



Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 51

Entry Year 2016

Acreage: 2,703

County Wexford

Management Area: Manistee River Valley

Revision Date: 06/05/2014

Stand Examiner: Jim Malloy

Legal Description:

T24N R9W: Lands south of the Manistee River in sections 1, 9-12 and sections 13-16

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. The portion of the Manistee River in Wexford County is being managed as a natural river although it is not designated as such. 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:

Topography is generally flat formed in Rubicon-Montcalm and Graycalm soils. A high water table is prevalent on the east half and in portions of the west half of the compartment. Short steep topography changes occur adjacent to the riparian corridors along both the Chase and Morrissey creeks. Land adjacent to the Manistee River exhibit's the typical flood plain, bench, and bluff characteristics often found along the River.

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

Much of this compartment is solid state ownership. There are 3 large (>40ac) private parcels within the compartment and 2 smaller parcels (<10ac). A large private ownership in section 9 was recently acquired by the state. This acquisition has consolidated state ownership within this section and has created a new surface lease with Chippewa Landing Canoe Livery. This lease allows for the use of state land for both the livery location along the Manistee River and a few small campsites within existing openings.

Unique Natural Features:

Unique communities found within the compartment include northern wet meadow and pine barrens. Red shouldered hawk, wood turtle, Hill's thistle, and ginseng have been located. Potential exists for great blue heron, osprey, eagle, goshawk, Eastern massasauga, box turtle, and Blanding's turtle.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

The Manistee River borders the compartment along the northern edge and is managed as a Natural River under a MOU between FRD and Fisheries Divisions.

Watershed and Fisheries Considerations:

The Manistee River, Morissy Creek, Chase Creek, and the Flower Creeks all flow through Compartment 51. All are Designated Trout Streams. The Flower Creek branches contain brook trout, and provide cold water to Morissy Creek. Morissy Creek has brown trout, brook trout, and rainbow trout, and provides cold water to the Manistee River. Chase Creek has brown and brook trout, and likewise provides cold water to the Manistee River. Chase and Morissy Creeks provide critical spawning habitat for adult migratory brown trout and rainbow trout from the Manistee River. Therefore, it is essential that we protect all of these streams when planning timber management activities. The Natural Rivers (NR) plan calls for a buffer of 175' on the Manistee River, as well as 50 feet from the crest of any bluff along the river. The NR plan calls for buffers of 50' for the other tributaries in the Compartment.

Wildlife Habitat Considerations:

There are two rye wildlife openings in this compartment. These openings should be buffered from treatments in adjacent stands, and any adjacent treatments should prevent expansion of autumn olive if present. Given the presence of wood turtle along the river, any adjacent treatments should provide an adequate buffer zone and pesticide use should be restricted along the waterway. 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. Promote a mix of cover types by seeking opportunities to manage for non-forested openings, older age classes and mixed age stands where possible and appropriate. Featured species of special interest are black bear, snowshoe hare, grouse, deer, and golden-winged warbler. (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. The glacial drift thickness varies between 200 and 400 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan Formation is quarried for gypsum in other areas of the State. A gravel pit is located in Section 16 and potential is considered to be good. This area is located seven miles south of the prolific Silurian Niagaran reef trend. Oil and gas has limited potential in the Compartment and none of the State lands are leased for oil and gas exploration.

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.

Survey Needs:

No additional surveys are needed at this point.

Recreational Facilities and Opportunities:

Recreational opportunities are abundant within this compartment. Snowmobile trail #6, North Missaukee ORV route, North Missaukee ORV trail, and the Michigan Cross Country Cycle Trail (MCCCT) bisect the southeastern section of this compartment. Trail protection specifications should be included in any timber sales potentially impacting these trail systems. The old Chase Creek campground in the northeast corner of section 13 is closed, and dispersed camping is popular at this old site. The DNR purchased the Chippewa Landing canoe livery and campground property, which is leased out for recreational purposes. Fishing is excellent on the mainstream of the Manistee River, and on the Morrissy and Chase Creek tributaries. Hunting opportunities are plentiful. (T.M.N. 4/13)

Fire Protection:

The areas of Red Pine provide for the potential of larger wildfire growth. The potential for wildfires is increased with the dispersed camping and use of the old Chase Creek Campground. BET5-14

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**

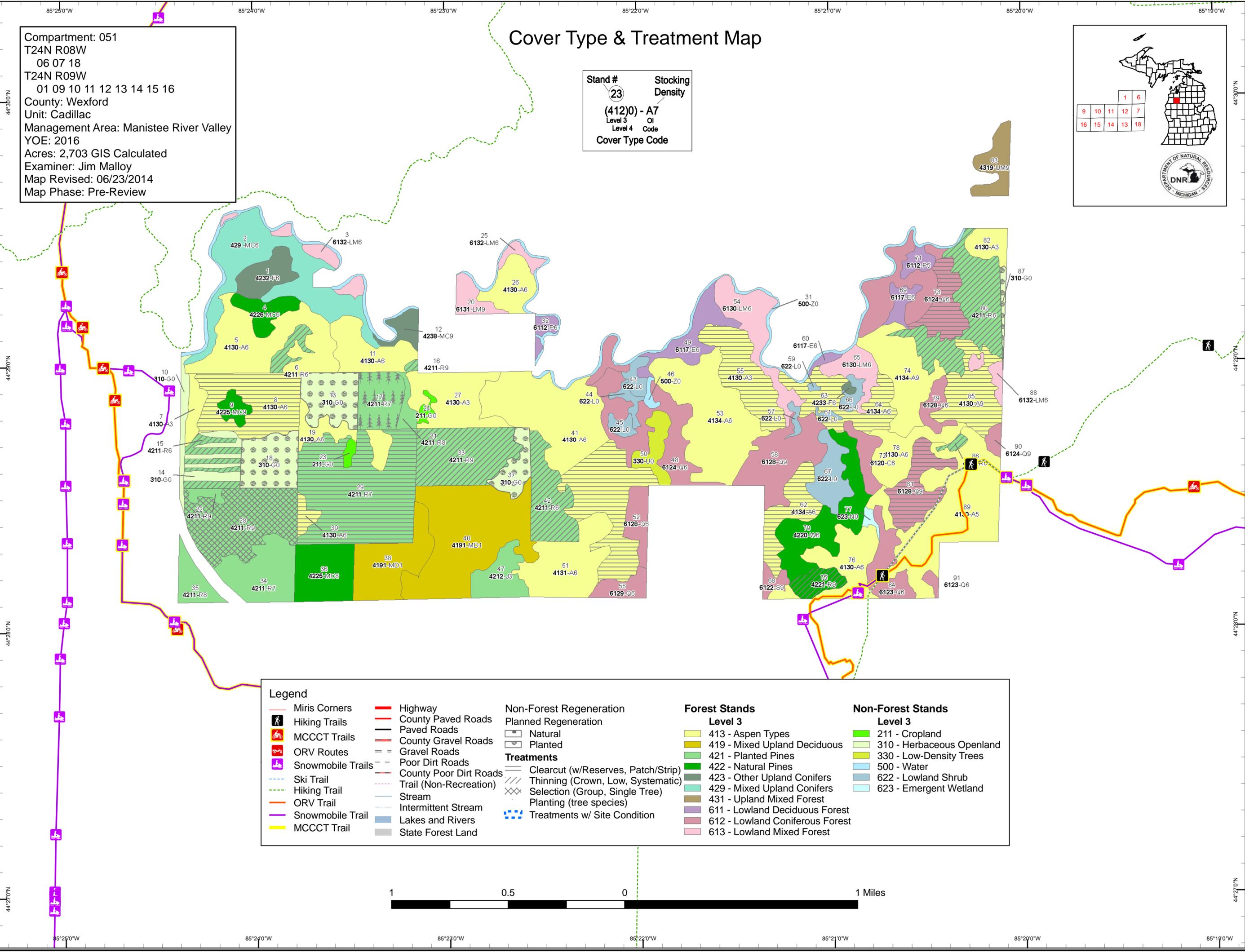
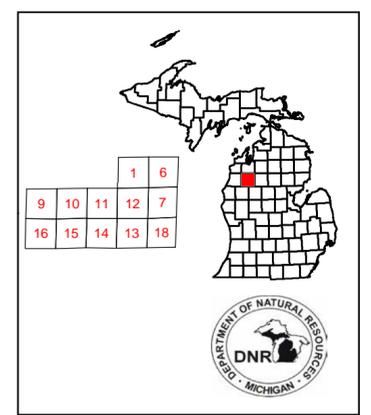
The following information is displayed, where pertinent, on the attached compartment maps:

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

Compartment: 051
 T24N R08W
 06 07 18
 T24N R09W
 01 09 10 11 12 13 14 15 16
 County: Wexford
 Unit: Cadillac
 Management Area: Manistee River Valley
 YOE: 2016
 Acres: 2,703 GIS Calculated
 Examiner: Jim Malloy
 Map Revised: 06/23/2014
 Map Phase: Pre-Review

Cover Type & Treatment Map

Stand #
 23
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

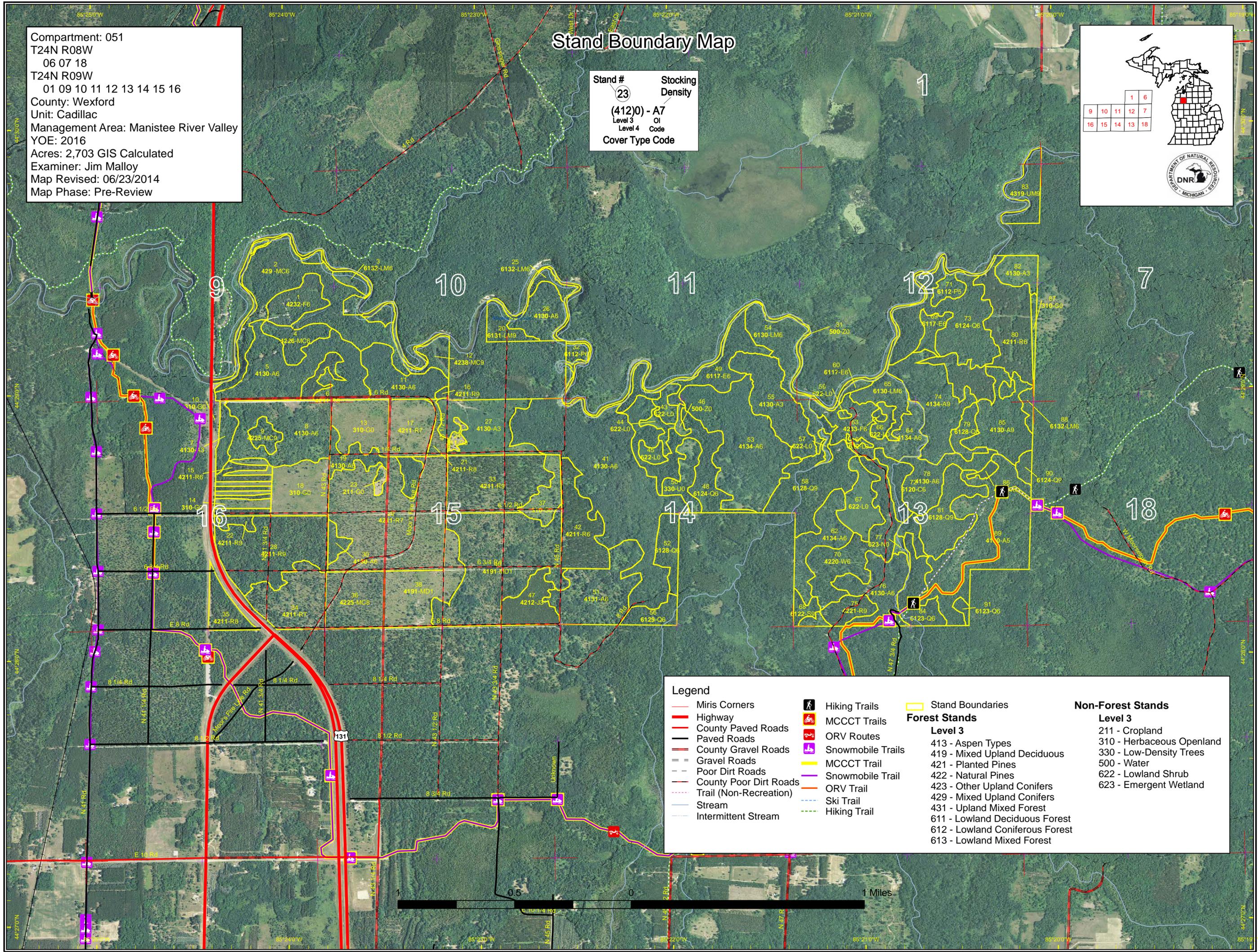
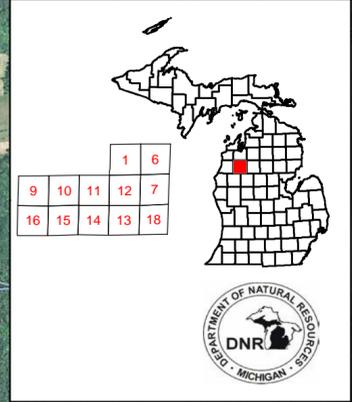
Miris Corners	Highway	Non-Forest Regeneration	Forest Stands Level 3	Non-Forest Stands Level 3
Hiking Trails	County Paved Roads	Planned Regeneration	413 - Aspen Types	211 - Cropland
MCCCT Trails	Paved Roads	Natural	419 - Mixed Upland Deciduous	310 - Herbaceous Openland
ORV Routes	County Gravel Roads	Planted	421 - Planted Pines	330 - Low-Density Trees
Snowmobile Trails	Gravel Roads	Treatments	422 - Natural Pines	500 - Water
Ski Trail	Poor Dirt Roads	Clearcut (w/Reserves, Patch/Strip)	423 - Other Upland Conifers	622 - Lowland Shrub
Hiking Trail	County Poor Dirt Roads	Thinning (Crown, Low, Systematic)	429 - Mixed Upland Conifers	623 - Emergent Wetland
ORV Trail	Trail (Non-Recreation)	Selection (Group, Single Tree)	431 - Upland Mixed Forest	
Snowmobile Trail	Stream	Planting (tree species)	611 - Lowland Deciduous Forest	
MCCCT Trail	Intermittent Stream	Treatments w/ Site Condition	612 - Lowland Coniferous Forest	
	Lakes and Rivers		613 - Lowland Mixed Forest	
	State Forest Land			



Compartment: 051
 T24N R08W
 06 07 18
 T24N R09W
 01 09 10 11 12 13 14 15 16
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 YOE: 2016
 Acres: 2,703 GIS Calculated
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Stand Boundary Map

Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



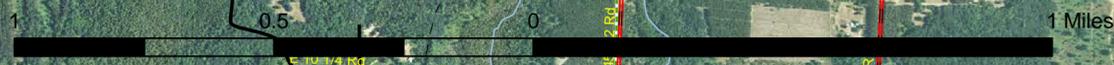
Legend

Miris Corners	Hiking Trails	Stand Boundaries
Highway	MCCCT Trails	Forest Stands
Paved Roads	ORV Routes	Level 3
County Gravel Roads	Snowmobile Trails	413 - Aspen Types
Gravel Roads	MCCCT Trail	419 - Mixed Upland Deciduous
Poor Dirt Roads	Snowmobile Trail	421 - Planted Pines
County Poor Dirt Roads	ORV Trail	422 - Natural Pines
Trail (Non-Recreation)	Ski Trail	423 - Other Upland Conifers
Stream	Hiking Trail	429 - Mixed Upland Conifers
Intermittent Stream		431 - Upland Mixed Forest
		611 - Lowland Deciduous Forest
		612 - Lowland Coniferous Forest
		613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

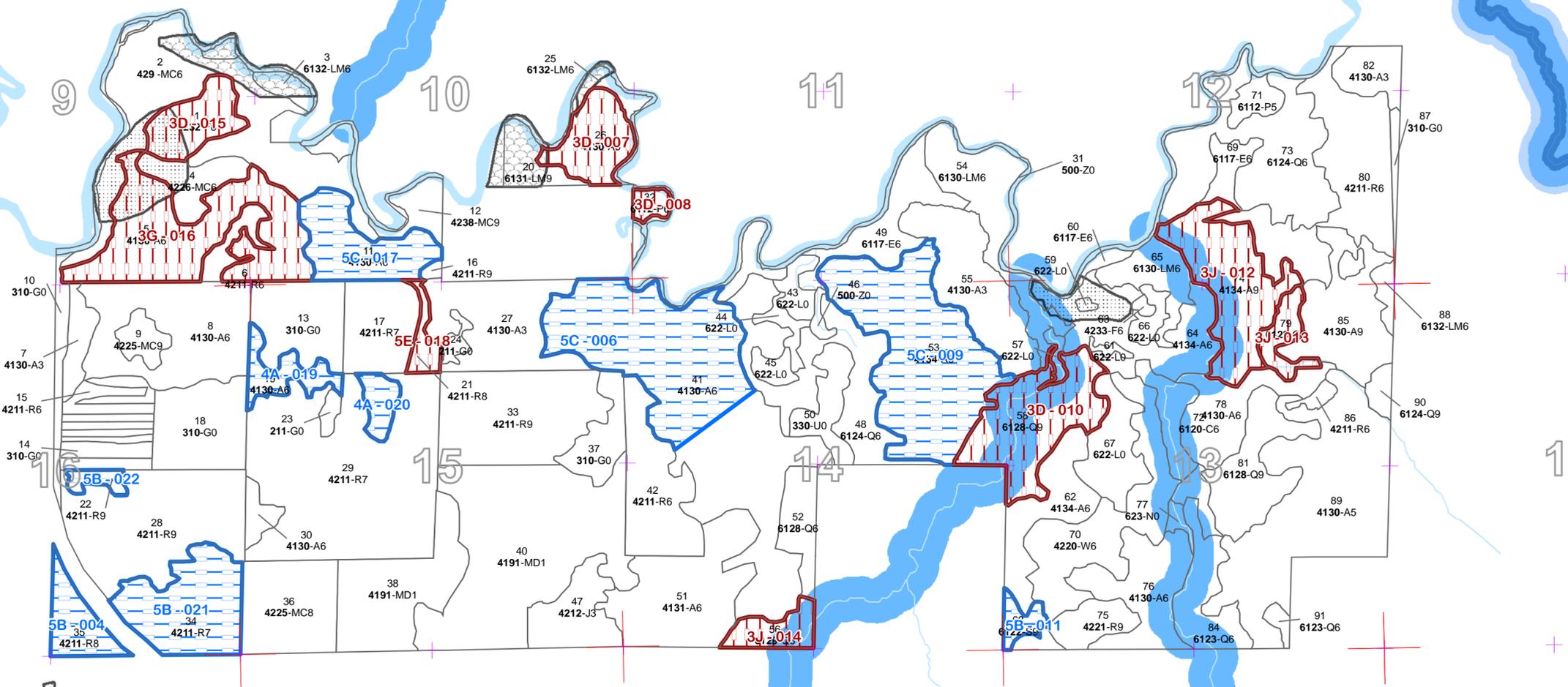
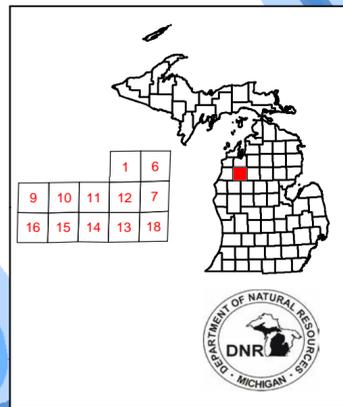
- 211 - Cropland
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland



Special Conservation Areas & Site Conditions Map

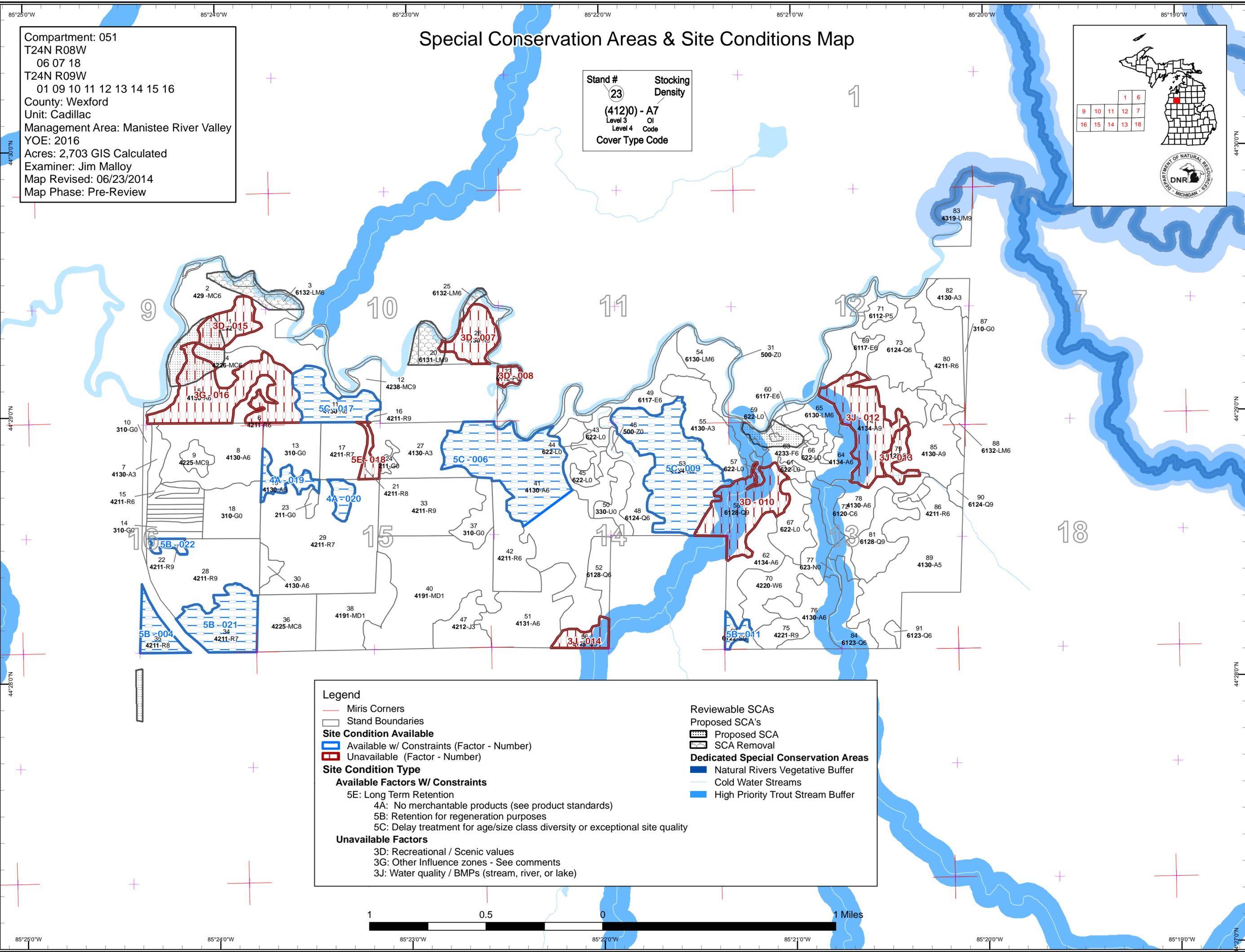
Compartment: 051
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 YOE: 2016
 Acres: 2,703 GIS Calculated
 Examiner: Jim Malloy
 Map Revised: 06/23/2014
 Map Phase: Pre-Review

Stand # 23
 Stacking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

- Miris Corners
- Stand Boundaries
- Site Condition Available**
 - Available w/ Constraints (Factor - Number)
 - Unavailable (Factor - Number)
- Site Condition Type**
 - Available Factors W/ Constraints**
 - 5E: Long Term Retention
 - 4A: No merchantable products (see product standards)
 - 5B: Retention for regeneration purposes
 - 5C: Delay treatment for age/size class diversity or exceptional site quality
 - Unavailable Factors**
 - 3D: Recreational / Scenic values
 - 3G: Other Influence zones - See comments
 - 3J: Water quality / BMPs (stream, river, or lake)
- Reviewable SCAs**
 - Proposed SCA's
 - Proposed SCA
 - SCA Removal
- Dedicated Special Conservation Areas**
 - Natural Rivers Vegetative Buffer
 - Cold Water Streams
 - High Priority Trout Stream Buffer



Report 1 – Total Acres by Cover Type and Age Class



	Age Class														Total
	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 +	Uneven Age	
Aspen	109	0	11	103	371	354	44	0	24	0	0	0	0	0	1016
Cedar	0	0	0	0	0	0	0	0	0	13	0	0	0	0	13
Cropland	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Herbaceous Openland	118	0	0	0	0	0	0	0	0	0	0	0	0	0	118
Jack Pine	0	0	25	0	0	0	0	0	0	0	0	0	0	0	25
Low-Density Trees	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Lowland Aspen/Balsam Poplar	0	0	0	0	8	0	6	0	0	0	0	0	0	0	14
Lowland Conifers	0	0	0	0	55	3	116	5	0	24	0	85	0	0	288
Lowland Deciduous	0	0	0	9	0	3	27	0	0	0	0	0	0	0	39
Lowland Mixed Forest	0	0	0	13	0	19	38	7	0	0	0	19	0	0	96
Lowland Shrub	54	0	0	0	0	0	0	0	0	0	0	0	0	0	54
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
Marsh	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Mixed Upland Deciduous	49	0	0	118	0	0	0	0	0	0	0	0	0	0	168
Natural Mixed Pines	0	0	0	0	0	17	0	0	40	0	0	0	0	9	66
Red Pine	0	0	0	0	0	122	32	0	378	0	0	0	0	0	532
Upland Conifers	0	0	0	0	0	0	86	0	0	0	0	11	0	0	97
Upland Mixed Forest	0	0	0	0	0	21	0	0	0	0	0	0	0	0	21
Upland Spruce/Fir	0	0	0	0	1	22	0	0	0	0	0	0	0	0	23
Water	48	0	0	0	0	0	0	0	0	0	0	0	0	0	48
White Pine	0	0	0	0	0	0	55	0	0	0	0	0	0	0	55
Total	404	0	35	244	435	561	404	12	448	37	0	115	0	9	2703



Report 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2016

Compartment 051
Total Compartment Acres: 2,703

Acres by Treatment Type

Commercial Harvest - 729 Tree Planting - 164 Other - 0
 Habitat Cut - 68 Opening Maintenance - 0

Cover Type by Harvest Method

		<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
(Habitat Cut)Planted Pines	0	0	0	0	68	0	68	
Aspen Types	307	0	0	0	0	0	307	
Lowland Coniferous Forest	62	0	0	0	0	0	62	
Natural Pines	0	0	0	0	14	0	14	
Planted Pines	134	76	0	0	136	0	346	
Total	503	76	0	0	218	0	797	



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	63051006-Cut	9.2	42110 - Planted Red Pine	High Density Pole	54	141-170	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Thin to a residual BA of 100-110

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2015

8	63051008-Cut	63.1	4130 - Aspen	High Density Pole	48		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. Leave all white pine smaller than 6". Leave retention as a strip along western edge for visual buffer from 131.

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2015

15	63051015-Cut	18.6	42110 - Planted Red Pine	High Density Pole	62	141-170	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to residual BA of 100-110

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2015

16	63051016-Cut	1.5	42110 - Planted Red Pine	High Density Log	54	171-200	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to residual BA of 100-110

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28	63051028-Cut	75.8	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	87	111-140	Harvest	Group Selection	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Remove all jack pine and maple. Cut red pine to a residual BA of 60 for aesthetics along highway. Leave all oak
Specs:

Other allow stand to become a mix of red pine with aspen and maple.

Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

29	63051029-Cut	134.3	42110 - Planted Red Pine	Low Density Log	88	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest and replant to red pine
Specs:

Other Previous treatment did not achieve desired results, so followup is to remove seed trees and trench and plant.

Comments:

Next
Steps: Trench and plant straight rows.

Proposed
Start Date: 01/01/2014

30	63051030-Cut	6.5	4130 - Aspen	High Density Pole	48		Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
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Prescription Final harvest stand.
Specs:

Other Treat with adjoining stand to the west. No retention due to small size.

Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

33	63051033-Cut	63.7	42110 - Planted Red Pine	High Density Log	87	111-140	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to residual BA of 100-110
Specs:

Other
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41	63051041-Cut	73.3	4130 - Aspen	High Density Pole	49		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Final harvest southern 1/2 of stand. Push the line as far east as possible to incorporate lowland complex to the east into the sale also.
Specs: Retention will be in the form of a strip between the two portions of the stand from east to west connecting the red pine stand to the west with the lowland complex to the east. Strip should be ~2 chains wide.

Other
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

42	63051042-Cut	40.3	42110 - Planted Red Pine	High Density Pole	53	141-170	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to residual BA of 100-110
Specs:

Other
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

55	63051055-Cut	46.8	4130 - Aspen	High Density Sapling	1		Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. No retention due to access and wet ground.
Specs:

Other
Comments: Access through Private

Next
Steps:

Proposed
Start Date: 10/01/2014

62	63051062-Cut	30.4	4134 - Aspen, Spruce/Fir	High Density Pole	56		Harvest	Clearcut	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
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Prescription Final harvest stand. Push line to the north as far as possible to harvest some of the lowland stand to the north.
Specs:

Other
Comments: no winter harvest due to use of snowtrail for access.

Next
Steps:

Proposed
Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
64	63051064-Cut	44.0	4134 - Aspen, Spruce/Fir	High Density Pole	62		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Final harvest 2" spec.

Specs:

Other Retention in the form of islands and buffers along wet areas and popular camping sites. Buffer off of Manistee River and Morrissy Creek. Stand
Comments: contains the old Chase Creek SFCG

Next
Steps:

Proposed
Start Date: 10/01/2015

73	63051073-Cut	0.0	6124 - Lowland Spruce-Fir	High Density Pole	67		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal
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Prescription Treat stand with adjacent pine sale to the east. Stand is a transition from upland aspen along the eastern edge to a lowland stand along the river
Specs: edge. Push sale lines to the west as far as commercialy possible.

Other Retention will be in the form of the uncut western portion of the stand.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

73	63051073-Cut	0.0	6124 - Lowland Spruce-Fir	High Density Pole	67		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal
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Prescription Treat stand with adjacent pine sale to the east. Stand is a transition from upland aspen along the eastern edge to a lowland stand along the river
Specs: edge. Push sale lines to the west as far as commercialy possible.

Other Retention will be in the form of the uncut western portion of the stand.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

73	63051073-Cut	27.8	6124 - Lowland Spruce-Fir	High Density Pole	67		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal
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Prescription Treat stand with adjacent pine sale to the east. Stand is a transition from upland aspen along the eastern edge to a lowland stand along the river
Specs: edge. Push sale lines to the west as far as commercialy possible.

Other Retention will be in the form of the uncut western portion of the stand.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73	63051073-Cut	27.8	6124 - Lowland Spruce-Fir	High Density Pole	67		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal

Prescription Treat stand with adjacent pine sale to the east. Stand is a transition from upland aspen along the eastern edge to a lowland stand along the river edge. Push sale lines to the west as far as commercially possible.

Other Retention will be in the form of the uncut western portion of the stand.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

75	63051075-Cut	13.6	42210 - Natural Red Pine	High Density Log	68	141-170	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to residual BA of 90-100
Specs:

Other
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

80	63051080-Cut	68.0	42110 - Planted Red Pine	High Density Pole	55	171-200	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to residual BA of 100-110
Specs:

Other Combine this stand with adjacent aspen stand when putting together sale.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

81	63051081-Cut	34.2	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	112		Harvest	Clearcut with Reserves	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal
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Prescription harvest a portion of the stand to create a new age class of lowland conifer. Portions of stand are wet and these should be avoided. Leave areas heavy to cedar and avoid seanoaly wet areas when running red line.

Other If unable to cut commercially then habitat cut portion of stand. Summer harvest due to need to use snow trail for hauling.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
85	63051085-Cut	42.9	4130 - Aspen	High Density Log	51		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> final harvest stand. Retention in the form of a buffer along flower creek, and leave all oaks.										
<u>Specs:</u>										
<u>Other</u> Combine with stand 80 & 73 when putting together sale. Access through stand 80										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2015										
86	63051086-Cut	2.9	42110 - Planted Red Pine	High Density Pole	54	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Third row thin.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2015										
17	63051017- Plant	29.6	42110 - Planted Red Pine	Low Density Log	83	1-50	Tree Planting	Hand Plant	4211 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Hand plant straight rows										
<u>Specs:</u>										
<u>Other</u> Stand need to be trenched and planted										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 06/03/2014										
Total Treatment Acreage Proposed: 854.4										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type! #Type!

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

Total Treatment
Acreage Proposed: 0.0

Report 5 – Site Conditions

Cadillac Mgt. Unit
Jim Malloy : Examiner

Compartment 051
Year of Entry 2016

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions							
				No	5E	5C	5B	4A	3J	3G	3D
1016	863	153	Aspen	620		222		22	51	78	24
13	13		Cedar	13							
25	25		Jack Pine	25							
14	9	5	Lowland Aspen/Balsam Poplar	9							5
288	213	75	Lowland Conifers	213					24		51
39	39		Lowland Deciduous	39							
96	96		Lowland Mixed Forest	96							
6	6		Lowland Spruce/Fir				6				
168	168		Mixed Upland Deciduous	168							
66	66		Natural Mixed Pines	66							
532	525	7	Red Pine	458	7		68				
97	97		Upland Conifers	97							
21	21		Upland Mixed Forest	21							
23	1	22	Upland Spruce/Fir	1							22
55	55		White Pine	55							
2,457	2,196	262	Total Forested Acres	1,878	7	222	74	22	75	78	102
	89%	11%	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 No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
004	Available	5B: Maintain for regeneration purposes	17				
Comments:							
006	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	91				
Comments:							

Report 5 – Site Conditions

Cadillac Mgt. Unit
Jim Malloy : Examiner

Compartment 051
Year of Entry 2016

007	Not Available	3D: Recreational / Scenic values	24	
Comments:				
008	Not Available	3D: Recreational / Scenic values	5	
Comments:				
009	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	96	
Comments:				
010	Not Available	3D: Recreational / Scenic values	51	2G: Too wet (sensitive soils, does not include access issues)
Comments:				
011	Available	5B: Maintain for regeneration purposes	6	
Comments:				
012	Not Available	3J: Water quality / BMPs (stream, river, or lake)	51	
Comments:				

Report 5 – Site Conditions

Cadillac Mgt. Unit
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Compartment 051
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019	Available	4A: No merchantable products (see product standards)	13
Comments:			
020	Available	4A: No merchantable products (see product standards)	8
Comments:			
021	Available	5B: Maintain for regeneration purposes	45
Comments:			
022	Available	5B: Maintain for regeneration purposes	5
Comments:			



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
Chippewa Landing Canoe Livery	Concentrated Recreation Area	Boat Access Site	SCA	
Comments Site of surface lease for existing canoe livery				
(Closed) Chase Creek SFCG	Concentrated Recreation Area	State Forest Campground	SCA	
Comments Site of former SFCG that is still widely used for dispersed camping.				
131 Miss Kal Trail Head	Concentrated Recreation Area	Trail Head	SCA	
Comments ORV and Snowmobile trail head				
Remove	Concentrated Recreation Area	Unspecified	SCA Removal	
Comments				
Remove	Concentrated Recreation Area	Unspecified	SCA Removal	
Comments contains some ash				
Remove	Potential Old Growth		SCA Removal	
Comments				
Remove	Potential Old Growth		SCA Removal	
Comments contains some ash				

**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.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.

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Cadillac Mgt. Unit

Report 8 – Forested Stands

Compartment: 051
Year of Entry: 2016

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42320 - Upland Spruce	High Density Pole	22.0	57	171-200	White spruce plantation along top of river bluff. Will hold till next YOE
2	429 - Mixed Upland Conifers	High Density Pole	85.9	63	111-140	Stand occurs along the river edge and is seasonally flooded. Areas of balsam, aspen, and cedar.
3	6132 - Mixed Lowland Forest with Cedar	High Density Pole	13.3	35		seasonal flooded areas along the river edge dominated by tag alder and maple with scattered cedar
4	42260 - Natural Pine, Mixed Deciduous	High Density Pole	17.2	55	81-110	
5	4130 - Aspen	High Density Pole	77.5	52		same as stand 10 but broken out due to proximity to Chippewa Landing.
6	42110 - Planted Red Pine	High Density Pole	9.2	54	141-170	Stand was thinned in 2006.
7	4130 - Aspen	High Density Sapling	10.5	22		Stand borders US-131, stand was created by construction of 131
8	4130 - Aspen	High Density Pole	63.1	48		
9	42250 - Pine, Oak	High Density Log	8.7	Uneven Age	51-80	Stand was thinned last entry. All aspen jack pine and maple were removed by spec with the white pine marked for removal All oak was left.
11	4130 - Aspen	High Density Pole	34.3	52		stand will hold until next YOE. Various aged clones and diameters
12	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Log	10.7	110	81-110	This stand is seasonally flooded due to the close proximity to the Manistee River
15	42110 - Planted Red Pine	High Density Pole	18.6	62	141-170	Stand was thinned last entry.
16	42110 - Planted Red Pine	High Density Log	1.5	54	171-200	Stand was thinned in 2006
17	42110 - Planted Red Pine	Low Density Log	29.6	83	1-50	Stand was burned pre harvest last entry. Need to be replanted.
19	4130 - Aspen	High Density Pole	21.7	52		slow growing aspen stand with a small amount of jack pine.
20	6131 - Hemlock, White Pine, Maple, Birch	High Density Log	12.7	115		Stand is along river edge and blocked by adj. landowner.
21	42110 - Planted Red Pine	Medium Density Log	6.9	87	1-50	Stand was harvested in 2008. 30BA of red pine was left. Aspen from adjacent sale to the east is creeping into the stand.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	4.9	86	81-110	small stand was harvested last entry and poles were removed. maple in the understory
25	6132 - Mixed Lowland Forest with Cedar	High Density Pole	6.2	114		stand is seasonally flooded.
26	4130 - Aspen	High Density Pole	24.2	85		
27	4130 - Aspen	High Density Sapling	47.8	7		Stand was harvested in 2007. 10 BA of white pine was left. Stand is regenerating well. Managed wildlife opening in the SW portion of stand.
28	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	75.8	87	111-140	Remnant of the original large pine areas within this compartment. Jack pine is falling apart.
29	42110 - Planted Red Pine	Low Density Log	134.3	88	1-50	Red pine was harvested to a BA of 30 in 2009. Original prescription called for natural regeneration. Following the regeneration survey it was determined to change to regeneration from natural to planted pine. In order to accomplish this the remaining 30BA of red pine is slated for removal followed by trenching and hand planting of the stand. This stand is currently under a timber sale contract.
30	4130 - Aspen	High Density Pole	6.5	48		poorer quality aspen. few scattered jack pine
32	6112 - Lowland Aspen	High Density Pole	6.0	65		stand is aspen with lowland conifer growing on river edge.
33	42110 - Planted Red Pine	High Density Log	63.7	87	111-140	Stand was thinned in 2009. This was a pole sale and most high quality trees at the time were removed. Final harvest and replant to red pine,
34	42111 - Planted Red Pine, Mixed Deciduous	Low Density Log	45.4	87	51-80	
35	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	17.2	87	51-80	Stand is currently under a prescription. Stand description reflects post harvest stand condition.
36	42250 - Pine, Oak	Medium Density Log	39.7	87	1-50	Stand was harvested last YOY. Stand has a large amount of oak understory. Regen survey in 2 years to determine if additional steps are needed to keep as a forested stand.
38	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	49.2	5	1-50	Stand was harvested last entry. Oak overstory was left. seedling stand of jack pine and oak.
39	6124 - Lowland Spruce-Fir	High Density Log	7.4	68		Stand is a mix of balsam fir, spruce and white pine with some cedar. Flooded during inventory and appears to be seasonally flooded.
40	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	118.3	32		Area burned by fire ~40 years ago. Scattered jack pine and aspen clones mixed with cherry and a few scattered oaks.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
41	4130 - Aspen	High Density Pole	164.7	49		Stand is a mix of clones and pocket of white pine and balsam fir. Gets wetter as you move north and east through stand.
42	42110 - Planted Red Pine	High Density Pole	40.3	53	141-170	Stand was thinned in 2006.
47	42120 - Planted Jack Pine	High Density Sapling	24.5	24	51-80	Stand was final harvested in 1992. Re planted/seeded to jack pine.
48	6124 - Lowland Spruce- Fir	High Density Pole	54.7	42		Transition between upland aspen to the west and lowland complex to the east.
49	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	27.2	65	51-80	Seasonally flooded hardwood with balsam fir and white pine.
51	4131 - Aspen, Oak	High Density Pole	56.7	36		Stand is a mix of aspen clones and large open grown oaks. Previous inventory indicates a wildfire in the stand ~40 yrs ago.
52	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	16.3	62		stand borders private parcel to the east. Stand gets wetter the closer to private boundary.
53	4134 - Aspen, Spruce/Fir	High Density Pole	96.0	58		stand is the uncut portion of stand 58
54	6130 - Fir, Aspen, Maple	High Density Pole	37.8	67		This is the uncut portion of stand 58 that occurs along the river edge and along the floodplain of the river.
55	4130 - Aspen	High Density Sapling	46.8	1		Stand is under contract for a harvest. (Haul Road Aspen 63-045-11-01) Data represents post harvest stand conditions.
56	6129 - Mixed Coniferous Lowland Forest	High Density Pole	12.8	97	51-80	small prtion of larger stand that goes into 138 and private land to the south.
58	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	50.9	112		Chase Creek runs through this stand.
60	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	2.9	52		Stand occurs along the flodplain of the Manistee River. Seasonally flooded hardwood with wet areas. Ash is dying due to EAB
62	4134 - Aspen, Spruce/Fir	High Density Pole	30.4	56		
63	42330 - Upland Fir	High Density Pole	1.4	48		Small pocket of dense balsam fir adjacent to wet to the east.
64	4134 - Aspen, Spruce/Fir	High Density Pole	44.0	62		stand is a mix of balsam fir and aspen. most aspen is almost log size.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	6130 - Fir, Aspen, Maple	High Density Pole	18.7	54		Morrissy Creek along the eastern boundary and wetland to the SW. Transition from upland stand to the west to a more lowland to the NE as stand meets the river and creek.
68	6122 - Black Spruce	High Density Log	6.4	87		
69	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	9.1	36		stand transitioning from upland to lowland to the north.
70	42200 - Natural White Pine	High Density Pole	54.5	62	51-80	Stand was thinned last entry. All aspen and maple was cut and white pine was thinned.
71	6112 - Lowland Aspen	Medium Density Pole	7.8	45		seasonally flooded stand of aspen along the manistee river. open areas where water persists.
72	6120 - Lowland Cedar	High Density Pole	13.3	96		Morrissy Creek runs through the stand.
73	6124 - Lowland Spruce- Fir	High Density Pole	67.8	67		Upland transition into a lowland complex along the river. Treat eastern portion of stand with commercial harvest.
74	4134 - Aspen, Spruce/Fir	High Density Log	51.4	51		Morrissy creek along the western edge of the stand.
75	42210 - Natural Red Pine	High Density Log	13.6	68	141-170	Stand was cut previous entry with all aspen and maple removed. Pine was thinned lightly.
76	4130 - Aspen	High Density Pole	46.6	32		pole sized aspen with white pine.
78	4130 - Aspen	High Density Pole	30.2	46		upland aspen and maple with balsam fir understory
79	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	11.2	98	51-80	Flower creek along southern boundary. Water runs through stand to the south to flower creek.
80	42110 - Planted Red Pine	High Density Pole	68.0	55	171-200	Red pine was thinned last entry. All aspen was also cut within stand which created a few small aspen clones within the larger stand. North edge of stand borders Manistee River. A scattering of balsam in the understory in the northern portion of
81	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	34.2	112		low wet stand with cedar and wet soils.
82	4130 - Aspen	High Density Sapling	14.5	6		Aspen stand was final harvested last entry. 10BA of white pine were left. small wet area in middle of stand and stand borders the Manistee River to the north. Aspen is regenerating well.
83	4319 - Mixed Upland Forest	High Density Log	20.7	58	51-80	portion of this stand is included in an adjacent timber sale with compartment 118 to the east.

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Cadillac Mgt. Unit

Report 8 – Forested Stands

Compartment: 051
Year of Entry: 2016

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
84	6123 - Lowland Fir	High Density Pole	24.7	64		Morrissy creek runs through stand.
85	4130 - Aspen	High Density Log	42.9	51		scattering of oak and cherry in stand. Wet in areas with a small cedar stand in northern part of stand. Various diameters and clones of aspen. Heavier to red maple toward the NE part of the stand.
86	42110 - Planted Red Pine	High Density Pole	2.9	54	171-200	
88	6132 - Mixed Lowland Forest with Cedar	High Density Pole	7.2	71		wet drainage through stand.
89	4130 - Aspen	Medium Density Pole	106.4	43		Lot of old pine stumps. May consider planting to pine to supplement poorer quality aspen following harvest.
90	6124 - Lowland Spruce- Fir	High Density Log	4.9	73	141-170	retain as wildlife cover and structure with larger aspen complex.
91	6123 - Lowland Fir	High Density Pole	2.8	56	81-110	Small stand of spruce fir in the corner of aspen SW corner of large aspen stand. Retain for structural and size diversity. Wet



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
10	3102 - Grass	10.2	No	Unspecified	US-131 ROW
13	310 - Herbaceous Openland	33.2	Plantation	Red Pine	Stand was a seed tree cut in 2007. Following the cut the original prescription called for a post harvest burn to encourage natural red pine regeneration. During the burn many of the seed trees were damaged and died. The stand was then trenched and planted to red pine in the spring of 2011.
14	310 - Herbaceous Openland	17.8	No	Unspecified	Following the final harvest of the adjacent red pine strips this entry this stand along with the adjacent stand will be planted to red pine.
18	310 - Herbaceous Openland	36.0	Plantation	Red Pine	Red pine stand planted in spring of 2010.
23	2113 - Forage Crops	3.1	Yes	Medium	Wildlife managed rye field
24	2113 - Forage Crops	3.5	Yes	Medium	Wildlife managed rye field
31	50 - Water	45.3	No	Unspecified	Manistee River
37	310 - Herbaceous Openland	17.0	Plantation	Jack Pine	Stand was plated to jack pine in spring 2010
43	622 - Lowland Shrub	7.6	Unspecified	Unspecified	
44	622 - Lowland Shrub	5.4	No	Unspecified	
45	622 - Lowland Shrub	5.3	Unspecified	Unspecified	
46	50 - Water	2.6	Unspecified	Unspecified	
50	330 - Low-Density Trees	16.9	Unspecified	Unspecified	Scattered balsam fie and open areas mixed with a low wet ground and a few aspen.
57	622 - Lowland Shrub	2.9	Unspecified	Unspecified	
59	6220 - Alder/willow	1.0	No	Unspecified	
61	6229 - Mixed lowland shrub	1.7	No	Unspecified	lowland with a stream flowing through stand. stand is in the middle of large aspen stand.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
66	622 - Lowland Shrub	5.9	Unspecified	Unspecified	
67	622 - Lowland Shrub	23.9	Unspecified	Unspecified	
77	623 - Emergent Wetland	2.7	Unspecified	Unspecified	
87	3105 - Mixed Upland Herbaceous	3.9	Plantation	Red Pine	Stand was trenched by Cadillac staff during spring of 2013. Will be planted during spring of 2014. Scattered cherry throughout. This stand is a sliver of a larger opening to the east in compartment 118