

Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 128 Entry Year 2016 Acreage: 2,127

County Wexford

Management Area: Manistee River Valley

Revision Date: 03/20/2014

Stand Examiner: Joe Ventimiglia

Legal Description:

T24N R10W, Sec. 6; T24N R11W, Sec. 1-4

Identified Planning Goals:

Vegetation management in the Manistee River Valley Management Area (MA) will provide timber products; maintain or enhance wildlife habitat; protect areas of unique character including the Manistee River and its tributaries, a designated natural river; threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management for this 10-year planning period includes continuing aspen management to maintain early successional habitat for hunting and other wildlife-related recreational opportunities; increasing regeneration of oak; focusing on balancing the red pine age class structure through final harvests and re-planting; and on improving red pine quality through partial harvests. Expected trends within this 10-year planning period are increased recreational pressure, especially on the established trails and along the Manistee River and its tributaries; an increased wildland/urban interface and a need to restore barrens communities through prescribed fire; and invasive plant control.

Soil and topography:

The western half of the Compartment is mostly flat, while the eastern half consists of a series of rolling hills, somewhat steep in places, and valleys. Soil series' found in this area includes Kalkaska, Rubicon, Hodenpyl-Karlin, Emmet, Loxley, Croswell & Tawas.

Ownership Patterns, Development, and Land Use in and Around the Compartment:

The lands surrounding the Compartment are a mix of state and private ownership. Private lands are a mix of abandoned agriculture fields and forests. Lands identified in the PMSF Plan as desirable for acquisition include 70 acres in the W1/2SW of Sec. 6; 80 acres in the W1/2SW of Sec. 1; 40 acres in the SESE of Sec. 2. Fragmentation and development of the surrounding lands is a concern as there is increasing development pressure in this area.

Unique Natural Features:

Anderson Creek flows south through this Compartment. This section has seen extensive beaver activity in the past. Potential for red-shouldered hawk, goshawk and eastern box turtle. Potential for wood turtle, great blue heron rookery, massasauga and Blanding's turtle. Potential for pine tree cricket in white pine stands.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Anderson Creek falls within the boundary of the compartment and should be protected from disturbance as would be expected with any similar water feature. Best Management Practices will be followed.

Watershed and Fisheries Considerations:

Anderson Creek, a Designated Trout Stream, flows through Compartment 128. Anderson Creek has resident populations of brown, brook, and rainbow trout. No timber treatments are proposed near Anderson Creek for this review.

Wildlife Habitat Considerations:

This compartment contains one rye wildlife opening. This opening should be buffered from treatments in adjacent stands, and any adjacent treatments should prevent expansion of autumn olive if present. Greater emphasis should be placed on promoting larger stands of older age and mixed age classes to provide diversity in vertical and horizontal structure in this compartment. Particularly given the potential for northern goshawk. Generally, wildlife cover type goals are no net loss in aspen or oak acres, to protect mast bearing shrubs, to create brush piles adjacent to wetlands, to preferably leave retention in the form of islands or corridors, and to provide coarse woody debris. Featured species of special interest are deer, ruffed grouse, woodcock, golden-winged warbler, snowshoe hare and pileated woodpecker. (E. Victory 7/18/14)

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and an end moraine of coarse-textured till. The glacial drift thickness varies between 400 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 is 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 it has been nominated for the June 2004

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.

Survey Needs:

Existing surveys are sufficient to meet current land management needs.

Recreational Facilities and Opportunities:

There are no developed recreational facilities within this compartment. There are numerous opportunities for dispersed camping, hunting, and coldwater fishing in Anderson Creek. (T.M.N. 3/14)

Fire Protection:

This compartment has varying areas of fire potential. The areas of red pine provide some potential for larger fire growth. There is some urban interface areas on the south side of the compartment.

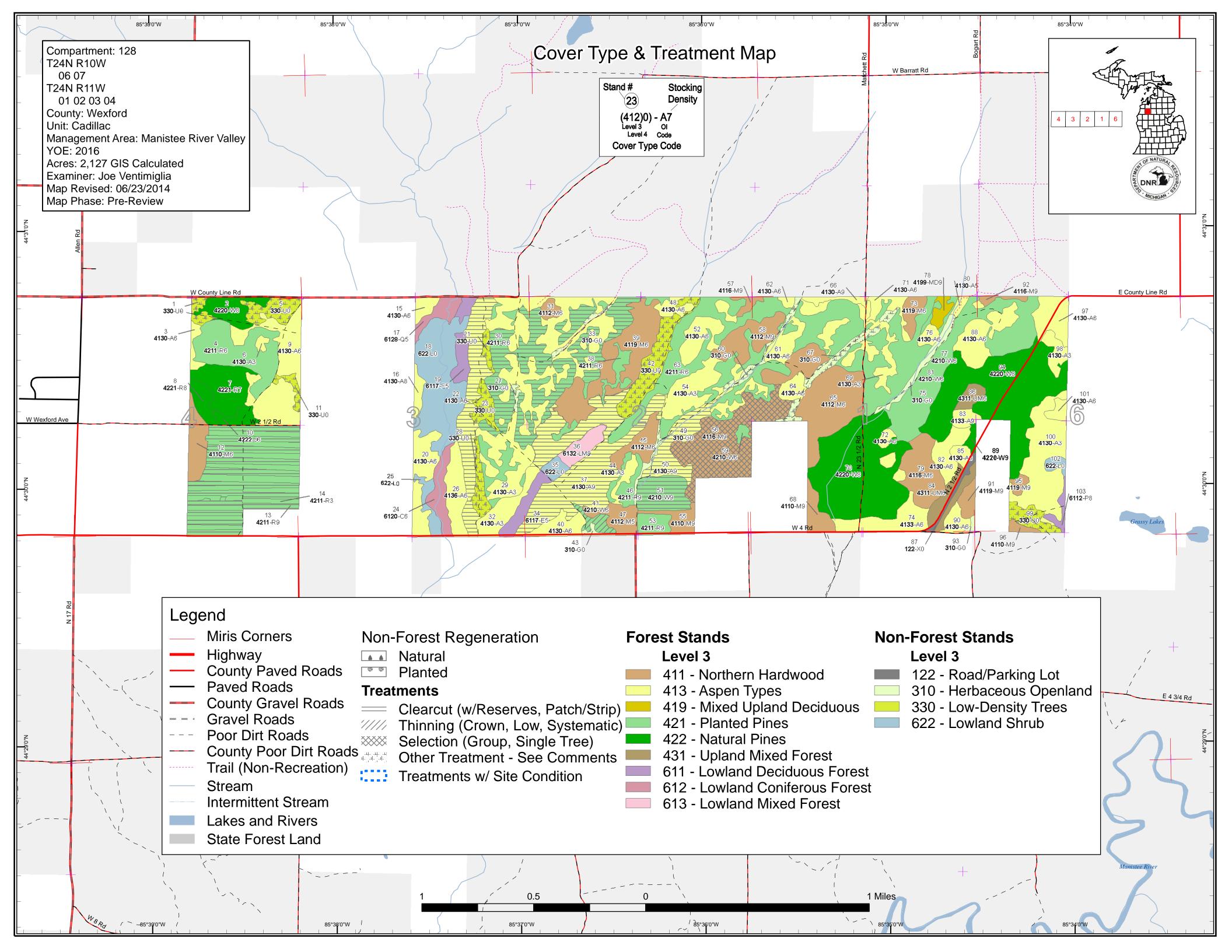
Additional Compartment Information:

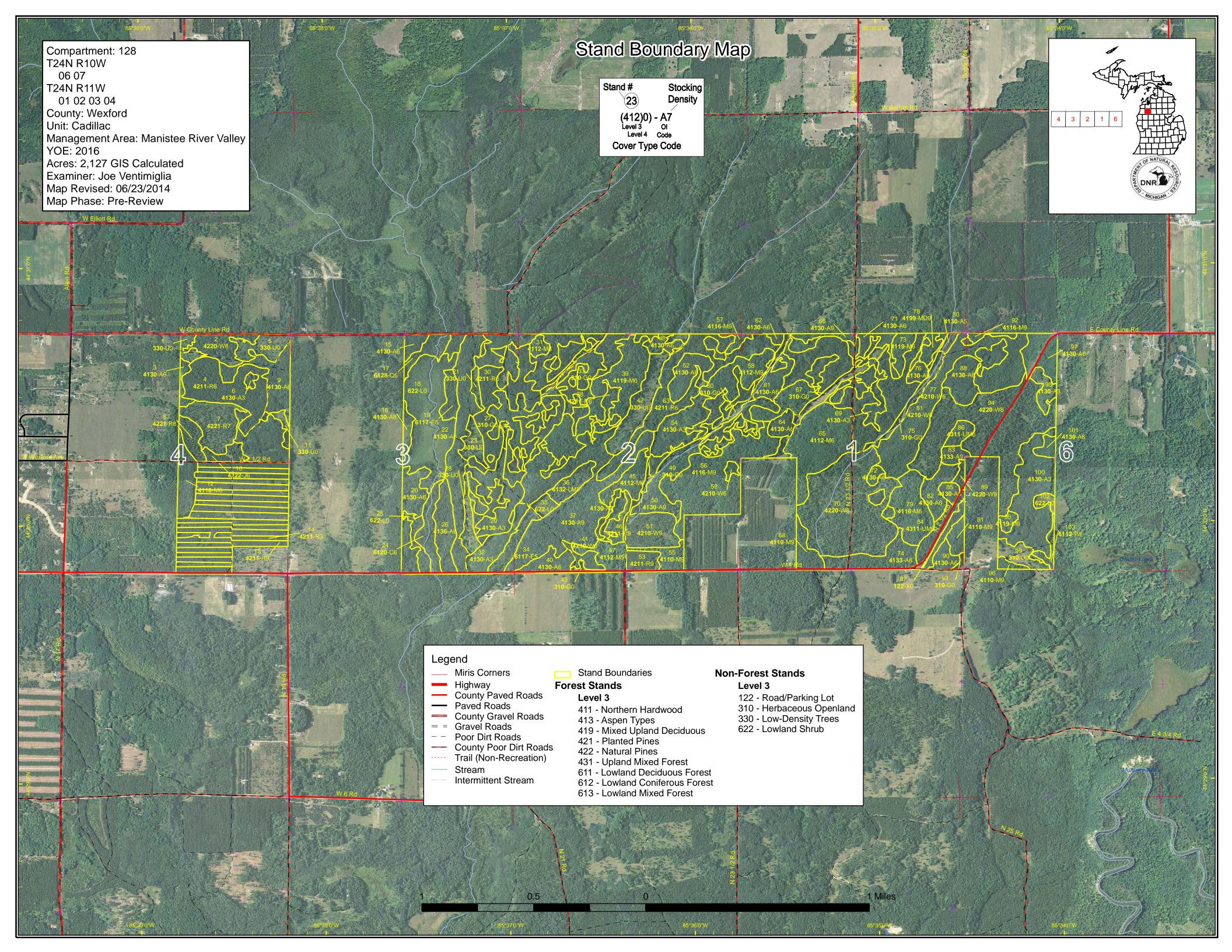
The following reports from the Inventory are attached:

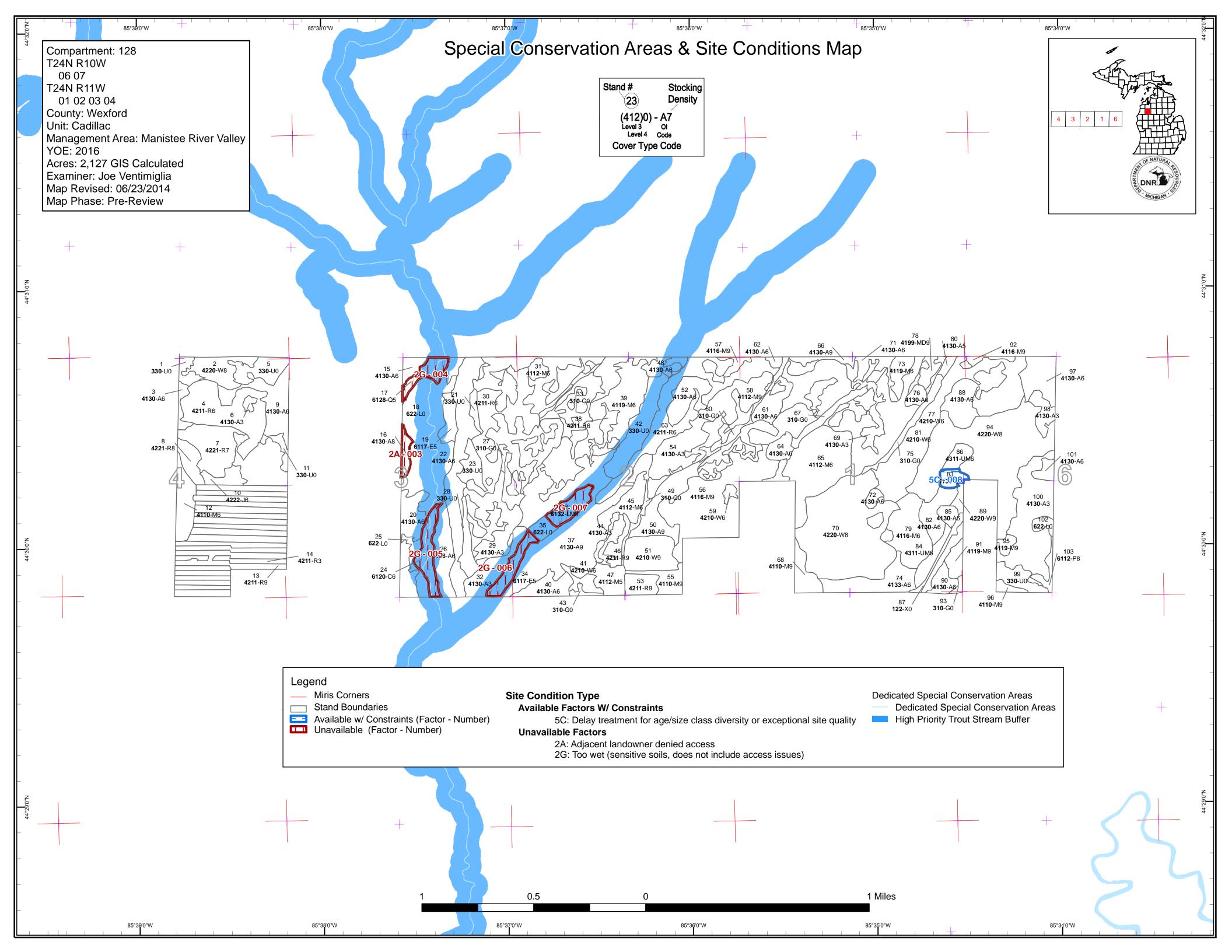
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

The following information is displayed, where pertinent, on the attached compartment maps:

Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system







Compartment 128 Year of Entry 2016

Cadillac Mgt. Unit
Joe VENTIMIGLIA: Examiner



						Age	Class									
		8,0	0,70	Pr. S.	S. S	AD AS	\$5.	8,0	10°	\$ 6 P	85.0	on on one	0,7,0°/	,	A A	, 8°0'
Aspen	24	221	98	152	41	155	0	0	0	0	0	0	0	0	691	
Cedar	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	
Herbaceous Openland	39	0	0	0	0	0	0	0	0	0	0	0	0	0	39	
Jack Pine	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7	
Low-Density Trees	81	0	0	0	0	0	0	0	0	0	0	0	0	0	81	
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	
Lowland Conifers	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	
Lowland Deciduous	0	0	12	0	0	0	11	0	0	0	0	0	0	0	23	
Lowland Mixed Forest	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11	
Lowland Shrub	78	0	0	0	0	0	0	0	0	0	0	0	0	0	78	
Mixed Upland Deciduous	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	
Northern Hardwood	0	0	0	0	0	36	146	58	65	9	0	10	0	0	325	
Red Pine	0	55	0	0	0	331	72	35	0	0	0	0	0	0	493	
Upland Mixed Forest	0	0	0	6	0	13	0	0	0	0	0	0	0	0	19	
Urban	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
White Pine	0	0	0	0	0	97	106	16	0	0	0	0	0	103	322	
Total	227	275	110	165	41	632	355	109	65	33	0	10	0	103	2127	l
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Report 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit

Compartment 128 Year of Entry 2016 **Total Compartment Acres: 2,127**

Acres by Treatment Type

Commercial Harvest - 417 Tree Planting - 182 Other - 0

Habitat Cut - 0 Opening Maintenance - 104

	Cover Type by Harvest Method								
			Min of	0,000	N. S. S.	New Oo	Criticino Osci	S. L. S.	Se Property of the Property of
Aspen Types		164	0	0	0	0	0	164	
Northern Hardwood		0	65	0	0	0	0	65	
Planted Pines	<u>'</u>	182	0	0	0	6	0	187	
	Total	346	65	0	0	6	0	417	

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Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 128 Year of Entry 2016

n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13	63128013-Cut	71.8	42110 - Planted Red Pine	High Density Log	61 I	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Final Harvest. (Chipping tops required to make site as clean as possible) No retention to facilitate planting. Site will be trenched and replanted to

Specs: red pine.

Stand is being final harvested a little early as a result of adjacent strips already being planted to red. Attempting to get away from strip <u>Other</u> Comments:

plantations and having more of a even aged stand down the road. If we wait another YOE the age gap will only grow.

Trench and replant to red pine. If needed use TMS site prep whether that be roller chopping or herbicide. Should not be needed on this site. Next

(TMS should make that call once site is cut) Steps:

Proposed

t

10/01/2015 Start Date:

22 63128022-Cut 45.1 4130 - Aspen High 53 Harvest Clearcut with 4139 - Aspen. Cmpt. Review Density Reserves Mixed Deciduous Proposal Pole

Prescription Final harvest. Leave all white pine and green mark a handful of mature aspen as future snags while cruising. (This will be retention) Specs:

<u>Other</u> Manage for aspen dominated mix. (This stand will likely come back to mostly aspen) Apply grouse spec of either brush piles or drumming logs)

Refer to Wildlife on Grouse Spec Comments:

Next Steps:

Proposed

10/01/2015 Start Date:

42110 - Planted 4211 - Planted Red 30 63128030-88 1 High 54 111-140 Clearcut Harvest Cmpt. Review Red Pine Cut_exp-0 Density Pine Proposal Pole

<u>Prescription</u> Final Harvest the portion of that stand as the treatment layer shows. No retention within these boundaries as this will be replanted to red pine. (Chipping required) The isolated fingers of pine left out of sale were determined to be too small to justify replanting and will be left to maintain

Specs: some structure in this area. (Not retenion)

Other Stand was looked at by Forester and TMS and determined to be ready to final harvest now if we wanted to keep pine on this site down the road.

If we continue to thin, hardwood understory will become too thick to fight and red pine will be lost at this site. Comments:

Trench and plant to red pine. Follow TMS site prep as needed. May need to roller chop and herbicide this site to knock back hardwood regen. <u>Next</u>

Steps: TMS will need to make this call following sale.

Proposed

Start Date: 10/01/2015

37 63128037-Cut 95.3 4130 - Aspen Hiah 56 Harvest Clearcut with 4139 - Aspen. Cmpt. Review **Density Log** Reserves Mixed Deciduous Proposal

Prescription Final harvest leave green island 3 percent of acreage at foresters discreation and mark to cut planted white pine scattered in southwest corner .

Specs: Mark enough for access and leave the rest of the scattered pine as retention.

Manage for aspen dominated mix. Apply grouse spec of either brush piles or drumming logs) Refer to wildlife for grouse spec preference. <u>Other</u>

Comments:

Next Steps:

Proposed

10/01/2015 Start Date:

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Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 128
Year of Entry 2016

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a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41	63128041-Cut	5.7	42100 - Planted White Pine	High Density Pole	60	111-140	Harvest	Systematic Thinning	4210 - Planted White Pine	Cmpt. Review Proposal

<u>Prescription</u> Take two leave two in plantation rows with all aspen cut where present. (Spec Cut)

Specs:

Other Approching logs in east end. Lump in with adjacent aspen to ensure stand is cut. Too small on its own.

Comments:

Next Steps:

Proposed

Start Date: 10/01/2015

50 63128050-Cut 23.7 4130 - Aspen High 48 Harvest Clearcut with 4139 - Aspen, Cmpt. Review Density Log Reserves Mixed Deciduous Proposal

<u>Prescription</u> Final Harvest. Leave individual green ringed maple as a little stuctural diversity and a few aspen as future snags. (This will be the retention) Two

Specs: inch spec to help aspen regen .

Other Easy access, although not flat terrrain. Manage for aspen dominated mix. Ensure BMP's are followed on hillside. Grouse Spec, of either brush

Comments: piles or drumming logs. Refer to wildlife on Grouse Spec.

Next Steps:

Proposed

Start Date: 10/01/2015

51 63128051-Cut 21.9 42100 - Planted High 54 81-110 Harvest Clearcut 4211 - Planted Red Cmpt. Review White Pine Density Log Pine Proposal

Prescription Final Harvest. No retention to faciliate planting. Chipping required.

Specs:

Other Replant to red pine. Use TMS specs to plant.

Comments:

Next Plant red pine.

Steps:

<u>Proposed</u>

Start Date: 10/01/2015

56 63128056-Cut 65.2 4116 - Mixed N. High 85 81-110 Harvest Single Tree 4116 - Mixed N. Cmpt. Review Hardwood - Aspen Density Log Selection Hardwood - Aspen Proposal

<u>Prescription</u> Spec cut aspen and thin out the cull and high risk hardwood. Thin small slivers of red pine in stand as well. Refer to hardwood Marker guidlines

Specs: for tree selection.

Other Manage for aspen hardwood mix. If not managed soon much of the aspen component will fall out. This cut will create a good amount of of mixed

Comments: aspen, hardwood regeneration. Canopy gaps will be created where aspen clones are present.

Next Steps:

Proposed

Start Date: 10/01/2015

 1
 NF_63128001-NonFor
 5.0
 330 - Low-Density
 Non-Forest Management
 Other - Specify Upland Herbaceous
 3105 - Mixed Proposal
 Cmpt. Review Upland Herbaceous

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody Specs: plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

<u>Other</u>

Comments:

Next Steps:

Proposed

Start Date: Unspecified

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Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 128
Year of Entry 2016

DNR DICHIGAN

Status

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Treatment Size Stand ВА Treatment Treatment Acres CoverType **Cover Type** Name Density Age Range Type Method Objective

5 NF_63128005- 13.6 330 - Low-Density Non-Forest Other - Specify 3105 - Mixed Cmpt. Review Management Upland Herbaceous Proposal

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody Specs: plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

Other

Comments:

Next Steps:

Proposed

Start Date: Unspecified

11NF_63128011-
NonFor4.0330 - Low-Density
TreesNon-Forest
ManagementOther - Specify
Upland Herbaceous3105 - Mixed
Upland HerbaceousCmpt. Review
Proposal

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody Specs: plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

<u>Other</u>

Comments:

Next Steps:

Proposed

Start Date: Unspecified

21NF_63128021-
NonFor3.53.0 - Low-DensityNon-ForestOther - Specify3105 - MixedCmpt. ReviewNonForTreesManagementUpland HerbaceousProposal

<u>Prescription</u> General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody <u>Specs:</u> plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

Other

Comments:

<u>Next</u>

Steps:

Proposed

Start Date: Unspecified

23 NF_63128023- 9.0 330 - Low-Density Non-Forest Other - Specify 3105 - Mixed Cmpt. Review Management Upland Herbaceous Proposal

<u>Prescription</u> General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody <u>Specs:</u> plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

<u>Other</u>

Comments:

Next Steps:

Proposed

Start Date: Unspecified

27NF_63128027-
NonFor1.7310 - Herbaceous
OpenlandNon-Forest
ManagementOther - Specify
Upland Herbaceous3105 - Mixed
Upland HerbaceousCmpt. Review
Proposal

<u>Prescription</u> General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody <u>Specs:</u> plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

<u>Other</u>

Comments:

Next Steps:

Proposed

Start Date: Unspecified

3110			
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Trees

Report 3 -- Treatments Prescribed with No Limiting Factor

Management

Compartment: 128 Year of Entry 2016

Upland Herbaceous

Approval

Status

Proposal

а Treatment Size Stand ВА Treatment Treatment Acres CoverType **Cover Type** n d Name Density Age Range Type Method Objective Cmpt. Review 28 NF 63128028-8.8 330 - Low-Density Non-Forest Other - Specify 3105 - Mixed

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

Other

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Comments:

Next Steps:

Proposed

Start Date: Unspecified

NonFor

33 NF 63128033-2.7 310 - Herbaceous Non-Forest Other - Specify 3105 - Mixed Cmpt. Review NonFor Openland Management Upland Herbaceous Proposal

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody Specs: plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

Other

Comments:

Next Steps:

Proposed

Unspecified Start Date:

330 - Low-Density Non-Forest NF 63128042-27 4 3105 - Mixed Cmpt. Review 42 Other - Specify NonFor1 Trees Management Upland Herbaceous Proposal

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants. Specs:

<u>Other</u>

Comments:

Next Steps:

Proposed

Unspecified Start Date:

NF_63128060-3105 - Mixed 60 6.2 310 - Herbaceous Non-Forest Other - Specify Cmpt. Review NonFor Openland Management Upland Herbaceous Proposal

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants. Specs:

<u>Other</u>

Comments:

Next Steps:

Proposed

Start Date: Unspecified

67 NF 63128067-12.5 310 - Herbaceous Non-Forest Other - Specify 3105 - Mixed Cmpt. Review NonFor Openland Management **Upland Herbaceous** Proposal

Prescription General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants. Specs:

<u>Other</u>

Comments:

<u>Next</u> Steps:

Proposed

Start Date: Unspecified

3110			
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Trees

Report 3 -- Treatments Prescribed with No Limiting Factor

Management

Compartment: 128
Year of Entry 2016

Upland Herbaceous

Proposal

n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
99	NF_63128099-	10.0	330 - Low-Density				Non-Forest	Other - Specify	3105 - Mixed	Cmpt. Review

<u>Prescription</u> General habitat manipulation for non-forested, herbaceous type. Treatments may include manual or mechanical removal/manipulation of woody <u>Specs:</u> plants, prescribed fire, use of herbicides, tillage, and planting herbaceous and or mast producing plants.

<u>Other</u>

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Comments:

Next Steps:

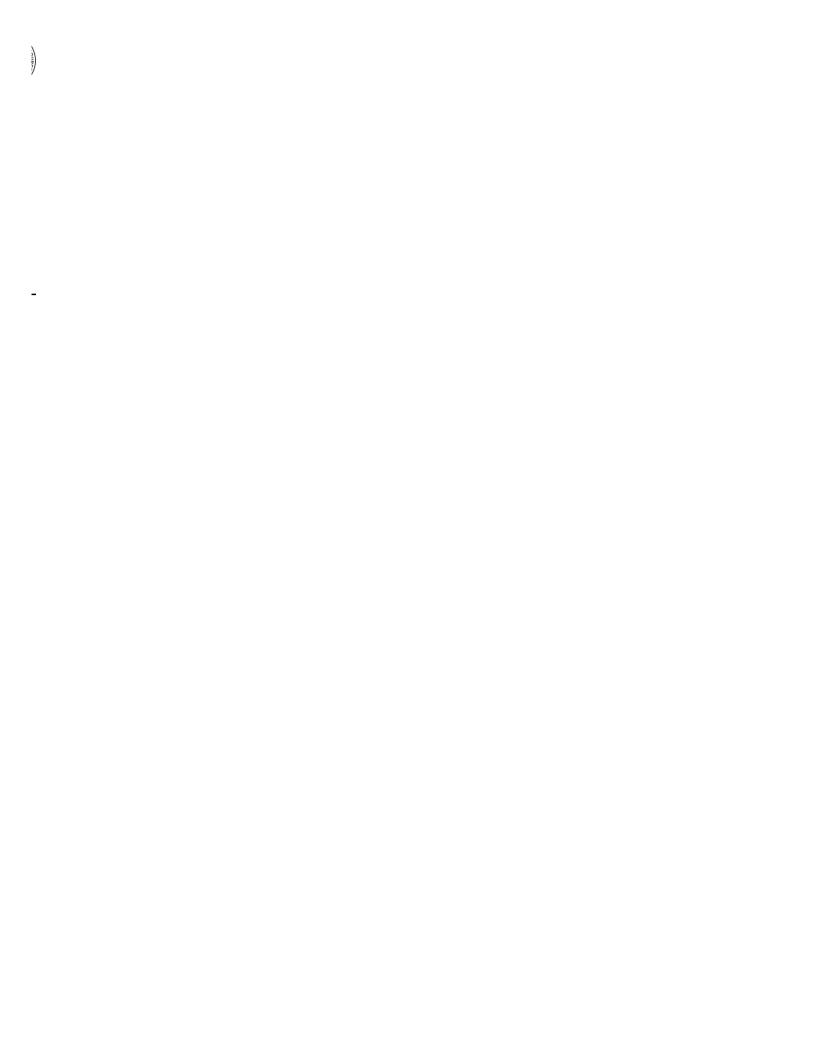
Proposed

Start Date: Unspecified

Total Treatment

NonFor

Acreage Proposed: 521.0



Cadillac Mgt. Unit Report 4 -- Treatments Prescribed with Compartment: 128 S t a Site Condition Year of Entry 2016 а Cover Type Objective Treatment Acres CoverType Size Stand ВА Treatment Treatment **Approval** n d Name Density Age Range Type Method Status #Type! #Type! Prescription Specs: <u>Other</u> Comment: <u>Next</u> Steps: Proposed Start Date: #Type!

Total Treatment

Limiting Factor

Acreage Proposed: 0.0



Joe Ventimiglia: Examiner

Compartment 128
Year of Entry 2016

Availability for Management Total Acres Acres Dominant Site Conditions Acres Available Not Available No 5C 2G 2A

Acres	Available	Not Available		No	5C	2G	2A
690	685	5	Aspen	680	5	0	4
14		14	Cedar			14	
7	7		Jack Pine	7			
4	4		Lowland Aspen/Balsam Poplar	4			
9	0	9	Lowland Conifers	0		9	
23	13	10	Lowland Deciduous	13		10	
10		10	Lowland Mixed Forest			10	
5	5		Mixed Upland Deciduous	5			
325	325		Northern Hardwood	325			
493	493		Red Pine	493			
19	19		Upland Mixed Forest	19			
322	322		White Pine	322			
1,921	1,873	47	Total Forested Acres	1,868	5	43	4
	98%	2%	Relative Percent				-

*Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.

Site Dominant Site No. Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003 Not Available	2A: Adjacent landowner denied access	Needed (Dept. bridge		2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)		

Comments:

Too small and low of volume for access work needed. Allow stand to mature and convert naturally . If stand was larger could work to get access from private. But is only about 4 acres if timber. Opening in stand as well.

004	Not Available	2G: Too wet (sensitive	9	3J: Water quality / BMPs
		soils, does not include		(stream, river, or lake)
		access issues)		

Comments:

Small low volume and too wet for management. Also anderson creek influence.



Report 5 - Site Conditions

Compartment 128
Year of Entry 2016

Cadillac Mgt. Unit

Joe Ventimiglia: Examiner

Comments:

Not Available 2G: Too wet (sensitive 3J: Water quality / BMPs 005 14 (stream, river, or lake) soils, does not include access issues) Comments: Too wet and close to Anderson creek. No Limiting Factor 006 **Not Available** 2G: Too wet (sensitive 10 soils, does not include access issues) Comments: Not suitable for management. Small wet lowland surrounded by upland. Low volume and not worth rutting for low volume. 2G: Too wet (sensitive 007 Not Available 11 soils, does not include access issues) Comments: Not suitable for management. Small wet lowland surrounded by upland. Low volume and not worth rutting for low volume. 5C: Delay treatment for 800 **Available** 5 age/size class diversity or exceptional site quality

Too small on its own. Could do on it own if it was easy to get too, but too small on its own. Cut when adjacent timber is ready.

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Cadillac Mgt. Unit Compartment: 128

Year of Entry: 2016



Report 6 – 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.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				



Cadillac Mgt. Unit Compartment: 128
Year of Entry 2016



Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

Conservation Area	n Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions stocked trout populations and those of other coldwater fish spective year to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such streams designated as trout resources by Fisheries Order 210.	ies (e.g., slimy sculpin) to persist from ese conditions due to substantial
influences the aquatic ecosystem and vice-ver streams and open water wetlands, riparian are communities are ecologically and socially sigr		A transitional area between aquatic and terrestrial ecosystems influences the aquatic ecosystem and vice-versa. Because of the streams and open water wetlands, riparian areas harbor a high communities are ecologically and socially significant in their effects as aesthetics, habitat, bank stability, timber production, and their	e unique conditions adjacent to lakes, diversity of plants and wildlife. Riparian ects on water quality and quantity, as well



s t	Cadilla	c Mgt. Unit		Report 8	- Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42200 - Natural White Pine	Medium Density Log	16.1	72	51-80	Open grown natural white pine. Very limy and thick stand. Some hardwood scattered in as well. No evidence of being planted pine. Variable diameters and density.
3	4130 - Aspen	High Density Pole	3.9	39		Small stand of low quality hardwood with aspen mixed in. Hardwood concentrated in the top of the hill. Slight rolling hills. Private to the west.
4	42110 - Planted Red Pine	High Density Pole	42.5	54	81-110	Pine was row thinned in 1998, with all hardwood cut as well. Stand was thinned again in 2010, orange marked. Mostly red pine although a few white pine as well as some scattered maple and cherry. Stand approching log size overall, but not quite yet. Limited understory, although some aspen regen in pockets where stand was opened up more.
6	4130 - Aspen	High Density Sapling	1.9	16		Stand was final harvested along with pine thinning in 1998. A few pine and sugar maple were left back in 1999. Aspen regenerated well for the most part.
7	42210 - Natural Red Pine	Low Density Log	26.0	74	1-50	Red Pine seed tree cut. Cut in 2009. Limited regen from cut so far. Scattered aspen and red maple,with a few red pine widely scattered in understory. Natural red pine regen unlikely success.
8	42210 - Natural Red Pine	Medium Density Log	9.1	74	1-50	Stand was thinned in 1999, with all aspen and jack pine cut as well. Stand was thinned again in 2009. Left with a shelterwood red pine, with hardwood and a few red pine-jack pine in understory. Decent pine regen in pockets.
9	4130 - Aspen	High Density Pole	48.1	37		Variable aspen stand with variable diameters and density in pockets. Mostly pole but some log size clones scattered in. Stand was not cut cleanly last time, which resulted in a two aged stand of sorts. Hardwood component concentrated in northeast. Majority of stand was final harvested in 1977, with older clones scattered widely.
10	42220 - Natural Jack Pine	High Density Pole	6.8	37		Jack pine stand with variable size class red pine throughout. Log red pine with some natural regen in sapling and pole size. Appear a couple hard red pine were left and both red pine and jack pine recruited naturally in the understory.
12	4110 - Sugar Maple Association	High Density Pole	15.8	65	81-110	Low to medium quality hardwood approching log size overall but not quite.North tip transitions to more aspen. East border of stand fairly sparse. Private to west.
13	42110 - Planted Red Pine	High Density Log	71.8	61	111-140	Red Pine Strips with have been thinned three times, the last time occuring in 2007. Limited understory. Good quality red pine, with easy access.
14	42110 - Planted Red Pine	High Density Sapling	54.7	16		Jack pine strips which were final harvested in 1998 and replanted to red pine. Jack pine volunteers thoughout as well as some hardwood. Overall red pine should suceed as dominant species. Some variable density in pockets.



s t	Cadilla	Cadillac Mgt. Unit			– Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	4130 - Aspen	High Density Pole	5.1	28		Stand was final harvested in 1986. Any Cedar was left. Regenerated well to aspen, mostly upland alathough some lowland character as you get closer to the lowland shrub complex. Humucky ground.
16	4130 - Aspen	Medium Density Log	4.7	55		Small land locked piece of aspen, with small grassy opening along the private. Mostly upland although lowland character near swamp egde.
17	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	9.2	95		Low denisty lowland conifer stand with dead and alive cedar scattered in. Significant blowdown, with Anderson Creek running though. Open pockets filling in with alder and lowland hardwood saps. Variable stand which is constantly changing from changing water levels. More lowland hardwood in west finger.
19	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	12.0	28		Stand was final harvested in 1986, with all cedar left. Very wet stand, with humocky ground. Stand gets more wet as you go farther to the west. Regenerated to a mixed lowland stand. Variable stand, with considerable blowdown and humocky ground Cedar has been flooded out in pockets and is complely dead. Patchy regen in pockets with tag filling in the gaps. Water levels effected by beaver activity, this flooding has limited aspen regen in western border of stand.
20	4130 - Aspen	High Density Pole	22.5	28		Stand was final harvested in 1986, any cedar was left. Mostly upland although eastern border of stand has more of a lowland character. Aspen regenerated well, although beaver floodings appear to have expanded alder some. Southeast corner is where the Balsam Poplar is.
22	4130 - Aspen	High Density Pole	45.1	53		Long narrow strip of mature aspen. Scattered balsam, red maple and white pine. Aspen beginning to show signs of age. Small one acre patch of solid white pine in the far northeastern corner.
24	6120 - Lowland Cedar	High Density Pole	14.3	95		Lowland cedar complex on the banks of Anderson Creek. Some of the cedar is dead, with significant blowdown in stand. Cedar concentrated in center of stand. Some of the more open areas are filling in with alder.
26	4136 - Aspen, Mixed Conifer	High Density Pole	18.7	28		Stand was final harvested in 1986. All cedar was left. Regenerated well back to aspen with balsam mixed in. Scattered cedar as well. Mostly upland although some lowland character near west end.
29	4130 - Aspen	High Density Sapling	105.4	15		Stand was final harvested in 1999, was completed along with the red pine thinning at that time. Scattered red pine along with a few mature hardwood were left mostly in the north. Overall aspen has came back thick. Large complex shaped stand. Many edge effect areas.



s t	Cadilla	Cadillac Mgt. Unit			- Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	42110 - Planted Red Pine	High Density Pole	104.3	54	111-140	Highly scattered red pine plantation which was row thinned in 1999. Row thinning(every third row) which was marked as a result of row variability. Any aspen was cut at this time where present. Plantation is broken up in a few spots but fairly well stocked overall. Edge effect with aspen filling in all around plantation. A few aspen regen pockets in plantation where aspen was before. Variable understory, with limited understory in spots, with thick hardwood and aspen regen in others.
31	4112 - Maple, Beech, Cherry Association	High Density Pole	4.0	72	81-110	Small ridge of harwood left from aspen cut. Beech- ironwood understory. Few pine mixed in.
32	4130 - Aspen	High Density Sapling	16.5	7		Stand was final harvested in 2007. Came back thick to aspen. Borders wet to east.
34	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	10.9	69	1-50	Lowland hardwood with cedar component. Very sparse stocking with very wet hummucky ground. Some pockets are open with tag alder filling in. Windthrow prevelent. Ash has EAB.
36	6132 - Mixed Lowland Forest with Cedar	Medium Density Log	11.1	65	1-50	Wet overmature aspen, slowly converting to more long lived lowland species. Cedar; balsam; tag alder and lowland hardwood filling in. Lots of blowdown and hummucky ground.
37	4130 - Aspen	High Density Log	95.6	56		Large somewhat variable aspen stand with noteworthy hardwood compartment scattered in mostly on east end. Rolling hills with some side slopes. Mixed log/pole aspen. Small stips planted pole white pine are also scattered in southwest corner. Too scattered and small to be managed alone. Some steep terrain and side slopes in northeastern border.
38	42110 - Planted Red Pine	High Density Pole	9.2	54	111-140	Small stirips of red pine which are mixed in the middle of a ridge of low quality hardwood. Red pine is going ok in spots, while in others it is in rough shape as it has had to compete with hardwood. Stand has never been thinned and should be thinned when the hardwood surrounding is cut.
39	4119 - Mixed Northern Hardwoods	High Density Pole	53.4	65	81-110	Low quality ridge of mostly stump sprout hardwoods with a minor aspen component scattered in, Mostly small pole timber although some log size stems scattered in. Isolated strips of planted red pine are also scattered in. Too small to manage on there own it appears they have never been thinned. The red pine is overtopped by hardwood is spots and doing better in others. Limited to no understory for the most part. West border of that has a steep slope relativly.
40	4130 - Aspen	High Density Pole	11.8	27		Stand was final harvested in 1987. Regenerated well to aspen. Very small pole stand.
41	42100 - Planted White Pine	High Density Pole	5.7	60	111-140	Planted white pine with rows of planted red pine as well. Variable stand with aspen mixed in a little on north end. Approaching logs, red pine rows have outperformed white pine.
44	4130 - Aspen	High Density Sapling	5.5	13		Stand was final harvested in 2001, was part of the larger pine thinning to north. Regenerated well back to aspen. Little hardwood and conifer regen mixed in.



s t	Cadilla	Cadillac Mgt. Unit			– Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	4112 - Maple, Beech, Cherry Association	High Density Pole	13.8	71	81-110	Low to medium quality hardwood ridge with aspen component; mostly on south eastern border. Slightly rolling terrain.
46	42110 - Planted Red Pine	High Density Log	9.0	52	51-80	Variable oddly shaped red plantation which was thinned in 2001. Suprising amount of natural pine regen in understory in spots. Thick understory.
47	4112 - Maple, Beech, Cherry Association	Medium Density Pole	12.8	68	1-50	Stand was thinned heavy in 1999. Appears there were patch clearcuts in the stand? Low quality hardwood which was thinned heavly in the past. Two aged stand with large canopy gaps created from previous cut. Small pole stand overall.
48	4130 - Aspen	High Density Pole	6.1	41		Small clone of aspen. Half in the valley and the other half on a steep slope. Better aspen on the slope. Some log size aspen.
50	4130 - Aspen	High Density Log	23.7	48		Log-pole aspen on side slope of ridge with hardwood scattered in. Thick red maple understory in spots. Stand appears from recors to have been final harvested in 1966.
51	42100 - Planted White Pine	High Density Log	21.9	54	81-110	Stand was row thinned in 2010, take two leave two pattern. Log pole white pine with aspen, red maple, beech in understory. Variable stand. Planted in 1960.
52	4130 - Aspen	High Density Pole	18.2	27		Stand was final harvested in 1987 with all red pine and oak left. Came back well to aspen.
53	42110 - Planted Red Pine	High Density Log	8.7	54	141-170	Stand was row thinned in 1998 and lightly thinned in 2010. Logpole stand. Decent quality and height. Planted in 1960.
54	4130 - Aspen	High Density Sapling	32.6	13		Stand was final harvested in 2001, while the pine was being thinned. Large cut, came back well to aspen and red maple. A few red pine were left scattered in stand.
55	4110 - Sugar Maple Association	High Density Log	9.4	93	81-110	Stand was marked thinning in 1986 and again in 1999. Decent to good quality hardwood stand. Old overgrown railway grade in north border.
56	4116 - Mixed N. Hardwood - Aspen	High Density Log	65.2	85	81-110	Middle to lower end hardwood stand with significant mature and over mature aspen scattered thoughout. Some areas are strickly hardwood while other are heavier to aspen. Stand was last cut in 1966, at which time all the aspen was cut and the hardwood was left.
57	4116 - Mixed N. Hardwood - Aspen	High Density Log	3.3	72	81-110	Small sliver of mature hardwood with some white pine/ aspen component which has been missed over the years. Stand is so small, not manageable on its own. Aspen will fall out of stand soon.
58	4112 - Maple, Beech, Cherry Association	High Density Log	21.9	75	81-110	Ridge of red maple dominant hardwood with aspen component. Many stump sprout origin maple. A few red pine and white pine scattered in north.



s t	Cadillad	Cadillac Mgt. Unit			– Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	2.2	53	81-110	Small island of pole size planted white pine. Overtopped by aspen and a few maple in spots. Stand has not been thinned yet.
61	4130 - Aspen	High Density Pole	10.9	27		Stand was final harvested in 1987 with all red pine and oak left. Aspen regenerated well. A few white pine mixed in. Barley a pole stand almost still sap.
62	4130 - Aspen	High Density Pole	1.8	27		Small sale, final harvested in 1987. Aspen regerated well. Slight hill.
63	42110 - Planted Red Pine	High Density Pole	157.6	56	111-140	Large red pine plantation, widely scattered. Stand was first thinned in 2001. Considerable variety with some portions of the stand having significant aspen understory where it was mixed in pre 2001 cut, with other almost having no understory where the plantation is of higher density and no aspen was present. While much of the stand is of good pine stocking, it does have its more open aspen regen pockets scattered within. Stand is broken up considerable in spots. Many islolated fingers.
64	4130 - Aspen	High Density Pole	6.9	27		Stand was final harvested in 1987. Came back nice to aspen. Rolling hill. Small strips of planted pole red pine were left.
65	4112 - Maple, Beech, Cherry Association	High Density Pole	64.5	64	51-80	Ridge of lower quality hardwood. Mostly stump sprout maple. All aspen was harvested from portion of stand in 1986. Aspen did not regenerate follow this cut. One clone of mature aspen in sotheastern corner. More red maple then sugar maple, not a very high end site.
66	4130 - Aspen	High Density Log	4.4	56		Sliver of aspen, red maple and some white pine in the west side of stand. Stand is south end of stand to the north in TC unit.
68	4110 - Sugar Maple Association	High Density Log	10.3	110	81-110	Two aged higher end hardwood with nice log white pine component. Large scattered Xlog maple with a second age class pole-small log maple. Some sugar maple in understory. Old narrow railway in north end. Fairly low BA.
69	4130 - Aspen	High Density Sapling	25.2	13		Stand was final harvested in 2001, while the pine was being thinned. Aspen came back well. A few pine a seeded in natural around the edges. Very irregular shape. A handful of mature red pine are also scattered in the overstory.
70	42200 - Natural White Pine	Medium Density Log	97.4	65	1-50	Stand was thinned in 2007, with all aspen and red maple cut as well. Currently variable white pine overstory with thick understory of aspen, and mixed hardwood. White pine at variable pole log mix. Appears to be a multi aged natural pine stand.
71	4130 - Aspen	High Density Pole	8.0	36		Small pole aspen with a few red pine scattered in from adjacent plantation.
72	4130 - Aspen	High Density Pole	6.6	35		Final harvested in 1979. Three seperate chunks, some white pine has mixed in along the edges.



s t	Cadillad	c Mgt. Unit		Report 8	– Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
73	4119 - Mixed Northern Hardwoods	High Density Pole	7.8	55	51-80	Small immature small pole hardwood with aspen component on east border. Red pine from adjacent plantation are also scattered thoughout
74	4133 - Aspen, Mixed Pine	High Density Pole	22.1	35	51-80	Mostly pole aspen with super canopy of mature log white pine. <some legacy="" pine=""> Thick hardwood understory under the aspen. Some slightly older aspen clones in western end but mostly small pole aspen and hardwood. Some mature hardwood widlely scattered.</some>
76	4130 - Aspen	High Density Pole	4.3	35		Small pole aspen, on side slope. Stand was final harvested back in 1979.
77	42100 - Planted White Pine	High Density Pole	3.5	53	111-140	Two seperated stips of planted white pine. Some aspen and maple mixed in on the edges.
78	4199 - Other Mixed Upland Deciduous	High Density Log	5.1	68	81-110	Mix of hardwood, aspen and planted white pine along the edges. White pine is over topped in spots. Stand is on side of ridge. Hardwood is mostly red maple with log aspen thoughout.
79	4116 - Mixed N. Hardwood - Aspen	High Density Pole	27.9	58	51-80	Ridge of young pole lower end hardwood, with some aspen and white pine mixed in. Hardwood concentrated on ridge top. Two aged with pockets of slightly older hardwood although a young pole stand overall. Stand has some years before it will be a mature stand. Variable stand.
80	4130 - Aspen	Medium Density Pole	2.4	28		Small stand of aspen, with a opening in the north.
81	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	69.4	53	141-170	Large stand of planted white pine. Mix of aspen and some hardwood scattered in. Some pockets are pure pine, while in others pine has been overtopped. Very dense planting which is beginning to thin itself. Stand has not been treated since pine was planted. Rows are very difficult to follow. Rolling ridge topography.
82	4130 - Aspen	High Density Pole	13.5	35		Small pole aspen complex with heavy mix of small pole hardwood and white pine. Variable stand with slightly rolling hills.
83	4133 - Aspen, Mixed Pine	High Density Log	5.2	55		Small clone of log aspen with white pine component in understory and some of the overstory.
84	4311 - Pine, Aspen Mix	High Density Pole	13.4	53	51-80	Relative even mix of aspen and natural white pine. A few scattered oak and hardwood as well. In valley and split by road.
85	4130 - Aspen	High Density Pole	4.1	35		Final harvested in 1979. Regenerated well to aspen. Stand sits on small hill.
86	4311 - Pine, Aspen Mix	High Density Pole	6.1	38	51-80	Aspen, white pine pole mix. On small ridge. Mixed stand which is fairly isolated as a result of large cut surounding.



s t	Cadillac Mgt. Unit			Report 8 –	Forested	Stands Compartment: 128 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
88	4130 - Aspen	High Density Pole	23.9	37		Final harvested in 1977. Came back well to aspen. Small mix of white pine and red maple.
89	42201 - Natural White Pine, Mixed Deciduous	High Density Log	2.9	68	111-140	Small Natural white pine stand with mix of aspen and maple. Borders private and portion of stand is on side hill.
90	4130 - Aspen	High Density Pole	6.9	42		Final Harvesed in 1972. Regenerated well to aspen. Stand is fairly steep on either end.
91	4119 - Mixed Northern Hardwoods	High Density Log	6.4	78	81-110	Small hardwood stand with oak component. Difficult access with steep hills to get to stand. Stand is mostly on top of ridge. Private to east.
92	4116 - Mixed N. Hardwood - Aspen	High Density Log	2.7	71	81-110	Small isolated sliver of hardwood with aspen component. On top of ridge.
94	42200 - Natural White Pine	Medium Density Log	103.0	Uneven Age	1-50	Large natural white pine stand, which has a variety in diameter and age thoughout the overstory. Stand was thinned in 2007, with all aspen and red maple cut as well. Currently variable white pine overstory with aspen and mixed hardwood filling in the the understory. Legacy white pine scattered in stand as well. Overstory BA varies greatly as well, some areas are very open, with others still having significant white pine left.
95	4119 - Mixed Northern Hardwoods	High Density Log	3.2	72	81-110	Stand was marked thinning in 1998. Small isolated hardwood log stand. A few natural pine scattered in.
96	4110 - Sugar Maple Association	High Density Log	2.8	76	81-110	Stand was marked thinning in 1998. Small stand of medium quality hardwood. Private on southern and west end. Stand on a good slope.
97	4130 - Aspen	High Density Pole	17.2	37		Final Harvested in 1977. Aspen regenerated well with some white pine mixed in mostly by the road. Road divides stand.
98	4130 - Aspen	High Density Sapling	7.9	7		Stand was final harvested in 2007, with exception of green islands left as visual buffer by road. Aspen came back well, with a few scattered white pine left as retention.
100	4130 - Aspen	High Density Sapling	50.1	16		Stand was final harvested in 1998. All oak was left. Aspen regenerated well with a few scattered log and pole oak left from 1998 cut. Oak are concentrated in the middle of the stand.
101	4130 - Aspen	High Density Pole	4.3	42		Aspen pole-small log stand with mixed white pine component. Some hardwood scattered in far east border. Isolated from previous cut.
103	6112 - Lowland Aspen	Medium Density Log	4.1	62		Small buffer of mature aspen left along private from sale back in 1998. Mostly lowland with mature aspen above mostly red maple understory. Few cedar and hemlock mixed in. Variable stand. Small tag alder enclusion in north part of stand too small to map.



Report 9 – Nonforested Stands

Compartment: 128 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	330 - Low-Density Trees	5.0	No	Unspecified	
5	330 - Low-Density Trees	13.6	Unspecified	Unspecified	
11	330 - Low-Density Trees	4.0	Unspecified	Unspecified	Small firewood sale on standing dead ash likely just with special firewood permit.
18	622 - Lowland Shrub	62.5	No	Unspecified	Lowland shrub complex. Some areas are fairly open, while others are thick with alder/willow. Anderson Creek flows though, with a old railroad grade also going through from east to west. Beaver activity. A few scattered aspen, but most are flooded out and dead.
21	330 - Low-Density Trees	3.5	No	Unspecified	Opening with scattered cherry and aspen.
23	330 - Low-Density Trees	9.0	No	Unspecified	Good size opening filled in with scattered cherry and a few aspen and pine. Southeast corner is filling in with aspen.
25	622 - Lowland Shrub	7.5	No	Unspecified	Lowland complex of mostly alder, although scatted sap and small pole lowland hardwood are also scattered in. Too wet to grow trees. Closer to no forested alder marsh.
27	310 - Herbaceous Openland	1.7	Unspecified	Unspecified	
28	330 - Low-Density Trees	8.8	No	Unspecified	Opening with scattered cherry and a few pine.
33	310 - Herbaceous Openland	2.7	Unspecified	Unspecified	
35	622 - Lowland Shrub	4.8	Unspecified	Unspecified	
42	330 - Low-Density Trees	27.4	No	Unspecified	Large opening in valley. Mostly cherry and variable aspen clones widely scattered. One acre aspen clone in south end.
43	310 - Herbaceous Openland	2.0	Unspecified	Unspecified	
49	310 - Herbaceous Openland	3.8	Unspecified	Unspecified	
60	310 - Herbaceous Openland	6.2	Unspecified	Unspecified	
67	310 - Herbaceous Openland	12.5	Unspecified	Unspecified	



Cadillac Mgt. Unit

Report 9 – Nonforested Stands

Compartment: 128 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
75	310 - Herbaceous Openland	9.0	Unspecified	Unspecified	
87	122 - Road/Parking Lot	4.3	Unspecified	Unspecified	
93	310 - Herbaceous Openland	1.4	Unspecified	Unspecified	
99	330 - Low-Density Trees	10.0	Unspecified	Unspecified	Opening with a few scattered white pine and cherry. Aspen saplings encroching a little in north.
102	622 - Lowland Shrub	3.4	No	Unspecified	Leather leaf with a couple white pine in the middle.

