Sault Ste Marie Forest Management Unit
Compartment Review Presentation
Compartment #189 Entry Year: 2013
Compartment Acreage: 1,815 County: Mackinac

Revision Date: 7/19/2013

Stand Examiner: Cory Luoto

Legal Description: T43N R11W Section 31, T43N R12W Section 36, T42N R11W Section 1, 2, 3 Newton Township

RMU (if applicable): Milakokia Lakes

Management Goals: The compartment is located at the northeastern boundary of the Batty Doe Lake Deeryard. The area is typed as "moderate" usage for wintering deer activity. The vast majority of the compartment is comprised of cedar stands and will be left for thermal cover within the deeryard. Access to a majority of the compartment is questionable which could limit the majority of the management activities within the compartment.

Soil and Topography: The topography of the compartment is relatively level ground. Low-lying wet ground mixed with slightly higher dry ground. The soils present are as follows: Markey and Carbondale mucks, Mattix sandy loam, Leafriver mucky peat, Spot-Finch Complex, Longrie-Battydoe stony, Angellica muck, Solona loam, Finch sand, Guardlake fine sandy loam, Iosco sand, Markey-Spot-Finch, Heinz sandy loam, and Histosols and Aquents, ponded.

Ownership Patterns, Development, and Land Use in and Around the Compartment: All of the State of Michigan land within the compartment is in one contiguous block except for a 40 acre parcel in the southwest quarter of Section 3. This 40 acre parcel is land locked by private land owners. There are a number of small private land owners in the western and northeast portions of the compartment. Mead Corporation lands and additional State of Michigan lands border the compartment to the south and southeast. To the west of Section 36 is more State of Michigan land, and to the west of Section 3 is land under Michigan Limestone Company ownership. The adjacent land owners to the north are a combination of small private land owners and Mead Corporation lands.

Unique, Natural Features: Compartment is comprised primarily of cedar and lowland conifer types, making an ideal area for wintering deer. Common Loon inhabits Milakokia Lake, which is just west of the compartment.

Archeological, Historical, and Cultural Features: Old remnants of one of the original railroad shacks is still present along the railroad right-of-way.

Special Management Designations or Considerations: Large continuous cedar stands will be left alone to assure thermal cover within the deer yard.

Watershed and Fisheries Considerations: Fisheries Values
None under active management. Adjacent to this compartment is Milakokia Lake. It supports good populations of largemouth bass, smallmouth bass, natural walleyes, northern pike, bluegills and perch. However, the population densities appear to have decreased considerably over the last ten years.

Concurrently, the quarry to the west had during recent years used explosives in a manner sent huge, dense clouds of limestone dust east to settle into the lake. A limestone slurry in water acts similarly to tertiary sewage treatment, precipitating almost all nutrients and other chemicals from the water. At this time, the plankton and fish community of Milakokia Lake make it appear to be quite sterile, when in fact it should not be. Quite possibly, the continuous limestone dust produced an "artificial marl lake." Marl lakes are known for their infertility, poor primary production, and resultant low fish densities. Since the quarry no longer sends limestone dust over the lake on a regular basis, perhaps the lake will now regain its former productivity.

Wildlife Habitat Considerations: This compartment is located primarily on the east side of Millakokia Lake in Mackinac County in the St. Ignace subsection Niagaran Escarpment and Lake Plain. Lowland conifer stands dominated by cedar dominate. Other types include aspen, lowland deciduous, and lowland mixed stands. Most aspen stands are young. The entire compartment is deer yard. Lowland conifer stands provide deer important cover from the snows and other winter conditions. Wildlife objectives will focus primarily on maintaining the conifer cover important for wintering deer. Bobcat, fisher, and martin are a few other species that also benefit from these stands. The nearby aspen and other deciduous stands provide sources of browse as well as habitat for ruffed grouse, snowshoe hare, and many other species.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of peat and muck. The glacial drift thickness varies between 10 and 50 feet. The Silurian Manistique Group subcrops below the glacial drift. The Manistique could be used for stone/limestone. The Inland Quarry, Burnt Bluff Group, is located one mile to the west. The nearest gravel pit is located in Section 30-T43N-R11W. There may be some gravel potential in the compartment. There is no economic oil and gas production in the UP.

Vehicle Access: Access to the compartment is limited. There is one trail road entering the compartment from Corinne Road through Section 31. This road is only a seasonal road and accesses just a portion of the compartment. Other Public vehicular access to the compartment does not exist. For management activities, access to Section 1 can be gained through private land along the South Gould City Road. Possible access to the southern portion of Section 31 for management activities would also be through private land. Large component of wet, lowland timber types within the compartment makes vehicle access extremely difficult.

Survey Needs: None identified at this time.

Recreational Facilities and Opportunities: The primary form of recreation is deer and small game hunting with some trapping. ORV use in the compartment is limited. Designated groomed snowmobile trail system runs along the north edge of the compartment. There is evidence of some illegal ORV activity relating to deer hunting/deer blinds, mainly along the railroad right-of-way.

Fire Protection: Fire protection is not a major concern with the low ground and related timber types. Access is a concern if a fire were to occur in this compartment.

Additional Compartment Information:

- **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**
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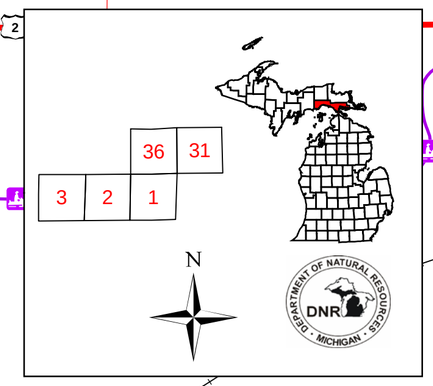
Cover Type & Treatment Map

Compartment 189
T43N, R12W, Sec. 36
T43N, R11W, Sec. 31
T42N, R12W, Sec. 1-3
County: Mackinac
Unit: Sault Ste Marie
YOE: 2013
Acres: 1,815 GIS Calculated
Stand Examiner: Karen Rodock
Map Revised: 8/12/2011
Map Phase: Pre-Review

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



Legend
- Miris Corners
- Remonumented Section Corners
- Railroads
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Snowmobile Trail
- US Highway
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments
- Clearcut (w/Reserves, Patch/Strip)

Forest Stands
Level 3
- 411 - Northern Hardwood
- 413 - Aspen Types
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands
Level 3
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

1 0.5 0 1 Miles

85°48'0"W 85°47'0"W 85°46'0"W 85°45'0"W 85°44'0"W 85°43'0"W
46°5'0"N 46°4'0"N 46°3'0"N

Stand Boundary Map

Compartment 189
T43N, R12W, Sec. 36
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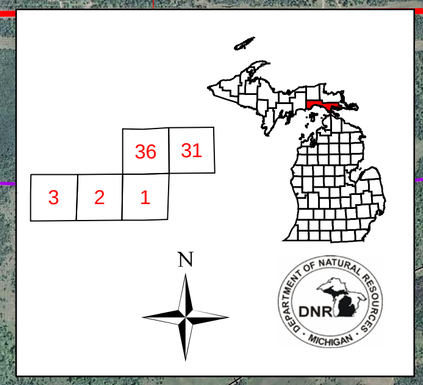

Legend
- Miris Corners
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- Railroads
- Highway
- County Paved Roads
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- Poor Dirt Roads
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- Trail (Non-Recreation)
- Closed Roads
- Intermittent Stream/Drain
- Stream
- Snowmobile Trail
- Stand Boundaries

Forest Stands

Level 3

411 - Northern Hardwood
413 - Aspen Types
431 - Upland Mixed Forest
611 - Lowland Deciduous Forest
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Non-Forest Stands

Level 3

310 - Herbaceous Openland
330 - Low-Density Trees
500 - Water
622 - Lowland Shrub
623 - Emergent Wetland

1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 189
T43N, R12W, Sec. 36
T43N, R11W, Sec. 31
T42N, R12W, Sec. 1-3
County: Mackinac
Unit: Sault Ste Marie
YOE: 2013
Acres: 1,815 GIS Calculated
Stand Examiner: Karen Rodock
Map Revised: 8/12/2011
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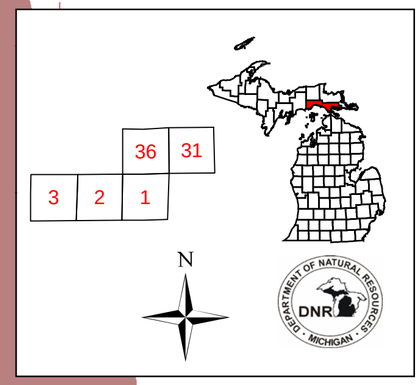
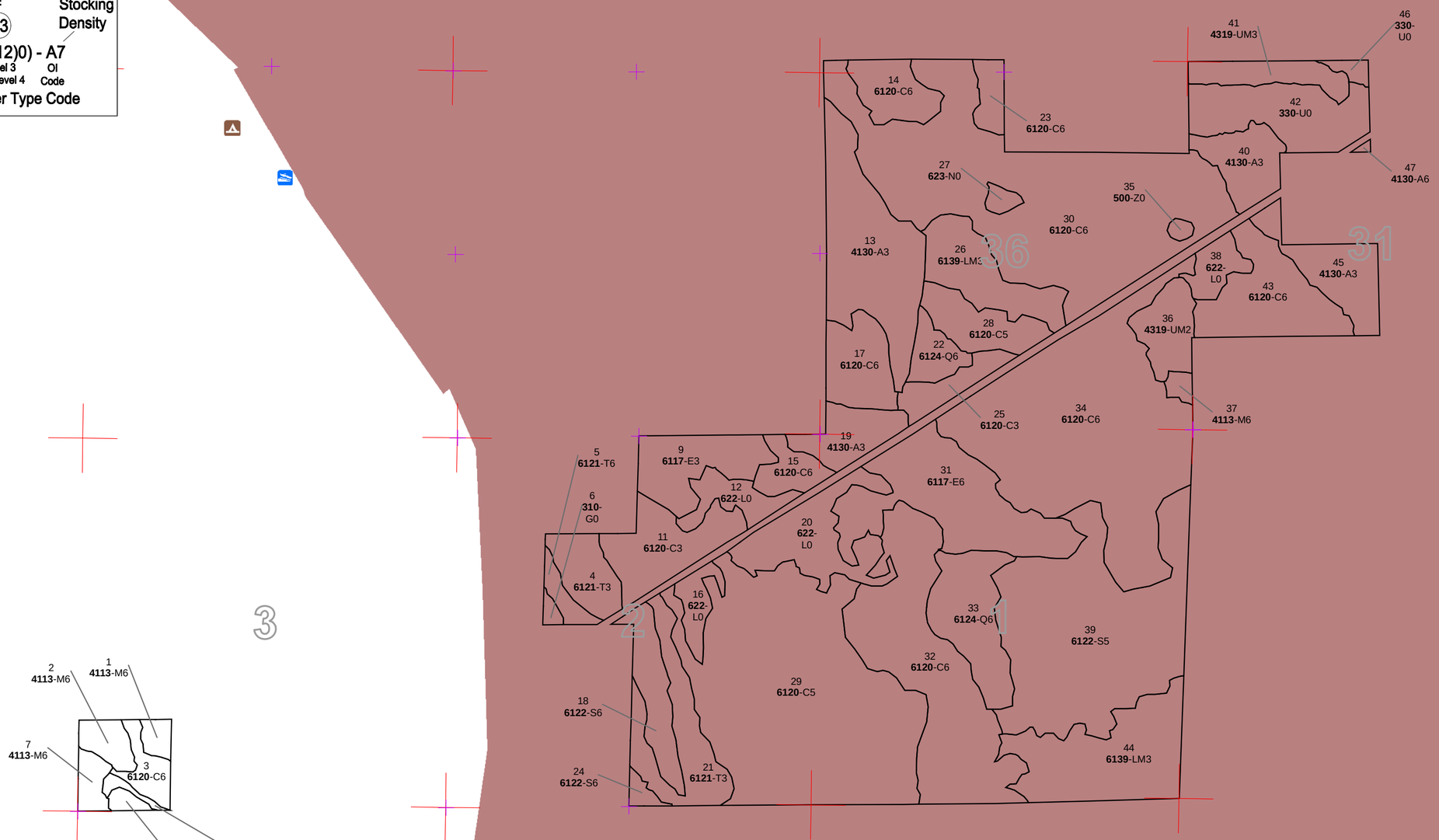
Stand # 23 — Stocking Density
(412)0) - A7
Level 3 Level 4 OI Code
Cover Type Code





Legend
- Miris Corners
- Remonumented Section Corners
- Stand Boundaries

Dedicated Special Conservation Areas
- Boat Access Sites
- Campgrounds
- Deer Wintering Areas

Forest Stands

Level 3
411 - Northern Hardwood
413 - Aspen Types
431 - Upland Mixed Forest
611 - Lowland Deciduous Forest
612 - Lowland Coniferous Forest
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Non-Forest Stands

Level 3
310 - Herbaceous Openland
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1 0.5 0 1 Miles

85°48'0"W 85°47'0"W 85°46'0"W 85°45'0"W 85°44'0"W 85°43'0"W
46°6'0"N 46°5'0"N 46°4'0"N 46°3'0"N

Table 1 – Total Acres by Cover Type and Age Class

Sault Ste. Marie Mgt. Unit **Compartment 189 Year of Entry 2013**

Cory Luoto : Examiner

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	0	24	97	30	0	0	0	0	1	0	0	0	0	0	0	**152**
Cedar	0	0	0	0	0	0	0	0	0	0	60	448	44	388	0	**940**
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Low-Density Trees	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**50**
Lowland Conifers	0	0	0	0	0	0	0	0	13	41	0	0	0	0	0	**54**
Lowland Deciduous	0	34	0	0	0	0	78	0	0	0	0	0	0	0	0	**112**
Lowland Mixed Forest	0	67	0	36	0	0	0	0	0	0	0	0	0	0	0	**103**
Lowland Shrub	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**84**
Lowland Spruce/Fir	0	0	0	0	0	0	0	28	0	0	0	0	151	0	0	**179**
Marsh	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Northern Hardwood	0	0	0	0	0	0	0	0	0	3	23	0	0	0	0	**27**
Tamarack	0	0	0	0	0	0	38	7	20	0	0	0	0	0	0	**66**
Upland Mixed Forest	0	0	21	19	0	0	0	0	0	0	0	0	0	0	0	**40**
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total	**142**	**124**	**119**	**85**	**0**	**0**	**116**	**35**	**34**	**45**	**83**	**448**	**196**	**388**	**0**	**1815**

Table 2 – Proposed Treatment Summaries

Sault Ste. Marie Mgt. Unit
Year of Entry 2013

Compartment 189
Total Compartment Acres: 1815

Acres by Treatment Type

Commercial Harvest - 123	Site Prep - 0	Tree Planting - 0	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
Lowland Conifers	41	0	0	0	0	0	**41**
Lowland Deciduous	78	0	0	0	0	0	**78**
Lowland Spruce/Fir	4	0	0	0	0	0	**4**
Total	**123**	**0**	**0**	**0**	**0**	**0**	**123**

Table 3 -- Treatments Prescribed with No Limiting Factor

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

Prescription Specs:

Other Comments:

Next Steps:

Total Treatment Acreage Proposed: **0**

Data updated yesterday after 6:00 PM

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
24	45189024-Cut	3.7	6122 - Black Spruce	High Density Pole	60	Harvest	Clearcut with Reserves	6122 - Black Spruce	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves following the retention guideline.

Other Comment:

Next Steps: Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce, black spruce and white pine.

Limiting Factor and No Treatment Reason: 2A: Adjacent landowner denies access

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31	45189031-Cut	77.7	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	52	Harvest	Clearcut with Reserves	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves following the retention guideline.

Other Comment:

Next Steps: Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce, black spruce and white pine.

Limiting Factor and No Treatment Reason: 2G: Blocked by physical obstacle

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
33	45189033-Cut	41.2	6124 - Lowland Spruce-Fir	High Density Pole	81	Harvest	Clearcut with Reserves	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves following the retention guideline.

Other Comment:

Next Steps: Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce, black spruce and white pine.

Limiting Factor and No Treatment Reason: 2G: Blocked by physical obstacle

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Total Treatment Acreage Proposed: 122.6

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
45158_OutOfYOE-Cut	2.5				Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal

Prescription Specs: Mark stand to 80 to 90 Basal Area. Retain some beech with the smooth bark and wildlife trees. Some larger canopy gaps may be desirable to enhance the advanced regeneration present.

Other Comments:

Next Steps: Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce, black spruce and white pine.

NF_45134015-NonFor	4.7	Unspecified		0	Non-Forest Management	Patch or Strip Clearcut	31021 - Cool Season Grass	Cmpt. Review Proposal

Prescription Specs: Treat with C149 s 63. Opening maintenance removing jack pine seedlings and saplings.

Other Comments:

Next Steps:

Total Treatment Acreage Proposed: **7.2**

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4113 - R.Maple, Conifer	High Density Pole	5.2	90		Inventory data is 30 years old, no legal access.
2	4113 - R.Maple, Conifer	High Density Pole	10.1	90		Inventory data is 30 years old, no legal access.
3	6120 - Lowland Cedar	High Density Pole	11.1	95		Inventory data is 30 years old, no legal access.
4	6121 - Tamarack	High Density Sapling	20.4	75		Very simlilar to the stand to the east but has alot more tamarack. Very poor Quality!
5	6121 - Tamarack	High Density Pole	7.1	62		Fairly dense tamarack stand between the road and small tamarack to the east.
7	4113 - R.Maple, Conifer	High Density Pole	8.0	90		Inventory data is 30 years old, no legal access.
9	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	33.8	9		A majority of this stand was cut in 2002 as part of the Whiskey Jug timber sale. There are a few larger trees in the western partof the stand that were left uncut because it was to wet to get to them. Regen in the areas cut is doing good.
10	6120 - Lowland Cedar	High Density Pole	3.4	106		Inventory data is 30 years old, no legal access.
11	6120 - Lowland Cedar	High Density Sapling	37.2	100		Borderline between an lowland shrub type and cedar. Very Sparse cedar, small and of poor shape also.
13	4130 - Aspen	High Density Sapling	75.6	10		Stand was cut in 2000-2001. Was more of a mixed stand when cut but now is primarily aspen.
14	6120 - Lowland Cedar	High Density Pole	21.0	117		Very wet, sparce cedar stand. Some larger tamarack in stand. BA are around 50-60.
15	6120 - Lowland Cedar	High Density Pole	13.5	116		Very wet, poor quality cedar, some are about a 8" diameter but most are around 4".
17	6120 - Lowland Cedar	High Density Pole	27.5	130		Fairly dense cedar. Browse line quite evident. No understory.
18	6122 - Black Spruce	High Density Pole	24.1	60		Wet black spruce with tamarack. Fairly small diameter, Heavy spruce and balsam understory.
19	4130 - Aspen	High Density Sapling	21.7	12		Stand was cut in 1999. Aspen regen is doing great. From the old notes, some over topping birch were left but they appear to all be down now.
21	6121 - Tamarack	High Density Sapling	38.5	55		Wet sparce tamarack stand. Lots of little black spruce and tamarack. Tons of tag alder also.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	6124 - Lowland Spruce-Fir	High Density Pole	12.8	75		Sparce black spruce and balsam poles with heavy balsam regen in more open areas.
23	6120 - Lowland Cedar	High Density Pole	9.7	114		Poor quality cedar. Some larger diameter cedar but overall it is sparce. Scattered tamarack and black spruce. Some cedar regen, lots of balsam
24	6122 - Black Spruce	High Density Pole	3.7	60		Wet black spruce with tamarack. Fairly small diameter, Heavy spruce and balsam understory.
25	6120 - Lowland Cedar	High Density Sapling	14.5	120		Poor quality cedar and tamarack stand. Very wet!
26	6139 - Mixed Lowland Forest	High Density Sapling	36.2	24		Lowland Mackinac Mix stand. It was cut in 1987. Varaible stand, heavier conifer in the center of the stand.
28	6120 - Lowland Cedar	Medium Density Pole	24.3	133		Very wet, somewhat sparse cedar.
29	6120 - Lowland Cedar	Medium Density Pole	210.4	133		Very wet and sparce cedar. Very little else growing.
30	6120 - Lowland Cedar	High Density Pole	218.6	107		Variable cedar stand. Larger diameter and higher density to the north. Some cedar regen, but it is allbelow the snowline.
31	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	77.7	52		This stand should have been harvest 30-40 years ago. No access to this area at all. Most of the mature trees are dead now and there is a fairly heavy flush of spruce, balsam and red maple now in the canopy.
32	6120 - Lowland Cedar	High Density Pole	111.3	125		Decent cedar stand, some nice diameter poles. Very noticable browse line.
33	6124 - Lowland Spruce-Fir	High Density Pole	41.2	81		This stand should have been cut 20 years ago. lots of mortality. No real access to the stand. It would be a major road building effort through cedar from the south or crossing the tracks from the north. Neither one is a viable option for the timber in this stand which is quite poor.
34	6120 - Lowland Cedar	High Density Pole	189.4	102		Another large variable cedar stand. Some areas of decent regen, but it is primarily below snow levels. Stand is extremely wet in places.
36	4319 - Mixed Upland Forest	Medium Density	21.4	14		Upland Mackinac Mix stand. Some area have heavy raspberry and very little trees.
37	4113 - R.Maple, Conifer	High Density Pole	3.5	84	51-80	Small soft maple/conifer stand. Some cedar along edges. Look at harvesting in 10 yrs.
39	6122 - Black Spruce	Medium Density Pole	151.4	114		Wet, poor quality stand. Primarily black spruce, paper birch and some tamarack. Small diameters and poor quality.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	4130 - Aspen	High Density Sapling	24.1	7		Nice young aspen, very little spruce or balsam.
41	4319 - Mixed Upland Forest	High Density Sapling	18.7	23		Upland Mackinac mix stand. Stand is quite variable, some areas are dense conifer and others have heavy red maple and aspen.
43	6120 - Lowland Cedar	High Density Pole	48.5	94		Nice cedar stand. Not a lot of browsing activity. High basal area in places, 200+
44	6139 - Mixed Lowland Forest	High Density Sapling	66.5	3		Wet Mackinac Mix regen. Stand is regenerating nicely.
45	4130 - Aspen	High Density Sapling	30.2	26		Nice aspen regen, it is getting to be borderline between sapling and poles. it will be a pole stand next year of entry.
47	4130 - Aspen	High Density Pole	0.6	76		Nice little aspen stand, blocked by railroad tracks and adjacent landowner. not big enough to deal with.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
6	310 - Herbaceous Openland	2.3	N\A	Unspecified	
8	622 - Lowland Shrub	2.7	N\A	Unspecified	
12	622 - Lowland Shrub	16.0	N\A	Unspecified	
16	622 - Lowland Shrub	11.2	N\A	Unspecified	
20	622 - Lowland Shrub	41.8	N\A	Unspecified	
27	623 - Emergent Wetland	3.7	N\A	Unspecified	
35	50 - Water	2.1	N\A	Unspecified	
38	622 - Lowland Shrub	12.1	N\A	Unspecified	
42	330 - Low-Density Trees	46.5	N\A	Unspecified	
46	330 - Low-Density Trees	3.6	N\A	Unspecified	

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	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.