



Compartment Review Presentation

Escanaba Forest Management Unit

Compartment 15

Entry Year 2016

Acreage: 720

County Menominee

Management Area: Nathan/Banat Moraines

Revision Date: 06/17/2014

Stand Examiner: Dustin Salter

Legal Description:

T36N R27W Sections 9, 16, and 17

Identified Planning Goals:

This compartment is nearly evenly divided equally between upland and lowland forest. The upland forested areas consist primarily of mixed hardwoods and aspen. The lowland areas consist of primarily lowland ash and mixed swamp conifer. Overall the lowland ash/hardwood stands are mature and in need of a regeneration harvest, some of them are prescribed for harvest. There is also a few lowland conifer stands that are prescribed for a regeneration harvest. These stands are mature and the Eastern Larch Beetle is present. The beetle has already caused significant mortality of the tamarack within the compartment and in the surrounding area. The lowland stands need to be harvested before all of the tamarack is dead and we lose a tamarack seed source. There is also a few mature aspen and mixed upland deciduous stands that will be harvested. The spruce budworm has been present in this area for many years, so there is some balsam fir and spruce mortality along with some in decline.

Soil and topography:

The topography of this compartment is flat to gentle rolling uplands. The soil types are mostly poor drained to very poorly drained soils in the lowland conifer areas. The soil type classifications in the lowland areas include Cathro and Ensley soil series. The uplands consist of fine sandy loams, which are moderately drained and include the Onaway soil series.

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

This compartment is located on the western half of Menominee County. Including this compartment there three compartments that are isolated from all other state land by two miles. These three compartments are completely surrounded by private property. This area is broken up with many private in-holdings. The primary uses of the private property are residential, recreational, and agricultural. The primary use of the state land is recreational. There is an eighty acre parcel of state land within this compartment that has no access to the public, because it is surrounded by private property.

Unique Natural Features:

No Unique Natural Features known.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

None

Watershed and Fisheries Considerations:

Ross Creek flows through a half of a mile stretch of this compartment.

Wildlife Habitat Considerations:

This compartment is largely comprised of cedar swamp, aspen, and upland hardwoods. The dense cedar stands, which range in age from 80-140 years, will be largely retained for wildlife species utilizing mature lowland conifer habitat. A couple of small aspen stands will be harvested to help balance the age-class distribution of aspen and provide habitat for wildlife that utilize early successional forest. Other treatments will utilize clearcutting and shelterwood techniques to promote regeneration of stands to a mix of hardwood and conifer habitat types. Featured wildlife species including wild turkey, ruffed grouse, and woodcock will benefit in areas managed for early successional habitat, while other species such as northern goshawk will utilize mixed species retention areas left within areas prescribed for cutting.

Mineral Resource and Development Concerns and/or Restrictions

Vehicle Access:

The Cheese Factory Road and Ziel Lane (County Roads) provide access to the western portion of the compartment. The Klatt Road (State Maintained) provides access to the eastern half of the compartment, with some additional two-track roads branching off of it. There is an eighty acre block that has no roads into it and is only accessible through private property.

Survey Needs:

Five registered corners will need to be established.

Recreational Facilities and Opportunities:

There are no developed recreational facilities within the compartment. Overall this area is used primarily for recreation, such as hunting, orving, and snowmobiling.

Fire Protection:

This area poses very little threat from a wildfire. The majority of the uplands have hardwood species and they are surrounded by lowland forest types. There is good access to potential water sources.

Additional Compartment Information:

The Klatt Road is in need of some road work, there is some severe erosion on the south end of the road as well as soft spots in other areas.

The following reports from the Inventory are attached:

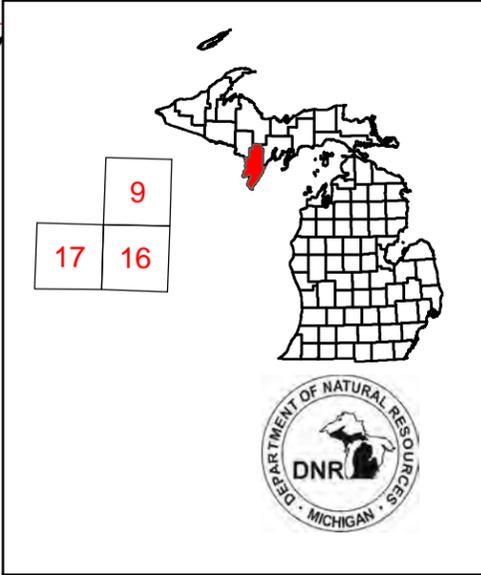
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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-&-Treatment-Map

Compartment: 15
 T36N R27W Sec. 9, 16, 17
 County: Menominee
 Unit: Escanaba
 YOY: 2016
 Acres: 720 GIS Calculated
 Examiner: Dustin Salter
 Map Revised: 05/20/2014
 Map Phase: Pre-Review



Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Remonumented Section Corners
- Miris Corners
- Bridges
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Stream
- Intermittent Stream
- Lakes and Rivers

Treatments

- Treatments w/ Site Condition
- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)

Forest Stands

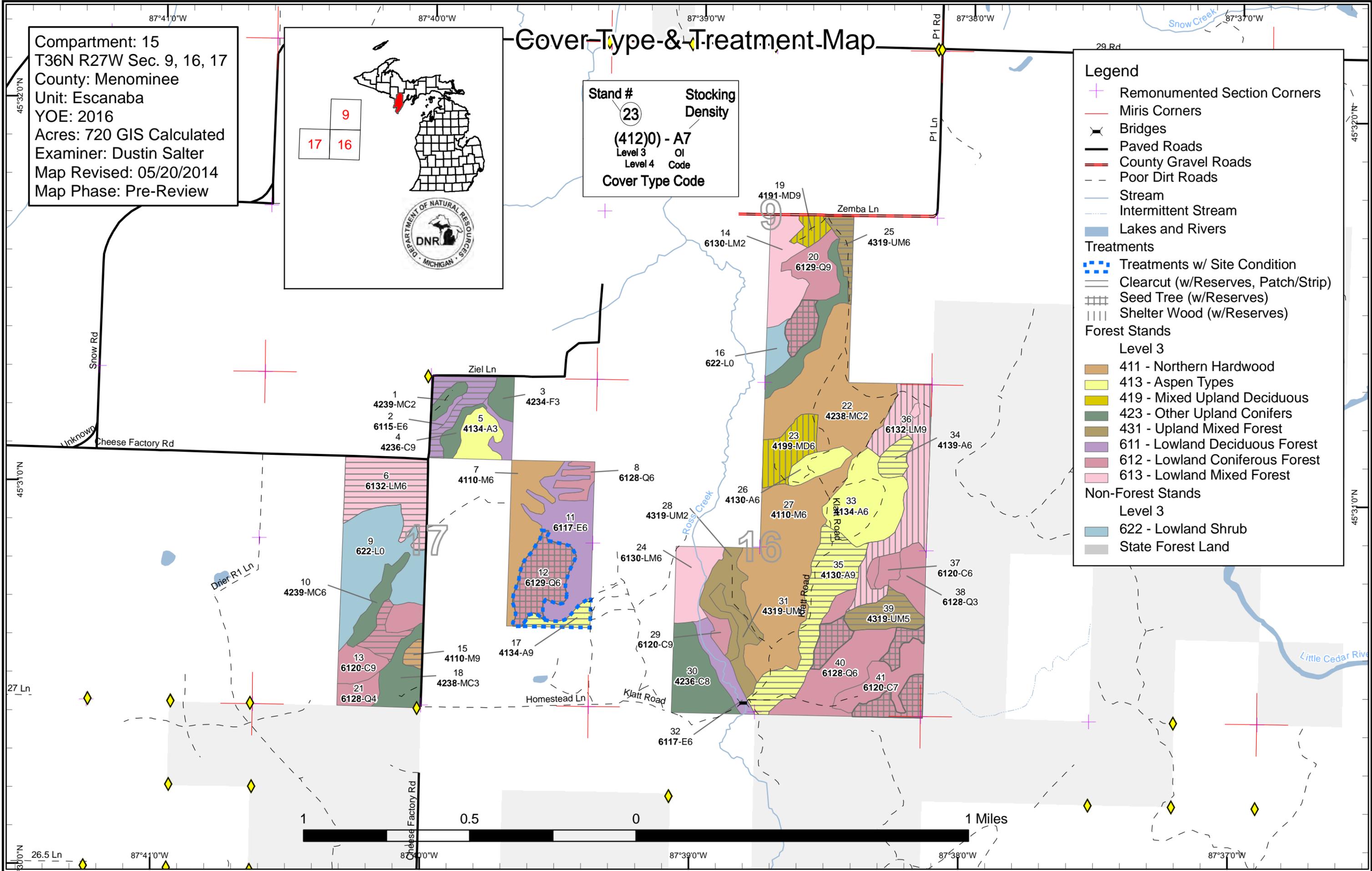
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

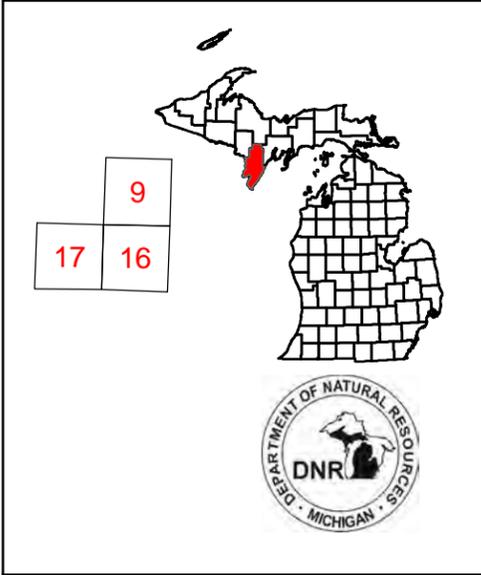
Level 3

- 622 - Lowland Shrub
- State Forest Land



Special Conservation Areas & Site Conditions Map

Compartment: 15
 T36N R27W Sec. 9, 16, 17
 County: Menominee
 Unit: Escanaba
 YOE: 2016
 Acres: 720 GIS Calculated
 Examiner: Dustin Salter
 Map Revised: 05/20/2014
 Map Phase: Pre-Review



Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Remonumented Section Corners
- Miris Corners
- Stand Boundaries

Reviewable SCAs

- Proposed SCA
- SCA Removal

Available w/ Constraints (Factor - Number)

- Unavailable (Factor - Number)

Site Condition Type

Available Factors W/ Constraints

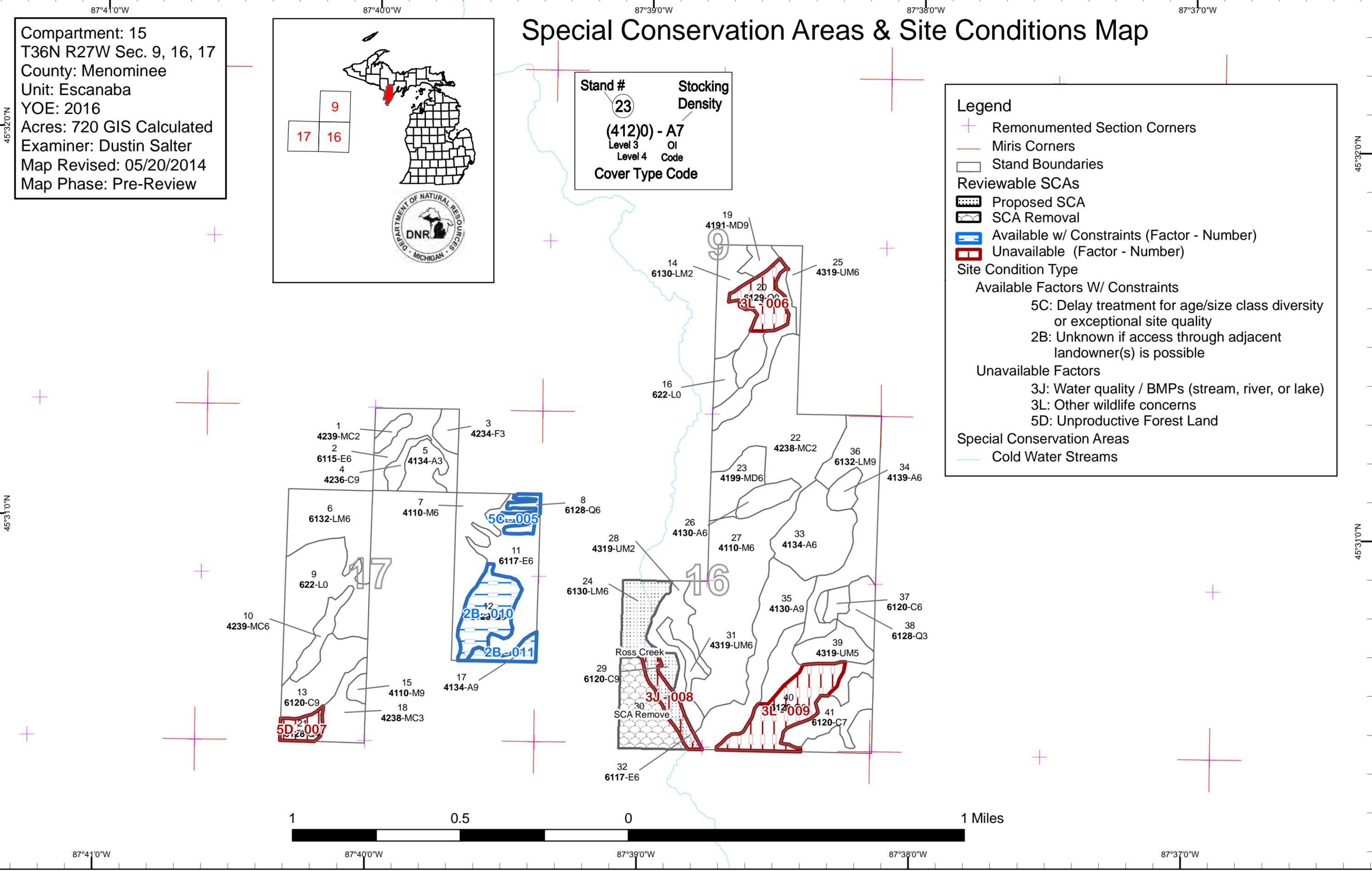
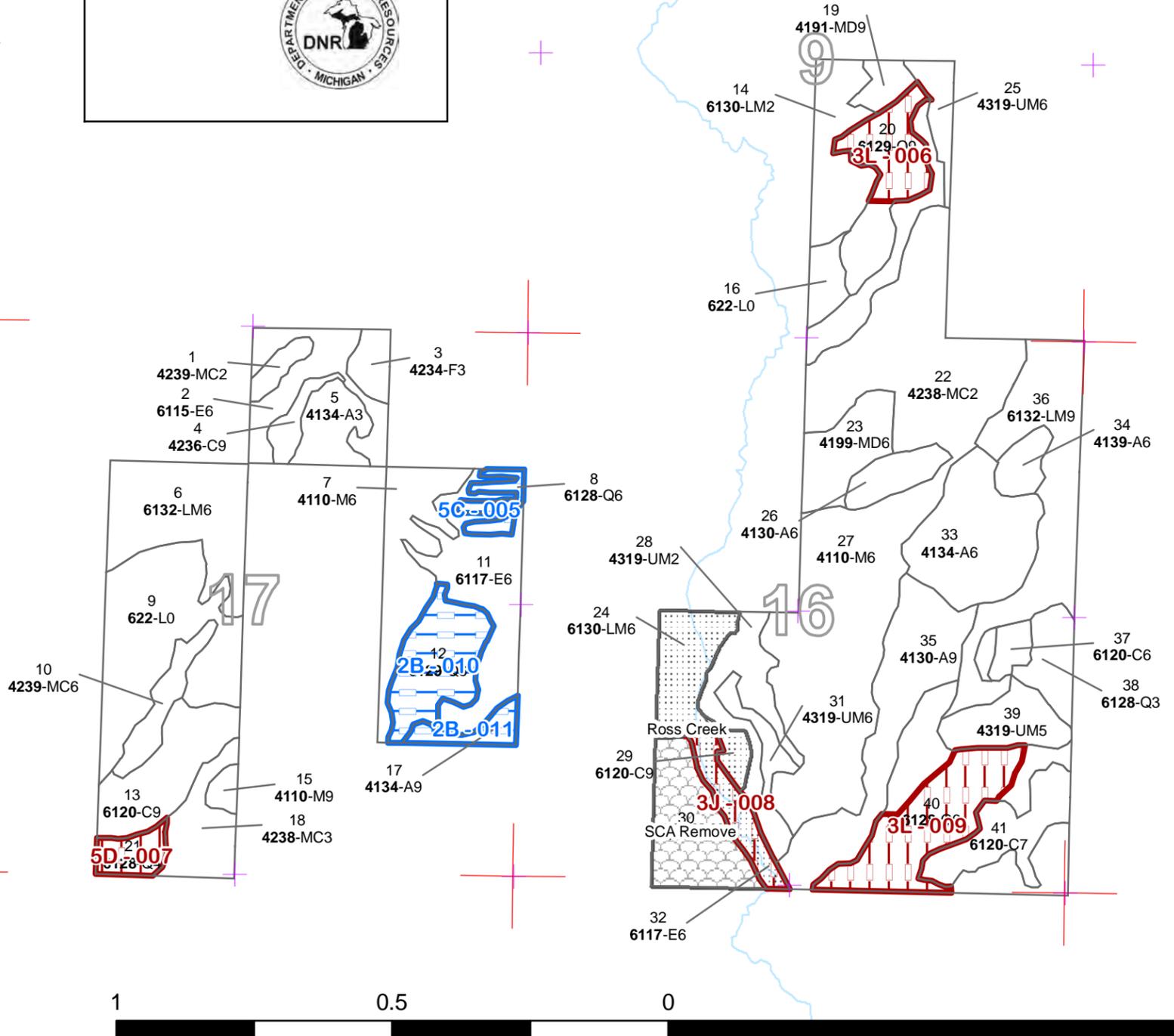
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2B: Unknown if access through adjacent landowner(s) is possible

Unavailable Factors

- 3J: Water quality / BMPs (stream, river, or lake)
- 3L: Other wildlife concerns
- 5D: Unproductive Forest Land

Special Conservation Areas

- Cold Water Streams



Report 1 – Total Acres by Cover Type and Age Class



	Age Class														Total
	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 +	Uneven Age	
Aspen	10	30	0	13	0	0	5	34	0	0	0	0	0	0	92
Cedar	0	0	0	0	0	0	0	0	0	20	4	29	16	0	69
Lowland Conifers	0	11	0	0	0	0	0	0	0	6	5	20	69	0	111
Lowland Deciduous	0	0	0	0	28	0	0	0	9	0	0	17	0	0	54
Lowland Mixed Forest	0	0	18	0	15	0	0	0	0	30	0	38	0	0	101
Lowland Shrub	46	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Mixed Upland Deciduous	0	0	0	0	0	0	5	0	14	0	0	0	0	0	19
Northern Hardwood	0	0	0	0	0	0	0	122	22	2	0	0	0	0	146
Upland Conifers	0	0	25	8	0	0	0	0	0	0	0	0	0	4	37
Upland Mixed Forest	0	0	14	8	0	0	19	0	0	0	0	0	0	0	41
Upland Spruce/Fir	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	61	40	57	29	43	0	28	156	45	58	9	103	85	4	720



Report 2 – Proposed Treatment Summaries

Escanaba Mgt. Unit
Year of Entry 2016

Compartment 015
Total Compartment Acres: 720

Acres by Treatment Type

Commercial Harvest - 216 Tree Planting - 0 Other - 0
 Habitat Cut - 0 Opening Maintenance - 0

Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	45	0	0	0	0	0	0	45
Lowland Coniferous Forest	7	0	47	0	0	0	0	53
Lowland Deciduous Forest	11	0	0	0	0	0	0	11
Lowland Mixed Forest	30	0	0	38	0	0	0	68
Mixed Upland Deciduous	0	0	0	19	0	0	0	19
Northern Hardwood	2	0	0	0	0	0	0	2
Upland Mixed Forest	19	0	0	0	0	0	0	19
Total	113	0	47	56	0	0	0	216



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	33015002-Cut	10.8	6115 - Lowland Ash	High Density Pole	113		Harvest	Clearcut with Reserves	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with Reserves - Cut all trees greater than 3 inches; except exclude the dense cedar along the south side of stand 1. Also, mark some scattered spruce seed trees. This stand will be managed for lowland hardwood and spruce.</p> <p><u>Specs:</u></p> <p><u>Other</u> This stand is an average quality lowland black ash stand, that is in need of a harvest.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Regeneration survey next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
6	33015006-Cut	29.9	6132 - Mixed Lowland Forest with Cedar	High Density Pole	91		Harvest	Clearcut with Reserves	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with Reserves - Cut all trees greater than 4 inches; except red line out some of the better quality and dense pockets of cedar. Also, mark some scattered tamarack, spruce and cedar seed trees. This stand will be managed for a mix of lowland hardwood and conifer.</p> <p><u>Specs:</u></p> <p><u>Other</u> Overall this stand is a mix of lowland hardwood with gravel ridges running through it with more cedar on them. A high percentage of the cedar in this stand has severe top die-back. I believe this is due to the change in water flow due to the county roads. The tamarack is also dying out of the stand due to the eastern larch beetle. So, if the stand is not harvested soon we will lose the seed source.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Regeneration survey next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
13	33015013-Cut	6.7	6120 - Lowland Cedar	High Density Log	91		Harvest	Clearcut with Reserves	6121 - Tamarack	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with Reserves - Cut all trees greater than 4 inches within the treatment area. The rest of the stand will not be cut. The harvest area will be managed for tamarack.</p> <p><u>Specs:</u></p> <p><u>Other</u> Overall this stand contains poor quality cedar, with about an 8 acre dense patch of high quality tamarack. About 2 to 3 acres of this tamarack has already died due to the Eastern Larch Beetle and the remaining tamarack are showing signs. The tamarack should be salvaged as soon as possible or within a few years it will all be dead. This stand should be cut as soon as possible, there is a chance that there will not be enough volume left to harvest if the stand is not cut in the immediate future.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Regeneration survey next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
15	33015015-Cut	2.4	4110 - Sugar Maple Association	High Density Log	91	81-110	Harvest	Clearcut	42340 - Upland Spruce/Fir	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut - Cut all trees greater than 4 inches. No retention will be left, except for the advanced balsam regeneration due to the small stand size.</p> <p><u>Specs:</u> This stand will be managed for balsam/spruce and hardwood.</p> <p><u>Other</u> This stand was thinned in 1994 on contract 024-93-01. The stand was opened up enough that the understory has fully filled in with balsam fir. A high percentage of the hardwood tops have top die-back. The overstory should be cut to release the understory.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Regeneration survey next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19 33015019-Cut	4.5	4191 - Mixed Upland Deciduous with Conifer	High Density Log	63	51-80	Harvest	Shelterwood	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u>	Shelterwood - Cut all trees greater than 3 inches; except mark 10 to 20 basal area of hardwood and spruce to retain. This will provide partial shade to regenerate spruce and balsam fir. There will also be some aspen and hardwood sprouting. The retention will be the residual stems. This stand will managed for a mix of hardwood and conifer.								
<u>Specs:</u>									
<u>Other Comments:</u>	Mature low quality hardwood stand with a significant amount of balsam fir. There is a high percentage of balsam fir that has died or is dying due to spruce budworm.								
<u>Next Steps:</u>	Regeneration survey next inventory cycle.								
<u>Proposed Start Date:</u>	10/01/2015								
20 33015020-Cut	7.1	6129 - Mixed Coniferous Lowland Forest	High Density Log	126		Harvest	Seed Tree with Reserves	6129 - Mixed Coniferous Lowland Forest	Cmpt. Review Proposal
<u>Prescription</u>	Seed Tree with Reserves - Cut all trees greater than 3 inches; except mark three half acre retention/seed tree clumps to exclude from the sale. These clumps will be placed where there are dense areas of cedar with some spruce and tamarack mixed in. The retention will be the northern 2/3rds of the stand that is not being cut along with the seed tree clumps. This stand will be managed for lowland conifers.								
<u>Specs:</u>									
<u>Other Comments:</u>	This stand is primarily a cedar stand with areas of dense lowland conifer mixed in. There were 5 east - west strips cut out of this stand in 1964 on the north end of the stand. These strips have filled in with primarily spruce, birch, and balsam fir. It looks as though the shorter lived species were cut out of the leave strips as well. The area south of the last cut strip was not cut through and there is a major amount of spruce and tamarack within it. The tamarack is dying out due to Eastern Larch Beetle. The southern 1/3rd of the stand should be cut.								
<u>Next Steps:</u>	Regeneration survey next inventory cycle.								
<u>Proposed Start Date:</u>	10/01/2015								
23 33015023-Cut	14.2	4199 - Other Mixed Upland Deciduous	High Density Pole	85	81-110	Harvest	Shelterwood	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<u>Prescription</u>	Shelterwood - Cut all trees greater than 4 inches; except mark 10 to 20 basal area to retain for partial shade to regenerate balsam fir and spruce. The 10 to 20 BA should consist of a mix of hardwoods, spruce, and balsam fir. Also, retain all hemlock and cedar. This stand is being managed for a mix of balsam fir, spruce, aspen, and mixed hardwoods.								
<u>Specs:</u>									
<u>Other Comments:</u>	Low quality mature hardwood stand with a moderately stocked understory of balsam fir and spruce. There are some low wet pockets within the stand.								
<u>Next Steps:</u>	Regeneration survey next inventory cycle.								
<u>Proposed Start Date:</u>	10/01/2015								
25 33015025-Cut	6.4	4319 - Mixed Upland Forest	High Density Pole	63		Harvest	Clearcut	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<u>Prescription</u>	Clearcut - Cut all trees greater than 3 inches. No retention will be left due to the small stand size. This stand will be managed primarily for aspen and mixed conifer.								
<u>Specs:</u>									
<u>Other Comments:</u>	Mature aspen and balsam fir stand. Quite a bit of the balsam fir has died due to spruce budworm. This stand contains some lowland pockets.								
<u>Next Steps:</u>	Regeneration survey next inventory cycle.								
<u>Proposed Start Date:</u>	10/01/2015								



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	33015034-Cut	5.5	4139 - Aspen, Mixed Deciduous	High Density Pole	36		Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Clearcut - Cut all trees greater than 3 inches. No retention will be left due to the small stand size. Stand is being managed for aspen.										
<u>Specs:</u>										
<u>Other</u> This is a two aged stand - most of the aspen and balsam fir is 36 years old, but there is quite a bit of hardwood that is about 80 years old. The										
<u>Comments:</u> spruce budworm is attacking the balsam and spruce with a significant portion already dead. This stand should be cut as soon as possible to try and salvage as much as possible.										
<u>Next</u> Regeneration survey next inventory cycle.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2015										
35	33015035-Cut	34.2	4130 - Aspen	High Density Log	71		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Clearcut with Reserves - Cut all trees greater than 3 inches; except leave enough retention clumps/patches to have 3% retention. This stand is										
<u>Specs:</u> being managed for aspen.										
<u>Other</u> Mature good quality aspen stand. There has been significant mortality of the balsam fir and spruce due to the spruce budworm.										
<u>Comments:</u>										
<u>Next</u> Regeneration survey next inventory cycle.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2015										
36	33015036-Cut	37.7	6132 - Mixed Lowland Forest with Cedar	High Density Log	114		Harvest	Shelter Wood with Reserves	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal
<u>Prescription</u> Shelterwood with Reserves - Cut all trees greater than 3 inches; except cedar, hemlock, and mark some spruce, tamarack, and pine seed trees.										
<u>Specs:</u> In addition cut all cedar less than 10 inches at DBH. Also red line out some of the dense cedar areas and exclude them from harvest, retaining all other species within these areas. The residual basal area will vary from 100 to 0. The northern 1/3rd of the stand has a more cedar, than the rest of the stand. This stand is being managed for a mix of lowland hardwood and conifer.										
<u>Other</u> Good quality lowland hardwood stand with cedar. The shorter lived species are in need of harvest.										
<u>Comments:</u>										
<u>Next</u> Regeneration survey next inventory cycle.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2015										
39	33015039-Cut	12.2	4319 - Mixed Upland Forest	Medium Density Pole	60		Harvest	Clearcut with Reserves	42380 - Non Pine Upland Conifer, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> Clearcut with Reserves - Cut all trees greater than 4 inches; except cedar and the advanced regeneration. Also, mark some balsam and spruce										
<u>Specs:</u> seed trees. This stand will be managed for a mix of spruce/fir, aspen, and mixed hardwood.										
<u>Other</u> Stand was shelterwood cut between 1995 & 1998 on contract 035-92-01. The tamarack, birch, ash, maple, basswood, balm, and aspen were										
<u>Comments:</u> cut. And the spruce and balsam with more than 2 sticks were cut. The way the stand was cut it ended up being a shelterwood. Now there is a substantial amount of balsam and balm regeneration that should be released. The balsam is being infected by the spruce budworm, so it should be cut before it dies out.										
<u>Next</u> Regeneration survey next inventory cycle.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2015										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40 33015040-Cut	19.9	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	120		Harvest	Seed Tree with Reserves	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal

Prescription: Seed Tree with Reserves - Cut all trees greater than 4 inches; except mark some cedar, spruce, and tamarack seed trees, where present. The retention will be made up primarily of the parts of the stand not getting cut, along with the seed trees. The areas being cut will be managed for a mix of lowland hardwoods and conifer.

Other Comments: It looks like the northern and western parts of this stand were cut about 20 to 30 years ago. All of the shorter lived species were removed leaving the cedar. These areas have a dense understory of balsam fir. The southern and eastern portions were not cut. These areas have a high proportion of shorter lived species than cedar and are mature and in need of a harvest. The tamarack is dying out due to the Eastern Larch Beetle, the balsam and spruce is dying from the spruce budworm, and the Emerald ash borer is closing in. In the area prescribed for harvest there is only 10 to 20% cedar.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Total Treatment Acreage Proposed: 191.6

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12 33015012-Cut	19.7	6129 - Mixed Coniferous Lowland Forest	High Density Pole	112		Harvest	Seed Tree with Reserves	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Seed Tree with Reserves - Cut all trees greater than 4 inches; except leave seed tree clumps throughout the stand. The clumps should consist of cedar, spruce, and tamarack. Also, red line out some of the denser and better quality cedar pockets. The better cedar is along the transition to stand 8 and in the north. This stand is being managed for mixed lowland conifer with some lowland hardwood. This stand will have to be factor limited due to access.

Other Comment: Mixed lowland coniferous stand. Overall the cedar is low quality and the shorter lived species are dying out of the stand. The Eastern Larch Beetle has already killed some of the tamarack, so the remaining tamarack needs to be cut before we lose a future seed source and we lose the ability to salvage the rest of the tamarack. The spruce and aspen are also dying out. This stand should also be cut now, because the adjacent stand to the east will be ready for harvest next decade. This way the age classes will be spread out.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Limiting Factor 2B: Unknown if access through adjacent landowner(s) is possible

17 33015017-Cut	4.9	4134 - Aspen, Spruce/Fir	High Density Log	63		Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
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Prescription Specs: Clearcut - Cut all trees greater than 3 inches. No retention will be left due to the small stand size. This stand is being managed for aspen. This stand will have to be factor limited due to access.

Other Comment: Mature aspen stand. The only access to this stand is through private property.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Limiting Factor 2B: Unknown if access through adjacent landowner(s) is possible

**Total Treatment
Acreage Proposed: 24.6**

Report 5 – Site Conditions

Escanaba Mgt. Unit
Dustin Salter : Examiner

Compartment 015
Year of Entry 2016

Availability for Management

Total Acres	Acres		Dominant Site Conditions	Dominant Site Conditions					
	Available	Not Available		No	5D	5C	3L	3J	2B
92	92		Aspen	87					5
69	69		Cedar	69					
111	66	45	Lowland Conifers	41	6	5	39		20
54	45	9	Lowland Deciduous	45				9	
101	101		Lowland Mixed Forest	101					
19	19		Mixed Upland Deciduous	19					
146	146		Northern Hardwood	146					
36	36		Upland Conifers	36					
41	41		Upland Mixed Forest	41					
5	5		Upland Spruce/Fir	5					
674	620	54	Total Forested Acres	590	6	5	39	9	25
	92%	8%	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
005	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5				
Comments: This stand is mature and ready for harvest, but hold for 10 years when the adjacent stand (stand 11) is ready for harvest. Also, an adjacent large swamp is prescribed for treatment this decade. So, the lowland treatments will be spread out.							
006	Not Available	3L: Other wildlife concerns	13				
Comments: This stand has a high percentage of cedar, so no treatment is needed at this time.							
007	Not Available	5D: Unproductive Forest Land	6				
Comments: This stand is mostly open with scattered patches of merchantable wood.							

Report 5 – Site Conditions

Escanaba Mgt. Unit
Dustin Salter : Examiner

Compartment 015
Year of Entry 2016

008	Not Available	3J: Water quality / BMPs (stream, river, or lake)	9
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Comments:

This stand is an SCA - Ross Creek flows through it.

009	Not Available	3L: Other wildlife concerns	26
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Comments:

This stand has a high percentage of cedar and is not in need of treatment at this time.

010	Available	2B: Unknown if access through adjacent landowner(s) is possible	20
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Comments:

The only access into this stand is through private property, we will have to work on getting permission.

011	Available	2B: Unknown if access through adjacent landowner(s) is possible	5
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Comments:

The only access into this stand is through private property, we will have to work on getting permission.



Report 6 – 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
Ross Creek	Spring-Seeps, Riparian Areas	Riparian Area	SCA	9.0
Comments				
SCA - Stand provides riparian buffer and mature forest conditions along Ross Creek.				
SCA Remove	Potential Old Growth		SCA Removal	21.9
Comments				



Report 7 – 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42390 - Mixed Non-Pine Upland Conifers	Medium Density	3.5	Uneven Age		Stand was clearcut in 2007 on contract 035-06-01. All cedar and hemlock was retained along with the advanced spruce and balsam regeneration. There are three distinct age classes present; older cedar, advanced balsam/spruce, and regeneration following the last harvest. This stand is an old gravel pit.
2	6115 - Lowland Ash	High Density Pole	16.5	113		This stand is an average quality lowland black ash stand, that is in need of a harvest.
3	42340 - Upland Spruce/Fir	High Density Sapling	5.1	7		Stand was clearcut in 2007 on contract 035-06-01. All cedar, hemlock, and spruce was retained. There are some pockets of aspen regen that have been heavily browsed by deer and are dying out.
4	42360 - Upland Cedar	High Density Log	4.2	103		Upland cedar stand - good quality cedar, but they have significant top die-back.
5	4134 - Aspen, Spruce/Fir	High Density Sapling	10.0	7		Stand was clearcut in 2007 on contract 035-06-01. All cedar and hemlock were retained along with the advanced balsam fir regeneration.
6	6132 - Mixed Lowland Forest with Cedar	High Density Pole	29.9	91		Overall this stand is a mix of lowland hardwood with gravel ridges running through it with more cedar on them. A high percentage of the cedar in this stand has severe top die-back. I believe this is due to the change in water flow due to the county roads. The tamarack is also dying out of the stand due to the eastern larch beetle. So, if the stand is not harvested soon we will lose the seed source.
7	4110 - Sugar Maple Association	High Density Pole	21.6	82	81-110	Stand was thinned in 2007 on contract 035-06-01. Decent quality hardwood stand with a thick layer of sedge. No hardwood regeneration is showing up following the last harvest. The northern third of the stand was not thinned in 2007, it had a lower basal area.
8	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	5.3	102		Lowland conifer stand that has a higher percentage of cedar, but overall is a mixed stand. A high volume of the shorter lived species have died out and the cedar has significant top die-back. The cedar is not providing much thermal cover for deer. This stand should be cut, but hold and cut with stand 11 next decade.
10	42390 - Mixed Non-Pine Upland Conifers	High Density Pole	8.1	35		This stand is on a gravel ridge and it is predominately balsam fir with a mix of other species. The balsam and spruce have been attacked by the spruce budworm, with some mortality already occurring. There is not enough merchantable volume to do a salvage harvest.
11	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	28.4	40		Stand is lowland balm with ash and balsam fir. Harvest next decade.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	6129 - Mixed Coniferous Lowland Forest	High Density Pole	19.7	112		Mixed lowland coniferous stand. Overall the cedar is low quality and the shorter lived species are dying out of the stand. The Eastern Larch Beetle has already killed some of the tamarack, so the remaining tamarack needs to be cut before we lose a future seed source and we lose the ability to salvage the rest of the tamarack. The spruce and aspen are also dying out. This stand should also be cut now, because the adjacent stand to the east will be ready for harvest next decade. This way the age classes will be spread out.
13	6120 - Lowland Cedar	High Density Log	20.2	91		Overall this stand contains poor quality cedar, with about an 8 acre dense patch of high quality tamarack. About 2 to 3 acres of this tamarack has already died due to the Eastern Larch Beetle and the remaining tamarack are showing signs. The tamarack should be salvaged as soon as possible or within a few years it will all be dead. This stand should be cut as soon as possible, there is a chance that there will not be enough volume left to harvest if the stand is not cut in the immediate future.
14	6130 - Fir, Aspen, Maple	Medium Density	17.8	25		Stand was clearcut in 1988 on contract 056-85-01. Only the hemlock was retained. This stand is about 60% lowland and 40% upland. There are numerous small areas that didn't regenerate. Stand is a mix of balm and balsam fir primarily.
15	4110 - Sugar Maple Association	High Density Log	2.4	91	81-110	This stand was thinned in 1994 on contract 024-93-01. The stand was opened up enough that the understory has fully filled in with balsam fir. A high percentage of the hardwood tops have top die-back. The overstory should be cut to release the understory.
17	4134 - Aspen, Spruce/Fir	High Density Log	4.9	63		Mature aspen stand. The only access to this stand is through private property.
18	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Sapling	12.9	20		Stand was clearcut in 1994 on contract 024-93-01. All cedar, hemlock, beech, and pine were retained. There is quite a bit of the balsam fir that was already established prior to the last harvest and is 30 to 40 years old.
19	4191 - Mixed Upland Deciduous with Conifer	High Density Log	4.5	63	51-80	Mature low quality hardwood stand with a significant amount of balsam fir. There is a high percentage of balsam fir that has died or is dying due to spruce budworm.
20	6129 - Mixed Coniferous Lowland Forest	High Density Log	19.9	126		This stand is primarily a cedar stand with areas of dense lowland conifer mixed in. There were 5 east - west strips cut out of this stand in 1964 on the north end of the stand. These strips have filled in with primarily spruce, birch, and balsam fir. It looks as though the shorter lived species were cut out of the leave strips as well. The area south of the last cut strip was not cut through and there is a major amount of spruce and tamarack within it. The tamarack is dying out due to Eastern Larch Beetle. The southern 1/3rd of the stand should be cut.
21	6128 - Lowland Coniferous, Mixed Deciduous	Low Density Pole	5.9	92		Overall the stand is very low quality with very little merchantable volume. The tamarack within this stand is dying out due to the Eastern Larch Beetle.



Stand	Escanaba Mgt. Unit		Report 8 – Forested Stands			Compartment: 015 Year of Entry: 2016	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
22	42380 - Non Pine Upland Conifer, Mixed Deciduous	Medium Density	12.0	25		Stand was clearcut in 1988 on contract 056-85-01. The stand is primarily spruce with a substantial amount of aspen and balsam in patches.	
23	4199 - Other Mixed Upland Deciduous	High Density Pole	14.2	85	81-110	Low quality mature hardwood stand with a moderately stocked understory of balsam fir and spruce. There are some low wet pockets within the stand.	
24	6130 - Fir, Aspen, Maple	High Density Pole	14.7	42		Stand was listed as Potential Old Growth last entry, this stand should be designated as an SCA. It provides a riparian buffer along Ross Creek which flows through this stand. The stand is a mix of lowland aspen/balsam and spruce/fir. The spruce and balsam have been severely infested by the Spruce Budworm and there is already significant mortality throughout the stand.	
25	4319 - Mixed Upland Forest	High Density Pole	6.4	63		Mature aspen and balsam fir stand. Quite a bit of the balsam fir has died due to spruce budworm. This stand contains some lowland pockets.	
26	4130 - Aspen	High Density Pole	7.6	39		Mixed aspen and sugar maple stand. The majority of the sugar maple are via stump sprouts when the stand was cut last time.	
27	4110 - Sugar Maple Association	High Density Pole	122.1	79	81-110	Stand was thinned in 1987 - 89 on contract 056-85-01 and then again in 2008 on contract 021-06-01. Good quality hardwood stand with a thick sedge/grass mat.	
28	4319 - Mixed Upland Forest	Medium Density	14.4	22		Stand was clearcut in 1992 on contract 013-92-01. All cedar, hemlock, pine, and beech was retained. There are a number of open pockets that are regenerating with cherry.	
29	6120 - Lowland Cedar	High Density Log	3.3	116		SCA - Provides mature forest conditions along Ross Creek. High quality cedar stand, in which all of the shorter lived species have died out.	
30	42360 - Upland Cedar	Medium Density Log	21.9	116		Stand was listed as Potential Old Growth last decade, Remove this designation. This is not a unique site and was just cut through 18 years ago. Stand was cut in 1995 on contract 013-92-01. All cedar, hemlock, pine, beech, and elm were retained. There was some cedar and pine marked to cut. Stand is 60% upland and 40% lowland. Overall this stand is mature cedar with an understory of aspen, balsam, spruce, and balsam fir.	
31	4319 - Mixed Upland Forest	High Density Pole	8.3	36		Stand is a mix of upland and lowland, but there is more upland. There is some older balsam fir and ash that must have been retained from the last harvest.	
32	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	9.0	84		SCA - Stand provides riparian buffer and mature forest conditions along Ross Creek.	
33	4134 - Aspen, Spruce/Fir	High Density Pole	29.6	17		Stand was clearcut in 1996-97 on contract 007-96-01. All cedar, elm, hemlock, and cherry was retained. Fully stocked aspen stand.	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
34	4139 - Aspen, Mixed Deciduous	High Density Pole	5.5	36		This is a two aged stand - most of the aspen and balsam fir is 39 years old, but there is quite a bit of hardwood that is about 80 years old. The spruce budworm is attacking the balsam and spruce with a significant portion already dead. This stand should be cut as soon as possible to try and salvage as much as possible.
35	4130 - Aspen	High Density Log	34.2	71		Mature good quality aspen stand. There has been significant mortality of the balsam fir and spruce due to the spruce budworm.
36	6132 - Mixed Lowland Forest with Cedar	High Density Log	38.2	114		Good quality lowland hardwood stand with cedar. The shorter lived species are in need of harvest.
37	6120 - Lowland Cedar	High Density Pole	3.8	116		Mostly a pure cedar stand. The tamarack is dying out due to the Eastern Larch Beetle.
38	6128 - Lowland Coniferous, Mixed Deciduous	High Density Sapling	10.8	17		Stand was clearcut between 1995 and 98 on contract 035-92-01. This stand has fully regenerated to a mix of primarily lowland conifer, with the majority being tamarack.
39	4319 - Mixed Upland Forest	Medium Density Pole	12.2	60		Stand was shelterwood cut between 1995 & 1998 on contract 035-92-01. The tamarack, birch, ash, maple, basswood, balm, and aspen were cut. And the spruce and balsam with more than 2 sticks were cut. The way the stand was cut it ended up being a shelterwood. Now there is a substantial amount of balsam and balm regen that should be released. The balsam is being infected by the spruce budworm, so it should be cut before it dies out.
40	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	49.6	120		It looks like the northern and western parts of this stand were cut about 20 to 30 years ago. All of the shorter lived species were removed leaving the cedar. These areas have a dense understory of balsam fir. The southern and eastern portions were not cut. These areas have a high proportion of shorter lived species than cedar and are mature and in need of a harvest. The tamarack is dying out due to the Eastern Larch Beetle, the balsam and spruce is dying from the spruce budworm, and the Emerald ash borer is closing in. In the area prescribed for harvest there is only 10 to 20% cedar.
41	6120 - Lowland Cedar	Low Density Log	15.8	120		Stand was cut in 2006 on contract 037-01-01. Most of the short lived species were cut, except for some seed trees. Also, all cedar less than 7.5 inches were cut. A substantial amount of the residual cedar has blown over since the stand was harvested. The stand is regenerating.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
9	6229 - Mixed lowland shrub	40.5	No	Unspecified	There are some isolated pockets of tamarack regeneration within this stand, try to delineate them out next inventory cycle when they are older/taller.
16	6229 - Mixed lowland shrub	5.5	No	Unspecified	