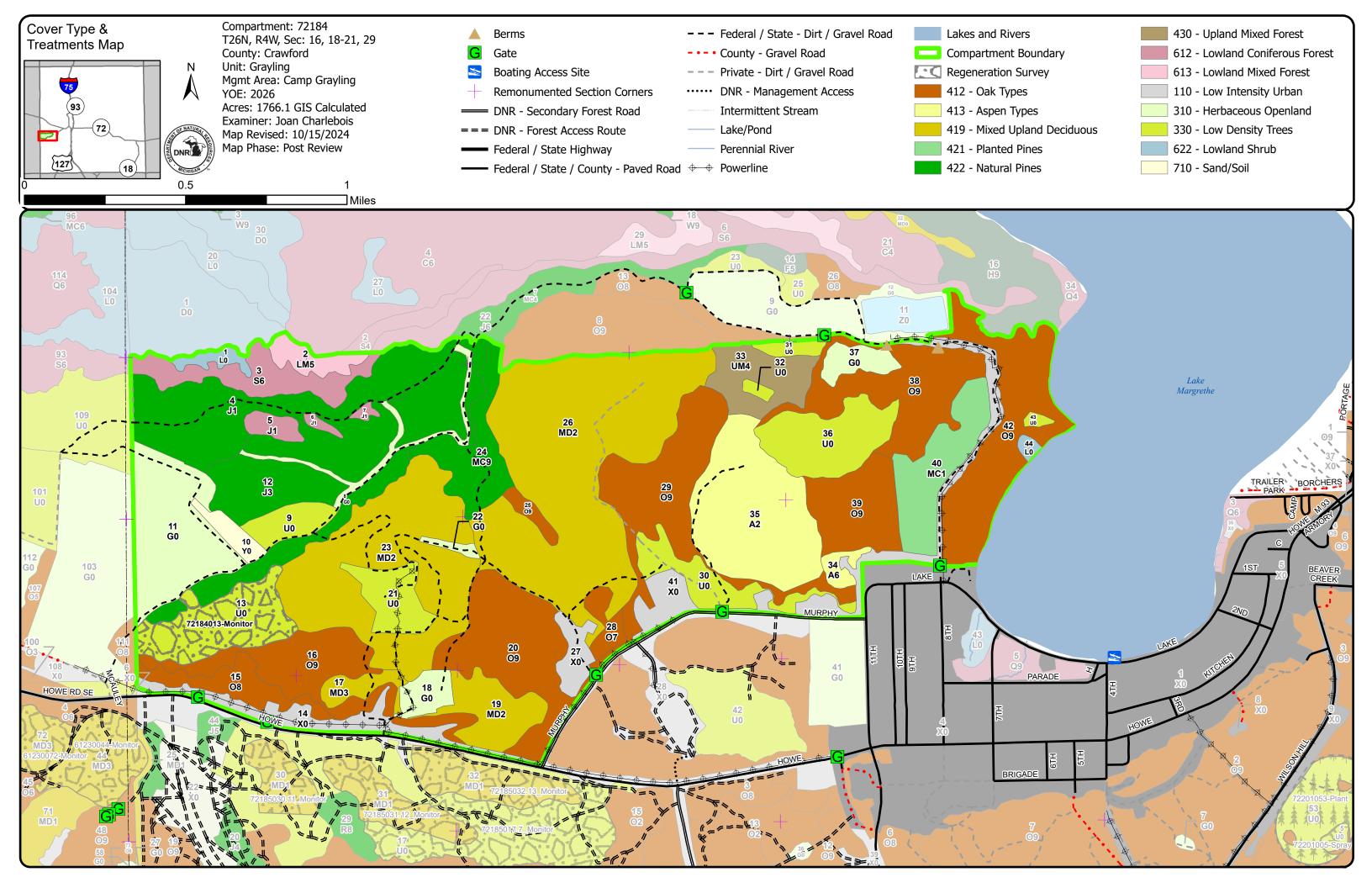
#### **Additional Compartment Information:**

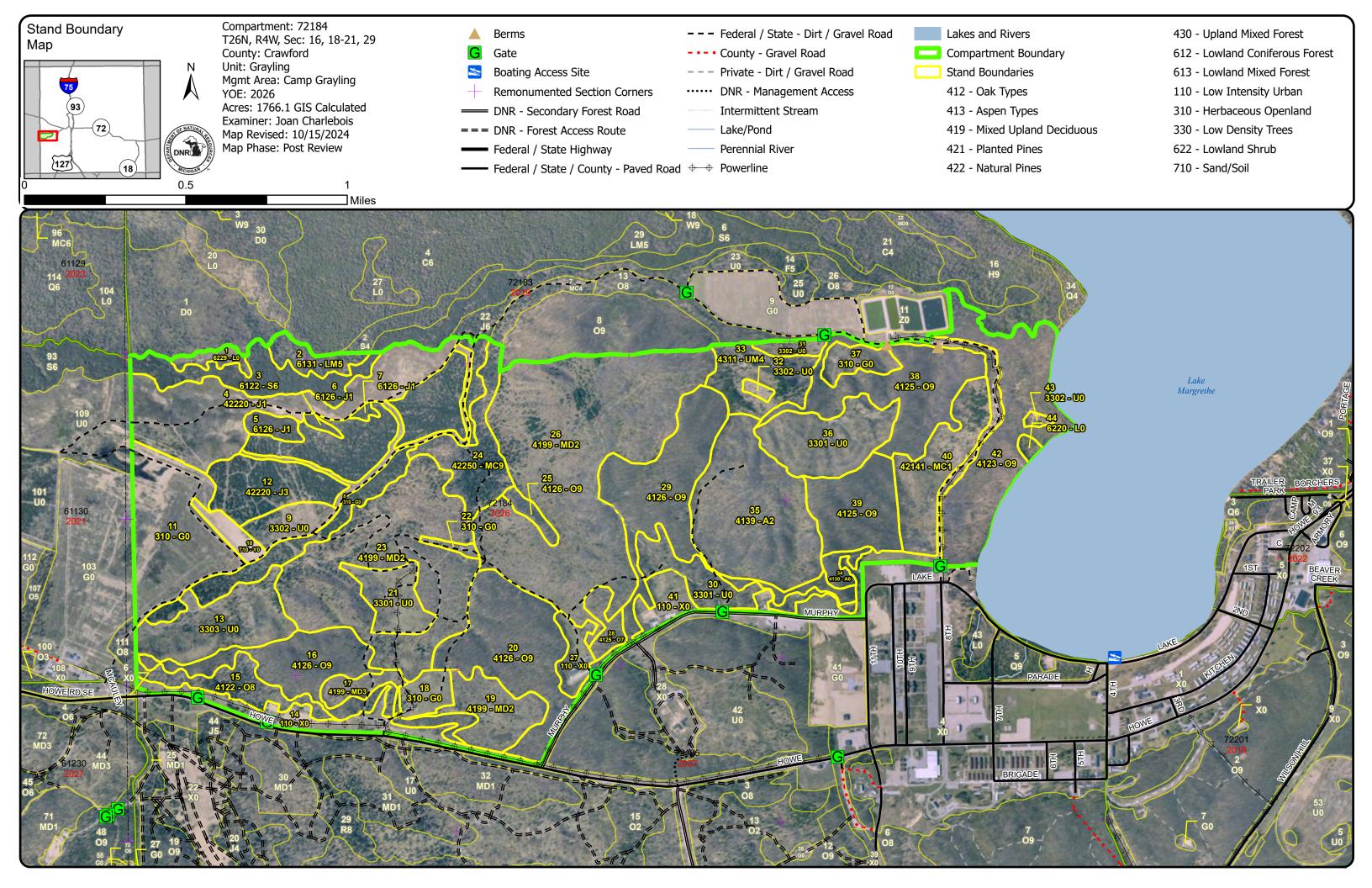
The following reports from the Inventory are attached:

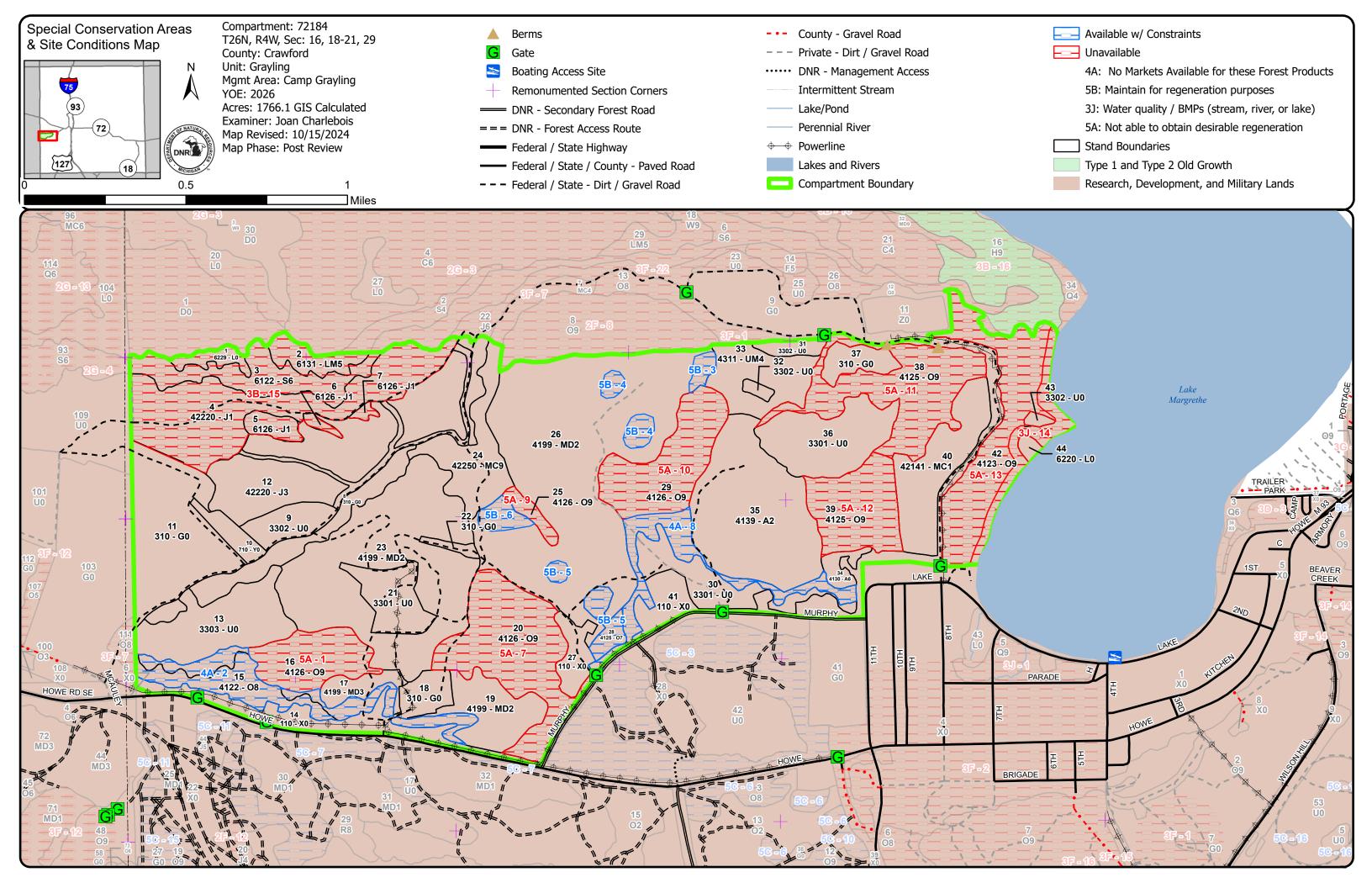
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

The following information is displayed, where pertinent, on the attached compartment maps:

Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system







Joan Charlebois: Examiner

Grayling Mgt. Unit



#### Age Class

			/	/	/   		/ /.	/ <b>s</b> /	/ _ /	_ /	/ 	/	/ & /.	/ s /	/ & /	/ 2 /	/ s /	/ /	A STATE OF THE PARTY OF THE PAR
	<b>₩</b>		3/8		g g	3/1		3/8										ST JEES	TO TO
Aspen	0	0	96	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	102
Herbaceous Openland	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114
Jack Pine	0	89	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237
Low-Density Trees	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	13
Lowland Shrub	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	37
Mixed Upland Deciduous	0	0	409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	409
Natural Mixed Pines	0	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	37
Oak	0	0	0	0	0	0	0	0	0	0	0	87	274	88	6	0	0	0	455
Planted Mixed Pines	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Sand, Soil	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Upland Mixed Forest	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	33
Urban	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92
Total	399	135	505	148	0	6	33	37	0	37	0	87	287	88	6	0	0	0	1768



## **Report 2 – Treatment Summary**

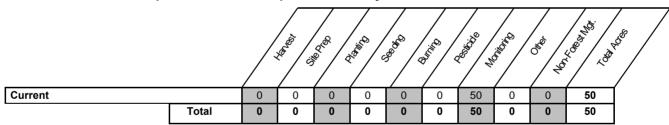
# Grayling Mgt. Unit Year of Entry: 2026

#### **Acres of Harvest**

Compartment 184
Total Compartment Acres: 1,766

Commercial Harvest Harvests with Site Condition - 0
Next Step Harvest - 0
Habitat Cut - 0

### **Proposed and Next Step Treatments by Method**



	s t		Graylir	ng Mgt. Unit		Repo	rt 3 1	Γreatments		Compartmen Year of Entry		DNR DNR
	a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
<u>Pro</u>	pose	d Treatmer	nts:									
	13	72184013- Monitor	50.3	3303 - Mixed Low Density Trees	Nonstock	ed 0	Unspec ified	Monitoring	Natural Regen (Re-Inventory)	4319 - Mixed Upland Forest	Even-Aged	l No
	Preso	cription check	regen									
		Step_										
	Treat	tments:										
	Acce Rege		es a mix o	f oak, red maple, as	spen & pine	, with po	oorly stock	ked inclusions.				
	Othe Com	<u>r</u> ment:										
		Condition:										

Total Treatment 50.3 Acreage Proposed:

Proposed Start Date: 10/1 /2033

Grayling Mgt. Unit

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Compartment: 184 Year of Entry: 2026



Availa	ability for	Managemer	nt						
Total	Acres	Acres Avail	Acres		Domina	nt Site	e Con	dition	s
Acres	Available	With Condition	Not Available		4A	5B	3B	3J	5A
103	103	0	0	Aspen					
114	113	0	0	Herbaceous Openland			0		
237	137	0	100	Jack Pine			100		
175	175	0	0	Low-Density Trees				0	
13	0	0	13	Lowland Mixed Forest			13		
9	3	0	7	Lowland Shrub			7		
37	0	0	37	Lowland Spruce/Fir			37		
408	386	22	0	Mixed Upland Deciduous		22			
37	37	0	0	Natural Mixed Pines		0			
455	0	87	368	Oak	77	10		21	347
46	46	0	0	Planted Mixed Pines					
9	9	0	0	Sand, Soil					
33	33	0	0	Upland Mixed Forest		0			
92	92	0	0	Urban					
1,766	1,133	109	524	Total Forested Acres	77	32	157	21	347
	64%	6%	30%	Relative Percent					

\*Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.

Site Dominant Site No. Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1 Unavailable	5A: Not able to obtain desirable regeneration	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments:						
2 <b>Available</b>	4A: No Markets Available for these Forest Products	48	Unspecified	Unspecified	Unspecified	Unspecified
Comments:						

# **Grayling Mgt. Unit**

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Comments: Marked-to-leave shelterwood-seed island within the larger clearcut stand. Was not specified as retention.  4	5B: Maintain for regeneration purposes    Unspecified   Unspecified   Unspecified   Unspecified	3	Available	5B: Maintain for regeneration purposes	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Marked-to-leave shelterwood-seed islands within the larger clearcut stand. Was not specified as retention.  Comments: Marked-to-leave shelterwood-seed islands within the larger clearcut stand. Was not specified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified as retention.  Available 5B: Maintain for 7 Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Comments: Marked-to-leave shelterwood-seed island within the larger clearcut stand. Was not specified as retention.  Unavailable 5A: Not able to obtain 77 Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified	Iterwood-seed islands within the larger clearcut stand. Was not specified as retention.  5B: Maintain for regeneration purposes  Iterwood-seed islands within the larger clearcut stand. Was not specified Unspecified Unspecified  Iterwood-seed islands within the larger clearcut stand. Was not specified as retention.  5B: Maintain for 7 Unspecified Unspecified Unspecified Unspecified  Iterwood-seed island within the larger clearcut stand. Was not specified as retention.  5A: Not able to obtain 77 Unspecified Unspecified Unspecified Unspecified Unspecified  4A: No Markets Available 29 Unspecified Unspec			nelterwood-seed island within the	e larger cl	earcut stand. Was not s	specified as retention.		
Marked-to-leave shelterwood-seed islands within the larger clearcut stand. Was not specified as retention.  Available 5B: Maintain for regeneration purposes  Comments: Marked-to-leave shelterwood-seed islands within the larger clearcut stand. Was not specified as retention.  Available 5B: Maintain for regeneration purposes  7 Unspecified Unspecified Unspecified  Comments: Marked-to-leave shelterwood-seed island within the larger clearcut stand. Was not specified as retention.  Unavailable 5A: Not able to obtain desirable regeneration  77 Unspecified Unspecified  Unspecified Unspecified  Unspecified  Comments:	5B: Maintain for regeneration purposes  Iterwood-seed islands within the larger clearcut stand. Was not specified as retention.  5B: Maintain for 7 Unspecified Un	ļ	Available		8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Marked-to-leave shelterwood-seed islands within the larger clearcut stand. Was not specified as retention.  Available 5B: Maintain for 7 Unspecified Unspecified Unspecified  Comments: Marked-to-leave shelterwood-seed island within the larger clearcut stand. Was not specified as retention.  Unavailable 5A: Not able to obtain desirable regeneration  77 Unspecified Unspecified Unspecified  Unspecified Unspecified  Comments:	Iterwood-seed islands within the larger clearcut stand. Was not specified as retention.  5B: Maintain for 7 Unspecified Unspec			nelterwood-seed islands within th	ne larger o	clearcut stand. Was not	specified as retention.		
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Comments: Marked-to-leave shelterwood-seed island within the larger clearcut stand. Was not specified as retention.  Unavailable 5A: Not able to obtain desirable regeneration  Tomments:	regeneration purposes  Ilterwood-seed island within the larger clearcut stand. Was not specified as retention.  5A: Not able to obtain desirable regeneration  77 Unspecified			nelterwood-seed islands within th	ne larger o	clearcut stand. Was not	specified as retention.		
Marked-to-leave shelterwood-seed island within the larger clearcut stand. Was not specified as retention.  Unavailable 5A: Not able to obtain 77 Unspecified Unspecified Unspecified Comments:	5A: Not able to obtain desirable regeneration  77 Unspecified		Available		7	Unspecified	Unspecified	Unspecified	Unspecified
desirable regeneration  Comments:	desirable regeneration  4A: No Markets Available 29 Unspecified Unspecified Unspecified Unspecified			nelterwood-seed island within the	e larger cl	earcut stand. Was not s	specified as retention.		
			Unavailable		77	Unspecified	Unspecified	Unspecified	Unspecified
Available 44: No Markets Available 29 Unspecified Unspecified Unspecified			Comments:						
			Available		29	Unspecified	Unspecified	Unspecified	Unspecified
Comments:									
			Comments:						

Grayling Mgt. Unit
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9	Unavailable	5A: Not able to obtain desirable regeneration	6	Unspecified	Unspecified	Unspecified	Unspecified
(	Comments:						
10	Unavailable	5A: Not able to obtain desirable regeneration	52	Unspecified	Unspecified	Unspecified	Unspecified
(	Comments:						
11	Unavailable	5A: Not able to obtain desirable regeneration	67	Unspecified	Unspecified	Unspecified	Unspecified
(	Comments:						
12	Unavailable	5A: Not able to obtain desirable regeneration	44	Unspecified	Unspecified	Unspecified	Unspecified
(	Comments:						
13	Unavailable	5A: Not able to obtain desirable regeneration	67	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
14	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	21	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: RMZ along the lake	e and shoreline wetlands.					

**Grayling Mgt. Unit** 

Compartment: 184 Year of Entry: 2026 Joan Charlebois: Examiner



15	Unavailable	3B: Threatened, endangered, and special concern species	157	Unspecified	Unspecified	Unspecified	Unspecified
	omments: CVA Dedicated H	abitat Area					

10/14/2024 5:18:44 PM - Page 4 of 4 TONELLOM1 Mgt. Unit

Compartment: #Type! Year of Entry:



#### Report 5 - PROPOSED SPECIAL CONSERVATION AREA\* (SCA) DETAILS

\* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				

Grayling Mgt. Unit Compartment: 184





## Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

\* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

Conservation Area	Туре	Description	HCVA = High Conservation Value Area SCA = Special Conservation Area
	esearch and Military Areas	These areas provide facilities and lands specifically dedicated include the 5,847 acre Forest Fire Experiment Station, the 12,0 Area, the Beaver Islands Archipelago Wildlife Research Area (High and Hog Islands, all state owned land on Beaver, South Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries F Nursery, and over 144,000 acres of Military Lands.	000 acre Houghton Lake Wildlife Research (that includes most of Garden Island, all of Fox and North Fox Islands), the Cusino



	d Level 4 Co	ver Type	8	Size De	nsity	Acres Stand Age	BA Range	Managed S	Site	General Comments
1	6229 - Mixed	lowland sl	nrub	Nonsto	ocked	6.8	Unspecified	No		2012 Range 8 spot fire burned dense black spruce swamp cover and a narrow dry ridge, leaving only scattered spruce and a few xlog WP. JP, spruce & tamarack are seeding in, mostly on the drier ground. Aside from the ridge, the stand is on saturated ground with patches of tag alder, marsh, leatherleaf, sheep laurel, & leatherleaf.
2	6131 - Hemlock, V Bi	Vhite Pine rch	, Maple, Pol	etimbe	r Mediu	m 13.2 114	1-50	N/A		Marginal mixed E/Q stand on saturated soil has varying cover in immature to overmature RM, black spruce, NWC, paper birch, &
	Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Canopy Specie	es Density	Avg. Height	Size	supercanopy WP. Understory is predominantly tag alder but there is locally high cover in RM saplings, and scattered black spruce regen.
	White Pine	5	XLog/Log	22		Tag Alder	High	5 - 10 feet	Tall Shrub	Since last inventory, a cohort of subcanopy RM has recruited into the
	Black Spruce	25	Pole/Sapling	7	89	Black Spruce	Low	< 5 feet	Sapling	canopy, shifting the stand's overall size class from log to pole. Carried
	Paper Birch	5	Pole	7		Michigan Holly	Trace	5 - 10 feet	Tall Shrub	forward the previous inventory age on the mature RM & the spruce age from stand 6. There are likely multiple age bands present but did not
No	orthern White Cedar	15	Log/Pole	12		Red Maple	Medium	Variable	Sapling	core to confirm.
3	6122 - Bla	ack Spruce	e P	oletimb	er Wel	36.6 89	51-80	N/A		Spindly black spruce, with JP mixing in along the transition ground margin
	Canopy Species	% Cover	Size Class	DBH	l Age	Sub-Canopy Speci	es Density	Avg. Height	Size	and occasional WP, tamarack, RM & RP. Best growth is on the drier transition ground. Spruce cover is dense, but not reflected in the BA
	White Pine	1	XLog/Log	22		Black Spruce	Low	5 - 10 feet	Sapling	swings due to the proportion of large sapling material in the canopy. RM
	Black Spruce	90	Pole/Sapling	6	89	Leatherleaf	Low	< 5 feet	Tall Shrub	is relatively common in the understory. Spot fires from the 2012 Range 8
	Jack Pine	7	Pole/Log	8		Sheep Laurel	High	< 5 feet	Tall Shrub	fire crept through, leaving scattered dead trees. There is a minor older age class in the spruce (113 yrs).
	Tamarack	2	Pole/Sapling	6		Red Maple	Medium	Variable	Sapling	age class in the sprace (115 yrs).
4	40000 11 1						lm m oturo			Part of the stand burned in 2012. The rest had intact JP cover. Most of
	42220 - Natu	ıral Jack P	ine		Poor	88.6 8	Immature	N/A		
	Canopy Species	% Cover	ine Size Class		I Age	88.6 8 Sub-Canopy Specie		N/A Avg. Height	Size	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand
	Canopy Species Jack Pine	<b>% Cover</b> 95		<b>DB</b> I		Sub-Canopy Specie Black Cherry		Avg. Height 5 - 10 feet	Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-
	Canopy Species	% Cover	Size Class	<b>DBH</b> 1 2	I Age	Sub-Canopy Speci	es Density	Avg. Height	Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested beachmark. Spring is gooding in along the symmetry
	Canopy Species Jack Pine	<b>% Cover</b> 95	Size Class Sapling	<b>DB</b> I	I Age	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf	Trace Low Low	Avg. Height 5 - 10 feet	Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested beachmark. Spring is gooding in along the symmetry
	Canopy Species Jack Pine Red Maple	% Cover 95	Size Class Sapling Sapling	<b>DBH</b> 1 2	I Age	Sub-Canopy Specie Black Cherry Jack Pine	Trace Low	Avg. Height 5 - 10 feet < 5 feet	Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.
	Canopy Species Jack Pine Red Maple	% Cover 95	Size Class Sapling Sapling	<b>DBH</b> 1 2	8	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf	Trace Low Low High	Avg. Height 5 - 10 feet < 5 feet < 5 feet	Tall Shrub Seeding Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.
5	Canopy Species Jack Pine Red Maple	% Cover 95 1 4	Size Class Sapling Sapling Sapling	<b>DBH</b> 1 2	8	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf Sheep Laurel	Trace Low Low High	Avg. Height 5 - 10 feet < 5 feet < 5 feet < 5 feet	Tall Shrub Seeding Tall Shrub Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96).
5	Canopy Species  Jack Pine  Red Maple  Black Spruce	% Cover 95 1 4 4 and Jack P	Size Class Sapling Sapling Sapling	DBH 1 2 1	8	Sub-Canopy Specie  Black Cherry  Jack Pine  Leatherleaf  Sheep Laurel  Common Lowbush Blue	Trace Low Low High berry Medium	Avg. Height 5 - 10 feet < 5 feet	Tall Shrub Seeding Tall Shrub Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing
5	Canopy Species  Jack Pine  Red Maple  Black Spruce	% Cover 95 1 4 4 and Jack P	Size Class Sapling Sapling Sapling	DBH 1 2 1	Age 8	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf Sheep Laurel Common Lowbush Blue	Trace Low Low High berry Medium	Avg. Height 5 - 10 feet < 5 feet < 5 feet < 5 feet < 5 feet N/A	Tall Shrub Seeding Tall Shrub Tall Shrub Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.
5	Canopy Species  Jack Pine  Red Maple  Black Spruce  6126 - Lowlad  Canopy Species	% Cover 95 1 4 4 and Jack P % Cover	Size Class Sapling Sapling Sapling ine	DBH 1 2 1	8 8 Poor Age	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf Sheep Laurel Common Lowbush Blue 7.6 28 Sub-Canopy Specie	Pes Density Trace Low Low High berry Medium 1-50 Pes Density	Avg. Height 5 - 10 feet < 5 feet < 5 feet < 5 feet < 5 feet  Avg. Height	Tall Shrub Seeding Tall Shrub Tall Shrub Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.
5	Canopy Species  Jack Pine  Red Maple  Black Spruce  6126 - Lowlat  Canopy Species  Jack Pine	% Cover 95 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Size Class Sapling Sapling Sapling ine Size Class Sapling/Pole Sapling/Pole	DBH 1 2 1 Sapling DBH 4	8 8 Poor I Age 28	Sub-Canopy Specie  Black Cherry  Jack Pine  Leatherleaf  Sheep Laurel  Common Lowbush Blue  7.6 28  Sub-Canopy Specie  Leatherleaf	Trace Low Low High berry Medium  1-50  ES Density Medium	Avg. Height 5 - 10 feet < 5 feet < 5 feet < 5 feet < 5 feet	Tall Shrub Seeding Tall Shrub Tall Shrub Tall Shrub Size Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96).  On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96).
	Canopy Species  Jack Pine  Red Maple  Black Spruce  6126 - Lowlat  Canopy Species  Jack Pine  Black Spruce	% Cover   95   1   4   4   4   4   4   4   4   4   4	Size Class Sapling Sapling Sapling ine Size Class Sapling/Pole Sapling/Pole	DBH 1 2 1 Sapling DBH 4 2 Sapling	8 8 Poor I Age 28	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf Sheep Laurel Common Lowbush Blue 7.6 28 Sub-Canopy Specie Leatherleaf Sheep Laurel	Trace Low Low High berry Medium  1-50  Bes Density Medium  High  1-50	Avg. Height 5 - 10 feet < 5 feet	Tall Shrub Seeding Tall Shrub Tall Shrub Tall Shrub Size Tall Shrub	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing
	Canopy Species  Jack Pine  Red Maple  Black Spruce  6126 - Lowla  Canopy Species  Jack Pine  Black Spruce  6126 - Lowla	% Cover   95   1   4   4   4   4   4   4   4   4   4	Size Class Sapling Sapling Sapling ine Size Class Sapling/Pole Sapling/Pole ine	DBH 1 2 1 Sapling DBH 4 2 Sapling	Poor 28	Sub-Canopy Specie Black Cherry Jack Pine Leatherleaf Sheep Laurel Common Lowbush Blue 7.6 28 Sub-Canopy Specie Leatherleaf Sheep Laurel	Trace Low Low High berry Medium  1-50  Bes Density Medium  High  1-50	Avg. Height 5 - 10 feet < 5 feet  N/A  Avg. Height < 5 feet < 5 feet	Tall Shruk Seeding Tall Shruk Tall Shruk Tall Shruk  Size Tall Shruk Tall Shruk	the stand was final harvested in fall 2016 (61-610-16-01) except for an area of brushy immature JP on the north edge of Range 8. The stand encompasses a mosaic of upland, transition, and lowland ground. Post-harvest JP regen is patchy (ranging from LDT to J3) but averages within the forested benchmark. Spruce is seeding in along the swamp edge.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.  Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96). On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.



Stand	d Level 4 C	over Type		Size De	ensity	Acres	Stand Age	BA Range	Managed \$	Site	General Comments
7	6126 - Low	land Jack P	Pine	Sapling	g Poor	1.7	28	1-50	N/A		Was within stand 12's harvest, cut 2"+ DBH spring of 1996 (#002-96).
	Canopy Species	% Cover	Size Class	DBH	l Age	Sub-Ca	nopy Specie	es Density	Avg. Height	Size	On low and transition ground with sheep laurel & leatherleaf. Colonizing JP & spruce has shifted the cover type from treed bog to forested.
	Black Spruce	10	Sapling/Pole	2		Bla	ck Cherry	Trace	5 - 10 feet	Tall Shrub	or a sprace has drinted the server type from trood bog to reflected.
	Jack Pine	90	Sapling/Pole	4	28	She	ep Laurel	High	< 5 feet	Tall Shrub	
				•		Le	atherleaf	Medium	< 5 feet	Tall Shrub	
8	310 - Herbac	ceous Open	land	Nonsto	ocked	12.7	0	Unspecified	No		Mowed fuelbreaks with occasional NPO & RP.
9	3302 - Low Der	nsity Conife	r Trees	Nonsto	ocked	16.0		Unspecified	No		Was part of stand 12, set back by burning. JP & NPO have been recolonizing the burn area, part of which is now being maintained open by mowing.
10	710 - \$	Sand, Soil		Nonsto	ocked	8.9	0	Unspecified	No		Down range sand berm.
11	310 - Herbad	ceous Open	ıland	Nonsto	ocked	72.9		Unspecified	No		Range 8 fan. Mowed opening with NPO, BC & JP scattered along the perimeter.
12	42220 - Na	tural Jack F	Pine	Sapling	g Well	136.4	28	1-50	N/A		Natural JP stand was cut 2"+ DBH in spring 1996 (#002-96) except for
	Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Ca	nopy Specie	es Density	Avg. Height	Size	two red-line excluded patches of sparse JP in the far SW & NE.  Regenerated to dense JP cover with NPO, WO and traces of RP, WP &
	White Oak	3	Sapling/Pole		28		ck Cherry	Low	5 - 10 feet	Tall Shrub	RM. Stand occupies the outwash plain between the Bear Swamp and the
	Red Pine	1	Pole	8			-				oak hills. Most of the oak occurs on the stand's SE edge bordering the
	White Pine	1	Pole/Sapling	7							hills. There is some transition ground on the NW edge by the treed bog stands. Cleared fuelbreaks are being maintained open through mowing.
	Jack Pine	85	Sapling/Pole	4	28						The widest fuelbreak was split out as stand 20.
ı	Northern Pin Oak	9	Sapling/Pole	3	28						·
	Red Maple	1	Sapling	2	28						



Stand	Level 4 C	over Type	S	ize Den	sity	Acres	Stand Age	BA Range	Managed	Site	General Comments
13	3303 - Mixed L	ow Density	Trees I	Nonstoo	ked	50.3	0	Unspecified	4191 - Mixed Deciduous wit		This north half of parent stand 16 was final harvested by Jan 2020 (#618-16), cutting trees 2"+ DBH except RP & WP. Cover does not yet meet
						Sub-Ca	nopy Specie	s Density	Avg. Height	Size	the Forested benchmark because the seedling class (<3' tall) cannot be counted toward canopy cover. The stand has a mix of residual and regen
						Re	ed Maple	Low	< 5 feet	Seeding	from the cut. Most of the residual is pockets of RP poles. The flats on
						Re	ed Maple	Low	5 - 10 feet	Sapling	the north side have RP & JP seeding in; the oak regen there is not
						W	hite Oak	Low	< 5 feet	Seeding	secure, generally below 3' tall. Regen on the hilltop in the south end is seeing the heaviest deer browse. Browse is lightest on the steep hillside;
						R	ed Pine	Trace	10 - 20 feet	Sapling	the RM, BTA & stump-origin oak is recruiting there. The stand's seed-
						Bigto	ooth Aspen	Low	5 - 10 feet	Sapling	origin WO is unlikely to recruit due to repeated browsing. On Grayling
						R	ed Pine	Low	>20 feet	Pole	sands.
						R	ed Oak	Trace	5 - 10 feet	Sapling	
						Ja	ack Pine	Trace	< 5 feet	Seeding	
						Wit	tch Hazel	Low	< 5 feet	Tall Shrul	
						R	ed Pine	Trace	>20 feet	Log	
						W	hite Oak	Trace	< 5 feet	Sapling	
						R	ed Pine	Trace	< 5 feet	Seeding	
						Bla	ck Cherry	Low	5 - 10 feet	Tall Shrul	
14	110 - Low Ii 4122 - '	Oak, Pine		Nonstoo vtimber l		31.1 n 23.8	111	Unspecified 51-80	No N/A		Range facilities and cleared corridor along the fence, maintained open through mowing, with scattered oak and pine.  Stand occupies a dry south aspect overlooking Howe Rd and range
	Canopy Species	% Cover	Size Class	DBH	Aae	Sub-Ca	nopy Specie	s Density	Avg. Height	Size	facilities. On Grayling sands. Terrain becomes increasingly steep
	k/Red (Hybrid) Oak	20	Log/XLog	16			ck Cherry	Trace	Variable	Tall Shrul	moving west. The oak canopy has open-grown form. Cover varies with slope position: BRO occurs mostly on the hilltop, WO increases moving
	Red Maple	5	Pole/Sapling	6		R	ed Pine	Trace	Variable	Sapling	downslope, and the NPO is concentrated on the south edge flats. JP &
	Red Pine	10	Log/Pole	13		North	ern Pin Oak	Low	Variable	Sapling	RP increase on the lower slopes also. There is full cover in advanced
	Jack Pine	20	Pole	8	62	Ja	ack Pine	Low	Variable	Sapling	oak regen under the JP in the middle of the stand but only trace to low amounts under the oak canopy. The oldest JP & NPO have been
No	orthern Pin Oak	20	Pole/Log/XLog	8		W	hite Oak	Medium	5 - 10 feet	Sapling	dropping out. The NPO canopy is now represented more by the younger
	White Oak	25	Log/Pole/XLog	13	111	Wit	tch Hazel	Trace	5 - 10 feet	Tall Shrul	age class of pole-log NPO than by the mature log-xlog class. The canopy
											1 is dotted with openings from ground-disturbing activity before the range was fenced in.
16	4126 - White, E	Black, N. P	in Oak Sa	awtimbe	r Well	58.9	111	111-140	N/A		Fair-quality BRO, with WO, RM, sub-acre BTA clones, and RP of all
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Specie	s Density	Avg. Height	Size	sizes. The BRO has more in the pole class than is typical in the compartment. The WO is heavy to narrow-crowned poles. Most of the
	Bigtooth Aspen	3	Log	12	-		hite Oak	Trace	< 5 feet	Seeding	stand is on Grayling sands, with a few acres of Graycalm-Grayling sands
	Red Pine	4	Log/XLog/Pole			R	ed Pine	Trace	Variable	Sapling	in the NE. The most-suppressed oak poles are dropping out. On the
No	orthern Pin Oak	1	Log/XLog	17		R	ed Oak	Low	Variable	Sapling	stand's sheltered north aspect, the proportion in BRO increases. WO increases on the drier south aspects, where the tree cover is shorter in
	Red Maple	7	Pole/Sapling	6				1	1	,	general. Most of the xlog oak is on the south margin but there wasn't
Black	k/Red (Hybrid) Oak	60	Log/Pole	11	111						enough representation across the stand to split the size class to xlog for
	White Oak	25	Pole/Log	9							either species. Little of the RM is seen from above. Super-canopy RP are scattered across the stand with localized pockets of RP established

understory that has escaped being browsed.

around them. Aside from the RP regen, there is very little in the

Stand	Stand Level 4 Co		;	Size Density		Acres	Stand Age BA Range		Managed S	Site	General Comments			
17	4199 - Other Mixed Upland Deciduous			Sapling	g Well	11.0	15	Immature	N/A		Mature oak cover was cut Feb 2009 (#635-07), merch stems except RP & WP. Most of the stand is on Graycalm-Grayling sands. Regenerated to			
	Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Ca	nopy Specie	s Density	Avg. Height	Size	RM, BTA, and a secure oak component. The BRO regen is stump-origin			
	Red Maple	50	Sapling	2	15	Blac	ck Cherry	Low	10 - 20 feet	Tall Shrub	and competitive with the RM-BTA. The WO is more in single-stems than			
Black	k/Red (Hybrid) Oak	15	Sapling	3	15	Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	stump-origin, is shorter yet still secure from deer browse. There are traces of residual pole RM & WO. RP residual from the cut is mainly in			
	Red Pine	3	Pole/Log	9							the SE arm. Last YOE inventory noted only light browse on the regen in			
E	Bigtooth Aspen	27	Sapling	2	15						this stand, while the adjacent mature oak stands had heavy deer use			
	White Oak	5	Sapling	1							focused on the previous fall's good acorn crop.			
18	310 - Herbace	eous Open	land	Nonsto	ocked	12.3	0	Unspecified	No		Was part of the Range 5 Oak harvest, cut Feb 2009 (#635-07). Subsequently maintained open around a range observation tower. Residual RP are scattered within the west edge.			
19	4199 - Other Mixed	d Upland D	eciduous S	Sapling I	Medium	31.7	15	Immature	N/A		Mature oak cover was cut Feb 2009 (#635-07), merch stems except RP-			
	Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Ca	nopy Specie	s Density	Avg. Height	Size	WP and an acre retention island (in the SE). Most of the stand is on			
	Red Pine	2	Log/Pole/Sap		J		ck Cherry	Low	10 - 20 feet	Tall Shruk	Graycalm-Grayling sands. Regen from the cut includes RM, oak and aspen, with scattered residual RP, WP, and pole RM. The stump-origin			
Black	k/Red (Hybrid) Oak	3	Log/XLog	14	109	Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	oak (mainly BRO) is competitive with the RM-BTA. The WO is mainly			
	White Oak	1	Log	11		Wh	nite Oak	Low	< 5 feet	Sapling	single-stem origin, is shorter (7-10' tall) yet secure, and occurs in dense patches in the S1/3 of the stand; most of the BTA occurs there also. The			
	Red Maple	50	Sapling	2	15			1	I	1 - 1	S1/3 has 75-100% canopy closure, the NE & NW are in the 50-75%			
	White Oak	14	Sapling	1							range, and the middle of the stand drops into the 25-50% category where			
Е	Bigtooth Aspen	15	Sapling	2	15						the pre-harvest canopy had been gappy. The proportion in oak vs RM increases in those lower-stocked areas. Last YOE inventory noted only			
Black	k/Red (Hybrid) Oak	10	Sapling	3	15						light browse on the regen in this stand, while the adjacent mature oak			
N	orthern Pin Oak	5	Sapling	3	15						stands had heavy deer use focused on the previous fall's good acorn cro			
20	4126 - White, B	Black, N. Pi	in Oak S	Sawtimb	er Well	77.4	107	111-140	N/A		Mixed oak stand on gently-rolling terrain. The best site quality is in the			
(	Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Ca	nopy Specie	s Density	Avg. Height	Size	NE on Graylcalm-Grayling sands, and along Murphy Road. Moving west, heights & diameters decrease on the Grayling sands. The proportion in			
	Red Pine	1	Pole/Log/XLog	g 8		Wit	ch Hazel	Trace	5 - 10 feet	Tall Shruk	WO increases on the drier south aspects. The WO is heavy to narrow-			
	Red Maple	7	Pole/Sap/Log	6		Wł	nite Oak	Low	< 5 feet	Seeding	crowned poles. The most suppressed oak poles have been dropping			
Black	k/Red (Hybrid) Oak	60	Log/Pole/XLog	g 12	107	Re	d Maple	Trace	Variable	Sapling	out. The traces of surviving NPO are on the perimeter flats and interior valleys. Small clumps of overmature BTA are scattered across the			
	White Oak	25	Pole/Log/XLog	g 9		Re	ed Pine	Trace	Variable	Sapling	stand. The RM is suppressed, with more representation by BA than			
N	orthern Pin Oak	3	Log/XLog	13		Wh	nite Pine	Trace	Variable	Sapling	canopy % due to low crown position. There are traces of RP & WP in the			
E	Bigtooth Aspen	4	Log/XLog/Pole	e 14							canopy & subcanopy. Very open below except for witch hazel and occasional RM, WP & RP saplings. The WO seedling layer is heavily browsed.			
21	3301 - Low Densi	ty Deciduo	us Trees	Nonsto	ocked	23.8	0	Unspecified	No		Part of a larger area cut fall 2009 to Jan 2010 (#623-06), merch except RP, WP & green-marked trees. Contract was modified to facilitate ISBC range construction, with additional oak & RM marked to leave. This NF portion on the hilltop contains most of the ISBC developments. The area is maintained open through mowing. Residual RM, oak & RP are scattered across the opening.			
22	310 - Herbace	eous Open	land	Nonsto	ocked	3.1	0	Unspecified	No		This former decking area was part of stand 23's 2010 harvest. Is being maintained open through mowing around the scattered RP and patches of oak & BC regen			

Grayling Mgt. Unit



Stand Level 4 C	over Type		Size Density		Acres Stand Aç	je BA Range	Managed \$	Site	General Comments		
23 4199 - Other Mixe	d Upland D	eciduous S	Sapling	Medium	137.3 14	1-50	N/A		Mature oak cover was cut by Jan 2010 (#623-06), merch except RP, W		
Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Canopy Spe	cies Density	Avg. Height	Size	& green-marked trees. Contract was modified to facilitate ISBC range construction, with additional oak & RM marked to leave across the stand		
Red Maple	49	Sapling/Pole	2	14	Black Cherry	Low	Variable	Tall Shrub	(the RM residual had to be merged into the 14-year old sapling canopy		
Black/Red (Hybrid) Oak	10	Sapling	3	14	Witch Hazel	Low	5 - 10 feet	Tall Shrub	record due to a MiFI limitation). Three islands in the SW (~6 ac. total)		
White Oak	15	Sapling	1		Red Maple	Low	< 5 feet	Seeding	had 30 BA in oak marked-to-leave already. The residual oak saw are epicormic branching. The residual RM poles have been top-dying and		
Bigtooth Aspen	5	Sapling	3	14	White Oak	Low	< 5 feet	Seeding	basal sprouting. Three acres on the S edge were cut in Feb 2009 (#635		
White Pine	1	Log/Pole/Sap	11	_		1.	1		07). Regen from the cut is the featured canopy, with residual RP-O-RM		
Black/Red (Hybrid) Oak	5	Log	13	111					WP occupying a super-canopy layer above it. The regen is primarily RN with good oak and minor BTA components. The stump-origin oak is		
Red Pine	10	Pole/Sap/Log	g 8	68					competitive with the RM. The WO sapling component is mostly single-		
White Oak	5	Log	11	116					stem in origin, shorter (6-10' tall) but secure, and growing in dense patches. The minor WO & RM seedling class is heavily browsed and		
<b>24</b> 42250 -	Pine, Oak	S	Sawtimber Well		36.6 62	81-110	N/A		pine.  Mixed pine-oak stand in a shallow valley, mostly on Grayling sands. Fire scarred legacy RP seeded in the stand's core cover. Scattered canopy WP and locally dense WP understory cover established from a couple of		
Canopy Species	% Cover Size Clas		DBH	I Age	Sub-Canopy Spe	cies Density	Avg. Height	Size			
White Oak	20	Log/Pole/XLog	g 11	105	White Oak	Trace	Variable	Sapling	xxlog WP. The NPO has largely dropped out of the canopy. WO		
White Pine	5	Pole/Log	8		Red Pine	Medium	Variable	Sapling	increases moving upslope, with BRO on the top edge. The JP is mostly		
Jack Pine	9	Pole/Log/Sap	7		White Pine	Medium	Variable	Sapling	on the stand's NW edge against the outwash plains. Recruitment of RP & WP from the understory has been off-setting losses in the NPO.		
Red Pine	55	Pole/Log/XLog	g 9	62							
Red Maple	1	Pole/Sapling	6								
Black/Red (Hybrid) Oak	5	Log/XLog	14								
Northern Pin Oak	5	Log/Pole	12	101							
<b>25</b> 4126 - White,	Black, N. P	in Oak S	Sawtimb	er Well	6.0 130	81-110	N/A		Narrow island of oak on an east aspect, surrounded by stand 26's 2010		
Canopy Species	pecies % Cover Siz		DBH	I Age	Sub-Canopy Spe	cies Density	Avg. Height	Size	harvest. Individual dead stems (not pocket mortality) have been wind- throwing. The oak cored 20 years older than expected for this area. Or		
Red Maple	10	Pole/Sapling	6		White Oak	Medium	< 5 feet	Seeding	Grayling sands.		
White Oak	35	Log/Pole	11		White Oak	Low	5 - 10 feet	Sapling			
Black/Red (Hybrid) Oak	53	Log/XLog	14	130		*					
		209/71209	14	130							
White Pine	1	Pole/Sapling		130							

Red Pine

Pole/Log/Sap



Stand	Level 4 Co	over Type	s	Size Density		Acres	es Stand Age BA Ran		Managed S	Site	General Comments			
26	4199 - Other Mixed	d Upland D	Deciduous Sa	apling I	Medium	228.3	14	1-50	N/A		Mature oak cover was harvested by late winter 2010 (#623-06), cutting merch stems except RP-WP and green-marked oak (22 acres with 30 B			
	Canopy Species	% Cover	Size Class	DBH	l Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	oak saw residual in 5 islands, merged back into the parent stand). The			
	Red Maple 20 Sapling/Pole 2 1					Blac	ck Cherry	Low	5 - 10 feet	Tall Shrub	residual oak are epicormic branching. The residual RM poles have been			
Blac	ck/Red (Hybrid) Oak	10	Sapling	3	14	Wh	nite Oak	Low	< 5 feet	Seeding	top-dying and basal sprouting; that pole material had to be merged into			
	White Oak	25	Sapling	1	14	Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	the 14-year old sapling canopy record due to a MiFI limitation. RP-WP all sizes occur scattered across the stand and in dense pockets in the V			
	Bigtooth Aspen	25	Sapling	2	14						& N-center. Regen from the cut is the featured canopy and includes			
	Red Pine	5	Pole/Log/Sap	8							variable distribution in oak, RM & BTA. The stump-origin oak is			
	White Pine	5	Pole/Sap/Log	7							competitive with the RM-A. The single-stem origin oak (mostly WO) is shorter (6-10' tall) but secure, and occurs in dense patches. Samples of			
Blac	ck/Red (Hybrid) Oak	3	Log/XLog	16	110						that WO also aged to the harvest. The minor WO seedling class is			
Ν	Northern Pin Oak	5	Sapling	2	14						heavily browsed and unlikely to recruit. BTA increases moving upslope			
	White Oak	2	Log/XLog	14							the east. The most concentrated RM cover is on the upper slopes and hilltop in the NE (on Graycalm-Grayling sands). The lower slopes to the			
											south aspects. Canopy closure is close to the 75-100% category. Reg passes to the M-O-A-pine objective. 2014 inventory of the regenerating stand noted that deer activity away from the swamp was very light durir that deep-snow winter.			
27	110 - Low Ir	itensity Uri	ban	Nonsto	ocked	12.9		Jnspecified	No		UAC range facilities and improvements.			
28	4125 - Blac	k, N. Pin C	Dak Sa		er Poor	10.0	106	1-50	N/A		This is the largest of the islands that were shelterwood harvested wing stand 26 by Jan 2010 (#623-06), cutting merch stems except RP, W			
	Canopy Species	% Cover	Size Class	DBH	I Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	green-marked trees, cruised residual 30 BA. Canopy is mature BRO &			
Blac	ck/Red (Hybrid) Oak	80	Log/XLog	14	106	Wh	nite Oak	Medium	5 - 10 feet	Sapling	WO with traces of WP-RP. Regen from the cut includes BTA, dense			
	White Oak	15	Log/Pole	12			nite Pine	Trace	>20 feet	Pole	pockets of single-stem WO, and stump-origin RM, BRO & WO. Aside from within a small burned area, the regen is well-established and			
	Red Maple	5	Pole	6		Black/Re	d (Hybrid) Oak		10 - 20 feet	Sapling	secure. The other smaller shelterwood islands are inclusions within			
							d Maple	Medium	10 - 20 feet	Sapling	parent stand 26. On Grayling sands.			
						Bigto	oth Aspen	Medium	>20 feet	Sapling				
29	4126 - White, E				er Well	81.0	110	111-140	N/A		Hybridized BRO, with WO, widely-scattered sub-acres patches of overmature BTA, and suppressed-intermediate RM. Little of that RM is			
	Canopy Species	% Cover	Size Class		I Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	seen from above. The WO has a saw component but it is heavier to			
	Red Maple	5	Pole/Sap/Log	6			nite Pine	Trace	Variable	Sapling	small-crowned poles. The most suppressed oak poles have been			
	White Oak	20	Pole/Log/XLog			Re	ed Pine	Trace	Variable	Sapling	dropping out. Open below with traces of WP, and localized RP regen around the scattered legacy RP. The stand has steep terrain at the no			
	Bigtooth Aspen	3	Log/Pole	15							end, then slopes gradually to the south. Tree quality is slightly better of			
Blac	ck/Red (Hybrid) Oak	70	Log/Pole/XLog		110						the hilltop and sheltered north aspect (on the Graycalm-Grayling sands			
	White Pine	1	Log/Pole	12							Stocking decreases and trees are shorter on the dry south aspect and			
	Red Pine	1	XLog/Log/Pole	18							Grayling sands; epicormic branching and deadwood in the canopy are common. In the SW & SE peninsulas behind the ranges, canopy clos drops to 50-75%, tree form is more open-grown, and most of the xlog (including traces of NPO) occurs there.			
30	3301 - Low Densi	ty Deciduc	ous Trees	Nonsto	ocked	28.1	ι	Jnspecified	No		Disturbed area behind ranges. BC with scattered open-grown oak, patches of immature RM & NPO, and traces of RP-WP. Strips maintained open through mowing.			



Stand	Stand Level 4 Cover Type		s	Size Density		Acres	Stand Age	BA Range	Managed :	Site	General Comments		
31	3302 - Low Dens	02 - Low Density Conifer Tre			cked	6.3	0	Unspecified	No		Was part of stand 33's harvest, cut merch except RP-WP by Jan 2011 (#623-06). Deer browse here on the flats by the spray fields largely eliminated regen from the cut, leaving only scattered residual pole-sapling WP, RP, JP, RM & WO cover that hasn't met the forested benchmark. E1/3 was used as a landing for stand 33's harvest and later, for stand 37's.		
32	3302 - Low Dens	sity Conife	er Trees	Vonsto	cked	2.4	0	Unspecified	No		Was part of stand 33's harvest, cut merch except RP-WP by Jan 2011 (#623-06). Cover on this exposed south aspect of Thompson Hill was lower pre-harvest and has been slow to fill in. There is scattered stumporigin RM-O regen from the cut and residual pole-sapling WP-RP.		
33	4311 - Pine	, Aspen N	⁄lix Po	Poletimber Pod		32.7 50		1-50	N/A		Was part of stand 26's harvest, cut merch except RP-WP by Jan 2011		
C	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Speci	es Density	Avg. Height	Size	(#623-06). The 2.5 acre RP plantation in the SW was thinned to 90 BA at the same time. Cover on this rolling to very steep terrain was lower pre-		
	Red Pine	25	Log/Pole/Sap	11	77	Wit	ch Hazel	Trace	5 - 10 feet	Tall Shruk	harvest, and meets the forested benchmark now through a combination		
В	igtooth Aspen	20	Sapling	2	14			1			of residual and regen from the cut. The plantation represents most of the		
Black	/Red (Hybrid) Oak	5	Sapling	3	14						stand's RP (PI age 77), but there are a few super-canopy RP in the SE and sapling RP scattered across the stand. There is dense WP cover in		
	White Pine	25	Pole/Sap/Log	7	50						the SE, with scattered stems elsewhere. Most of the BTA established on		
	Red Maple	20	Sapling/Pole	2							the steep north aspects. Secure oak regen increases in the W1/2.		
	White Oak	5	Sapling/Pole	3							Stump-origin RM regen occurs throughout, along with scattered residual poles. On Graycalm-Grayling sands.		
34	34 4130 - Aspen Poletimber We						47	141-170	N/A		Hardwoods were cut merch in 1977 (#015-76) for a proposed sand pit		
C	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Specie	es Density	Avg. Height	Size	expansion. Regen from the cut is now dense BTA pole cover with RM & a minor but competitive oak component. The pole BRO is vigorous, right		
В	igtooth Aspen	70	Pole/Log	8	47	Wit	ch Hazel	Trace	5 - 10 feet	Tall Shrub	up there with the aspen, and many of the stump-clumps have weeded		
	Red Maple	20	Pole/Sapling	5	47						down to two main stems. The cut left scattered residual oak that are now		
Black	/Red (Hybrid) Oak	7	Pole/Sap/Log	7							saw-sized. Aspen on the edge of small openings have shifted into the saw class. Former disturbed ground in those openings, otherwise the		
	White Oak	3	Log/Pole	10							stand is on Graycalm-Grayling sands.		
35	4139 - Aspen, N				/ledium	96.1	14	Immature	N/A		The south 2/3rds of the stand was cut by spring 2010, the north 1/3rd by Jan 2011 (#623-06), merch except RP & WP. Regen is predominantly		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Speci	es Density	Avg. Height	Size	BTA & stump-origin RM, with a minor but competitive stump-origin o component. Residual from the cut includes small pole RM & WO, ar		
	White Pine	1	Pole/Sapling	7		Blac	ck Cherry	Low	5 - 10 feet	Tall Shrub			
	Red Pine		Sapling/Pole/Log	3							widely-scattered legacy RP. Top-mortality and basal sprouting is common in the residual RM. Most of the WO poles have died. Cal		
	Red Maple	35	Sapling/Pole	2	14						closure ranges from 75-100% in the BTA clones, 50-75% where RM		
Black	/Red (Hybrid) Oak	10	Sapling	3	14						predominates, and 25-50% in the valleys where the proportion in oak		
	White Oak	3	Sapling	3	14						increases. Terrain starts on a hilltop in the NE, then slopes down to the		
В	igtooth Aspen	50	Sapling	2	14						N, W & S, on Graycalm-Grayling sands.		



Stand	Level 4 Co	•	Size Density	Acres	Stand Age I	BA Range	Managed S	ite	General Comments		
36	3301 - Low Densi	ty Deciduo	ous Trees	Nonstocked	46.4	0 ι	Jnspecified	4199 - Other Mixe Deciduo		This portion of the larger stand 38 was final harvested by January 2020 (#638-18), cutting stems 2"+ DBH except pine and sub-merch A-O from	
					Sub-Ca	nopy Species	Density	Avg. Height	Size	the 1997 thinning. Residual 27-year old RM & BTA regen from the thinning occurs in pockets; note that the RM canopy record for that	
					R	ed Pine	Trace	>20 feet	Pole	component is Sapling-sized but had to be called Pole-sized in order to	
					W	hite Pine	Trace	>20 feet	Pole	overcome a Mifi "rule" that prevents listing the same species & size class	
					Re	ed Maple	Low	5 - 10 feet	Sapling	in separate records, even if they belong to entirely different age classes. Residual pole-sap RP & WP increase in the north. Regen from the 2020	
					W	hite Pine	Trace	Variable	Sapling	harvest is entirely RM. Some of it is still in the seedling height range due	
					Re	ed Maple	Low	>20 feet	Pole	to heavy browse. Most of it is recruiting, with deer damage limited to side-	
					Bigto	ooth Aspen	Trace	>20 feet	Sapling	pruning the outer sprouts in the stump-clump, allowing one or two interior stems to shoot up. No live oak regen was encountered. Less than 20%	
					R	ed Pine	Trace	Variable	Sapling	of the cut oak stumps attempted to sprout. Those that did sprouted	
					Re	ed Maple	Low	< 5 feet	Seeding	weakly, were browsed, & died before getting above a foot tall. A lot of deer pellets throughout. Failed natural regen survey to M.O. of oak w/	
37	310 - Herbaco	eous Oper	nland	Nonstocked	12.5	0 ι	Jnspecified	4199 - Other Mixi Deciduo		RM-A-pine. Terrain starts on the hilltop in the south and slopes down to the north, on Graycalm-Grayling sands.  This portion of the larger stand 38 was final harvested by January 2020 (#638-18), cutting stems 2"+ DBH except pine and sub-merch A-O from	
					Sub-Ca	nopy Species	Density	Avg. Height	Size	the 1997 thinning. There are only traces of 27 year old residual regen from the thinning along with scattered sap-pole WP. Almost none of the	
					Re	ed Maple	Trace	>20 feet	Sapling	oak stumps sprouted; those that did sprouted weakly & died. Only traces	
					W	hite Pine	Trace	>20 feet	Pole	of RM from the 2020 harvest escaped browse on the steepest part of the	
					W	hite Pine	Low	Variable	Sapling	hill. Most of the RM has been browse-killed; surviving seedling-height RM is not likely to recruit. The stand occupies a steep north aspect and	
					Re	ed Maple	Trace	< 5 feet Se	Seeding	the flats by the spray field, on Graycalm-Grayling sands.	
38	4125 - Blac	k, N. Pin (	Dak S	awtimber Well	66.5	110	81-110	N/A		Mixed oak stand was thinned in 1997 (#004-96) by removing only the A-	
	Canopy Species	% Cove	Size Class	DBH Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	thinning was noted last YOE. Epicormic branching and dead wood in the	
	Red Maple	2	Pole	6		ed Maple	Medium	>20 feet	Sapling	canopy are common. The most suppressed oak poles have been	
Black	k/Red (Hybrid) Oak	85	Log/Pole	Log/Pole 11 110		hite Pine	Low	Variable	Sapling	dropping out. Regen from the cut is stump-origin RM, locally full BTA in the east, and WP in the north. Terrain is rolling to steep, on Graycalm-	
	White Oak	13	Pole/Log	9	Bigto	ooth Aspen	Low	>20 feet	Sapling	Grayling sands.	
39	4125 - Blac			awtimber Well	43.6	110	111-140	N/A		BRO stand with WO, overmature BTA, & largely-suppressed RM. The largest BTA clone is in the SE; smaller clones are scattered interior. The	
	Canopy Species	% Cove	Size Class	DBH Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	WO tend to be narrow-crowned poles. The most suppressed oak have	
	Red Maple	3	Pole/Sap/Log		Re	ed Maple	Low	>20 feet	Sapling	been dropping out. There is a minor xlog oak component but not enough	
E	Bigtooth Aspen	15	Log/Pole	11						to split the size class to include it. The canopy dominants may withstand release but the typical codominant oak is small-crowned, epicormic	
	White Oak	7	Pole/Log	9						branching, with increasing dead wood up top. Terrain starts on a hilltop	
Black	k/Red (Hybrid) Oak	75	Log/Pole	13 110						in the NW and slopes down to the S & E, on Graycalm-Grayling sands.	
										The NW 7 acres were part of stand 38's 1997 species-removal harvest; the recorded RM subcanopy & traces of BTA are from that cut. The stand's SW edge picks up some 47-year old A-RM from stand 34's harvest.	



Stand	and Level 4 Cover Type		s	Size De	nsity	Acres	Stand Age	BA Range	Managed S	ite	General Comments			
40		42141 - Planted Mixed Pine, Mixed Deciduous				45.7	5	Immature			Mature oak stand was final harvested by Jan 2011 (#623-06), cutting merch stems except RP & WP. Residual from the cut includes widely-			
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	s Density	Avg. Height	Size	scattered super canopy pine, pole-sapling WP & RP (most in N1/3 of stand), 27 year old RM in the E1/2 from a 1997 thinning, and scattered			
	Red Pine	50	Sapling	1	5	Re	ed Pine	Medium	< 5 feet	Seeding	oak poles. The stand occupies an east aspect overlooking the lake.			
	Red Maple	15	Pole/Sapling	5	27					'	Aside from small patches of BTA that recruited in the stand's SW, the			
	White Oak	2	Pole	6							2011 regen was heavily browsed. 30 acres with the sparsest cover were trenched in 2016 (C72-781) & planted to RP in April 2017. Yr 1 regen			
	Bigtooth Aspen	13	Sapling	2	13						survey in Oct 2018 found extensive deer browse on the planted RP, with			
	White Pine	17	Pole/Sapling	7							78% mortality. Re-planted w/ top-pruned 4-0 bareroot RP in May 2019.			
	Red Pine	3	Log	16							Yr 1 survey (DN) of re-plant found 30.3% mortality (669 tpa) & 91% FTG. Re-inventory found a majority of the planted RP on the hillsides with little			
											east side, & on 3 acres on the flats in the SE; those areas with high seedling mortality also coincide with the Grayling sands. Uphill on the Graycalm-Grayling sands, the subcanopy RP that is just under 3' appears likely to recruit into the canopy's sapling class. The M.O. of variable stocking in RM-A-O and natural & planted pine has been met across 70% of the treatment area, and additional replanting is not recommended. FTP is complete.			
41	1 110 - Low Intensity Urban		ban	Nonsto	cked	47.8	0	Unspecified	No		Cleared road & utilities corridors and range facilities within the fence. Maintained open through mowing, with scattered oak, pine & cherry.			
42	4123 -	Red Oak	S	awtimb	er Well	87.8	128	111-140	N/A		Mature oak stand occupies rolling terrain that slopes down to the Bear Swamp and Lake Margrethe. Grayling sand is the typical upland soil.			
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	s Density	Avg. Height	Size	Canopy is primarily BRO, with WO, sub-acre overmature BTA clones, &			
	Red Maple	5	Pole/Sap/Log	6		Wh	nite Pine	Medium	Variable	Sapling	suppressed RM. The most suppressed oak poles have been dying out.			
	White Oak	15	Log/Pole/XLog								Epicormic branching and increasing deadwood are common in the oak canopy. The BTA is also declining. Scattered super-canopy WP (mostly			
	White Pine	5	Pole/Log/XLog								along the lake) have established patches of dense WP cover, some of it			
	Red Oak	68	Log/XLog/Pole	14	128						recordable in the canopy. Full WP understory cover in the stand's N1/2			
	Bigtooth Aspen	7	Log	13	103						decreases to low moving south, averages medium overall. Minor bran flagging in the densely-stocked WP regen. The stand has low ground inclusions by the Bear Swamp, on the north edge of Little Bear Point, a around stand 44; WP & traces of hemlock, cedar and paper birch occu there. The Rasmus Run fitness trail loops through the S1/2 of the star			
43	3302 - Low Den	sity Conife	r Trees	Nonsto	cked	1.9		Unspecified	No		Frost pocket opening that has slowly been filling in with WP.			
44	6220 - A	lder/willow	,	Nonsto	cked	2.6		Unspecified	No		Lowland shrub wetland that ties into the Lake Margrethe shoreline. Tag alder with scattered WP, NWC & black spruce.			