TRAVERSE CITY FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 101 ENTRY YEAR: 2012

Compartment Acreage: 1655 County: Kalkaska

Stand Examiner: Dave Johnson

Legal Description: T28N-R05W-Sections 1, 2, 3

Management Goals: Maintain specie diversification and improve quality on Northern Hardwood sites

Soil and Topography: Kalkaska and Blue Lake loamy sands, Rubicon and Kalkaska sands. Flat to rolling terrain.

Ownership Patterns, Development, and Land Use in and Around the Compartment:
State ownership is fragmented in Sec. 3 near Crooked lake. Private 80 in Sec. 2 and the 11 acre Michigan State Police 800 MHz Radio tower site is located in Sec. 1. There is some residential development West of Crooked Lake Road otherwise the private lands are undeveloped and used for recreational purposes.

Unique, Natural Features (include only non-site specific and non-sensitive information):
None

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

Special Management Designations or Considerations: The Deward Tract - all lands East of Deward Road is part of this special area where it is prohibited to operate any "wheeled" motorized vehicle on roads other than those roads that are designated as open for use.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations: This compartment falls into 3 landtype associations: 1) the western ¼ is part of a pitted outwash plain. This area should be managed for open habitat and early to mid-successional aspen-pine forest in a variety of age classes in relatively small patches. Prescribed burning will enhance vegetation in open areas. Some bracken fern reduction and planting of native grasses is also scheduled this entry period. Natural depressions and draws tend to remain open from cold air drainage; adjacent slopes can be cut periodically to extend open habitat. 2) The eastern ¼ of the compartment falls on a narrow outwash channel. In the mixed swamp forest east of Deward Road, no treatments are prescribed for this period, but future harvests or habitat cuts should be small and carefully designed to optimize regeneration and to mimic naturally occurring blowdown pockets. Upland areas west of the road should continue to be managed for open habitat and early to mid-successional aspen-pine forest in a variety of age classes. Thinnings in red pine plantations should retain some deciduous component and some down logs if possible. 3) The remainder of the compartment is on an ice-contact ridge landform. Much of the former beech-maple forest on this landform has been altered by historic logging, fire and land clearing. Remaining northern hardwoods are poorly developed second growth. A significant portion of this LTA could be restored to mature closed – canopy beech-maple forest through succession and careful selection harvest. Maintaining diversity of

hardwood species and retention of cavity trees and down logs should be a part of selection cutting. Aspen, pine, and upland brush should be allowed to succeed over time to hardwoods, except in draws and depressions that naturally tend toward earlier successional species. Approximately the north ½ of section 2 and the northeast corner of section 3 could be maintained in early to mid-successional aspen-pine forest for diversity on this LTA. Natural wildfires on adjacent pitted outwash plain probably carried over to this landform, thus some younger forest is appropriate here. Final harvests of aspen types should retain snags and pockets of residual live trees as well as some down logs for intra-stand habitat structure. If possible tops should be left unchipped and scattered around the sale area and kept under 24 inches in height.

Mineral Resource and Development Concerns and/or Restrictions: Sections 1 – 3, T28N – R5W, Kalkaska County
Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is four miles to the southeast. Gravel potential in the compartment is thought to be good. This area is located within the Silurian Niagaran reef trend and has had previous oil and gas exploration, with additional potential possible. The Antrim Shale has been tested in the area, but the wells were plugged. The depth to the Antrim is approaching the maximum depth for commercial production. Most of the compartment is currently under lease. At present only one active well remains in Sec. 1

Vehicle Access: No new access needed

Survey Needs: None

Recreational Facilities and Opportunities: Kalkaska ORV Trails runs through eastern part of Comp. Area receives moderate small game and deer hunting use.

Fire Protection: VFD Fire Protection is from the Blue Lake Twp. Fire Dept., and DNRE protection is from the Kalkaska Field Office. Urban interface is not a problem with the possible exception of the west half of section 3. Access is adequate, although travel times from the Kalkaska Field Office can be an issue.

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 101
T28N, R05W, Sec. 1, 2, 3
County: Kalkaska
Unit: Traverse City
YOE: 2012
Acres: 1,665 GIS Calculated
Stand Examiner: David Johnson
Map Revised: 5/24/2010
Map Phase: Pre-Review

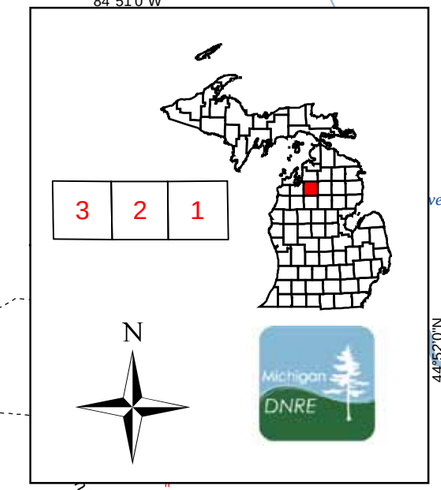
Stand # 23 — Stocking Density
(412)0) - A7
Level 3 Level 4 — OI Code
Cover Type Code

Legend
- Miris Corners
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Trails
- K ORV Trails
- M ORV Routes
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)

Forest Stands
Level 3
- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands
Level 3
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 623 - Emergent Wetland
- 710 - Sand, Soil



1 4130-A6 | 2 330-U0 | 3 4130-A6 | 4 4211-R6 | 5 4211-R6 | 6 4130-A6 | 7 4226-MC8 | 8 310-G0 | 9 4130-A6 | 10 4130-A6 | 11 310-G0 | 12 4211-R6 | 13 330-U0 | 14 4211-R5 | 15 4130-A6 | 16 330-U0 | 17 4130-A2 | 18 4110-M8 | 19 320-U0 | 20 4110-M8 | 21 4112-M6 | 22 4116-M6 | 23 320-U0 | 24 4130-A6 | 25 4139-A6 | 26 330-U0 | 27 4130-A6 | 28 4211-R6 | 29 4130-A3 | 30 4130-A3 | 31 4112-M5 | 32 4111-M6 | 33 4211-R6 | 34 310-G0 | 35 310-G0 | 36 4130-A3 | 37 4139-A6 | 38 4111-M9 | 39 330-U0 | 40 4311-UM6 | 41 330-U0 | 42 4139-A6 | 43 330-U0 | 44 4111-M6 | 45 4130-A6 | 46 310-G0 | 47 4211-R6 | 48 330-U0 | 49 4111-M6 | 50 4130-A6 | 51 4110-M6 | 52 4111-M6 | 53 4110-M6 | 54 310-G0 | 55 4130-A6 | 56 4111-M9 | 57 4130-A6 | 58 4139-A6 | 59 4110-M9 | 60 330-U0 | 61 4130-A3 | 62 310-G0 | 63 4211-R9 | 64 4133-A6 | 65 4211-R9 | 66 4110-M3 | 67 4112-M5 | 68 710-Y0 | 69 4211-R9 | 70 4112-M6 | 71 4111-M6 | 72 4130-A3 | 73 4130-A6 | 74 623-N0 | 75 4130-A3 | 76 310-G0 | 77 4133-A6 | 78 4211-R5 | 79 4211-R9 | 80 623-N0 | 81 330-U0 | 82 4139-A1 | 83 4211-R6 | 84 310-G0 | 85 4133-A3 | 86 320-U0 | 87 6130-E5 | 88 6130-E6

Bebb Rd
Haessleys Dr NE
W Crooked Lake Rd NE
Starvation Lake Rd NE
Sundown Ln NE
Blue Lake Rd NE
Crooked Rd NE
Deward Rd NE
Deward Rd
North Crooked Lake
Lost Lake

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

1 0.5 0 1 Miles

Stand Boundary Map

Compartment 101
T28N, R05W, Sec. 1, 2, 3
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Stand # 23 — Stocking Density
(412)0) - A7
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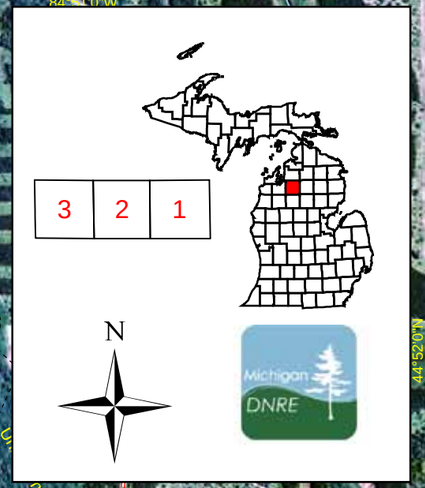
Legend

- Miris Corners
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Intermittent Stream/Drain
- Stream
- Trails
- K ORV Trails
- M ORV Routes
- Stand Boundaries

Forest Stands
Level 3
411 - Northern Hardwood
413 - Aspen Types
421 - Planted Pines
422 - Natural Pines
431 - Upland Mixed Forest
613 - Lowland Mixed Forest

Non-Forest Stands
Level 3
310 - Herbaceous Openland
320 - Upland Shrub
330 - Low-Density Trees
623 - Emergent Wetland
710 - Sand, Soil



1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 101
T28N, R05W, Sec. 1, 2, 3
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Unit: Traverse City
YOE: 2012
Acres: 1,665 GIS Calculated
Stand Examiner: David Johnson
Map Revised: 5/24/2010
Map Phase: Pre-Review

Legend

- Miris Corners
- Stand Boundaries

Dedicated Special Conservation Areas

- Cold Water Streams
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Dedicated Management Areas

Forest Stands

Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
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Stand # 23 — Stocking Density: (412)0) - A7
Level 3 Level 4 — OI Code
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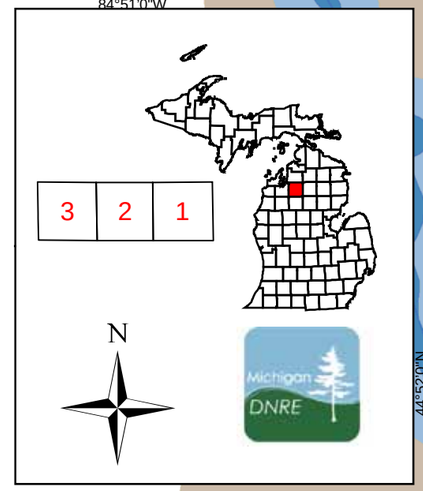

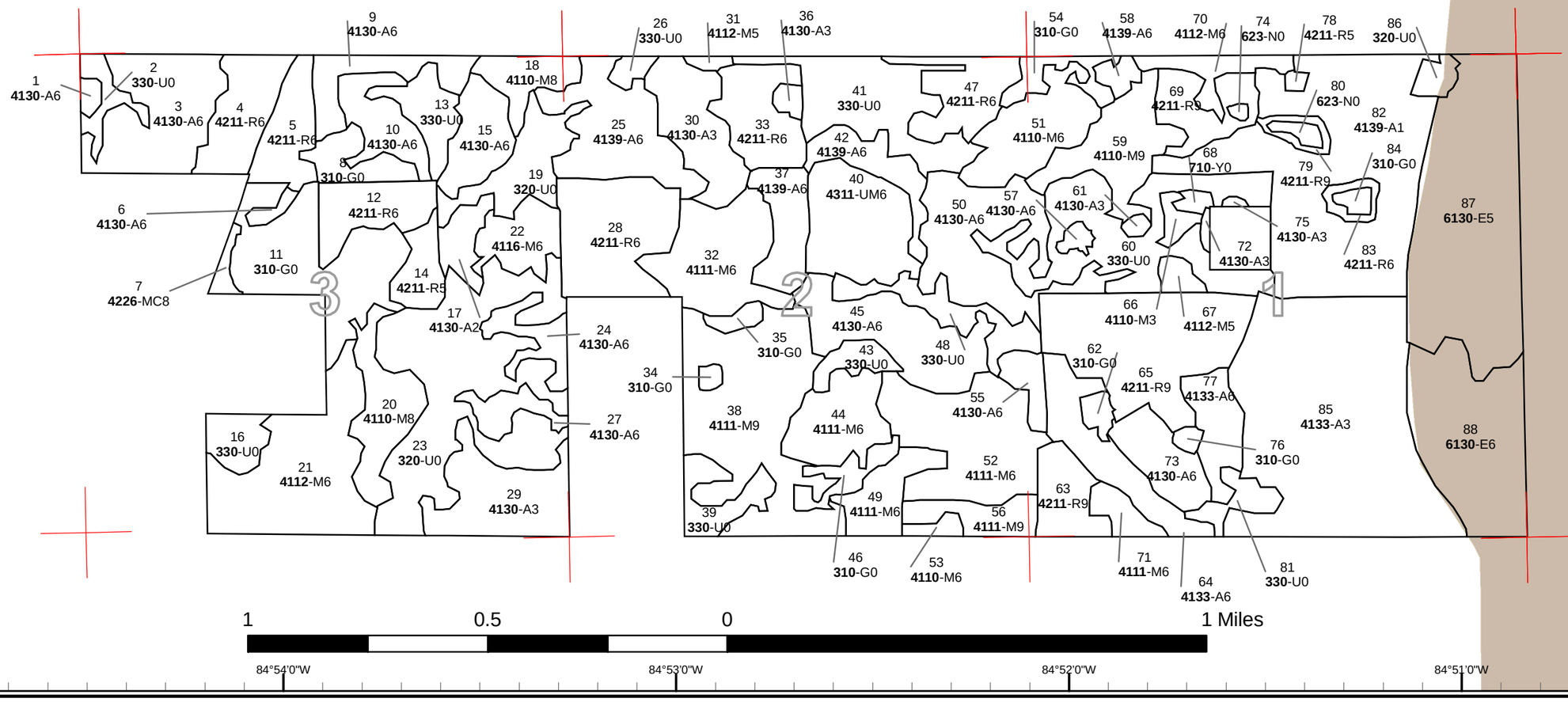

Table 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit *(Level 3 Cover Type)* **Compartment 101 Year of Entry 2012**

Age Class

	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	Total
Aspen Types	0	133	29	159	162	98	0	0	0	0	0	0	0	0	0	**581**
Emergent Wetland	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Herbaceous Openland	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**155**
Low-Density Trees	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**153**
Lowland Mixed Forest	0	0	0	50	83	0	0	0	0	0	0	0	0	0	0	**133**
Natural Pines	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	**3**
Northern Hardwood	0	0	0	3	15	4	0	167	120	45	0	0	0	0	0	**355**
Planted Pines	0	0	0	1	20	116	0	83	6	0	0	0	0	0	0	**227**
Sand, Soil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Upland Mixed Forest	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	**31**
Upland Shrub	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**23**
Total	**335**	**133**	**29**	**214**	**311**	**218**	**0**	**254**	**126**	**45**	**0**	**0**	**0**	**0**	**0**	**1665**

Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 101
Total Compartment Acres: 1665

Acres by Treatment Type

Commercial Harvest - 343	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 14	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	42	0	0	0	0	0	**42**
Northern Hardwood	0	117	65	0	0	0	**182**
Red Pine	0	14	0	0	74	0	**88**
Upland Mixed Forest	31	0	0	0	0	0	**31**
Total	**74**	**131**	**65**	**0**	**74**	**0**	**343**

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	61101009-Cut	14.1	4130 - Aspen	High Density Pole	39	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest leaving some scattered mast or fruit producing trees

Other Comments: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps: Area should regenerate well t a fully stocked Aspen/mixed Hdwd

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
21	61101021-Cut	49.2	4112 - Maple, Beech, Cherry Association	High Density Pole	74	Harvest	Single Tree Selection	Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Specs: Remove scattered aspen and poor form maple sawlogs - reducing ba to 40-50 sq ft.

Other Comments:

Next Steps: Good maple regen should occur in canopy gaps - probably no treatment for another 20 years after this harvest

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28	61101028-Cut	35.3	42110 - Planted Red Pine	High Density Pole	46	Harvest	Systematic Thinning	Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Remove approx 1/2 red pine volume , releasing heavy hdwd understory

Other Comments:

Next Steps: Leave remaining red pine as nurse crop until merchatable hardwood thinning - probably 40 - 50 years

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
33	61101033-Cut	20.0	42110 - Planted Red Pine	High Density Pole	39	Harvest	Systematic Thinning	Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Remove approx. 1/2 red pine volume to aid in release of heavy hdwd understory and encourage more hdwd development

Other Comments:

Next Steps: Leave remaining red pine as nurse crop for hadwd development.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
37	61101037-Cut	15.1	4139 - Aspen, Mixed Deciduous	High Density Pole	41	Harvest	Clearcut	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Lower site quality - remove all aspen mixed hwdw to encourage proper regen

Other Comments: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps: Area should regenerate to medium quality aspen and medium to full stocking.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
38	61101038-Cut	64.7	4111 - S.Maple, Hard Mast Association	High Density Log	75	Harvest	Seed Tree	S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Specs: Remove open grown larger - lower quality hdwd. Keeping all scattered red oak

Other Comments: Area has evidence of old past markings - never harvested.

Next Steps: Seed tree harvest should encourage proper quality regeneration of maple beech oak. Possibly remove remaining canopy in 20 years.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40	61101040-Cut	31.1	4311 - Pine, Aspen Mix	High Density Pole	39	Harvest	Clearcut with Reserves	Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Remove all aspen /mx hdwd from spotty red pine plantation along with row thinn red pine where possible removing 1/2 the ba

Other Comments: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps: Area should regenerate to aspen/mx hwd with the remaining red pine aiding in height growth for the aspen.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
42	61101042-Cut	13.3	4139 - Aspen, Mixed Deciduous	High Density Pole	38	Harvest	Clearcut	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest all species except conifers

Other Comments: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps: Area should regenerate to fully stocked stand of aspen/black cherry

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
47	61101047-Cut	18.5	42110 - Planted Red Pine	High Density Pole	42	Harvest	Systematic Thinning	Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Thin red pine heavily removing approx 1/2 the ba - to encourage aspen/hwdw regen.

Other Comments: Stand is of low quality red pine - heavy porky damage present

Next Steps: Harvest should encourage good aspen/hdwd regen. Possible remove remaining rp in 10 or 20 years

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
51	61101051-Cut	25.0	4110 - Sugar Maple Association	High Density Pole	86	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal

Prescription Specs: Selection thinning reducing ba to 70-80 sq ft. Maintaining specie diversity.

Other Comments:

Next Steps: regen should occur in canopy gaps - thinnnings should occur every 20 years for quality sawlog production.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
52	61101052-Cut	43.2	4111 - S.Maple, Hard Mast Association	High Density Pole	69	Harvest	Single Tree Selection	S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Specs: Selection thinning reducing ba to 70-80 sq ft. Maintaining specie and wildlife diversity.

Other Comments:

Next Steps: Regen should occur in canopy gaps - thinning should occur every 20 years - quality sawlog development

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
63	61101063-Cut	14.1	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	65	Harvest	Single Tree Selection	Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Selection thinning to promote hdwd regen removing 30 sq ft of red pine sawtimber, all aspen and approx 10 sq ft mixed maple (poor form)

Other Comments: Quality stand of red pine and sugar maple

Next Steps: Stand will slowly convert over to Northern Hdwds with future selection thinnings

Total Treatment Acreage Proposed: 343.5

Table 4 -- Treatments Prescribed with a Limiting Factor

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

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: **0**

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Pole	1.9	39	1-50	scattered old pine stumps - turn of the century. Poor site - smaller pine stumps indicate even old growth wp had a tough go of it on this site.
3	4130 - Aspen	High Density Pole	35.1	42	1-50	Hold stand another 10 years - poor quality site slow growth. dkj 3-11-10
4	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	19.5	42	51-80	Hold treatment of stnd until aspen is mature or of commercial size, then thin red pine heavy and harvest all aspen. Very poor quality red pine - open grown. dkj 3-11-10
5	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	15.9	42	51-80	Very similar to neighboring stand # 4 -poor quality red pine plantation with pockets of aspen and balck cherry. Hold treatment of this stand until aspen is mature or commercial size then thin rp heavy and total harvest aspen- cherry . stand will converst to aspen with the scattered red pine component.
6	4130 - Aspen	High Density Pole	2.1	30	1-50	Low quality - previous Upland brush type converting to aspen.
7	42260 - Natural Pine, Mixed Deciduous	Medium Density Log	2.7	65	1-50	Open grown red and white pine filling in with aspen and black cherry
9	4130 - Aspen	High Density Pole	14.1	39	51-80	In an area of lower quality aspen this stand shows better growth and quality - to maintain vigor of stand a final harvest should be done. This will also maintain a good age class distribution of aspen in comp. dkj 3-11-10
10	4130 - Aspen	High Density Pole	14.7	30	1-50	
12	42110 - Planted Red Pine	High Density Pole	17.3	42	51-80	
14	42110 - Planted Red Pine	Medium Density Pole	9.6	42	1-50	Stand had aspen - cherry removed in 2005 - heavily browsed regen
15	4130 - Aspen	High Density Pole	15.8	44	51-80	
17	4130 - Aspen	Medium Density	8.1	5		Stand harvested in 2005 - good aspen regen.
18	4110 - Sugar Maple Association	Medium Density Log	11.3	66	1-50	Open grown sugar maple , black cherry with scattered white pine
20	4110 - Sugar Maple Association	Medium Density Log	20.5	89	1-50	Open -grown sugar maple of poor quality with scattered red and white pine poles and some oak seedlings. Old S.I. 48 for sugar maple. Stand will eventually fill in with sugar maple and leaving the overstory will help with height growth and the bole developement. dkj 3-11-10
21	4112 - Maple, Beech, Cherry Association	High Density Pole	49.2	74	51-80	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	4116 - Mixed N. Hardwood - Aspen	High Density Pole	13.6	39	1-50	mixed aspen with open grown red and sugar maple
24	4130 - Aspen	High Density Pole	9.6	30	1-50	
25	4139 - Aspen, Mixed Deciduous	High Density Pole	32.8	38	51-80	Variable stand with steep slopes and pockets of mature maple/aspen. Much to scattered to type out or harvest now. Wait until next entry, 2020 and final harvest. dkj 3-17-10
27	4130 - Aspen	High Density Pole	7.6	30	1-50	Medium to low quality clones
28	42110 - Planted Red Pine	High Density Pole	35.3	46	81-110	Once thinned red pine plantation with heavy aspen/maple regen. Thin heavy now and let residuale pine aid in height developement of aspen/maple
29	4130 - Aspen	High Density Sapling	28.8	16		Stand harvested in 1993. - has scattered oak regen and on rolling terrain
30	4130 - Aspen	High Density Sapling	23.2	7		Sale #80-02 Red Rock Aspen
31	4112 - Maple, Beech, Cherry Association	Medium Density Pole	1.6	32	1-50	Open grown maple/cherry
32	4111 - S.Maple, Hard Mast Association	High Density Pole	31.6	68	81-110	Mixed hardwood/aspen - portions of stand were marked in past but not sold, old paint still evident. Variable stand with some better quality in spots mainly medium quality. Thin in next inventory cycle.2020 dkj 3-18-2010
33	42110 - Planted Red Pine	High Density Pole	20.0	39	81-110	
36	4130 - Aspen	High Density Sapling	2.4	4		ABOS sale # 50-04
37	4139 - Aspen, Mixed Deciduous	High Density Pole	15.1	41	51-80	
38	4111 - S.Maple, Hard Mast Association	High Density Log	64.7	75	81-110	Open grown hdwd evidence of old marking - paint still visible.
40	4311 - Pine, Aspen Mix	High Density Pole	31.1	39	51-80	Variable - spotty Red Pine plantation with aspen/hdwd everywhere. Heavy aspen clones
42	4139 - Aspen, Mixed Deciduous	High Density Pole	13.3	38	1-50	
44	4111 - S.Maple, Hard Mast Association	High Density Pole	20.5	65	51-80	Open grown hdwd with scattered aspen - low quality.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	4130 - Aspen	High Density Pole	32.2	45	1-50	Variable stand - hold ten years and then look to remove aspen and thin hdwd or convert to aspen
47	42110 - Planted Red Pine	High Density Pole	18.5	42	111-140	Stand had poor survival rate and heavy porky damage
49	4111 - S.Maple, Hard Mast Association	High Density Pole	13.3	64	1-50	Open grown hdwd filling in with sugar maple regen.
50	4130 - Aspen	High Density Pole	40.5	35	51-80	young pole size mixed aspen stand
51	4110 - Sugar Maple Association	High Density Pole	25.0	86	111-140	
52	4111 - S.Maple, Hard Mast Association	High Density Pole	43.2	69	111-140	
53	4110 - Sugar Maple Association	High Density Pole	2.7	62	81-110	
55	4130 - Aspen	High Density Pole	6.4	33	1-50	Old upland brush type converting to aspen. In a frost pocket
56	4111 - S.Maple, Hard Mast Association	High Density Log	10.8	68	1-50	Open grown mixed hdwd filling in with sugar maple regen. Some scattered aspen.
57	4130 - Aspen	High Density Pole	2.2	29	1-50	
58	4139 - Aspen, Mixed Deciduous	High Density Pole	3.5	30		
59	4110 - Sugar Maple Association	High Density Log	25.0	69	1-50	Open grown filling in with sugar maple regen.
61	4130 - Aspen	High Density Sapling	1.4	21		
63	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	14.1	65	111-140	
64	4133 - Aspen, Mixed Pine	High Density Pole	21.9	23	1-50	Aspen/hdwd small pole stand with residual RP and WP overstory
65	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	54.1	63	51-80	stand thinned in 2005 with aspen/hdwd regen filling in canopy gaps. Good height growth on regen. Leave stand another entry and then reduce pine overstory. dkj 3-19-2010
66	4110 - Sugar Maple Association	High Density Sapling	3.4	20		Sloping terrain with scatterd aspen , mainly sugar maple
67	4112 - Maple, Beech, Cherry Association	Medium Density Pole	3.6	40	1-50	open grown cherry - maple

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
69	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	15.3	63	81-110	Very steep terrain - leave stand as retention for old stand 82 to the east.
70	4112 - Maple, Beech, Cherry Association	High Density Pole	9.1	69	51-80	
71	4111 - S.Maple, Hard Mast Association	High Density Pole	6.2	78	81-110	Very low site index - 48- 50, bifocals pose problems reading maple boring !!
72	4130 - Aspen	High Density Sapling	1.0	21		
73	4130 - Aspen	High Density Pole	15.4	36	1-50	
75	4130 - Aspen	High Density Sapling	0.6	22		
77	4133 - Aspen, Mixed Pine	High Density Pole	14.0	26	1-50	Stand harvested 26 years ago, regenerated to aspen/hdwd with log size residual red pine. dkj 3-19-2010
78	42110 - Planted Red Pine	Medium Density Pole	1.1	21	1-50	Old wellsite which has naturaly seeded back in to red pine with different ages 10 -21 years old.
79	42110 - Planted Red Pine	High Density Log	3.0	72	81-110	Stand was left from past final harvest and serves as a visual and bmp buffer on slope near bog.
82	4139 - Aspen, Mixed Deciduous	Low Density Sapling	99.3	1		Sale # 071-08-01- red pine project . Final harvest on 70+ year old plantation no replanting due to heavy aspen maple residual and regeneration.
83	42110 - Planted Red Pine	High Density Pole	3.2	72	51-80	Stand was left for visual mgt from past final harvest in sawlog red pine stand.
85	4133 - Aspen, Mixed Pine	High Density Sapling	118.1	23	1-50	Stand has approx 20 sq ft of residual red pine left from previosu harvest. Very good aspen,red maple regen.
87	6130 - Fir, Aspen, Maple	Medium Density Pole	82.6	30		Same as stand # 88 - only difference is this stand has more lowland brush and has a higher water table. also part of the Deward Tract - Sprcial Management Area.
88	6130 - Fir, Aspen, Maple	High Density Pole	50.2	28		Area part of the Deward Tract - Special Management Area. Stand is a mix of spotty higer graound and lower land. In 1959 all higher ground was cut with D-7 treecutters leaving only the pine and cedar. In 1982 the lowground was cut Aspen/Fir. This has now regenerated to a mixed stand of aspen, fir, spruce, red maple and lowland brush. Small size pole stand.

Stand	Cover Type	Acres	Gen Cmts:
2	330 - Low-Density Trees	6.4	
8	3103 - Rubus-Fern	10.3	Two tracks are nearly gone. Some QA regen clones but they have been delineated out of stand. White pine saps-logs, black cherry saps-logs. little bluestem, poverty, cladonia, bracken, sedge, black berry, sheep sorrel, rubus, skw, sjw, viburnum, willow, juneberry. Scattered slash, old stumps, bumpy.
11	3103 - Rubus-Fern	42.9	Two tracks are nearly gone. Some QA regen clones but they have been delineated out of stand. White pine saps-logs, black cherry saps-logs. little bluestem, poverty, cladonia, bracken, sedge, black berry, sheep sorrel, rubus, skw, sjw, viburnum, willow, juneberry. Scattered slash, old stumps, bumpy.
13	330 - Low-Density Trees	11.8	
16	330 - Low-Density Trees	8.6	
19	320 - Upland Shrub	18.8	
23	3103 - Rubus-Fern	76.6	
26	330 - Low-Density Trees	2.8	
34	310 - Herbaceous Openland	1.5	
35	310 - Herbaceous Openland	2.9	
39	330 - Low-Density Trees	10.7	
41	330 - Low-Density Trees	34.5	
43	330 - Low-Density Trees	6.3	
46	310 - Herbaceous Openland	7.5	
48	330 - Low-Density Trees	14.8	
54	310 - Herbaceous Openland	7.5	
60	330 - Low-Density Trees	48.1	

Stand	Cover Type	Acres	Gen Cmts:
62	3105 - Mixed Upland Herbaceous	3.2	Good project for quad and plotmaster.
68	710 - Sand, Soil	2.0	
74	623 - Emergent Wetland	0.8	
76	3302 - Low Density Conifer Trees	1.7	poverty grass, sjw, hawkweed, skw, 1 juniper.
80	623 - Emergent Wetland	2.3	
81	3303 - Mixed Low Density Trees	6.9	Quaking aspen, white pine, red pine, jack pine, bracken, clad, poverty, sedge, grape, moss.
84	3102 - Grass	2.2	
86	320 - Upland Shrub	4.1	

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 initiatlves (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Inventory Method: IFMAP

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
HCVA	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
SCA	Potential Old Growth Areas	This category contains stands were identified for a broad range of reasons and were coded in the OI database as stand condition 8 as potential old growth (POG). Approximately 310,000 acres have been identified through the Operations Inventory (OI)/Compartment Review process. For stands in Year of Entry 2008 and forward, potential old growth is managed for the identified objective until it is: 1) vetted through the Biodiversity Conservation Planning Process (BCPP) and given a specific designation and objective (as an ERA, HCVA, or other type of SCA) and is released from the potential old growth designation; or 2) it is released from the potential old growth designation via the Compartment Review process.