



Compartment Review Presentation

Escanaba Forest Management Unit

Compartment 33009

Entry Year 2019

Acreage: 790

County Menominee

Management Area: Menominee End Moraine

Revision Date: 2017-06-30

Stand Examiner: Dustin Salter

Legal Description:

T37N R28W Sections 21, 22, and 23

Identified Planning Goals:

This compartment is a mix of upland aspen and pine stands, with a large percentage of lowland conifer stands mixed in. The spruce budworm has been present for the past decade, causing a significant amount of balsam fir and spruce mortality. The eastern larch beetle is present and is causing tamarack mortality. The stands that contain a significant portion of spruce, balsam fir, and tamarack are being prescribed for harvest. With the intent of regenerating the stands and minimizing the loss of volume. The large white pine stands will be treated. Some of them already have advanced regeneration that needs to be released and the others will be thinned or opened up to allow for regeneration. The mature aspen stands will also be harvested. A few of the mature lowland conifer/hardwood stands will also be harvested, while there is an opportunity to regenerate them before the pests that are currently present along with the emerald ash borer causes significant mortality.

Soil and topography:

The topography is nearly level with some gently rolling hills. Soils include poorly drained black muck over sand and well drained loamy sand over gravelly sand. Prominent soil series are Lupton-Tawas, Pemene-Rubicon, Mancelona-Nadeau, and Tawas-Banat-Nadeau.

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

This compartment is located on the northern edge of a block of state land that is about 20 miles long and 8 miles wide in the southwestern portion of Menominee County. This compartment has no private ownership within its boundaries. This compartment blocks in with other state land on its North and East sides. The primary uses for the land in this area are recreation and farming.

Unique Natural Features:

None

Archeological, Historical, and Cultural Features:

None known

Special Management Designations or Considerations:

None

Watershed and Fisheries Considerations:

The Pemenee Creek flows through this compartment with a number of feeder creeks and drainages flowing into it.

Wildlife Habitat Considerations:

Ecological Context: This compartment is near the transition between 2 landscape ecosystems--sandy outwash plains and loamy ground moraine. Historically, this area supported white pine, red pine, aspen, birch, northern hardwoods, and swamps of cedar. Today this small compartment contains most of these same cover types.

This compartment contains several aspen stands. A portion of this aspen will be harvested and regenerated, providing habitat for early-successional wildlife such as deer, grouse, and woodcock. A portion of the aspen will remain in other age classes ensuring the development of vegetative diversity within stands. Interest was expressed by forest managers to treat some of the cedar and swamp conifer acreage, especially in light of forest health concerns. Wildlife Division worked with Forest Resources Staff to preserve valuable winter shelter, whiling allowing some harvest of cedar in stands recognizing the value of wood product.

Mineral Resource and Development Concerns and/or Restrictions

There is metallic mineral potential in this area, and there has been some past mineral exploration. In addition, there has been past leasing in the area, and Aquila Resources recently leased state minerals just south of the compartment for metallic mineral exploration. Sand/gravel pits are not located in the area but there does appear to be some potential on upland areas. No economic oil and gas production has been found in the UP. There is an active gravel pit within stand 14.

Vehicle Access:

Access into the south and eastern portions of this compartment is from a good dirt road running north off of County Road G-18. There are also a number of two track roads leading off from this dirt road. Access into the portion of the compartment north of Pemenee Creek is off of the Houte's Spur Road.

Survey Needs:

One registered corner will need to be set.

Recreational Facilities and Opportunities:

There are no developed facilities within this compartment. The primary uses of this compartment are hunting, fishing, four wheeling, and snowmobiling.

Fire Protection:

The majority of the compartment is easily accessible. There are numerous water sources also present. The upland portions of this compartment are very well drained, so they dry out quickly. These stands have potential for a fast moving fire, but these upland stands are broken up by a number of lowland conifer stands.

Additional Compartment Information:

The following reports from the Inventory are attached:

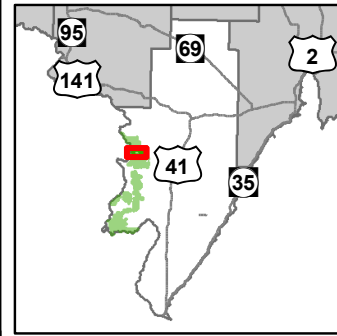
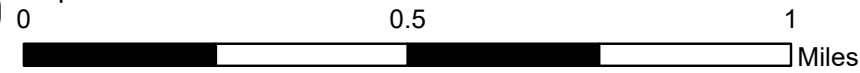
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

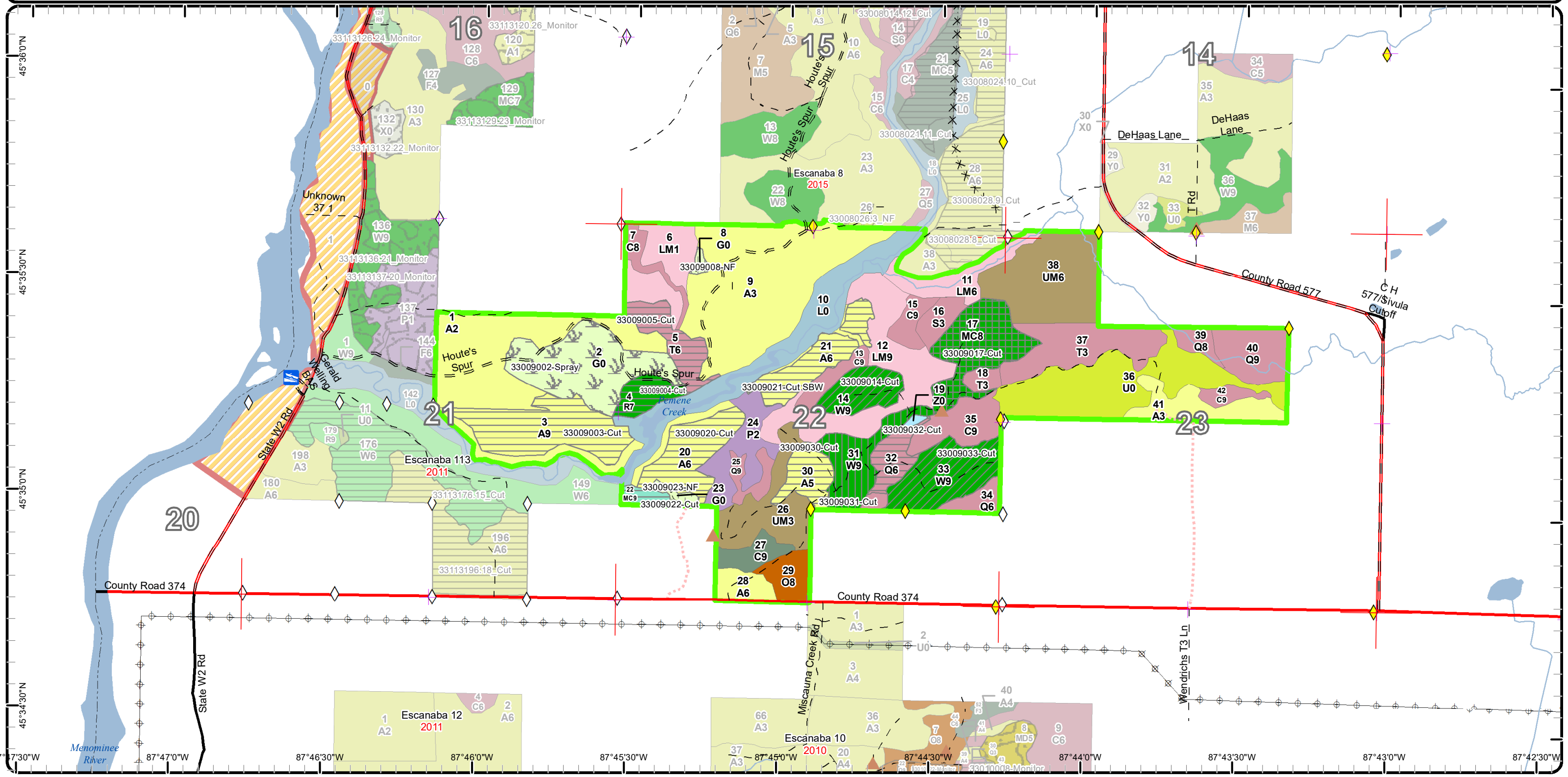
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 9
 T37N R28W Sec. 21,22,23
 County: Menominee
 Unit: Escanaba
 Mgmt Area: Menominee End
 Moraine
 YOE: 2019
 Acres: 790 GIS Calculated
 Examiner: Dustin Salter
 Map Revised: 7/5/2017
 Map Phase: Web-Post

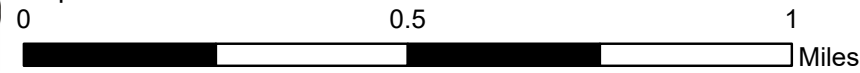
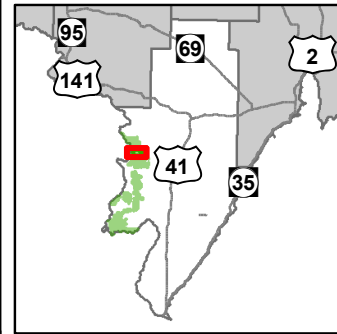


- Miris Corners
- Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
- ▲ Berms
- Boating Access Site
- County Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Closed
- ✕ - Abandoned Railroads
- Streams
- Lakes and Rivers All
- Powerline
- State Boundary
- Compartment Boundary
- Clearcut (w/Reserves)
- Pesticide
- Opening Maintenance
- Thinning (Crown, Low, Systematic)
- Shelter Wood (w/Reserves)
- Seed Tree (w/Reserves)
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- Lakes

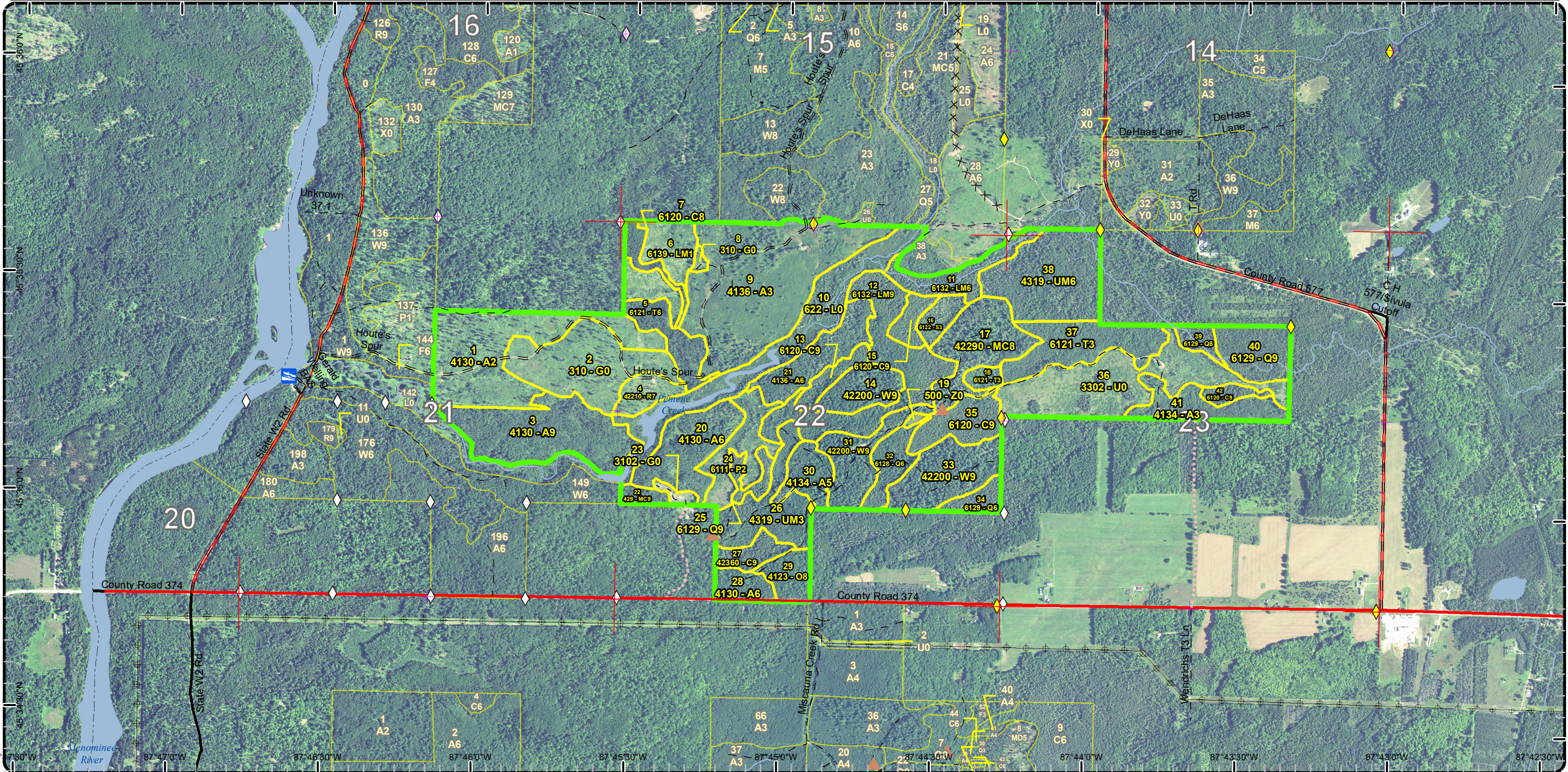


Stand Boundary Map

Compartment: 9
 T37N R28W Sec. 21,22,23
 County: Menominee
 Unit: Escanaba
 Mgmt Area: Menominee End
 Moraine
 YOE: 2019
 Acres: 790 GIS Calculated
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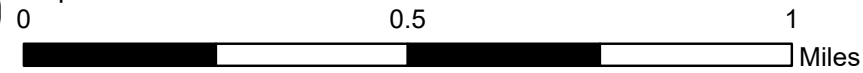
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- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
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- Boating Access Site
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- - - Closed
- x Abandoned Railroads
- Streams
- Lakes and Rivers All
- Powerline
- State Boundary
- Compartment Boundary
- Stand Boundaries
- 412 - Oak Types
- 413 - Aspen Types
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
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- 622 - Lowland Shrub



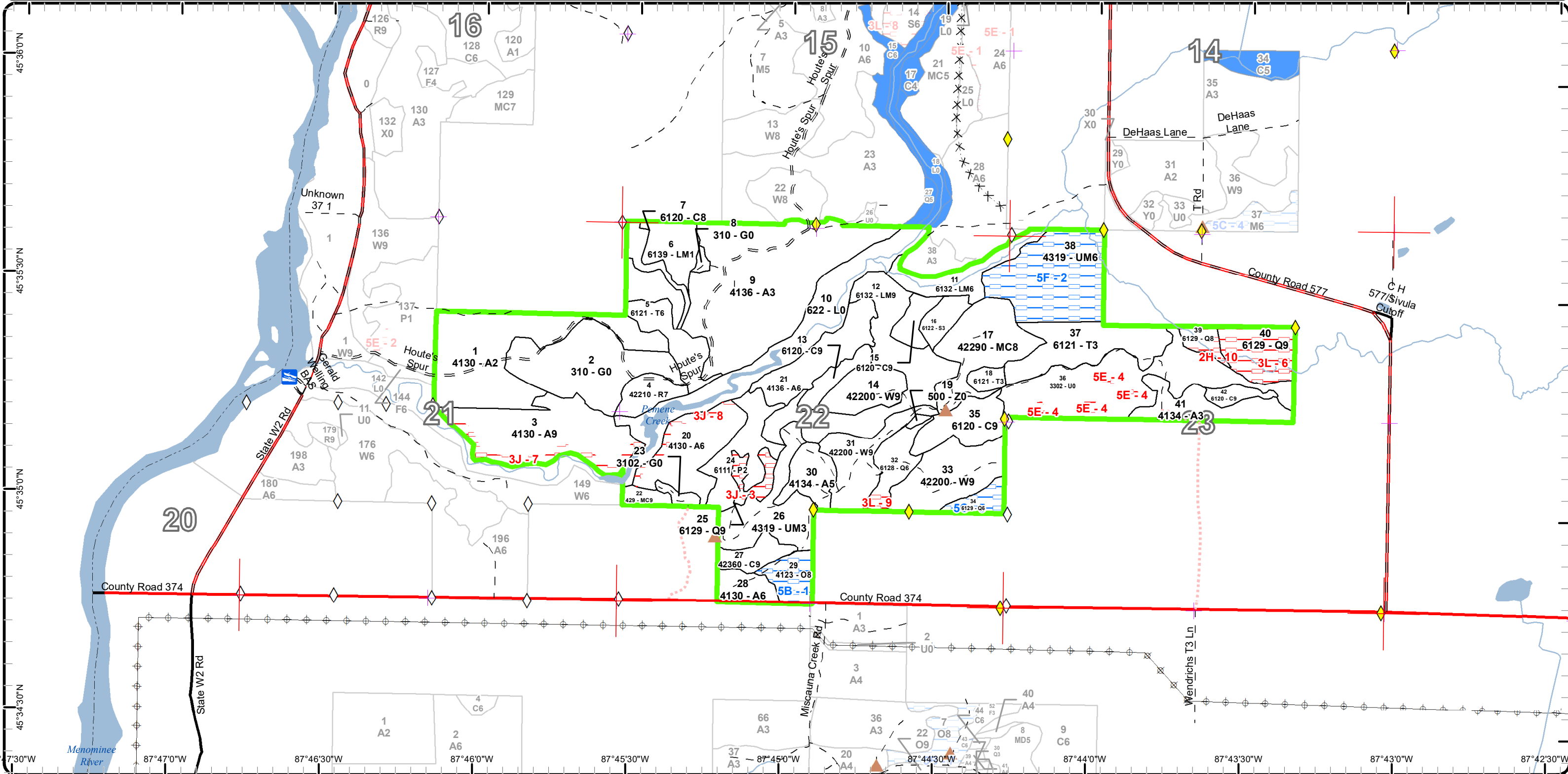
45°38'0"N 45°35'30"N 45°33'0"N 45°31'30"N
 87°47'0"W 87°46'30"W 87°46'0"W 87°45'30"W 87°45'0"W 87°44'30"W 87°44'0"W 87°43'30"W 87°43'0"W 87°42'30"W

Special Conservation Areas & Site Conditions Map

Compartment: 9
 T37N R28W Sec. 21,22,23
 County: Menominee
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- Powerline
- State Boundary
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Riparian Area
- 3J: Water quality / BMPs (stream, river, or lake)
- 3L: Other wildlife concerns
- 5E: Long-Term Retention
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)



45°36'0"N 45°35'30"N 45°35'0"N 45°34'30"N
 87°47'0"W 87°46'30"W 87°45'30"W 87°45'0"W 87°44'30"W 87°44'0"W 87°43'30"W 87°43'0"W 87°42'30"W

Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	130	17	8	0	55	45	0	0	0	0	0	0	0	0	0	0	0	255
Cedar	0	0	0	0	0	0	0	0	0	0	0	18	27	0	0	0	0	0	45
Herbaceous Openland	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
Low-Density Trees	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
Lowland Aspen/Balsam Poplar	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	22	6	17	0	0	0	0	0	44
Lowland Mixed Forest	0	20	0	0	0	0	0	0	0	0	0	54	0	0	0	0	0	0	74
Lowland Shrub	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Lowland Spruce/Fir	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0	0	27
Oak	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9
Red Pine	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	8
Tamarack	0	0	4	26	14	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
Upland Mixed Forest	0	0	0	24	39	0	0	0	0	0	0	0	0	0	0	0	0	0	63
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
White Pine	0	0	0	0	0	0	0	0	0	0	14	44	0	0	0	0	0	0	58
Total	136	168	27	58	53	55	45	0	9	0	36	162	44	0	0	0	0	0	791



Report 2 – Treatment Summary

Escanaba Mgt. Unit

Year of Entry: 2019

Acres of Harvest

Compartment 9

Total Compartment Acres: 790

Commercial Harvest - 202
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	84	0	0	0	0	0	0	0	0	84
Lowland Conifers	9	0	0	0	0	0	0	0	0	9
Natural Mixed Pines	0	0	0	27	0	0	0	0	0	27
Red Pine	9	0	0	0	0	0	0	0	0	9
Tamarack	14	0	0	0	0	0	0	0	0	14
Upland Conifers	4	0	0	0	0	0	0	0	0	4
White Pine	0	0	0	0	19	38	0	0	0	57
Total	119	0	0	27	19	38	0	0	0	203

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	203	0	0	0	0	38	0	0	4	244
Next Step	0	103	58	0	0	19	202	0	0	382
Total	203	103	58	0	0	58	202	0	4	627



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	33009002-Spray	38.2	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Pesticide	Skidder/Mechanical	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Herbicide stand to prepare for planting red pine, per TMS instructions.											
<u>Specs:</u>											
<u>Next Step</u> SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> Planted Red Pine											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											
1	33009003-Cut	33.5	4130 - Aspen	Sapling Medium	4	Immature	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Cut all trees greater than 3" inches; except leave some scattered pine. The buffer along Pemene Creek will be the retention.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Aspen, spruce/fir, and pine.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											
4	33009004-Cut	8.5	42210 - Natural Red Pine	Sawtimber Poor	73	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Cut all trees greater than 2" inches. No retention will be left.											
<u>Specs:</u>											
<u>Next Step</u> Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Planted red pine.											
<u>Regen:</u>											
<u>Other</u> Following the harvest herbicide, trench, and plant red pine per TMS instructions.											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											
5	33009005-Cut	13.6	6121 - Tamarack	Poletimber Well	37	81-110	Harvest	Clearcut with Retention	6129 - Mixed Coniferous Lowland Forest	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Cut all trees greater than 3" inches; except retain a buffer along the small creek/drain that flows through the eastern portion of the stand.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Tamarack, spruce/fir, balm, and aspen.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
8	33009008-NF	1.2	310 - Herbaceous Openland	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop/Grass Planting	310 - Herbaceous Openland		Proposal

Habitat Cut: No

Site Condition:

Prescription Prescribed fire, farming (dozing, disking, raking, herbiciding, seeding (native or naturalized species only)), fertilizing and liming, brushhog/saw removal
Specs: of competing trees and establishment of native hard and soft mast producers such as red oak, crabapple or others.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

14	33009014-Cut	13.5	42200 - Natural White Pine	Sawtimber Well	96	141-170	Harvest	Crown Thinning	4220 - Natural White Pine	Uneven-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Cut all hardwood, spruce/fir, and aspen/balm greater than 3" inches. In addition, thin the stand down to 70 to 80 BA.

Specs:

Next Step
Treatments:

Acceptable White pine, red pine, cedar, and spruce/fir.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

17	33009017-Cut	26.8	42290 - Natural Mixed Pine	Sawtimber Medium	107	51-80	Harvest	Seed Tree with Retention	42260 - Natural Pine, Mixed Deciduous	Uneven-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Cut all trees 4" inches and greater; except mark to retain some white pine, red pine, and cedar seed trees. In the open areas leave 10 BA and the areas that are denser leave 20 BA, to provide seed and some partial shade. Following the harvest scarify the areas without advanced regeneration.

Specs:

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Pine, aspen, and spruce/fir.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

20	33009020-Cut	21.1	4130 - Aspen	Poletimber Well	50	51-80	Harvest	Clearcut	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Cut all trees greater than 3" inches. No retention will be left due to the low quality stand and the presence of the budworm.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen, white pine, and spruce/fir.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
21	33009021-Cut SBW	18.5	4136 - Aspen, Mixed Conifer	Poletimber Well	52	51-80	Harvest	Clearcut	413 - Aspen	Even-Aged	Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Clearcut: cut all trees 3" dbh and greater.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Acceptable regeneration of aspen and other species currently of site.
Regen:

Other This stand was evaluated for SBW in January 2016 and proposed to treat. WLD approves.
Comment:

Proposed Start Date: 01/21/2016

22	33009022-Cut	3.6	429 - Mixed Upland Conifers	Sawtimber Well	106	111-140	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	Proposal
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Habitat Cut: No **Site Condition:**

Prescription Cut all trees greater than 3" inches; except mark to leave some scattered pine and oak seed trees.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen, pine, maple, birch, and spruce/fir.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

23	33009023-NF	2.4	3102 - Grass	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop/ Grass Planting	310 - Herbaceous Openland		Proposal
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Habitat Cut: No **Site Condition:**

Prescription Prescribed fire, farming (dozing, disking, raking, herbiciding, seeding (native or naturalized species only)), fertilizing and liming, brushhog/saw removal of competing trees and establishment of native hard and soft mast producers such as red oak, crabapple or others.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

30	33009030-Cut	10.9	4134 - Aspen, Spruce/Fir	Poletimber Medium	41	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No **Site Condition:**

Prescription Cut all trees greater than 2" inches. No retention will be left due to forest health concerns and conversion to red pine.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory); Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant
Treatments:

Acceptable Planted red pine
Regen:

Other Possibly harvest this stand to maximize the volume salvaged.
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
31	33009031-Cut	18.6	42200 - Natural White Pine	Sawtimber Well	107	111-140	Harvest	Shelterwood	4220 - Natural White Pine	Two-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Cut all trees greater than 3" inches; except mark to retain about 30 BA of pine, oak, and cedar for seed and to provide partial shade. No trees will be left around the gravel pit, to allow for future use/expansion.

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Re-Inventry)

Acceptable White and red pine, oak, cedar, maple, and spruce/fir.

Other
Comment:

Proposed Start Date: 10/01/2018

32	33009032-Cut	9.0	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	93	81-110	Harvest	Clearcut with Retention	6139 - Mixed Lowland Forest	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Cut all trees greater than 3" inches. The retention will be the dense area of cedar along the southern edge.

Next Step Monitoring, Natural Regen (Re-Inventry)

Acceptable Tamarack, spruce/fir, balm, cedar, maple, and ash.

Other
Comment:

Proposed Start Date: 10/01/2018

33	33009033-Cut	24.9	42200 - Natural White Pine	Sawtimber Well	107	111-140	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription This stand down to 70 to 80 BA, by cutting all aspen/balm, hardwood, spruce/fir greater than 3" inches and marking enough pine, cedar, and oak to get to the desired BA.

Next Step
Treatments:

Acceptable White and red pine, cedar, spruce/fir, and oak.

Other
Comment:

Proposed Start Date: 10/01/2018

Total Treatment Acreage Proposed: 244.3

Report 4 – Site Conditions

Escanaba Mgt. Unit
Dustin Salter : Examiner

Compartment: 9
Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions							
		With Condition	Not Available		5B	5C	5F	2H	3J	3L	5E	
255	241	0	14	Aspen					14			
45	45	0	0	Cedar								
42	42	0	0	Herbaceous Openland								
49	47	0	2	Low-Density Trees								2
18	18	0	0	Lowland Aspen/Balsam Poplar								
44	9	6	29	Lowland Conifers		6		5	6	19		
74	74	0	0	Lowland Mixed Forest								
44	44	0	0	Lowland Shrub								
6	6	0	0	Lowland Spruce/Fir								
27	27	0	0	Natural Mixed Pines								
9	0	9	0	Oak	9							
8	8	0	0	Red Pine								
43	43	0	0	Tamarack								
4	4	0	0	Upland Conifers								
63	24	39	0	Upland Mixed Forest			39					
1	1	0	0	Water								
57	57	0	0	White Pine								
790	690	54	45	Total Forested Acres	9	6	39	5	20	19	2	
	87%	7%	6%	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 No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	5B: Maintain for regeneration purposes	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
This stand has 30 to 50 BA of mature oak that should be harvested, but there is a very dense understory of advanced regeneration that would be severely damaged if the oak was removed.							

Report 4 – Site Conditions

Escanaba Mgt. Unit
Dustin Salter : Examiner

Compartment: 9
Year of Entry: 2019

2	Available	5F: Evaluated for Forest Health Considerations	39	Unspecified	Unspecified	Unspecified	Unspecified
Comments: There is major defoliation on the spruce/fir, but there isn't enough volume to try and do a salvage harvest.							
3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
Comments: There is a small creek that flows through the western portion into Pemene Creek, this was the buffer when stand 24 was harvested. The eastern portion is primarily cedar, it is being held for diversity/deer cover.							
4	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: These areas are retention patches retained from the last harvest, for deer cover, seed, and diversity.							
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: The harvest on this stand is being delayed, because other lowland conifer stands are being harvested this entry period and there have been other lowland harvests in this comp in the last 10 years. The lowland conifer age classes are being spread out.							
6	Unavailable	3L: Other wildlife concerns	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wildlife didn't want to harvest this stand, due to percentage of cedar within it.							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Buffer along Pemene Creek.							

Report 4 – Site Conditions

Escanaba Mgt. Unit
Dustin Salter : Examiner

Compartment: 9
Year of Entry: 2019

8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	4	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Buffer along Pemene Creek.</p>							
9	Unavailable	3L: Other wildlife concerns	2	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Wildlife wants to retain dense cedar area.</p>							
10	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	5	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Stand can only be accessed by crossing the Hammond Brook, but due to the small acreage it isn't feasible at this time.</p>							



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
<p>Comments Does not meet SCA criteria.</p>	Potential Old Growth		SCA Removal	67



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.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Sapling Medium	50.4	4	Immature	Stand was clearcut in 2013-14 on contract 029-11-01. All species were cut; except oak and some pine and spruce were marked to retain. The stand did not fully regenerate, there are numerous small gaps/areas that didn't regenerate well.
3	4130 - Aspen	Sawtimber Well	43.5	46	51-80	Mature lower quality aspen stand with more pine and spruce in the western 1/3rd of the stand. The spruce budworm has already killed all of the balsam fir, and some of the spruce has already died.
4	42210 - Natural Red Pine	Sawtimber Poor	8.5	73	1-50	Stand was seed tree cut in 2012 on contract 029-11-01. Some red and white pine seed trees were marked to retain. The stand was to be mechanically scarified after harvest to regenerate pine. This was not done, so the overstory should be removed and the stand should be planted with red pine.
5	6121 - Tamarack	Poletimber Well	13.6	37	81-110	This stand is a mix of lowland and upland. The lowland is primarily tamarack and black spruce and the upland is primarily white spruce and balsam fir. The eastern larch beetle and the spruce budworm are both present and have caused some defoliation/dieback, but no mortality at this time. The stand is not mature, but the majority of the stems are merchantable. This stand should be harvested, before any mortality occurs. There is a drain that runs down from stand 7 through the eastern half of the stand.
6	6139 - Mixed Lowland Forest	Sapling Poor	19.9	6	Immature	This stand was clearcut in 2011 on contract 028-09-01. There was a retention/buffer area left in the center of the stand, which is now stand 7. The stand is regenerating to a mix of balm and lowland conifer species. This stand should be fully stocked in a couple more years.
7	6120 - Lowland Cedar	Sawtimber Medium	5.8	103	141-170	Good quality cedar stand; except the northern quarter of the stand which is primarily ash. There is a small creek/drain that flows the entire length of the stand. This stand was part of stand 6 when it was harvested, but the dense cedar area was retained, along with a buffer along the creek.
9	4136 - Aspen, Mixed Conifer	Sapling Well	80.1	5	Immature	Stand was clearcut in 2011 on contract 028-09-01. The white oak, red pine, and white pine was retained. Overall the stand has regenerated well, except along the east edge. Check in the spring with no snow cover, to determine if there is conifer regeneration present, or if a portion of the stand should be converted to red pine.
11	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	14.3	105	111-140	Buffer along Hammond Brook, which runs through the stand.
12	6132 - Mixed Lowland Forest with Cedar	Sawtimber Well	39.5	105	81-110	Mature lowland hardwood stand with dense pockets of cedar. All of the species are mature and are in need of harvest. The majority of the balsam fir has already died out, due to the spruce budworm, and the spruce is dying out now. With the threat from the Emerald Ash Borer, the ash should be harvested. There is a small creek that flows through the center portion of the stand and into Pemene Creek.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	6120 - Lowland Cedar	Sawtimber Well	6.3	116	111-140	Dense stand of average quality cedar. The spruce is dying out of the stand. The southern half of the stand has quite a bit of spruce/fir regeneration.
14	42200 - Natural White Pine	Sawtimber Well	13.5	96	141-170	Stand was thinned in 1995-96 on contract 004-89-01. Overall a variable stocked mature white pine stand with some conifer regeneration coming in.
15	6120 - Lowland Cedar	Sawtimber Well	6.1	111	201+	Overall a very dense good quality stand; except the southern 1/3rd is lower quality. There is quite of blown over cedar in the southern 1/3rd as well.
16	6122 - Black Spruce	Sapling Well	6.4	17	Immature	Stand was clearcut in 2000 on contract 022-00-01. The cedar and some pine were retained. The stand has fully regenerated with a mix of black spruce and white pine primarily. The balsam fir regeneration is heavily defoliated from the spruce budworm.
17	42290 - Natural Mixed Pine	Sawtimber Medium	26.8	107	51-80	Stand was thinned in 2000 on contract 022-00-01. The pine was thinned and the shorter lived species were all cut. The current stands, BA ranges from 10 to 140, with the densest area along the western 1/3rd of the stand. The open areas have filled in with aspen and pine regeneration. This regeneration needs to be released and the remainder of the stand needs to be regenerated.
18	6121 - Tamarack	Sapling Well	3.5	17	Immature	Stand was clearcut in 2000 on contract 022-00-01. The cedar was retained along with some tamarack, spruce, and white pine seed trees. Stand contains very dense tamarack regeneration.
20	4130 - Aspen	Poletimber Well	25.4	50	51-80	Low quality aspen stand with a dense understory of white pine regeneration. The spruce/fir is heavily defoliated by the spruce budworm.
21	4136 - Aspen, Mixed Conifer	Poletimber Well	19.9	52	51-80	This stand was identified during the 2016 spruce budworm review as meeting the requirements for an Out of Entry harvest. This stand was put on contract 33-024-17 to cut. The stand is mature, with most of the balsam fir already dying out of the stand and the spruce has severe defoliation. A small creek flows through the northern half of the stand, which was buffered.
22	429 - Mixed Upland Conifers	Sawtimber Well	3.6	106	111-140	Mature stand, that is a mix of older pine and younger aspen and hardwood. There is a steep ridge on the southern edge of the stand.
24	6111 - Lowland Balsam Poplar	Sapling Medium	17.9	4	Immature	Stand was clearcut in the winter of 2012-13 on contract 022-09-01. Stand 25 was originally part of this stand, but was retained to buffer a small creek and to protect the dense cedar area. The northern 2/3rds of the stand have good balsam and aspen regeneration. There is also some lowland conifer seedlings regenerating throughout. This stand will be fully stocked before the next entry cycle.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	5.5	107	141-170	Mature lowland conifer stand. This stand was originally part of stand 24, but was retained when stand 24 was harvested. Part of the stand was retained, because a small creek flows through the west side and there is a higher density of cedar on the east side. The tamarack is dying out of the stand from the Eastern Larch Beetle and spruce is over mature, which is causing it to blow over and snap off.
26	4319 - Mixed Upland Forest	Sapling Well	24.1	22	1-50	Stand was cut in 1995 on contract 004-89-01. The pine, oak, and cedar was retained. The stand is about 70% upland with primarily aspen and balm and the lowland areas contain primarily tamarack and spruce/fir. A small creek flows down from stand 25, through the center of this stand and out to the east of the compartment.
27	42360 - Upland Cedar	Sawtimber Well	7.6	102	171-200	Stand was cut in 1994 on contract 004-89-01. All species were cut; except the cedar was retained, along with some white pine. Mature good quality cedar stand with a dense understory of conifer regeneration.
28	4130 - Aspen	Poletimber Well	7.8	26	1-50	Stand was clearcut in 1991 on contract 004-89-01. The oak was retained along with some pine. Stand has dense high quality aspen regeneration.
29	4123 - Red Oak	Sawtimber Medium	9.3	102	1-50	Stand was cut in 1995 on contract 004-89-01. The oak was retained along with some pine. The stand is mature oak with a dense understory of aspen, hardwood, and conifer regeneration. The oak should be harvested, but the damage to the advanced regeneration at this point would be to severe. The oak averages 30 to 50 BA.
30	4134 - Aspen, Spruce/Fir	Poletimber Medium	10.9	41	51-80	This stand was a 50/50 mix of aspen and spruce/fir, but due to the spruce budworm the majority of the balsam fir has already died out and the spruce is heavily defoliated. This stand contains very little volume, but should be salvaged, and increase the percentage of aspen in the stand.
31	42200 - Natural White Pine	Sawtimber Well	18.6	107	111-140	Mature good quality white pine stand. There is an active gravel pit in the northern portion of the stand.
32	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	10.8	93	81-110	Overall this stand is low quality, the northern half is primarily ash and the southern half is primarily lowland conifer. All of the species are mature. The Eastern Larch Beetle and spruce budworm are present, and have caused defoliation.
33	42200 - Natural White Pine	Sawtimber Well	24.9	107	111-140	Mature high quality white and red pine stand, that is ready to be regenerated. The stand was last thinned about 20 years ago.
34	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	5.7	93	171-200	Mature good quality lowland conifer stand. The tamarack and spruce are high quality, but the cedar is lower quality; except along the transition zone. The tamarack are dying out of the stand from the eastern larch beetle.
35	6120 - Lowland Cedar	Sawtimber Well	15.0	116	201+	Good quality cedar stand with some very high quality black spruce pockets mixed in. The western half of the stand has much higher quality cedar.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	6121 - Tamarack	Sapling Well	26.3	28	1-50	This stand was clearcut in 1989. The majority of this stand is lowland, which contains tamarack and balm; and the upland portions contains aspen and spruce/fir. There are just small knobs of upland dispersed throughout the stand. The far eastern end has a higher percentage of spruce/fir, which is being defoliated by the spruce budworm. But, there isn't enough volume to try and salvage.
38	4319 - Mixed Upland Forest	Poletimber Well	39.3	32	1-50	This stand is a 50/50 mix of aspen/balm and spruce/fir. Overall the stand is very poor quality. About half of the spruce/fir is residual from the last harvest 32 years ago. The spruce budworm has caused major defoliation on the spruce/fir, but only about half of the spruce/fir is even merchantable. Only about half of the aspen/balm is merchantable. So, overall there isn't enough volume throughout the stand to try and salvage the spruce/fir. Manage the stand for aspen, possibly in 10 years clearcut the stand for aspen.
39	6129 - Mixed Coniferous Lowland Forest	Sawtimber Medium	4.7	93	51-80	This stand is about 50% stocked, with all of the species in the canopy being mature. There are some open areas that have advanced conifer regeneration. The Hammond Brook flows along the western and southern edge. The spruce budworm and eastern larch beetle are present and have already caused mortality.
40	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	16.9	116	141-170	Stand is a mix of spruce and cedar primarily. The quality of the spruce and cedar varies greatly throughout the stand. Overall the cedar quality is very low, with the exception of the cedar within 100' to 150' of Hammond Brook. Hammond Brook runs along the southern edge of the stand. Some tamarack has already died due to the eastern larch beetle and a fair amount of the spruce has snapped off or blown over due to being over mature. This stand needs to be harvested while there is adequate spruce and tamarack seed.
41	4134 - Aspen, Spruce/Fir	Sapling Well	17.1	16	Immature	Stand was clearcut in 2001 on contract 022-00-01. The oak, pine, and cedar were retained. Overall good quality aspen regeneration, with pockets of conifer regeneration. The majority of the spruce/fir is residual from the last harvest. The spruce budworm is defoliating the spruce/fir, but there isn't enough volume to try and salvage it.
42	6120 - Lowland Cedar	Sawtimber Well	4.1	107	81-110	Stand was cut in 2001 on contract 022-00-01. All species were cut; except the cedar and some white pine and spruce. The stand is mature cedar over lowland conifer and balm regeneration. The stands BA varies from 50 to 140.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	310 - Herbaceous Openland	38.3		Stand was clearcut in 2013-14 on contract 029-11-01. All species were cut; except oak and some pine and spruce were marked to retain. This stand was part of stand 1, but this area didn't regenerate very well. Convert this stand to red pine, by planting.
8	310 - Herbaceous Openland	1.2	No	Poor quality opening with some cherry brush.
10	622 - Lowland Shrub	44.1	No	The stand is the floodplain of Pemene Creek, which runs through it. The majority of the stand is a mix of tagalder and marsh grass, with clumps of ash and tamarack.
19	500 - Water	0.8	No	Little pond with cattails and grass around it.
23	3102 - Grass	2.4	No	Grass opening with only some seedlings around the perimeter. Part of this stand was a former borrow pit.
36	3302 - Low Density Conifer Trees	49.3		Stand was clearcut in the winter of 2012-13 on contract 022-09-01. There were 4 retention pockets retained totaling about 2.5 acres. Currently about 50% of the stand has regeneration. The eastern 1/3rd of the stand is more upland and has more aspen and balm regeneration. This stand will regenerate to a mix of T, S, Fb, and P primarily.