



**Escanaba Forest Management Unit  
Compartment Review Presentation  
Compartment 17 Entry Year: 2012  
Compartment Acreage: 1,375 County: Menominee**

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**Revision Date:** August 25, 2010

**Stand Examiner:** Dustin Salter, Forester, FMD; Bill Rollo and Craig Albright, Wildlife Division

**Legal Description:** T36N, R28W, Sections 1,2,3,10,14, and 15

**Identified Planning Goals:** Menominee End Moraine

**Management Goals:** This compartment contains a mix of cover types. The prominent ones are aspen, red oak, white pine, and lowland conifer. Within this compartment there has been significant mortality from the spruce budworm on the balsam fir and spruce. The budworm has affected the younger stems along with the mature. Oak wilt is also present within and adjacent to this compartment. A few epi-centers of oak wilt were treated over the past decade and there are a number of others present now that will need to be treated. The majority of upland types are either aspen, pine/red maple, or oak/maple. The majority of the lowland conifer stands are mature and those that will be harvested this year are a mix of spruce, tamarack, and cedar.

This decade we will be final harvesting 135 acres of aspen, 13 acres of mixed upland species, and 82 acres of lowland conifer. The intention of each of the harvests is to regenerate the stands to each of the stands dominant species. We will also be thinning 72 acres of northern hardwood. We will be performing a shelterwood harvest on 27 acres of white pine, 11 acres of red oak, and 44 acres of mixed upland species. The white pine stands and mixed upland stands will be treated to regenerate white pine and other upland species. The oak stand will be harvested to begin to regenerate oak on this site, via stump sprouting.

**Soil and Topography:** Topography is nearly level, with a few rolling hills. Soils include well-drained sand, very poorly drained loams, and mucky soils over till and outwash plains. Prominent soil series are Lupton, Onaway, and Pemene.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** This compartment is located approximately in the middle of a block of state forest land that is about 20 miles long and 8 miles wide in the southwestern part of Menominee County. In and around the compartment the land holdings are broken up, with many private parcels within this block of state land. Recreation is the primary use of the state land and the surrounding private land. There are some family farms located adjacent to this compartment as well.

**Unique, Natural Features:** None known

**Archeological, Historical, and Cultural Features:** None known

**Special Management Designations or Considerations:** None known

**Watershed and Fisheries Considerations:** The Shakey River and Rosebush Creek flow through portions of the compartment.

**Wildlife Habitat Considerations:** The most important habitat issue being addressed in this compartment is management of oak. Oak is relatively uncommon on the Escanaba Forest Unit, and it provides valuable food for wildlife in the form of mast (acorns). Unfortunately, much of the oak is reaching maturity, and oak wilt disease is causing some mortality as well. There is a need to preserve mature oak trees for mast and den sites while also regenerating the type. In this compartment, 3 stands are typed as oak, and 25 additional stands have oak as a component species. During this decade, about half of the stands containing oak will receive harvest treatment to promote regeneration through seed or stump sprouting, and to control the spread of oak wilt disease. The other half of oak-containing stands will be deferred from treatment. This compartment also has lowland conifer stands containing cedar. Due to the medium age of cedar, difficulty in obtaining reliable regeneration, and high cover value to wildlife, proposed harvest treatments were reduced to 2 stands and will involve only a modest take of cedar trees. Because much of this compartment is being maintained in an early stage of forest development, stands located along the Shakey River are designated a Special Conservation Area in which mature forest conditions will be maintained. Wildlife Division prefers to see sparsely-vegetated Stand 42 maintained in a shrubby, open condition for open-land wildlife. Allowing natural filling with trees over time is our recommendation rather than establishing a red pine plantation.

**Mineral Resource and Development Concerns and/or Restrictions:** Surface sediments consist of an end moraine of medium textured glacial till. There is approximately 120 feet of relief in the compartment. The glacial drift thickness varies between 10 and 50 feet. The Cambrian Munising and Trempealeau Formations underlie the glacial drift. The Trempealeau could be used for stone. The closest gravel pit is located 1.5 miles to the north of the compartment. There appears to be good gravel potential.

**Vehicle Access:** There is good access into the north part of the compartment off of County Road 551 and the Miscauna Creek Road, with several “2 track” roads branching off of them. In the southern part the Chalk Hills Road along with some additional “2 track” roads provide access.

**Survey Needs:** A few registered corners will need to be set.

**Recreational Facilities and Opportunities:** There are no developed facilities within this compartment. The primary recreational uses are hunting, four-wheeling, and snowmobiling.

**Fire Protection:** Road access is good throughout most of the compartment. There are numerous potential water sources in and around the compartment. Overall, the timber types within the compartment are not usually prone to large fires. There are heavy build-ups of dead trees and brush in places. This build-up was caused by heavy mortality of the spruce and balsam fir from the spruce budworm.

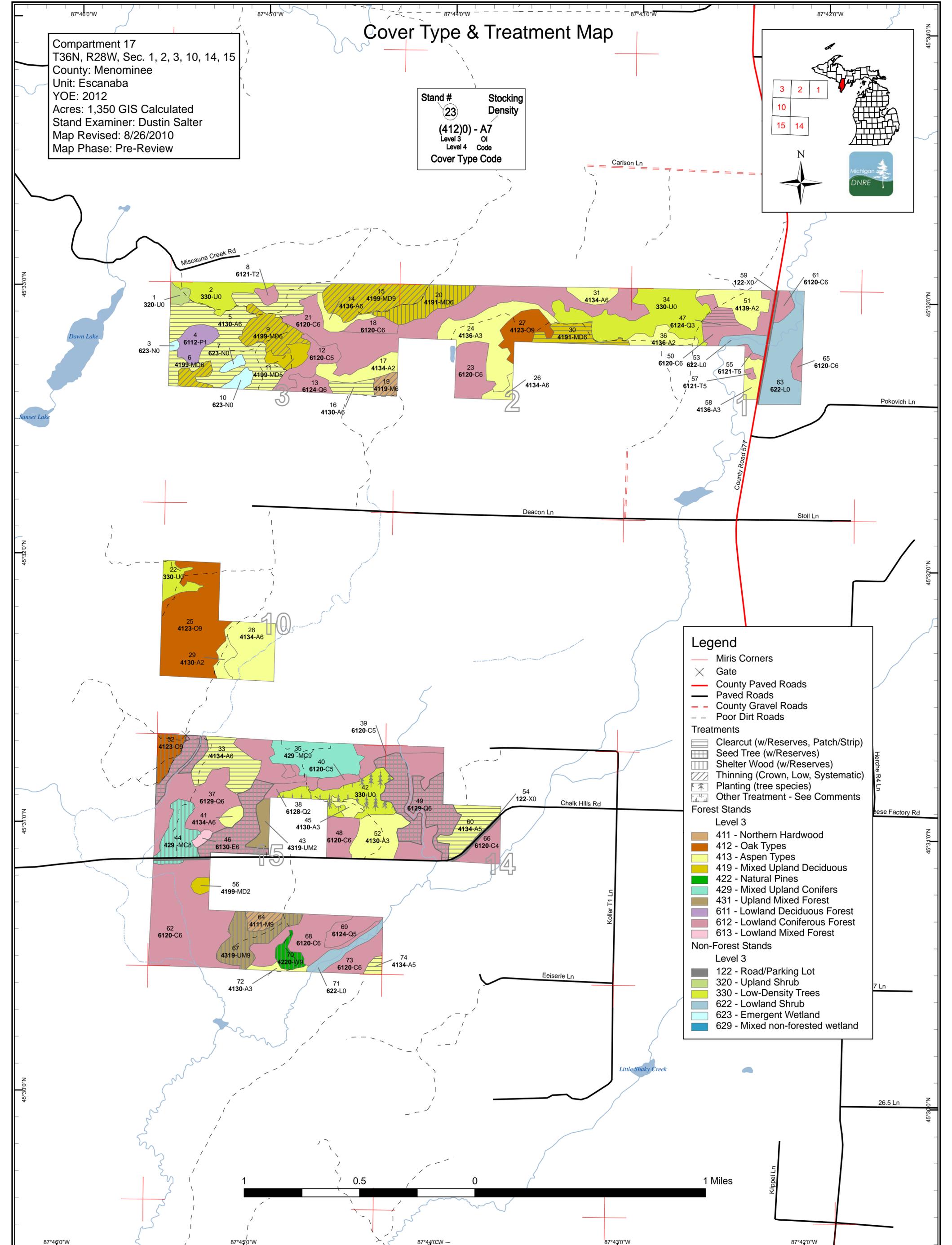
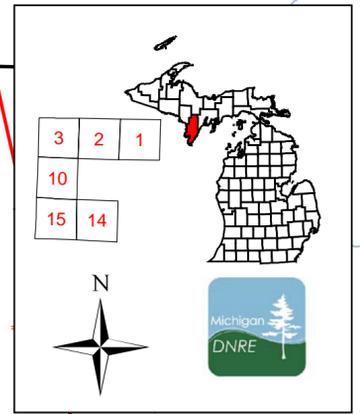
**Additional Compartment Information:** There are two 10-foot deer exclosures within Stand 35, one of which has numerous cedar and white birch stems. The other has white birch regeneration as well. There are no stands being removed from SCA status.

- **The following reports from the Inventory are attached:**
  - ◆ **Total Acres by Cover Type and Age Class**
  - ◆ **Proposed Treatment Summary**
  - ◆ **Proposed Treatments – No Limiting Factors**
  - ◆ **Proposed Treatments – With Limiting Factors**
  - ◆ **Stand Details (Forested and Nonforested)**
  - ◆ **Dedicated and Proposed Special Conservation Areas**
- **The following information is displayed, where pertinent, on the attached compartment maps:**
  - ◆ **Base feature information, stand boundaries, cover types, and numbers**
  - ◆ **Proposed treatments**
  - ◆ **Details on the road access system**

# Cover Type & Treatment Map

Compartment 17  
 T36N, R28W, Sec. 1, 2, 3, 10, 14, 15  
 County: Menominee  
 Unit: Escanaba  
 YOY: 2012  
 Acres: 1,350 GIS Calculated  
 Stand Examiner: Dustin Salter  
 Map Revised: 8/26/2010  
 Map Phase: Pre-Review

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



### Legend

- Miris Corners
- Gate
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads

### Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Planting (tree species)
- Other Treatment - See Comments

### Forest Stands

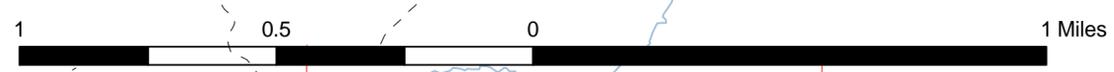
Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

### Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland



87°46'0"W 87°45'0"W 87°44'0"W 87°43'0"W 87°42'0"W  
 45°33'0"N 45°32'0"N 45°31'0"N 45°30'0"N







## 7 – 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.

*Data updated before 10:00 AM*

Stand	SCA Type	SCA Name	Acres	Comments
multiple - see	SCA Removal	33017_Rosebush_Creek_SCA_Removal	5.2	<<add comments here>>
28	SCA Removal	33017028	31.4	Remove buffer along Rosebush Creek from SCA.
61	Unique Site - SCA	33017061	5.1	SCA-Shakey River riparian corridor. Mature forest conditions will be maintained to promote large diameter trees, cavities, snags, and dead woody debris for wildlife habitat.
65	Unique Site - SCA	33017065	3.1	SCA-Shakey River riparian corridor. Mature forest conditions will be maintained to promote large diameter trees, cavities, snags, and dead woody debris for wildlife habitat.
53	Unique Site - SCA	NF_33017053	7.1	SCA-Shakey River riparian corridor. Mature forest conditions will be maintained to promote large diameter trees, cavities, snags, and dead woody debris for wildlife habitat.
63	Unique Site - SCA	NF_33017063	37.4	SCA-Shakey River riparian corridor. Mature forest conditions will be maintained to promote large diameter trees, cavities, snags, and dead woody debris for wildlife habitat.



Stand	Cover Type	Acres	Gen Cmts:
1	3204 - Mast Producing Shrub	3.8	
2	3301 - Low Density Deciduous Tree	18.6	This stand was final harvested in 2008 on contract 030-02-01. It is filling in with aspen, balsam, and some stump sprouted maple. It isn't quite 25% stocked, but by next entry period it will be. No management is needed at this time.
3	6233 - Wet Meadow	1.1	
7	6233 - Wet Meadow	2.7	
10	6233 - Wet Meadow	4.4	
22	3301 - Low Density Deciduous Tree	9.8	
34	3302 - Low Density Conifer Trees	54.1	This stand was final harvested in 2004 through 2005 on contract 034-02-01. This stand is being managed for tamarack. There is an abundant amount of tamarack seedlings throughout the stand, but they have not reached 3 foot high. No management is needed at this time.
42	3303 - Mixed Low Density Trees	28.0	This stand was final harvested in 1998 and did not regenerate adequately. There are some seedlings around the edge of the stand, but mostly open. Convert this stand to a red pine plantation. Onaway Fine Sandy Loam  06/17/10 - East part of this opening has allot of cherry seedlings/sapling. Would call it a cherry shrubland. West portion is more open with white pine/spruce seedling/saplings. - BJR
53	6229 - Mixed lowland shrub	7.1	Appears to have a few more trees then Std. 63
54	122 - Road/Parking Lot	4.5	
59	122 - Road/Parking Lot	4.8	
63	6229 - Mixed lowland shrub	37.4	Appears to be pretty shrubby. There is a 7ac tamarack stand at the south end of this stand, see aerial photo.
71	622 - Lowland Shrub	9.2	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4	6112 - Lowland Aspen	Low Density Sapling	12.3	2		This stand was final harvested in 2008 on contract 030-02-01.
5	4130 - Aspen	High Density Pole	80.9	47		Variable quality and density of aspen.
6	4199 - Other Mixed Upland Deciduous	High Density Pole	6.6	81	111-140	Decent quality maple and red oak stand.
8	6121 - Tamarack	Medium Density	3.6	20		This is a two-aged stand. There is residual tamarack and cedar stems and quite a bit of tamarack regeneration. There is not enough merchantable volume to harvest it.
9	4199 - Other Mixed Upland Deciduous	High Density Pole	21.2	81	111-140	Good quality red oak with pole sized sugar and red maple mixed in. There is an oak wilt patch 2 to 3 acres in size in the center of this stand.
11	4199 - Other Mixed Upland Deciduous	Medium Density Pole	8.2	81		Fairly open stand with large red oaks and stump sprouted red maple and clones of aspen.
12	6120 - Lowland Cedar	Medium Density Pole	14.4	104		This stand was cut in the winter of 2008-09 on contract 030-02-01. All species were harvested, except cedar and some scattered seed trees. There is thick cedar in some areas and some other areas are open and there is quite a bit of aspen and balm filling in. It is too soon to see a conifer regeneration.
13	6124 - Lowland Spruce- Fir	High Density Pole	7.0	104		The majority of this stand had been harvested 44 years ago, but there is a 75' strip of mature cedar down the center of this stand. The balsam fir and spruce are dying out of the stand due to the spruce budworm, the majority of the stems are too small to salvage.
14	4136 - Aspen, Mixed Conifer	High Density Pole	7.3	32		
15	4199 - Other Mixed Upland Deciduous	High Density Log	32.3	82	111-140	Nice quality red oak with pole sized sugar and red maple mixed in. The far east end of this stand had been thinned before in 1995.
16	4130 - Aspen	High Density Pole	6.5	46		Mature aspen stand. The balsam fir and spruce have died out from the spruce budworm.
17	4134 - Aspen, Spruce/Fir	Medium Density	14.1	15		
18	6120 - Lowland Cedar	High Density Pole	8.1	104		This stand was cut in 1978-79. This cedar stand had skid trails cut out every 100'. In the remaining strips all of the other species were removed. The cedar in the residual strips is dying out in places. The cut strips have come back too thick with balsam fir and spruce regen primarily. The regen is so thick it is choking itself out and the spruce budworm is appearing in the stand.
19	4119 - Mixed Northern Hardwoods	High Density Pole	5.7	81	141-170	Decent quality hardwood stand with clumps of red oak.

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## Escanaba Mgt. Unit

## 5 – Forested Stands

Data updated before 10:00 AM

Compartment: 017  
Year of Entry: 2012

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	20.4	81	81-110	Dry hardwood site that contains mostly red maple with area's of spruce and balsam. There are scattered red oak and white pine scattered throughout the stand. This stand was cut in 1995 on contract 028-95-01. There were some openings created from this sale and spruce and balsam have been seeding in. The spruce budworm has affected this stand.
21	6120 - Lowland Cedar	High Density Pole	91.4	104		Poor quality lowland conifer stand. Densities and species composition is variable throughout the entire stand.
23	6120 - Lowland Cedar	High Density Pole	21.4	104		Lowland conifer stand with thick areas of cedar. Part of this stand was harvested in 1969 and is filling in with a mix of lowland species.
24	4136 - Aspen, Mixed Conifer	High Density Sapling	38.4	6		This stand was cut between 2004-05 on contract 048-02-01. There was some residual white pine, cedar, and oak retained. Some sub-merchantable spruce/fir are dying out from the spruce budworm. There is a possible epi-center of oak wilt within this stand.
25	4123 - Red Oak	High Density Log	70.7	81	81-110	This stand was thinned in 2004 on contract 027-03-01. There were 3 epi-centers of oak wilt that were identified within this stand and treated. One of them had a trench dug around it to sever the roots, the other was trenched and the third one had a two chain buffer put around it and all of the oak within the epi-center and buffer area was removed. I did not find any new oak wilt around these pockets, but I did find a new epi-center on the west side of the stand.
26	4134 - Aspen, Spruce/Fir	High Density Pole	3.9	31		
27	4123 - Red Oak	High Density Log	16.1	88		This stand was thinned in 2004-05 on contract 048-02-01. There is a possible epi-center of oak within this stand.
28	4134 - Aspen, Spruce/Fir	High Density Pole	31.4	22		
29	4130 - Aspen	Medium Density	6.0	7		This stand was final harvested in 2003 on contract 027-03-01. The oak and pine was retained.
30	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	13.3	59		This stand is very variable in its species composition and density. Heavy to aspen and low quality hardwoods with pockets of spruce/fir. The spruce/fir is in decline due to the spruce budworm.
31	4134 - Aspen, Spruce/Fir	High Density Pole	7.9	32		
32	4123 - Red Oak	High Density Log	10.6	77	111-140	This stand was thinned in 2003 on contract 027-03-01. The residual basal area is still too high to get oak regeneration.



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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
33	4134 - Aspen, Spruce/Fir	High Density Pole	26.7	45		This stand contains low quality aspen and a lot of dead or dying spruce and balsam fir due to the spruce budworm. We should harvest this stand now to salvage the spruce and fir and regenerate the aspen.
35	429 - Mixed Upland Conifers	High Density Log	31.2	88	111-140	This stand was thinned in 2003 on contract 022-02-01. There are two deer exclosures within this stand. 1 of them contains 4-birch, 2-maple, 15-cedar, 3-balsam, 5-white pine, and 1-red pine seedlings and saplings. The second exclosure has 6 birch saplings. This stand is still too dense for the white pine to regenerate and the sedge is also very thick in a lot of places.
36	4136 - Aspen, Mixed Conifer	Medium Density	9.6	6		this stand was final harvested in 2003 on contract 034-02-01.
37	6129 - Mixed Coniferous Lowland Forest	High Density Pole	96.6	108		The entire stand is mature, but I am going to focus on harvesting the areas of this stand that have a higher percentage of other species than cedar. Species other than cedar are mature and are dying out of the stand.
38	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density	6.9	108		This is a multi aged stand. Most of the stand is 25 years old but there is older cedar and pine and younger seedlings and saplings as well. The balsam and spruce have been hit hard by the spruce budworm.
39	6120 - Lowland Cedar	Medium Density Pole	12.4	108		This stand was cut on contract 029-88-01. Almost all species were removed except cedar. The stand is filling in with balm.
40	6120 - Lowland Cedar	Medium Density Pole	5.3	108		Very poor quality stand and also very wet. The tamarack is very short and not very dense.
41	4134 - Aspen, Spruce/Fir	High Density Pole	4.2	39		Decent quality aspen with some balsam and spruce mixed in. Some of the spruce/fir is dying out due to the spruce budworm.
43	4319 - Mixed Upland Forest	Medium Density	7.7	39		Very poor quality stand. The aspen is not very dense and the spruce and balsam are dying from the spruce budworm. There is quite a bit of tamarack seeding in around the edges.
44	429 - Mixed Upland Conifers	Medium Density Log	20.0	88		This stand was cut on contract 022-02-01 in 2003. The pine was thinned and some other species were retained as well. A large portion of this stand has too high of basal area to allow white pine to seed in. Also the sedge is fairly thick throughout a large portion of the stand. The residual balsam and spruce are dying out due to the spruce budworm.
45	4130 - Aspen	High Density Sapling	4.3	12		This stand was cut in 1998 on contract 026-97-01.
46	6130 - Fir, Aspen, Maple	High Density Pole	2.4	29		Stand is a mix of balm and balsam fir, but the spruce budworm has attacked the majority of stems in the stand.



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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
47	6124 - Lowland Spruce- Fir	High Density Sapling	3.1	43		This stand consists of three strips that were cut out of a cedar stand. They are fully stocked, but they are so thick with saplings they are crowding each other and are not growing very fast. Some of the balsam and spruce have been attacked by the spruce budworm.
48	6120 - Lowland Cedar	High Density Pole	13.8	108		This stand has a band of cedar around the perimeter of the stand and the rest is good quality tamarack within it.
49	6129 - Mixed Coniferous Lowland Forest	High Density Pole	71.0	108		Mature mixed lowland conifer stand. Areas of this stand that has a lower basal area of cedar will be harvested.
50	6120 - Lowland Cedar	High Density Pole	18.1	104		Almost a pure cedar type.
51	4139 - Aspen, Mixed Deciduous	Medium Density	17.6	10		This stand was final harvested in 1999-2000 on contract 028-97-01. This stand is not fully stocked but is filling in with spruce, fir, white pine, and white ash. There are some scattered residual hardwood stems scattered throughout the stand. Also there is a thicker merchantable hardwood patch on the east side of the stand.
52	4130 - Aspen	High Density Sapling	23.7	24		This stand was cut in 1986 on contract 05-85-01.
55	6121 - Tamarack	Medium Density Pole	1.7	89		This stand could be harvested, but it is difficult to access so we will wait until the adjacent aspen stand is harvested.
56	4199 - Other Mixed Upland Deciduous	Medium Density	3.1	13		This stand was cut in 1997 on contract 037-97-02. About half of the stand is thick with black cherry regeneration and the other half is thick with balm regeneration. There are some scattered merchantable stems scattered around as well.
57	6121 - Tamarack	Medium Density Pole	1.0	89		This stand could be harvested but access is difficult, so we will harvest it when the adjacent aspen stand is harvested in the future.
58	4136 - Aspen, Mixed Conifer	High Density Sapling	6.7	26		Poor quality stand with scattered areas of aspen and quite a bit of upland brush mixed in.
60	4134 - Aspen, Spruce/Fir	Medium Density Pole	18.7	43		This is a very poor quality stand and is sparse in some places. The west side of the stand has a fair amount of volume, but the east side has only about 5 cords per acre of volume. The spruce and balsam are dying out from the spruce budworm.
61	6120 - Lowland Cedar	High Density Pole	5.1	104		SCA - Shakey Creek Riparian Corridor. Mature forest conditions will be maintained to promote large diameter trees, cavities, snags, and dead woody debris for wildlife habitat.
62	6120 - Lowland Cedar	High Density Pole	81.7	108		
64	4111 - S.Maple, Hard Mast Association	High Density Log	6.5	91	141-170	Decent quality hardwood stand.



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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	6120 - Lowland Cedar	High Density Pole	3.1	104		SCA-Shakey River Riparian Corridor. Mature forest conditions will be maintained to promote large diameter trees, cavities, snags, and dead woody debris for wildlife habitat.
66	6120 - Lowland Cedar	Low Density Pole	11.9	108		This stand was cut in 2006 on contract 040-02-01. All species were cut except the cedar and some other seed trees. The stand is filling in with black spruce and balsam seedlings in the lower areas. There is a strip of upland that was cut with stand as well, that is regenerating to aspen.
67	4319 - Mixed Upland Forest	High Density Log	23.8	98		This stand is variable in its density and species composition. The balsam and spruce are dying out due to the spruce budworm.
68	6120 - Lowland Cedar	High Density Pole	30.0	108		Poor quality stand.
69	6124 - Lowland Spruce- Fir	Medium Density Pole	10.9	Uneven Age		Very poor quality stand. There are numerous age classes and most of the spruce and balsam are dead or dying from the spruce budworm. I am not sure what the long range management objective of this stand will be. We could try to salvage some of the wood in this stand, but access is difficult for the small amount of volume that would be available.
70	42200 - Natural White Pine	High Density Log	7.1	96		Decent quality white pine stand. There is very little regeneration in the stand.
72	4130 - Aspen	High Density Sapling	2.9	23		This stand was cut 23 years ago. This stand is part of a larger aspen stand that extends down into comp 18 to the south.
73	6120 - Lowland Cedar	High Density Pole	13.5	108		This stand had 8 strips cut out of it in 1978. The cut strips are fully stocked. The spruce and balsam are dying out due to the spruce budworm.
74	4134 - Aspen, Spruce/Fir	Medium Density Pole	3.0	70		Mature aspen and the balsam and spruce are dying out from the spruce budworm. Add this stand to the Marked Oak sale #025-09-01 in comp 18 to the south if the contractor will cut it after it is approved through the comp review process.



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

**Total Treatment Acreage Proposed: 0**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
5 33017005-Cut	80.9	4130 - Aspen	High Density Pole	47	Harvest	Clearcut	Aspen	Cmpt. Review Proposal

Prescription Final harvest this stand, cut all species greater than 3 inches. Except, leave all white pine and half of the oak. The pine and oak will be the retention.

Other Comments:

Next Steps: Regeneration survey per work instructions. Management objective is aspen, but a mix of the current overstory species is acceptable.

6 33017006-Cut	6.6	4199 - Other Mixed Upland Deciduous	High Density Pole	81	Harvest	Low Thinning	Mixed Northern Hardwoods	Cmpt. Review Proposal
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Prescription This stand is need of a thinning. Lower the basal area down to 80 by marking some of all the species to harvest. Cut all aspen and balm.

Specs: Create a few canopy gaps around some of the oak stumps to allow them to stump sprout.

Other Comments:

Next Steps:

9 33017009-Cut	21.2	4199 - Other Mixed Upland Deciduous	High Density Pole	81	Harvest	Low Thinning	Mixed Northern Hardwoods	Cmpt. Review Proposal
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Prescription Thin this stand down to 80 basal area, marking some of all species to harvest. Also cut all aspen. Also create some canopy gaps which are centered on a couple of oak stumps to allow them to sprout. Treat the oak wilt pocket as funding becomes available. There might be too many large rocks underground to trench this site to severe the oak roots. So we might have to add a larger buffer and harvest all of the oak within it, will have to check with Bob Heyd.

Other Comments:

Next Steps:

11 33017011-Cut	0.9	4199 - Other Mixed Upland Deciduous	Medium Density Pole	81	Harvest	Other - Specify in Comments	Other Mixed Upland Deciduous	Cmpt. Review Proposal
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Prescription This is an epi-center of oak wilt. Treat it when funding becomes available. There are large rocks underground in this area so we might just need to cut out a larger buffer and remove all of the oaks.

Other Comments:

Next Steps: Follow up after oak wilt treatment to see if the oak wilt pocket is contained. If additional oak wilt epi-centers are found throughout the decade, treat as needed.

15 33017015-Cut	32.3	4199 - Other Mixed Upland Deciduous	High Density Log Pole	82	Harvest	Low Thinning	Other Mixed Upland Deciduous	Cmpt. Review Proposal
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Prescription Thin this stand down to 80 basal area, by marking some of all species to harvest. Cut all aspen, balm, and balsam fir. Also create some canopy gaps that are centered on a couple of oak stumps to allow them to stump sprout.

Other Comments: The far east end of this stand had been thinned before in 1995.

Next Steps:

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
16 33017016-Cut	6.5	4130 - Aspen	High Density Pole	46	Harvest	Clearcut	Aspen	Cmpt. Review Proposal

Prescription Final harvest this stand, leaving half of the oak for retention. Aspen is the desired regen, but a mix of the current overstory species is acceptable. The best access into this stand is through private property from the south.

Other Comments: The balsam fir and spruce have died out from the spruce budworm.

Next Steps: Regeneration survey per work instructions. Aspen is the desired species, but a mix of the current overstory species is acceptable.

19 33017019-Cut	5.7	4119 - Mixed Northern Hardwoods	High Density Pole	81	Harvest	Low Thinning	Mixed Northern Hardwoods	Cmpt. Review Proposal
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Prescription Thin this stand down to 80 basal area, marking some of all species to harvest. Also cut all aspen. The best access into this stand is through private property to the south.

Other Comments:

Next Steps:

20 33017020-Cut	20.4	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	81	Harvest	Shelterwood	Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Shelterwood cut this stand, leaving 20 to 30 basal area of the overstory species. Focus on leaving most of the basal area of red oak and white pine. Leave all of the cedar.

Other Comments:

Next Steps: Regeneration survey per work instructions. This stand should be managed for white pine. But a mix of white pine, red oak, red maple, and spruce/fir is acceptable. If regen fails, mechanically scarify this site to allow white pine to seed in.

24 33017024-Cut	0.8	4136 - Aspen, Mixed Conifer	High Density Sapling	6	Harvest	Other - Specify in Comments	Aspen, Mixed Conifer	Cmpt. Review Proposal
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Prescription This is an epi-center of oak wilt. The stand is not in need of management, except to treat the epi-center of oak wilt. Treat as funding becomes available. There might be too many large rocks in the ground to trench, so we might need to cut a larger buffer area around it. Check with Bob Heyd.

Other Comments:

Next Steps: Follow up on oak wilt treatment to determine if the treatment was effective. If other epi-centers of oak wilt are identified they may be treated.

25 33017025-Cut	0.9	4123 - Red Oak	High Density Log	81	Harvest	Other - Specify in Comments	Red Oak	Cmpt. Review Proposal
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Prescription This is an epi-center of oak wilt. Treat the new epi-center of oak wilt when funding is available. With the large rocks underground we probably will not be able to trench this site. No other treatment is needed in this stand.

Other Comments: This stand was thinned in 2004 on contract 027-03-01. There were 3 epi-centers of oak wilt that were identified within this stand and treated. One of them had a trench dug around it to sever the roots, the other was trenched and the third one had a two chain buffer put around it and all of the oak within the epi-center and buffer area was removed. I did not find any new oak wilt around these pockets, but I did find a new epi-center on the west side of the stand.

Next Steps: Follow up with any oak wilt treatments to determine if they were effective in controlling the oak wilt. If any additional epi-centers are found treat as needed.

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
27 33017027-Cut	0.9	4123 - Red Oak	High Density Log	88	Harvest	Other - Specify in Comments	Red Oak	Cmpt. Review Proposal

Prescription: This is an epi-center of oak wilt. Treat the epi-center of oak wilt as funding becomes available. Due to the large rocks underground I don't think we would be able to trench this site. No other treatment is needed on this stand.

Other Comments: This site is along the access road toward the north end of the stand.

Next Steps: Follow up on any oak wilt treatments to determine if they were effective. If any additional oak wilt is present treat as needed.

30 33017030-Cut	13.3	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	59	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
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Prescription: Final harvest this stand. Leave the white pine and half of the oak for retention.

Specs:

Other Comments: The spruce/fir is in decline due to the spruce budworm.

Next Steps: Regeneration survey per work instructions. Manage for aspen, but a mix of the current overstory species is acceptable.

32 33017032-Cut	10.6	4123 - Red Oak	High Density Log	77	Harvest	Shelterwood	Red Oak	Cmpt. Review Proposal
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Prescription: Shelterwood cut this stand, lowering the basal area down to 30 to 40. Also create some canopy gaps that are centered over a couple of oak stumps to allow the stumps to sprout. Make sure all of the submerchantable maple stems are removed from the gaps.

Other Comments:

Next Steps: Regeneration survey per work instructions. Oak is the desired regeneration, but a mix with maple and pine is acceptable.

33 33017033-Cut	26.7	4134 - Aspen, Spruce/Fir	High Density Pole	45	Harvest	Clearcut	Aspen	Cmpt. Review Proposal
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Prescription: Final harvest this stand, cutting all trees greater than 2 or 3 inches in diameter. Leave enough pine to meet the retention guidelines.

Specs:

Other Comments: A lot of the spruce and balsam fir are dead or dying due to the spruce budworm.

Next Steps: Regeneration survey per work instructions. Aspen is the desired regen, but a mix of balm, white pine, and spruce is acceptable.

37 33017037-Cut	38.7	6129 - Mixed Coniferous Lowland Forest	High Density Pole	108	Harvest	Seed Tree with Reserves	Mixed Coniferous Lowland Forest	Cmpt. Review Proposal
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Prescription: Final harvest this stand, leaving all cedar greater than 9" inches in diameter. Also leave some scattered spruce and tamarack for seed. The cedar harvest will average about 5 cords per acre.

Other Comments: There is a creek that flows through the western portion of this stand. Place a 25 foot buffer along both sides of it. This will be the retention for the west patch.

Next Steps: Regeneration survey per work instructions. Manage this stand for a mix of lowland conifer species.

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>44 33017044-Cut</b>	20.0	429 - Mixed Upland Conifers	Medium Density Log	88	Harvest	Shelterwood	Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u> Do a shelterwood harvest, marking 20 to 30 basal area of the overstory to retain. The residual trees should be made up primarily of pine and oak Harvest all aspen, balm, and balsam fir. Leave all cedar.								
<u>Specs:</u>								
<u>Other Comments:</u> The residual balsam and spruce are dying out due to the spruce budworm.								
<u>Next Steps:</u> Regeneration survey per work instructions. Manage this stand for a mix of species, but white pine is the main objective. If regeneration fails mechanically scarify the site to break up the sod to expose bare mineral soil.								
<b>49 33017049-Cut</b>	43.8	6129 - Mixed Coniferous Lowland Forest	High Density Pole	108	Harvest	Seed Tree with Reserves	Mixed Coniferous Lowland Forest	Cmpt. Review Proposal
<u>Prescription</u> Final harvest this stand, leaving all cedar greater than 9" inches in diameter. Also leave some scattered spruce and tamarack for seed. There is a creek that flows through this stand that will have a 50 foot buffer left along it so this will make up a large portion of the retention for the stand.								
<u>Specs:</u>								
<u>Other Comments:</u> The cedar averages about 6 cords per acre for the cedar less than 9 inches.								
<u>Next Steps:</u> Regeneration survey per work instructions. Manage this stand for a mix of lowland conifer species.								
<b>60 33017060-Cut</b>	18.7	4134 - Aspen, Spruce/Fir	Medium Density Pole	43	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
<u>Prescription</u> Final harvest this stand, managing for aspen. Cut all species greater than 2 inches in diameter, except leave the white pine and half of the oak for retention.								
<u>Specs:</u>								
<u>Other Comments:</u> The spruce and balsam are dying out from the spruce budworm. The soil is Onaway Fine Sandy Loam.								
<u>Next Steps:</u> Regeneration survey per work instructions. If this stand does not regenerate to a fully stocked aspen stand, convert it to a red pine plantation. Trench and plant red pine and spray if needed to kill competing vegetation.								
<b>64 33017064-Cut</b>	6.5	4111 - S.Maple, Hard Mast Association	High Density Log	91	Harvest	Low Thinning	Mixed Northern Hardwoods	Cmpt. Review Proposal
<u>Prescription</u> Thin this stand lowering the basal area down to 80. Mark some of all species to cut, focus on leaving a mix of all species within the stand.								
<u>Specs:</u> Access will be from the private land to the north, so we would need to get permission. This stand might need to be factor limited, because of access.								
<u>Other Comments:</u>								
<u>Next Steps:</u>								
<b>67 33017067-Cut</b>	23.8	4319 - Mixed Upland Forest	High Density Log	98	Harvest	Shelterwood	Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u> Shelterwood cut this stand, leaving 20 to 30 basal area of the overstory species including all cedar. There is a couple acre patch of aspen in the center of the stand that will be final harvested and no species will be retained here.								
<u>Specs:</u>								
<u>Other Comments:</u> The balsam and spruce are dying out due to the spruce budworm. Access into this stand will be from the north through private property. So, we might need to factor limit this stand due to access issues.								
<u>Next Steps:</u> Regeneration survey per work instructions. Manage this stand a mix of white pine, maple, balsam fir, spruce, aspen, and balm.								

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>70 33017070-Cut</b>	7.1	42200 - Natural White Pine	High Density Log	96	Harvest	Shelterwood	Natural White Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Shelterwood this stand down to 30 basal area to begin to get some white pine regeneration started. Harvest all species, except leave all cedar and enough other species to meet the goal of 30 basal area. Where there is not 30 basal area of cedar leave mostly pine.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Regeneration survey per work instructions. White pine is the desired regeneration. If white pine does not regenerate successfully mechanically scarify the site to facilitate regeneration.</p>								
<b>74 33017074-Cut</b>	3.0	4134 - Aspen, Spruce/Fir	Medium Density Pole	70	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest this stand, harvesting all trees greater than 3 inches, except leave the pine and oak for retention.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Add this stand to the Marked Oak sale #025-09-01 in comp 18 to the south if the contractor will cut it after it is approved through the comp review process. Access is difficult so it would be difficult to treat with the other stands in this compartment.</p> <p><u>Next Steps:</u> Regeneration survey per work instructions. Manage this stand for aspen, but a mix with balm and white pine is acceptable.</p>								
<b>42 NF_33017042-Plant</b>	28.0	Non-Forested		0	Tree Planting	Machine Plant	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Trench and plant red pine seedlings at the current level for a standard plantation. There is not much brush or stems currently but if needed the site may be sprayed to kill them off.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> There are a couple of lower areas within the stand that will have to be avoided along with the scattered residual trees.</p> <p><u>Next Steps:</u> Regeneration survey per work instructions following the planting.</p>								

**Total Treatment  
Acreage Proposed: 417.3**



## Table 2 – Proposed Treatment Summaries

*Data updated before 10:00 AM*

**Escanaba Mgt. Unit**  
**Year of Entry 2012**

**Compartment 017**  
**Total Compartment Acres: 1350**

### Acres by Treatment Type

Commercial Harvest - 389	Site Prep - 0	Tree Planting - 28	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

### Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
<b>Aspen</b>	136	0	0	0	0	1		<b>137</b>
<b>Lowland Conifers</b>	0	0	83	0	0	0		<b>83</b>
<b>Mixed Upland Deciduous</b>	13	0	0	20	60	1		<b>95</b>
<b>Northern Hardwood</b>	0	0	0	0	12	0		<b>12</b>
<b>Oak</b>	0	0	0	11	0	2		<b>12</b>
<b>Upland Conifers</b>	0	0	0	20	0	0		<b>20</b>
<b>Upland Mixed Forest</b>	0	0	0	24	0	0		<b>24</b>
<b>White Pine</b>	0	0	0	7	0	0		<b>7</b>
<b>Total</b>	<b>149</b>	<b>0</b>	<b>83</b>	<b>82</b>	<b>72</b>	<b>3</b>		<b>389</b>

**Table 1 – Total Acres by Cover Type and Age Class**

Data updated before 10:00 AM



	Age Class														Total	
	Non-Forested	1-9	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	0	54	36	65	23	133	0	0	3	0	0	0	0	0	0	314
Cedar	0	0	0	0	0	0	0	0	0	0	0	330	0	0	0	330
Low-Density Trees	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
Lowland Aspen/Balsam Poplar	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Lowland Conifers	0	0	0	0	0	3	0	0	0	0	0	182	0	0	11	196
Lowland Mixed Forest	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Shrub	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
Marsh	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Mixed Upland Deciduous	0	0	3	0	0	0	13	0	0	89	0	0	0	0	0	105
Northern Hardwood	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0	12
Oak	0	0	0	0	0	0	0	0	11	87	0	0	0	0	0	97
Tamarack	0	0	0	4	0	0	0	0	0	3	0	0	0	0	0	6
Upland Conifers	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	51
Upland Mixed Forest	0	0	0	0	8	0	0	0	0	0	24	0	0	0	0	31
Upland Shrub	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
White Pine	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
<b>Total</b>	<b>185</b>	<b>66</b>	<b>39</b>	<b>71</b>	<b>31</b>	<b>136</b>	<b>13</b>	<b>0</b>	<b>14</b>	<b>235</b>	<b>37</b>	<b>512</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>1350</b>



**8 – DEDICATED CONSERVATION AREA DETAILS**

\* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

*Data updated before 10:00 AM*

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

Conservation Area	Type	Description
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.