

### CADILLAC FOREST MANAGEMENT UNIT

# COMPARTMENT REVIEW PRESENTATION COMPARTMENT #082 ENTRY YEAR: 2013

Compartment Acreage (GIS Acres): 1857 County: Missaukee

Revision Date: 10/07/2011 10:17 AM

**Stand Examiner:** Jim Malloy, Forester

Legal Description: T24N, R5W Sections 29,30,31,32

Management Goals: To manage for a diverse timber and age class to provide for recreational opportunities

for the public. Much of this area contains large swamp complexes.

Soil and Topography: Loamy and mucky sands, organic soils, peat and mucky peat. Level with flat

lowlands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Mostly blocks of state land surrounded by state swampland to north and east. Private agriculture and recreation land to south and west. Parcels listed for desirable acquisition, Section 32 SENW, north of river and SENE. All are recommended to block in state forest lands.

Unique, Natural Features (include only non-site specific and non-sensitive information): Northern wet meadow to NW, oak-pine barrens to N. Loon and dusted skipper to the north. Great blue heron rookery to E. Massasauga to N. Spotted turtle and Blanding's turtle to SE. Bald eagle and osprey to SE. Marsh birds to SE: Least bittern, common moorhen, and black tern. Fish and mussels in rivers to south: river redhouse, bigmouth shiner, rainbow. Hill's pondweed just SW of section 31. Hill's thistle and rough fescue to N. Potential for secretive locust and ebony boghaunter in bogs. Potential for massasauaga, Blanding's turtle, box turtle, and spotted turtle. Potential for eagle, osprey, and great blue heron rookery. Potential for redshouldered hawk. Potential for marsh birds: American bittern, least bittern, yellow rail, black tern, common moorhen, and marsh wren. Potential for Hill's pondweed in marshes. Potential for Hill's thistle, Alleghany plum, and rough fescue in grassy openings. Potential for calpyso and ram's head lady slipper in cedar swamps.

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

**Special Management Designations or Considerations:** Abuts Deadstream Swamp boundary but not within designated area. Large conifer swamp complex north of Rhoby Rd.

Watershed and Fisheries Considerations: No Fisheries comments at this time.

**Wildlife Habitat Considerations:** <u>Priority Wildlife Species:</u> Species associated with early succession deciduous forest and mature swamp conifer and lowland hardwood forests. Of particular concern are critical habitats for bear, bobcat and furbearers.

<u>Habitat Objectives:</u> This compartment is located within the Highplains Ecosystem, Grayling Outwash Plain Subsection LTA's 5149 and 3111. Soils are predominately very poorly drained peats and mucks with M:\FMU\_Common\Cadillac\Compartment\_Info\YOE 2013\82\Compt 82.doc Last saved by nelsonc6

inclusions of poorly drained and excessively drained sands. Historically, this area was composed of a matrix of emergent wetlands, lowland conifer swamps and mesic northern forest. This swamp complex and associated uplands are key black bear habitat and part of a large deer wintering complex. Objectives are to continue to manage for high structural diversity within stands and age class diversity across the compartment. RUM agreements had called for no change in major cover types but to date, with eight compartments involved, large acreages of aspen have been lost and a large increase in pine acreage has occurred. (AH 9/29/11)

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of peat and muck and ice-contact outwash sand and gravel. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan Formation is quarried for gypsum in other areas of the State. The nearest gravel pit is in Section 31 and potential in the compartment is considered to be good on the uplands. East Norwich Field is located one mile northeast of this compartment. The field has produced over 15.9 million BO and 15.7 Bcf gas from the Devonian Richfield Formation and is in secondary recovery operations currently. All of the State land is currently leased for oil and gas development, but there may be Collingwood Formation potential.

**Vehicle Access:** A forest road access plan is detailed on the compartment map. Identified are state and county roads as well as forest roads and trails under the jurisdiction of the DNR. Also indicated are forest roads and trails under the jurisdiction of the DNR that are proposed for abandonment. These roads were determined to be in excess of the access needs in the area, are a threat to the resources, or are a concern environmentally. Proposed new roads or roads recommended for substantial improvement are noted below: The above paragraph is to be included in each write-up. As noted above the road plan is on the map and any new roads or improvements should be listed here.

Survey Needs: N/A

**Recreational Facilities and Opportunities:** There are no designated ORV routes or trails within the compartment. Recreational activities would include hunting, berry picking and sight seeing. 9-01-2011 BET

**Fire Protection:** Timber type would not support a large crown fire in most of the compartment. There is private land ownership around the outside of the compartment near the conifer stands. This mixture would be a urban interface concern. There is a gas transmission line of a concern, also. Wildfire protection is provided by the Houghton Lake Field office. Local county roads border the compartment, allow equipment to respond but access to the interior of area would be hampered due to the lack of interior roads. 9-01-2011 BET

### **Additional Compartment Information:**

- ➤ The following 5 reports from the Operations Inventory System (OIPC) are attached:
  - **♦** 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, where pertinent, on the attached compartment maps:
  - **♦** Base feature information, stand numbers, cover types
  - **♦** Proposed treatments
  - ♦ Proposed road access system

♦ Suggested potential old growth

Compartment 082 Year of Entry 2013

Cadillac Mgt. Unit
James Malloy : Examiner



#### Age Class

							Age	Ciass									
	NO.	40 60	2 /	0,70	, p		DO LOS	\$ 15°	80 /	No.	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		001.00	\$7.0°	SO ZU	A LO	<u> </u>
Aspen	0	273	143	128	0	0	91	188	0	0	0	0	0	0	0	823	
Cedar	0	0	0	0	0	0	0	0	0	0	105	0	0	0	0	105	
Herbaceous Openland	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	
Jack Pine	0	46	0	0	0	0	0	81	0	0	0	0	0	0	0	128	
Low-Density Trees	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	
Lowland Conifers	0	0	0	0	0	3	0	0	0	0	17	94	0	0	0	114	
Lowland Deciduous	0	0	0	12	0	0	3	7	0	0	0	0	0	0	0	21	
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	57	0	0	0	57	
Lowland Shrub	255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255	
Marsh	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	
Mixed Upland Deciduous	0	0	2	0	0	0	0	16	0	0	0	0	0	0	0	19	
Natural Mixed Pines	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	
Northern Hardwood	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
Red Pine	0	0	0	0	0	0	27	3	0	0	0	0	0	0	0	30	
Upland Conifers	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13	
Upland Mixed Forest	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	18	
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Water	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
White Pine	0	0	0	7	0	0	0	0	70	0	0	0	0	0	0	76	
Total	410	347	145	147	0	3	121	326	84	0	122	151	0	0	0	1857	



## **Table 2 – Proposed Treatment Summaries**

Cadillac Mgt. Unit

Compartment 082 Year of Entry 2013 **Total Compartment Acres: 1857** 

### **Acres by Treatment Type**

Commercial Harvest - 288 Site Prep - 28 Tree Planting - 0 Prescribed Burn - 0 Other - 0

Habitat Cut - 0 Opening Maintenance - 0 Tree Seeding - 0 Pesticide - 0

### **Cover Type by Harvest Method**

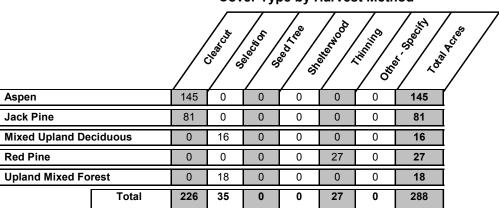


Table 3 -- Treatments Prescribed Compartment: 082 Cadillac Mgt. Unit Year of Entry 2013 with No Limiting Factor s t а **Treatment** Acres Stage1 Size Stand **Treatment Treatment** Cover Type **Approval** n CoverType Method Objective Status Name Density Age Type d 63082003-Cut 42110 - Planted 3 27.5 High Density Log 56 Harvest Low Thinning 42110 - Planted Red Cmpt. Review Red Pine Pine Proposal Prescription Thin to 110-120 Specs: <u>Other</u> Comments: <u>Next</u> Steps: 63082014-Cut 53.4 42120 - Planted High Density Pole Harvest Clearcut 42120 - Planted Jack Cmpt. Review Jack Pine Pine Proposal Prescription Final harvest Specs: <u>Other</u> Comments: Next Replant to Jack Pine. Steps: 63082018-Cut 93.2 18 4130 - Aspen High Density Log 62 Harvest Clearcut with 4130 - Aspen Cmpt. Review Reserves Proposal Prescription Final harvest aspen, maple, pine and scattered hardwoods. Leave all oak. Specs: <u>Other</u> Retention should be in the form of an island in the eastern portion of the stand against the previous cut. Comments: Next Steps: 63082024-Cut 21.2 24 4130 - Aspen High Density Log 67 Harvest Clearcut with 4130 - Aspen Cmpt. Review Reserves Proposal Prescription Final harvest, leave 10 BA of scattered conifers and any oaks. Specs: Other\_ Comments: Next

63082033-Cut 28.0

42120 - Planted

Jack Pine

Prescription Final harvest jack pine and mature maple/aspen. 4" spec on residual maples. Leave oak.

Stand should convert to a mix of jack pine regen and maple/aspen.

High Density Pole 60

Steps:

33

Specs:
Other

Comments:

Next
Steps:

Harvest

Clearcut

Cmpt. Review

Proposal

42221 - Natural Jack

Pine, Mixed

Deciduous

Cadillac Mgt. Unit

# Table 3 -- Treatments Prescribed

Compartment: 082

S t		adındo ingi. Omi	wi	th No L	Year of Entry 2013	DNR MICHOLD NO.			
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
51	63082051-Cut	16.5	4191 - Mixed Upland Deciduous with Conifer	High Density Log	63	Harvest	Group Selection	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal
Presc Specs		aspen a	and maple. Thin pine	to 50 BA. Expand a	aspen wh	ere possiable.	Buffer along Addis Cree	<b>K</b> .	
Other Comn									
Next Steps	<u>:</u>								
65	63082065-Cut	30.1	4130 - Aspen	High Density Log	53	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
Presc Specs		vest lea	ve oaks. Cut all pine	and scattered hardv	vood.				
Other Comn									
<u>Next</u> Steps	<u>:</u>								
67	63082067-Cut	18.3	4311 - Pine, Aspen Mix	High Density Log	68	Harvest	Single Tree Selection	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
Presc Specs		ite pine	to cut for access to re	move aspen and ma	aple. Thi	in areas of pur	e pine to a residual of 90.		
Other Comn	-								
Next Steps	<u>:</u>								
2	63082002- Prep	27.9	4112 - Maple, Beech, Cherry Association	High Density Sapling	8	Site Prep	Chopping	42110 - Planted Red Pine	Cmpt. Review Proposal
Presc Specs Other	<u>:</u>	at is pos	sible and use TMS sp	ecs to prepare site	for planti	ng. Rollerchop	and herbicide.		

Other Comments:

<u>Next</u>

Steps:

**Total Treatment** 

316.0 Acreage Proposed:

Cadillac Mgt. Unit Table 4 -- Treatments Prescribed with Compartment: 082 a Limiting Factor s Year of Entry 2013 t **Treatment Cover Type** n **Treatment Acres** Stage1 Size Stand **Treatment Approval** Name CoverType Density Method Objective Status Age Type d #Error **Prescription** Specs: <u>Other</u> Comment: <u>Next</u> Steps:

Total Treatment Acreage Proposed:

<u>Limiting Factor and No</u> <u>Treatment Reason</u>

0

# 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
63102_OutOfY OE_1-Cut	7.2				Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Final Specs:	al harvest p	lant to red pine						
Other Comments:								
<u>Next</u> Wri <u>Steps:</u>	te FTP							

**Total Treatment** 

Acreage Proposed: 7.2

S t	Cadillac Mgt. Unit			5 – Fo	orested Sta	nds Compartment: 082 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4112 - Maple, Beech, Cherry Association	High Density Sapling	27.9	8		abandoned jack pine strips.
3	42110 - Planted Red Pine	High Density Log	27.5	56	171-200	adjacent strip is mostly red maple
5	4130 - Aspen	High Density Pole	92.2	27		transitioning into pole class.
6	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	3.0	58	51-80	small wet stand bordering lowland complex
8	6123 - Lowland Fir	High Density Pole	3.3	47	51-80	Small stand of balsam and white pine with a few scattered red maples.
12	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	11.8	21		wet areas surrounding water
13	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	6.7	64		wet with maple and swamp conifer
14	42120 - Planted Jack Pine	High Density Pole	53.4	61		
15	4191 - Mixed Upland Deciduous with Conifer	Medium Density	2.3	15		Fire break between Jack pine plantations
18	4130 - Aspen	High Density Log	158.0	62	81-110	
20	42220 - Natural Jack Pine	Medium Density	46.3	7		cut and undergoing natural regeneration
21	4130 - Aspen	High Density Sapling	122.7	7		young aspen stand. regenerating well.
22	4130 - Aspen	Medium Density Pole	35.0	15		stand of young aspen mixed with scattered pine and maple.
23	4130 - Aspen	High Density Sapling	49.5	16		
24	4130 - Aspen	High Density Log	21.2	67	81-110	
29	429 - Mixed Upland Conifers	High Density Pole	10.4	60	51-80	Small island in middle of large wetland complex
30	42290 - Natural Mixed Pine	High Density Log	2.6	73		stand is a buffer between plantation to south and lowland complex to the north
31	4130 - Aspen	High Density Sapling	90.4	7		Stand was cut last entry. Regenerating good.

5 - Forested Stands

s t	Cadillac Mgt. Unit			nds Compartment: 082 Year of Entry: 2013		
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
33	42120 - Planted Jack Pine	High Density Pole	28.0	60	81-110	
34	429 - Mixed Upland Conifers	High Density Log	2.4	65	51-80	Small stand of white pine between edge of lowland complex and young aspen cut.
36	42210 - Natural Red Pine	High Density Log	2.9	61	111-140	Natural red pine stand adjacent to wildlife opening
37	4130 - Aspen	High Density Sapling	14.9	6		cut previous entry
38	4130 - Aspen	High Density Log	4.1	64	81-110	small stand of aspen left as a buffer between adjacnet sales and addis creek.
40	4130 - Aspen	High Density Sapling	20.3	16		
42	6132 - Mixed Lowland Forest with Cedar	High Density Pole	57.3	102	51-80	transition between conifer component to the east and wet complex to the west/north.
45	4130 - Aspen	High Density Sapling	6.7	16		
46	4130 - Aspen	High Density Pole	60.9	51		Aspen stand with white pine scattered maple and oak. Borders lowland types to the east.
48	6112 - Lowland Aspen	High Density Pole	11.6	78		small stand appears to be aspen. to wet to access for inventory
50	42200 - Natural White Pine	High Density Log	48.9	72		stand was cut last entry pine was thinned, aspen and maple removed.
51	4191 - Mixed Upland Deciduous with Conifer	High Density Log	16.5	63	51-80	
52	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	93.5	106	51-80	
53	42200 - Natural White Pine	High Density Pole	6.8	23	51-80	stand is a mix of large open grown white pine and white pine poles.
55	4130 - Aspen	High Density Sapling	34.0	26	51-80	aspen mixed with scattered white pine.
56	4130 - Aspen	High Density Pole	1.7	24	1-50	stand is pole aspen with saplings.
57	4130 - Aspen	High Density Log	4.6	62	51-80	Small stand that is surrounded by young cuts. Keep as retention

s t	Cadillac Mgt. Unit			5 – Fo	prested Stands	Compartment: 082 Year of Entry: 2013		
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:		
58	6120 - Lowland Cedar	High Density Pole	104.8	98		heavier conifer component than stand to the west.		
59	4130 - Aspen	High Density Sapling	31.3	16				
60	4130 - Aspen	High Density Sapling	16.7	6				
62	42200 - Natural White Pine	High Density Pole	14.5	73	81-110	Natural pine stand with scattered aspen clones.		
64	42200 - Natural White Pine	High Density Log	6.1	79	81-110	mix of large brushy white pine and white pine poles.		
65	4130 - Aspen	High Density Log	30.1	53	81-110	aspen with white pine, red maple, oak and birch.		

6

68

94

96

111-140

51-80

81-110

28.4

18.3

8.5

8.6

4130 - Aspen

4311 - Pine, Aspen Mix

6129 - Mixed

Coniferous Lowland

Forest

6129 - Mixed

Coniferous Lowland

Forest

66

67

68

71

High Density

Sapling

High Density

Log

High Density

Pole

**High Density** 

Pole

stand was cut last entry. aspen and maple removed. scattered

pine oaks overstory.

stand is a mix of white pine and aspen. powerline runs along

west edge of stand. More red pine toward west of stand.

small stand of cedar, balsam, and spruce. Bordering private on

two sides.

### 6 - Nonforested Stands

Compartment: 082 Year of Entry: 2013



Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
622 - Lowland Shrub	3.8	N\A	Unspecified	
3102 - Grass	16.3	No	Unspecified	open grass stand with scattered cherry.
622 - Lowland Shrub	43.9	N\A	Unspecified	
622 - Lowland Shrub	28.6	N\A	Unspecified	
622 - Lowland Shrub	23.7	N\A	Unspecified	
50 - Water	12.8	N\A	Unspecified	
310 - Herbaceous Openland	1.1	N\A	Unspecified	
622 - Lowland Shrub	17.2	N\A	Unspecified	
6220 - Alder/willow	94.8	No	Unspecified	
622 - Lowland Shrub	3.0	N\A	Unspecified	
622 - Lowland Shrub	1.3	N\A	Unspecified	
310 - Herbaceous Openland	15.5	N\A	Unspecified	
623 - Emergent Wetland	8.2	N\A	Unspecified	
310 - Herbaceous Openland	3.4	N\A	Unspecified	
3102 - Grass	2.2	Yes	Medium (NonForested)	
310 - Herbaceous Openland	8.9	N\A	Unspecified	
623 - Emergent Wetland	52.3	N\A	Unspecified	
122 - Road/Parking Lot	5.0	N\A	Unspecified	
	622 - Lowland Shrub  3102 - Grass  622 - Lowland Shrub  622 - Lowland Shrub  50 - Water  310 - Herbaceous Openland  622 - Lowland Shrub  310 - Herbaceous Openland  623 - Emergent Wetland  3102 - Grass  310 - Herbaceous Openland  623 - Emergent Wetland	622 - Lowland Shrub       3.8         3102 - Grass       16.3         622 - Lowland Shrub       28.6         622 - Lowland Shrub       23.7         50 - Water       12.8         310 - Herbaceous Openland       1.1         622 - Lowland Shrub       17.2         6220 - Alder/willow       94.8         622 - Lowland Shrub       3.0         622 - Lowland Shrub       1.3         310 - Herbaceous Openland       15.5         623 - Emergent Wetland       8.2         310 - Herbaceous Openland       3.4         3102 - Grass       2.2         310 - Herbaceous Openland       8.9         623 - Emergent Wetland       52.3	Cover Type         Acres         Site           622 - Lowland Shrub         3.8         NVA           3102 - Grass         16.3         No           622 - Lowland Shrub         43.9         NVA           622 - Lowland Shrub         28.6         NVA           622 - Lowland Shrub         23.7         NVA           50 - Water         12.8         NVA           310 - Herbaceous Openland         1.1         NVA           622 - Lowland Shrub         17.2         NVA           6220 - Alder/willow         94.8         No           622 - Lowland Shrub         3.0         NVA           622 - Lowland Shrub         1.3         NVA           622 - Lowland Shrub         1.3         NVA           623 - Emergent Wetland         15.5         NVA           623 - Emergent Wetland         3.4         NVA           310 - Herbaceous Openland         8.9         NVA           623 - Emergent Wetland         52.3         NVA	Cover type         Acres         Site         (Objective)           622 - Lowland Shrub         3.8         NVA         Unspecified           3102 - Grass         16.3         No         Unspecified           622 - Lowland Shrub         43.9         NVA         Unspecified           622 - Lowland Shrub         28.6         NVA         Unspecified           50 - Water         12.8         NVA         Unspecified           310 - Herbaceous Openland         1.1         NVA         Unspecified           622 - Lowland Shrub         17.2         NVA         Unspecified           622 - Lowland Shrub         3.0         NVA         Unspecified           622 - Lowland Shrub         3.0         NVA         Unspecified           622 - Lowland Shrub         1.3         NVA         Unspecified           622 - Lowland Shrub         1.3         NVA         Unspecified           622 - Lowland Shrub         1.3         NVA         Unspecified           623 - Emergent Wetland         8.2         NVA         Unspecified           310 - Herbaceous Openland         3.4         NVA         Unspecified           310 - Herbaceous Openland         3.4         NVA         Unspecified

### 6 - Nonforested Stands

Compartment: 082 Year of Entry: 2013



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
44	622 - Lowland Shrub	15.1	N\A	Unspecified	
47	3301 - Low Density Deciduous Tree	7.4	No	Unspecified	
49	623 - Emergent Wetland	2.4	N\A	Unspecified	
54	3104 - Degraded	0.9	No	Unspecified	old landing from adjacent aspen sale.
61	3302 - Low Density Conifer Trees	8.2	No	Unspecified	scattered white pine poles.
63	623 - Emergent Wetland	11.2	N\A	Unspecified	
69	622 - Lowland Shrub	4.3	N\A	Unspecified	
70	622 - Lowland Shrub	18.8	N\A	Unspecified	

Cadillac Mgt. Unit

Compartment: 082 Year of Entry: 2013



### 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

Cadillac Mgt. Unit Compartment: 082

### Year of Entry 2013



#### **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.

Conservation Area	Туре	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area				
SCA	Cold Water Stream	stocked trout populations and those of other colo year to year. Coldwater streams in Michigan typi	ved oxygen conditions that allow naturally-reproduced or dwater fish species (e.g., slimy sculpin) to persist from ically provide these conditions due to substantial vs. Such streams are established by Director's action and er 210.				

