

CADILLAC FOREST MANAGEMENT UNIT



COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 131 ENTRY YEAR: 2007

Compartment Acreage (GIS Acres): 2,216 County: Wexford

Revision Date: 10/21/2005 7:54 AM

Stand Examiner: Jason Stephens, Forester

Legal Description: T24N R11W, Sections 10, 11, 14, 15, 22, 23, 27

RMU Mixed Use (MU).

Management Goals: The goal is to accomplish a variety of objectives including dispersed recreation, maintain openings and early successional habitat for game species, fishing access and opportunities, as well as enhance natural and scenic values in the Manistee river corridor through the designation of bio-diversity stewardship management area from the Manistee river, north to the bluff face.

Soil and Topography: Level to slightly rolling topography throughout the Compartment, with steep ravines along Anderson creek south of 4 rd, and a steep well defined bluff above the Manistee river.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Sections 10 and 11 are a patchwork of state forest and private land. The private lands have are a mixture of forested and non-forested land, with some fields and Christmas trees. Sections 14, 22, 23, and 27 are solid state ownership. Lands in Section 22 and 23 were acquired from Consumers power prior to the last inventory cycle. Fragmentation and development of the surrounding lands is a concern as there is increasing development pressure in this area.

Unique, Natural Features: This area appears to have some history of disturbance as pre-settlement fires likely came across the river from the natural jack and red pine forest to the south. Grassy openings have native warm season grasses and prairie flowers. Fire has continued to shape parts of this landscape as prescribed burns have been used to maintain some of the grassy openings; and in 1982 a large fire consumed parts of the pine plantation in Section 23 and created more openings and early successional habitat. There are also unique floodplain hardwoods along the meanders in the Manistee River.

Archeological, Historical, and Cultural Features: Prehistoric camps and earthwork are in the area. The Indian trail from the Cadillac area to Grand Traverse Bay is also in the vicinity. There is a monument for the trail on the river bank across from the old campground in stand 55 that needs maintenance to prevent it from falling into the river.

Special Management Designations or Considerations: It is proposed that all lands in this Compartment from the top of the river bluff face to the river itself, be designated as a bio-diversity stewardship area. This is proposed with the understanding that on lands within this area, natural processes will be the only disturbances which occur. Commercial and Non-commercial ("habitat") cutting will not occur. Prescribed fire could be used to mimic naturally occurring disturbance. The exception to this management strategy concerns the two large red pine plantations in sections 22 and 23 (stands 50 and 62). These stands would be

converted to a mix of northern hardwood, oak, and pine (more closely resembling native vegetation cover) over the next two entry cycles. Commercial timber sales would be used to facilitate this conversion. Stands that are proposed for this designation are identified on the compartment map.

Watershed and Fisheries Considerations: Anderson Creek flows south through this compartment, while the mainstream of the Manistee is the south boundary of the compartment. While the state natural river designation ends at the Missaukee/Wexford County line, Fisheries, Forest Management, and Wildlife Division entered into an agreement to adopt and utilize the Upper Manistee River state natural river zoning ordinance. Anderson Creek, a designated trout stream, has a long history of beaver activity, which has had an adverse impact on trout populations. On Anderson Creek the vegetative buffer would be 100 feet for slopes 0-10%, 115 feet for slopes 11-20%, 135 feet for slopes 21-32%, and 155 feet for slopes 33+%, unless one of the eight exceptions are met. The vegetative buffer on the mainstream is 175 feet, again unless the proposed treatment met one of the exceptions (page 41 of the Upper Manistee River Natural River Plan).

Wildlife Habitat Considerations: This compartment is one of 13 in this RMU which makes up most of the State ownership in Wexford County. The intent of the original agreement was to increase the aspen acreage and decrease the red pine/white pine acreage, while maintaining other existing cover types. Since the agreement was made, a large amount of ownership has been acquired that was originally Consumer Power land. Many aspen and oak stands have a lot of white pine in the understory. Many stands have already been converted to white pine or red pine management. Regeneration of the oak type is of concern. The Manistee River corridor and associated tributaries are valuable wildlife areas offering a good mixture of aspen, lowland hardwoods, upland hardwoods, mixed fruiting shrubs, and conifer cover providing valuable habitats for many wildlife species. These areas are heavily used by wintering deer. Restrictions on the management of early successional species and manipulation of the shrub component along these corridors will impact numerous wildlife species that used these areas in the past. (*L.Smith, 7/20/05*)

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of 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. The Coldwater does not have an economic use. A gravel pit is located in Section 3 and potential appears to be good. This area lies south of the prolific Silurian Niagaran reef trend. There does not appear to be any potential for Niagaran reefs in this area. This area is not currently leased for oil and gas exploration, but active leases are located to the east and west. (*Tom Hoane 2005*).

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: There are no new roads proposed on state land in this compartment at this time. Access into the lower flats above the river in section 22 will be maintained for the next two entry cycles, while active management continues in stand 50 (converting red pine to n.hwd/oak/pine over the next 15-20 years). I would recommend improving the trail bed (an old skid/cow trail) to minimize erosion. Once harvest activities are complete, permanently close this trail to alleviate future BMP/erosion concerns and to improve the road-less qualities of this bio-diversity stewardship area.

Survey Needs: The location of the SW1/16th corner in Section 11 needs to be established prior to determining if a trespass (maintained yard) has occurred (med/high priority). Remaining lands in sections 10

and 11 have not had all corners surveyed, but these are not needed for current proposed treatments (low priority).

Recreational Facilities and Opportunities: The North Country National Scenic Trail runs along the river bluff in section 22, before crossing a foot bridge on Anderson creek. From there it follows the rivers edge into Section 23, before climbing back up the river bluff into Section 14 and leaving the Compartment boundary. Proposed treatments would have a minimal effect on the integrity of the trail. Timber sale boundaries would be placed to avoid damage to the trail surface. Scenic vistas are numerous along the river bluff that traverses sections 22 and 23. There are also numerous opportunities for dispersed camping, canoeing, hunting, and fishing (Anderson creek and the Manistee River).

Fire Protection: The area has the potential for some large fire growth, due to the access, and potential response times. The private land increases the areas of urban interface within this compartment. Some of these private areas are Christmas tree plantations, which increase the potential for large fires, with urban interface issues. Access could be difficult in some areas due to the terrain.

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

PERE MARQUETTE STATE FOREST

CADILLAC MGT UNIT

WEXFORD COUNTY

COMPARTMENT: 131

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not Coded	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150-159	All Aged	Total
Aspen		142	52	57		298	91	109	43										792
Bog or Marsh	1																		1
Grass	170			41															211
Jack Pine		12			14		14												40
Marsh	2																		2
Mx Swmp Cnfr								19		20	14								53
Oak									92	57	30								179
Red Pine				90		134	190												414
Spruce Fir						8													8
Swamp Hrdwds								8										46	54
Upland Brush												3							3
Upland Hdwds							4	14	7	13								104	142
Water	80																		80
White Pine						74	126	10			27								237
Total	253	154	52	188	14	514	425	160	142	90	71	3						150	2216

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

PERE MARQUETTE STATE FOREST

CADILLAC MGT UNIT

WEXFORD COUNTY

COMPARTMENT: 131

Table 3A

(acres shown in boxes)

MANAGEMENT OBJECTIVE TYPE

COVER TYPE	A	S	V	C	G	H	J	I	L	P	N	Q	X	O	B	R	K	Y	F	E	T	D	U	M	Z	W	Total
A Aspen	792																										792
V Bog or Marsh			1																								1
G Grass					211																						211
J Jack Pine							26									7								7			40
N Marsh											2																2
Q Mx Swmp Cnfr												53															53
O Oak														179													179
R Red Pine																414											414
F Spruce Fir																			8								8
E Swamp Hrdwds																				54							54
U Upland Brush																								3			3
M Upland Hdwds																								142			142
Z Water																									80		80
W White Pine																										237	237
Total	792		1		211		26				2	53		179		421			8	54			3	149	80	237	2216

PERE MARQUETTE STATE FOREST

CADILLAC MGT UNIT

WEXFORD COUNTY

COMPARTMENT: **131**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	14479 Cds	Hardwood	5583 Cds
Hardwood	1454 Mbf	Hardwood	280 Mbf
Softwood	22494 Cds	Softwood	6096 Cds
Softwood	1100 Mbf	Softwood	137 Mbf
Sum TotVol	42081 Cds	Sum CutVol	12513 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	560
2216			

CADILLAC MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 131 **Entry Year: 2007**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
8	A9	11	54	70	aspen (upland)	mature	final harvest	1		
comnts Fmd : Final Harvest. Leave all hardwoods (scattered in pockets without any aspen). Well developed sugar maple understory in places.										
9	R9	18	49	65	red pine	immature	thinning	1		
comnts Fmd : Highly variable density and quality. Lots of high risk defect present. Thin heavily, removing all high risk defect (forks, crooks, etc.) and suppressed small dia. trees. Thin heavily in the proximity of scattered hardwood and adjacent to stand 8, with the hope of expanding aspen/mixed hardwood into the poorer quality areas of red pine. Target resid BA of approx. 100-110 depending on above factors. Not an ideal site for red pine (too high of Kotar) as this rich site has caused some growing defects (crooks, etc.). Long term look at converting (10-20yrs) to aspen/n.hwd.										
15	W6	19	40	65	white pine	immature	thinning	1		
comnts Fmd : 3rd row thin now. Rows are fairly wide (cutting 2 is unnecessary) and can be handled with a spec cut. Leave all hardwoods (cut around them).										
28	A6	8	60	65	aspen (upland)	mature	final harvest	1		
comnts Fmd : Final harvest, 2" spec. Protect shrubs (hawthorn).										
29	W6	13	50	75	white pine	immature	thinning	1		
comnts Fmd : Cut two rows, leave two. Somewhat curvy, but can be handled with a spec and admin. Nice boles.										
34	A6	25	51	65	aspen (upland)	mature	final harvest	1		
comnts Fmd : Final Harvest, 2" spec. Leave hardwood grove at the northwest corner. Two track road that access private from this corner has an easement. Do we need to protect the integrity of this road then???										
36	A6	36	51	65	aspen (upland)	mature	final harvest	1		
comnts Fmd : Final Harvest with a 2" spec. Consult with Fisheries on buffering Anderson creek tributary in northeast & southeast corners of stand. Southeast, may not year round flow (follow bmp's here); Northeast has year-round flow. Leave oak in southeast corner of stand (near survey corner).										
38	A6	23	46	70	aspen (upland)	mature	final harvest	1		
comnts Fmd : Final Harvest, 2" spec. Leave oak. This and stand 40 are mature patches within a larger immature aspen complex.										
40	A6	11	46	70	aspen (upland)	mature	final harvest	1		
comnts Fmd : Final Harvest, 2" spec. Leave oak. This and stand 38 are mature patches within a larger immature aspen complex.										
42	R6	9	49	60	red pine	immature	thinning	1		
comnts Fmd : Thinning from below and removal of at-risk/defect; target 120 sq.ft. of residual BA.										
45	W6	45	55	65	white pine	two aged	thinning	1		
comnts Fmd : Two-aged white pine stand. Spec cut aspen, cut tree mark white pine and red maple for access and to remove defect in pine. Target removing 1/3rd of basal area, leaving approx 80 sq.ft.										
47	R6	12	49	60	red pine	immature	thinning	1		
comnts Fmd : Thinning from below and removal of at-risk/defect; target 120 sq.ft. of residual BA.										
50	R6	68	48	75	red pine	immature	thinning	1		
comnts Fmd : THIN (heavily) FROM BELOW AND TAKE OUT ALL DEFECT. LEAVE ONLY HIGHEST QUALITY RESIDUAL (product wise). TARGET RESIDUAL BA OF 100 SQ.FT. LEAVE ALL HARDWOOD (seed source). PLANTATION CONTINUES INTO COMPARTMENT 130 (to the west), CONTINUE TREATMENT ACROSS COMPARTMENT BOUNDARY. Long term management of this plantation should be geared towards native vegetation (Northern Hardwoods with some residual pine). Accomplish this with a shelterwood cut in 10 years to encourage conversion to n.hwd. When this conversion is complete, add this stand to bio-diversity/old growth area between bluff face and river. There is an MSU research transect within this stand (hwd seed dispersal), contact Mike Walters for information.										
62	R6	65	50	54	red pine	immature	thinning	1		
comnts Fmd : Thin from below and remove defect. Leave all deciduous species in stand for conversion over the next two entry cycles. Target 120sq.ft. of residual BA. Long term management objective should be to convert to native vegetation (for all stands on and below the river bluff face), mix of northern hardwoods, oak, and pine. (see comments for stand 50).										

CADILLAC MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 131 Entry Year: 2007

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
75	A6	101	60	70	aspen (upland)	two aged	final harvest	1		
comnts Fmd : Final Harvest- 2" spec. Some areas of barely merchantable aspen will be included for harvest. Avoid areas of hardwood and immature aspen (stands 76 & 77) when running lines. These stands were high-graded in the past, leaving multi-aged clones with scattered mature and immature patches. Approximately 80% of the total acreage for stands 75, 76, and 77 should be final harvested (as represented by this stand). Stands 76 & 77 represent areas of immature (submerchantable) aspen.										
88	W6	29	45	60	white pine	immature	thinning	1		
comnts Fmd : Remove approximately 1/3 rd of white pine (by spec, curvy rows to handle at admin). Cut all aspen and remove additional white pine necessary to access the aspen. Possibly delineate areas where it will only be an aspen removal (lower white pine stocking) when doing sale prep. Leave mixed hardwood for canopy diversity.										
96	M6	7	73	60	northern hardwood	immature	selection	3		
comnts Fmd : Check line for possible timber trespass (recent). Stand has nice potential (rich site), though small. Sparse understory (no regen). Maybe do a small (low-priority) sale.										
98	J6	7	53	50	northern hardwood	high risk	final harvest	1		
comnts Fmd : Jack pine is off site and falling apart. Cut all aspen and leave the scattered hardwoods. Convert to an aspen/northern hardwood management objective.										
99	J6	7	53	50	red pine	high risk	final harvest	1	planting	
comnts Fmd : Jack pine is off site and falling apart. This stand differs from 99 (adjacent to the west) in that it has no advanced hardwood regen. Cut the aspen that borders expand it into the stand. Supplement aspen and (expected) jack pine volunteers with planted red pine.										
100	M9	20		60	northern hardwood	unevenaged	selection	2		
comnts Fmd : NCT bisects the stand. Use sale conditions to maintain integrity of the trail.										
105	M6	6	85	60	northern hardwood	immature	selection	3		
comnts Fmd : Consider a TSI/firewood sale- low priority.										
106	M6	7	85	60	northern hardwood	immature	selection	3		
comnts Fmd : Consider a TSI/firewood sale- low priority.										
110	A6	13	57	58	aspen (upland)	nonstocked	final harvest	1		
comnts Fmd : Avoid pure hardwood and young aspen clones.										
419	G0	32			grass	nonstocked		0	opening maintenance	
comnts Fmd : Some warm season grasses and prairie flowers. Was burned 10 years ago (low intensity) and little setback of encroaching aspen occurred. Burn again this time with the intention of setting back woody material that is encroaching.										
420	G0	23			grass	nonstocked		0	opening maintenance	
comnts Fmd : Some warm season grasses and prairie flowers. Was burned 10 years ago (low intensity) and little setback of encroaching aspen occurred. Burn again this time with the intention of setting back woody material that is encroaching.										
421	G0	11			grass	nonstocked		0	opening maintenance	
comnts Fmd : Some warm season grasses and prairie flowers. Was burned 10 years ago (low intensity) and little setback of encroaching aspen occurred. Burn again this time with the intention of setting back woody material that is encroaching.										
Total Acres.....		626								

**Proposed Treatments
With Limiting Factors**

Compartment: 131 **Entry Year: 2007**

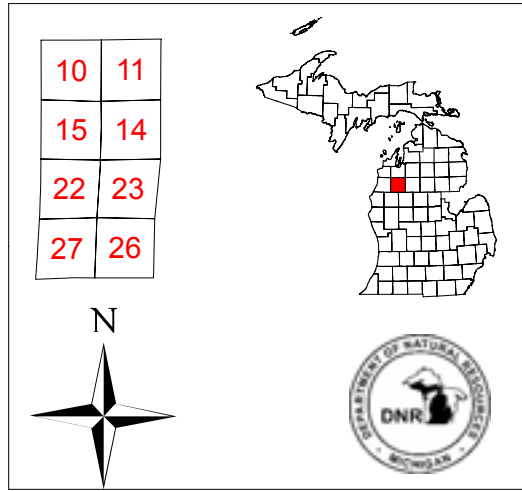
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

Total Acres..... 0

Field Map

Compartment 131
 T24N, R11W, Sec. 10, 11, 14, 15, 22, 23, 26, 27
 County: Wexford
 Unit: Cadillac
 YOE: 2007
 Acres: 2,216 GIS Calculated
 Stand Examiner: Jason Stephens
 Map Revised: 10/11/2005
 Map Phase: Pre-review



- Legend**
- ◆ RLS Corners
 - Miris Corners
 - - Poor Dirt Roads
 - Trails
 - Powerlines
 - Water Features
 - Stand Boundary
 - ▨ Biodiversity/Old Growth Area
 - ▧ 027 - Opening Maintenance/Prescribed Burning
 - ▩ 100 - Final Harvest
 - 116 - Final Harvest/Planting
 - 400 - Thinning
 - ▬ 800 - Selection
 - Name Public Dirt Roads
 - Name Water Features

