TRAVERSE CITY FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 117 ENTRY YEAR: 2014

Compartment Acreage: 1883 County: Kalkaska

Stand Examiner: Donna Hagan

Legal Description: T27N R5W, Sections 25, 26, 27 & 28

Management Goals: This compartment falls within the Grayling Ice Contact Management Area. Large, ice-contact ridges covers the majority of this compartment with tiny fragile pothole ponds scattered throughout. The compartment is comprised of a mix of species with oak and aspen dominating. Most of the oak was treated last time and has a good mix of regeneration coming in. Most of the aspen is of a younger age class and are good quality. Two older stands of aspen are scheduled to be treated. Most of the over-mature jack pine was harvested last time with several retention pockets left, especially along M-72. These pockets will need to be left so the now planted red/jack pine can mature.

Soil and Topography: Generally well drained sandy soils. Some hills but mostly rolling to flat terrain.

Ownership Patterns, Development, and Land Use in and Around the Compartment:
The compartment is mostly state owned land with the exception of Section 26 & 28. Section 26 has a 160 acre block of private land that was chopped up into 10 acre pieces. Section 28 also has a very fragmented ownership composition. Several seasonal and residential dwellings are now situated upon these private holdings. Section 28 has similar small parcels and shares a common problem in that the landowners directly adjacent to the state owned property are heavy users and abusers (ORV) of the state land. Section 25 is part of the lease of lands to the Department of Military Affairs for use as a training area for the National Guard. Consumers Energy has a pipeline that runs east/west through most of the compartment and a major Great Lakes Energy pipeline bisects Section 25 north to south. Along with M-72, Blue Lake, Forest Trail and Goose Creek Roads run through the compartment. The M-72 corridor is owned by MDOT 100 feet on each side of the center line of the road.

Unique, Natural Features (include only non-site specific and non-sensitive information):
Eastern massasauga

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): None listed.

Special Management Designations or Considerations: Section 25 is part of the lease of lands to the Department of Military Affairs for use as a training area for the National Guard.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations: Past management in compartment 117 was aimed at mixed use with an emphasis on maintaining a variety of cover types and age classes for game and non-game wildlife. The bulk of this compartment lies on a large ice contact ridge. This land type is typically characterized by broken topography. Presettlement vegetation over this LTA consisted of nearly 75% beech/maple forests with the

rest consisting of beech/hemlock or mixed conifer stands. Today, northern hardwoods remain dominant on about 70% of the LTA. However, the coniferous component from many of these stands has been largely eliminated. Natural openings within this LTA are normally the result of frost pockets and typically need little maintenance. However, several of these openings have been scheduled for maintenance activities in order to promote their forage and edge components. Oak treatments should be designed to leave a component of white pine, mature mast producing oak, and standing dead timber for structural diversity within the stands. Jack pine harvests should protect any oak regeneration along with promoting pockets of aspen and other deciduous species. This will result in mixed deciduous/coniferous stands more reminiscent of historical habitats associated with this land type. Aspen harvests have been scheduled this inventory cycle in order to increase age class diversity. The incorporation of snags, leave trees, and downed logs in these cuts will help to replicate a wildfire-altered forest and increase wildlife use by species like grouse, woodcock, golden-winged warbler, turkey, and deer. Harvest operations should be utilized to create some (approximately 1-2 trees per acre) coarse woody debris (CWD), preferably via timber sale specs.

A strip of flat, poorly drained outwash plain (LTA 5149) enters the compartment from the southwest and terminates here as the land rises and transitions to ice contact ridges. This could explain the fact that most of LTA 5149 in this compartment is dry uplands as opposed to lowlands which typify this LTA. In presettlement times this LTA was dominated by coniferous wetlands with small occurrences of upland coniferous and northern hardwood forests. Present vegetation leans more towards early successional communities. Maintaining early successional communities, including upland brush, on a portion of this LTA is appropriate as natural disturbances such as windfalls and wildfires do occasionally occur here. Mixed coniferous/deciduous forests of this type can provide habitat for northern goshawks, box turtles, ovenbirds, eastern gray squirrels, and bears.

One final LTA, a broad flat outwash plain (LTA 5111) is found here on the eastern edge of section 25 with one strip extending north along the boundary of sections 25 and 26.
This LTA is a fire driven ecosystem which historically supported a variety of forest types. The dominant cover types were fire dependant conifers like jack pine. In this compartment this LTA supports several contiguous stands of jack pine as well as upland brush. This portion of LTA 5111 should be managed in conjunction with adjacent portions of 5111 for a variety of forest age classes, successional stages, and patch sizes. Species benefiting from this habitat type include Kirtland's warbler, upland sandpiper, whitetailed deer, and hog-nosed snakes.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Mississippian Coldwater Shale that does not have a current economic use. Gravel pits are located around the Compartment and potential is considered good. This area is located six miles south of Guelph (Niagaran) reef trend and the Antrim Shale gas play. All of the State lands are leased for oil and gas development in the Utica Shale and Collingwood Formation.

Vehicle Access: The road and trail system should be maintained as it is.

Survey Needs: Adequate surveys are in place.

Recreational Facilities and Opportunities: Kalkaska ORV Trail runs through most of the compartment.

Fire Protection: Fire protetion for this compartment is covered from the Kalkaska Field Office with support being available from Grayling DNR personnel. Road access into the area is good with M-72 running south of the compartment and Blue Lake road running north from M-72 through the middle of the unit. Seasonal roads are also available to make access in sections 25 and 26 for fire protection access. A seasonal road also

runs east to west along the north side of sections 27 and 28 affording good access to the entire compartment. Bear lake fire department is located a few miles to the west on M-72 and several water sources are nearby for supply in the event of a wildfire. Submitted by: Rod Rader, Fire Supervisor, Traverse City Field Office.

Additional Compartment Information:

****** Cover type details, proposed treatments and stands designated as FDF are listed in the attached reports:**

- **Cover Type by Age Class**
- **Cover Type by Management Objective**
- **Compartment Volume Summary**
- **Proposed Treatments – No Limiting Factors**
- **Proposed Treatments – With Limiting Factors**

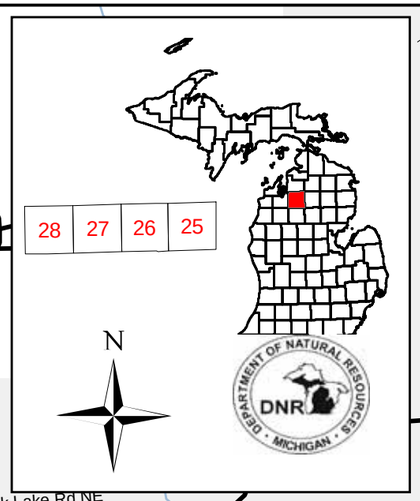
****** The following information is displayed on the attached compartment maps:**

- **Base feature information, stand numbers, cover types**
- **Proposed treatments**
- **Proposed road access system**
- **Suggested potential old growth**

Cover Type & Treatment Map

Compartment: 117
T27N R05W Sec. 25, 26, 27, 28
County: Kalkaska
Unit: Traverse City
YOE: 2014
Acres: 1,883 GIS Calculated
Examiner: Donna Hagan
Map Revised: 5/23/2012
Map Phase: Pre-Review

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



Legend

- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Pipeline
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Highway
- ORV Trails
- ORV Trail

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Planting (tree species)
- Opening Maintenance

Planned Regeneration

- Planted

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest

Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 710 - Sand, Soil

Upper Black Lake
Lake Valley Rd NE
Black Lake Rd NE
Blue Lake Rd NE
Blue Lake Rd SE
N Forest Trl NE
N Forest Trl SE
Piper Cir SE
Morel Rd SE
Forest Trl SE
Goose Creek Rd SE
Barber Rd SE
Snay Dr SE
Oak Dr SE
Hagg Rd SE
72

84°55'0"W 84°54'0"W 84°53'0"W 84°52'0"W 84°51'0"W
44°44'0"N 44°43'0"N 44°42'0"N

1 4211-R9
2 4222-J3
3 4130-A9
4 4110-M4
5 4130-A3
6 4220-W9
7 710-Y0
8 622-L0
9 4222-J6
10 4211-R8
11 4229-MC6
12 4212-J6
13 4130-A3
14 4229-MC9
15 330-U0
16 330-U0
17 4132-A3
18 6117-E6
19 4222-J6
20 4211-R9
21 4130-A6
22 320-U0
23 4130-A3
24 622-L0
25 4222-J6
26 4222-J6
27 4222-J6
28 4130-A1
29 622-L0
30 4222-J1
31 4130-A3
32 4229-MC9
33 4132-A6
34 4222-J6
35 4211-R9
36 4211-R9
37 4222-J6
38 4222-J3
39 320-U0
40 4211-R9
41 4222-J6
42 4139-A1
43 4130-A6
44 4222-J6
45 110-X0
46 4110-M1
47 4211-R9
48 4131-A6
49 4130-A6
50 4211-R9
51 4131-A6
52 4226-MC7
53 4211-R9
54 4123-O9
55 4123-O3
56 4123-O8
57 4130-A6
58 710-Y0
59 4133-A6
60 4220-W5
61 4220-W9
62 4130-A3
63 4123-O9
64 4124-O9
65 4123-O9
66 4221-R9
67 4199-MD2
68 4110-M4
69 4110-M4
70 4130-A6
71 4130-A3
72 4123-O9
73 4110-M4
74 4124-O9
75 4130-A3
76 710-Y0
77 4123-O9
78 320-U0
79 330-U0
80 4222-J6
81 4222-J6
82 4319-UM1
83 110-X0
84 4222-J6

28 27 26 25

1 0.5 0 1 Miles

Stand Boundary Map

Compartment: 117
T27N R05W Sec. 25, 26, 27, 28
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Examiner: Donna Hagan
Map Revised: 5/23/2012
Map Phase: Pre-Review

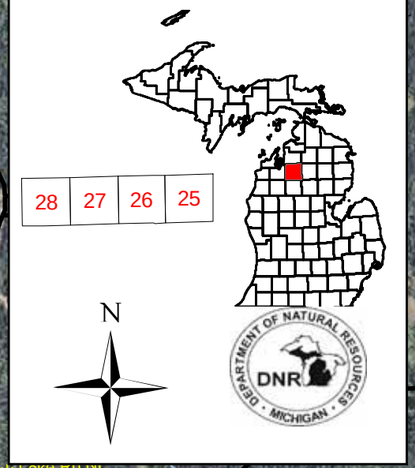
Stand # 23

Stocking Density

(412)0) - A7

Level 3 Level 4 OI Code

Cover Type Code



Legend

- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Stream
- Intermittent Stream
- Pipeline
- State Highway
- ORV Trails
- ORV Trail
- Stand Boundaries

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
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Non-Forest Stands

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- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 710 - Sand, Soil

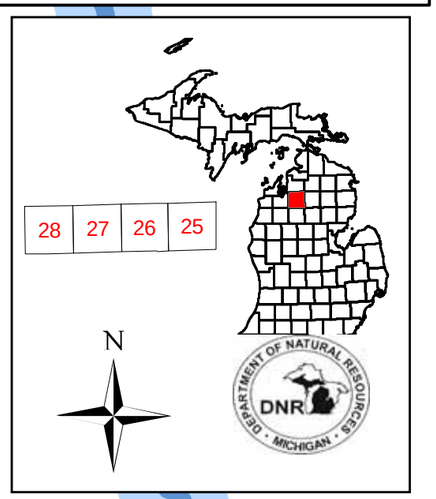
1 0.5 0 1 Miles

84°55'0"W 84°54'0"W 84°53'0"W 84°52'0"W 84°51'0"W 44°43'0"N 44°42'0"N

Dedicated & Proposed Special Conservation Area Map

Compartment: 117
T27N R05W Sec. 25, 26, 27, 28
County: Kalkaska
Unit: Traverse City
YOE: 2014
Acres: 1,883 GIS Calculated
Examiner: Donna Hagan
Map Revised: 5/23/2012
Map Phase: Pre-Review

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



Legend

- Miris Corners
- Stand Boundaries

Special Conservation Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Research, Development, and Military Lands

Forest Stands
Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
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- 421 - Planted Pines
- 422 - Natural Pines
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Non-Forest Stands
Level 3
- 110 - Low Intensity Urban
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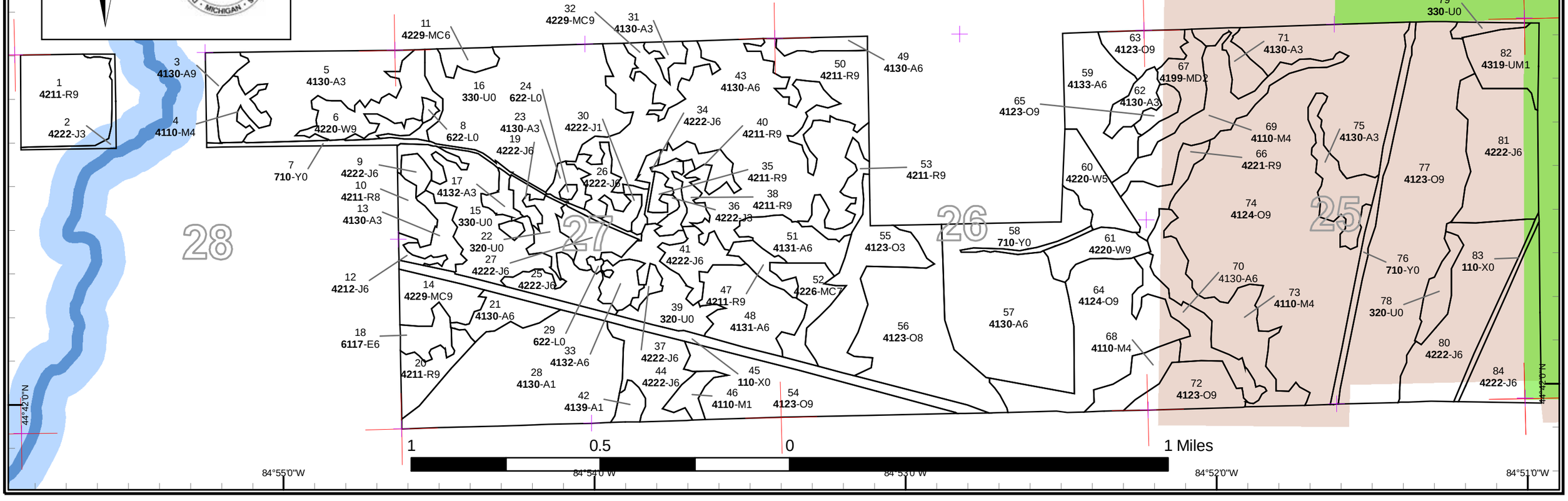

Table 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit **Compartment 117 Year of Entry 2014**

Donna Hagan : Examiner

Age Class

	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	Total
Aspen	0	110	26	289	10	93	0	0	8	0	0	0	0	0	**535**
Jack Pine	0	4	16	104	27	44	25	2	0	0	0	0	0	0	**223**
Low-Density Trees	124	0	0	0	0	0	0	0	0	0	0	0	0	0	**124**
Lowland Deciduous	0	0	0	0	0	0	8	0	0	0	0	0	0	0	**8**
Lowland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Mixed Upland Deciduous	15	0	0	0	0	0	0	0	0	0	0	0	0	0	**15**
Natural Mixed Pines	0	0	0	0	11	29	6	0	0	0	0	0	0	0	**46**
Northern Hardwood	0	6	0	0	84	0	0	0	0	0	0	0	0	0	**89**
Oak	33	0	0	0	0	0	0	0	452	0	72	0	0	0	**557**
Red Pine	0	0	0	0	0	12	0	112	0	0	0	0	0	0	**124**
Sand, Soil	23	0	0	0	0	0	0	0	0	0	0	0	0	0	**23**
Upland Mixed Forest	0	18	0	0	0	0	0	0	0	0	0	0	0	0	**18**
Upland Shrub	38	0	0	0	0	0	0	0	0	0	0	0	0	0	**38**
Urban	28	0	0	0	0	0	0	0	0	0	0	0	0	0	**28**
White Pine	0	0	0	0	0	16	23	0	0	13	0	0	0	0	**52**
Total	**265**	**137**	**42**	**393**	**133**	**195**	**61**	**114**	**460**	**13**	**72**	**0**	**0**	**0**	**1883**

Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2014

Compartment 117
Total Compartment Acres: 1883

Acres by Treatment Type

Commercial Harvest - 224	Site Prep - 0	Tree Planting - 99	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 43	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	84	14	0	0	0	0	**98**
Jack Pine	49	0	0	0	0	0	**49**
Lowland Deciduous	0	8	0	0	0	0	**8**
Natural Mixed Pines	0	15	0	0	0	0	**15**
Oak	0	0	0	22	0	0	**22**
Red Pine	0	0	0	0	33	0	**33**
Total	**133**	**36**	**0**	**22**	**33**	**0**	**224**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	61117003-Cut	7.9	4130 - Aspen	High Density Log	80		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest leaving oak. Too small for retention. May need survey.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
14	61117014-Cut	15.0	42290 - Natural Mixed Pine	High Density Log	55	81-110	Harvest	Single Tree Selection	42210 - Natural Red Pine	Cmpt. Review Proposal

Prescription Specs: Take jack pine and aspen, leaving red pine. M-72 borders stand on the north, leave retention along roadway.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18	61117018-Cut	7.7	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	60		Harvest	Single Tree Selection	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Take out the aspen. Spruce, fir and red pine will be left.

Other Comments: A semi-lowland type, may want to harvest in the winter.

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
20	61117020-Cut	11.9	42110 - Planted Red Pine	High Density Log	72	141-170	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin red pine.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	61117034-Cut	4.1	42220 - Natural Jack Pine	High Density Pole	65		Harvest	Clearcut with Reserves	42220 - Natural Jack Pine	Cmpt. Review Proposal

Prescription Specs: Leave any red pine within stand. Too small for retention.

Other Comments: Blue Lake Road runs along stand.

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35	61117035-Cut	2.8	42110 - Planted Red Pine	High Density Log	72	171-200	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Old plantation along Blue Lake Road. Thin red pine down to 80 BA.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
38	61117038-Cut	4.6	42110 - Planted Red Pine	High Density Log	72	171-200	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Old plantation that had the jack pine removed and every third road in 1996. Thin red pine stand to 80 BA.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40	61117040-Cut	7.3	42110 - Planted Red Pine	High Density Log	72	141-170	Harvest	Low Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Remove jack pine.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
47	61117047-Cut	6.3	42110 - Planted Red Pine	High Density Log	72	141-170	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin red pine down to 80-90 BA.

Other Comments: Stand was thinned in 1996 - every third row and jack pine removed. Very nice stand.

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
48	61117048-Cut	28.5	4131 - Aspen, Oak	High Density Pole	55		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Cut leaving oak and pine. Kalkaska ORV Trail runs through stand. Retention along M-72 and ORV trail.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
51	61117051-Cut	15.9	4131 - Aspen, Oak	High Density Pole	50		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Cut leaving pine and oak. Retention could be east of two-track road where oak and aspen regeneration is heavier.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
59	61117059-Cut	31.8	4133 - Aspen, Mixed Pine	High Density Pole	56		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Cut leaving oak and some white pine. Retention along N. Forest Trail.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
65	61117065-Cut	4.6	4123 - Red Oak	High Density Log	84	111-140	Harvest	Shelterwood	4124 - Red with White Oak	Cmpt. Review Proposal

Prescription Specs: Some dead oak present. Shelterwood down to 40-50 BA. Kalkaska ORV Trail runs through stand. Protect trail by leaving more oak along trail.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
70	61117070-Cut	13.8	4130 - Aspen	High Density Pole	50		Harvest	Group Selection	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: There are areas within stand that are semi-open with cherry brush and scattered aspen in them. Use these as retention areas and concentrate in cutting out the aspen areas. Kalkaska ORV Trail runs through north end of stand. Protect trail by marking trees to leave along trail.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
72	61117072-Cut	17.6	4123 - Red Oak	High Density Log	107	111-140	Harvest	Shelterwood	4124 - Red with White Oak	Cmpt. Review Proposal

Prescription Specs: Mark down to 40-50 BA.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2013

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
81	61117081-Cut	44.4	42220 - Natural Jack Pine	High Density Pole	50		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Retention along Goose Creek Road.

Other Comments:

Next Steps: Replant to jack pine.

Proposed Start Date: 05/01/2012

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28	61117028-Plant	80.3	4130 - Aspen	Low Density Sapling	15		Tree Planting	Machine Plant	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Site prep and plant red pine avoiding heavy aspen areas.

Other Comments:

Next Steps:

Proposed Start Date: 05/01/2012

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
82	61117082-Plant	18.4	4319 - Mixed Upland Forest	Low Density Sapling	14		Tree Planting	Machine Plant	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Open small jack pine occupy site now.

Other Comments:

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
52	61117052-NonFor	13.8	42260 - Natural Pine, Mixed Deciduous	Low Density Log	50		Non-Forest Management	Brush Cutting	3204 - Mast Producing Shrub	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. See about including timber to be removed with adjacent timber sale.

Other Comments: Ideally it would be nice to burn this stand, but it probably would not rank high enough for funding. Could mow.

Next Steps: Maintain as needed with mowing, seeding native plants, burning, or removal of woody encroachment.

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	NF_61117022-NonFor	8.3	3205 - Mixed Upland Shrub				Non-Forest Management	Brush Cutting	3204 - Mast Producing Shrub	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

Other Comments: Ideally it would be nice to burn this stand, but it probably would not rank high enough for funding. Could mow.

Next Steps: Maintain as needed with mowing, seeding native plants, burning, or removal of woody encroachment.

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	NF_61117039-NonFor	21.1	3205 - Mixed Upland Shrub				Non-Forest Management	Brush Cutting	3204 - Mast Producing Shrub	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. See about including timber to be removed with adjacent timber sale.

Other Comments: Ideally it would be nice to burn this stand, but it probably would not rank high enough for funding. Could mow.

Next Steps: Maintain as needed with mowing, seeding native plants, burning, or removal of woody encroachment.

Proposed Start Date: Unspecified

Total Treatment Acreage Proposed: 366.3

Traverse City Mgt. Unit

Table 4 -- Treatments Prescribed with a Limiting Factor

Compartment: 117
Year of Entry 2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error							

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Error

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: **0**

Data updated yesterday after 6:00 PM

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2014

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
61043_OutOfYOE-Cut	2.1					Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal - Incomplete

Prescription Specs: retain some pine and osk for mast and seed production, Folllow WLD guidance for CWD creation. Harvest all stems that are not retained.

Other Comments: New stand should have mix of oak, pine, aspen and maple.

Next Steps:

Proposed Start Date: 09/01/2009

61231_OutOfYOE-Thin	4.6			0		Harvest	Low Thinning	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Within harvest area, remove all aspen. Heavily thin oak and maple to a residual BA of about 50 sf. Leave retention in patches or strips sufficient to meet minimum retention goals.

Other Comments: Topography is rather hilly. Combine with treatment in Compartment 133.

Next Steps:

Proposed Start Date: 10/01/2013

Total Treatment Acreage Proposed: 6.7

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42110 - Planted Red Pine	High Density Log	36.3	72	51-80	
2	42220 - Natural Jack Pine	High Density Sapling	3.7	15		
3	4130 - Aspen	High Density Log	7.9	80		
4	4110 - Sugar Maple Association	Low Density Pole	9.3	40		
5	4130 - Aspen	High Density Sapling	53.8	35		
6	42200 - Natural White Pine	High Density Log	22.7	65	111-140	
9	42220 - Natural Jack Pine	High Density Pole	3.7	67		Left as retention for stand to the east.
10	42110 - Planted Red Pine	Medium Density Log	7.6	72	1-50	Moving Blue Line Sale #55-07. Completed 6/09. Everything but red pine were removed.
11	42290 - Natural Mixed Pine	High Density Pole	5.6	67	111-140	Left as retention for cut to the south.
12	42120 - Planted Jack Pine	High Density Pole	2.5	72		Left as a buffer for Moving Blue Line Sale #55-07
13	4130 - Aspen	High Density Sapling	9.2	27		
14	42290 - Natural Mixed Pine	High Density Log	15.0	55	81-110	
17	4132 - Aspen, Jack Pine	High Density Sapling	5.5	37		
18	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	7.7	60		
19	42220 - Natural Jack Pine	High Density Pole	3.9	67		Retention stand from previous cut.
20	42110 - Planted Red Pine	High Density Log	11.9	72	141-170	Cherry, aspen and jack pine were removed in 1996. Nice understory of oak.
21	4130 - Aspen	High Density Pole	10.5	42		Along M-72. Left as retention for cut to the south.
23	4130 - Aspen	High Density Sapling	4.7	27		

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	42220 - Natural Jack Pine	High Density Pole	12.8	67		Along M-72 - left as retention for large cut to the west.
26	42220 - Natural Jack Pine	High Density Pole	10.9	27		Originally called an aspen stand, this area came back heavier to jack pine.
27	42220 - Natural Jack Pine	High Density Pole	10.8	37		Originally called an aspen stand, this area came back heavier to jack pine.
28	4130 - Aspen	Low Density Sapling	80.3	15		
30	42220 - Natural Jack Pine	Low Density Sapling	3.7	40		U type
31	4130 - Aspen	High Density Sapling	3.7	27		
32	42290 - Natural Mixed Pine	High Density Log	11.3	45	81-110	
33	4132 - Aspen, Jack Pine	High Density Pole	7.2	37		
34	42220 - Natural Jack Pine	High Density Pole	4.1	65		
35	42110 - Planted Red Pine	High Density Log	2.8	72	171-200	3rd row and jack pine removed in 1996
36	42220 - Natural Jack Pine	High Density Sapling	5.2	20		
37	42220 - Natural Jack Pine	High Density Pole	2.5	45		
38	42110 - Planted Red Pine	High Density Log	4.6	72	171-200	
40	42110 - Planted Red Pine	High Density Log	7.3	72	141-170	
41	42220 - Natural Jack Pine	High Density Pole	11.9	37		
42	4139 - Aspen, Mixed Deciduous	Low Density Sapling	4.2	10		Former county dump site has slowly starting to fill in with aspen and cherry.
43	4130 - Aspen	High Density Pole	130.5	37		
44	42220 - Natural Jack Pine	High Density Pole	21.1	40		

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
46	4110 - Sugar Maple Association	Low Density Sapling	5.6	15		
47	42110 - Planted Red Pine	High Density Log	6.3	72	141-170	
48	4131 - Aspen, Oak	High Density Pole	28.5	55		
49	4130 - Aspen	High Density Pole	5.7	37		
50	42110 - Planted Red Pine	High Density Log	26.1	72	111-140	A lot of regeneration in understory.
51	4131 - Aspen, Oak	High Density Pole	15.9	50		
52	42260 - Natural Pine, Mixed Deciduous	Low Density Log	13.8	50		U type
53	42110 - Planted Red Pine	High Density Log	8.9	72	111-140	
54	4123 - Red Oak	High Density Log	43.8	83	81-110	Stand was treated with adjacent compartment in 01-02. All aspen and red maple were removed.
55	4123 - Red Oak	High Density Sapling	33.5	3		Cell Tower M-72, Sale # 048-07. Scattered oak logs were left.
56	4123 - Red Oak	Medium Density Log	60.0	80	1-50	This stand was treated in 2008, Sale # 048-07. All aspen and red maple were removed.
57	4130 - Aspen	High Density Pole	85.9	37		Stand was clearcut in 1974.
59	4133 - Aspen, Mixed Pine	High Density Pole	31.8	56		
60	42200 - Natural White Pine	Medium Density Pole	16.4	56	1-50	Stand was treated in 2008, Cell Tower M-72 #48-07. All red and white pine were left. Nice regeneration of aspen.
61	42200 - Natural White Pine	High Density Log	12.6	97	81-110	
62	4130 - Aspen	High Density Sapling	8.0	15		Clearcut except for oak in 6/96.
63	4123 - Red Oak	High Density Log	12.6	80	81-110	Stand cut in 2008, sale #048-07.
64	4124 - Red with White Oak	High Density Log	54.6	107	81-110	All aspen and maple and some oak were removed from this stand in 1994. Areas of heavy oak regeneration.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	4123 - Red Oak	High Density Log	4.6	84	111-140	Most of this stand was prescribed burned in 2009 to encourage oak regeneration.
66	42210 - Natural Red Pine	High Density Log	11.9	50	81-110	
67	4199 - Other Mixed Upland Deciduous	Medium Density	14.7	2		Stand was prescribed burned in 2009 to encourage oak regeneration.
68	4110 - Sugar Maple Association	Low Density Pole	12.2	40		Semi-open area.
69	4110 - Sugar Maple Association	Low Density Pole	29.0	40		Semi-open area.
70	4130 - Aspen	High Density Pole	16.8	50		
71	4130 - Aspen	High Density Sapling	8.3	27		
72	4123 - Red Oak	High Density Log	17.6	107	111-140	All maple and aspen and some oak were cut out of stand in 1994. Nice oak logs remaining with good oak regeneration in areas.
73	4110 - Sugar Maple Association	Low Density Pole	33.3	40		Semi-open stand
74	4124 - Red with White Oak	High Density Log	216.8	84	81-110	Treated by 5-spot cutting in 1996. In 2006-2007 stand was thinned and all aspen removed. Sale #007-04.
75	4130 - Aspen	High Density Sapling	17.0	14		
77	4123 - Red Oak	High Density Log	113.9	84	51-80	Stand treated in 06-07 - Sale #005-04. Oak was thinned and all aspen was removed.
80	42220 - Natural Jack Pine	High Density Pole	47.8	36		
81	42220 - Natural Jack Pine	High Density Pole	44.4	50		
82	4319 - Mixed Upland Forest	Low Density Sapling	18.4	14		Stand harvested in 1996 - Needs to be seeded or planted.
84	42220 - Natural Jack Pine	High Density Pole	33.5	36		

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
7	710 - Sand, Soil	8.5	No	Unspecified	Pipeline
8	6221 - Fen	1.2	No	Unspecified	
15	3302 - Low Density Conifer Trees	35.0	Planted	Jack Pine	Cut in 2007 & 2008. Some pockets of aspen were left along with scattered oak. Some natural regeneration of jack pine has occurred. Stand planted in 2010?? to mostly jack with some red pine.
16	3302 - Low Density Conifer Trees	85.5	Planted	Jack Pine	Cut in 2007 & 2008. Some pockets of aspen were left along with scattered oak. Some natural regeneration of jack pine has occurred. Stand planted in 2010?? to mostly jack with some red pine.
22	3205 - Mixed Upland Shrub	8.3	No	High (NonForested)	Next to recently replanted pine stand which should provide excellent cover while it is young and thick.
24	6229 - Mixed lowland shrub	0.9	No	Unspecified	
29	6229 - Mixed lowland shrub	1.0	No	Unspecified	
39	3205 - Mixed Upland Shrub	21.1	No	High (NonForested)	Small aspen clone along M-72
45	11 - Low Intensity Urban	24.0	No	Unspecified	M-72 ROW - MDOT property.
58	710 - Sand, Soil	2.4	No	Unspecified	Pipeline and seasonal county road.
76	710 - Sand, Soil	12.2	No	Unspecified	Pipeline
78	320 - Upland Shrub	8.9	N\A	Unspecified	
79	3302 - Low Density Conifer Trees	3.3	Planted	Jack Pine	Planted jack pine.
83	11 - Low Intensity Urban	4.1	No	Unspecified	Goose Creek Road

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.

Stand	SCA Type	SCA Name	Acres	Comments

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.

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.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.