Compartment Review Presentation

Grayling Forest Management Unit

Compartment 172
Entry Year 2016
Acreage: 1,625
County Crawford
Management Area: Grayling Ice Contact

Revision Date: 08/20/2014

Stand Examiner: Patrick Mohney

Legal Description:

T28N R04W Sections 19,20 and 21 North Frederic Township, Crawford County

Identified Planning Goals:

To maintain species and structural diversity while managing the ecosystem for health, productivity, sustainability and recreation within the compartment.

Soil and topography:

Soils are mostly Rubicon sands. Soil productivity in general increases as you move east from the Manistee River. Areas along the Manistee River are generally flat but quickly raise in elevation as you move east in the compartment.

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

The majority of the compartment is state owned with the exception of private property in Sections 19 and 21. This private property has full time residences. Landowners along the Manistee River access their property in Section 19 by two state trail roads crossing the DeWard tract. They are Partridge Roost and Ishwana Trail.

Land use is heavy in the area due to large tracts of state land in the area and the access to hunting and trout fishing in the Manistee River.

Unique Natural Features:

Manistee River, DeWard Tract

Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

Part of section 19 is part of the DeWard Tract, a special management area designated to protect the upper Manistee River. Motorized use is prohibited on the DeWard Tract except on trails posted as open.

Watershed and Fisheries Considerations:

The Upper Manistee River, a State- Designated Natural River, flows through Section 19. The Upper Manistee River in this area is a “Blue Ribbon Trout Stream”, and is considered some of the best trout fishing water in Michigan. The stretch of river in Section 19 has been sampled by Fisheries Division in each of the last the last three years, and has outstanding, naturally reproducing populations of brook and brown trout. As the Upper Manistee River is a Natural River, no timber harvest should occur within the 175’ natural vegetation buffer. A woody debris stream habitat project was completed in DeWard over the past five years and efforts are continuing down stream. Work with private landowners has been succesful in the placement of these structures. There is a sand trap (T04) located on the river in section 19 upstream from the pipeline crossing. The sand trap is scheduled for maintenance during fall of 2004.
Several designated access points are identified throughout the DeWard Tract to provide foot access to the river. One such access point is located in Section 19 at Cameron Bridge.

Wildlife Habitat Considerations:

There are two maintained openings in section 19, both of which are in the DeWard Tract. There are also opportunities to add new wildlife openings.

Mineral Resource and Development Concerns and/or Restrictions

This area is heavily used by the oil and gas industry. Numerous pipelines and wells are scattered throughout the compartment. Stand 28 is a sour gas processing facility located in the center of the compartment.

Vehicle Access:

Vehicle access is good throughout the compartment. It contains 3 gravel county roads- DeWard Road, Cameron Bridge

Road and Manistee River Road. The DeWard Tract prohibits vehicle use anywhere except on designated trail roads. Contains some upgraded gravel trail roads that provide year round access to oil and gas processing facilities.

Survey Needs:

There are possibilities for future survey needs in this compartment.

Recreational Facilities and Opportunities:

The Blue Bear Snowmobile Trail #679 runs through the compartment in section 19. The Manistee River provides quality trout fishing opportunities. See recommendations from the Upper Manistee River access plan in regards to designation, maintenance, and improvement of various access sites within the DeWard Tract in this compartment. Heavy hunting and quality fishing opportunities.

Fire Protection:

Majority of compartment is state owned with little urban interface. The compartment has a long initial attack time due to its distance from a DNR Office. The compartment consists primarily of hardwood cover types making it low risk.

Additional Compartment Information:

The south line of Section 19 lies north of Cameron Bridge Road creating a strip of private property between the road and state land.

The Pipeline in Section 19 on the west side of Manistee River Road was blocked in 8/04 and closure is being maintained. This has been done to stop vehicle access and to protect a high pressure sour gas line that could threaten the public's safety if ruptured.

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

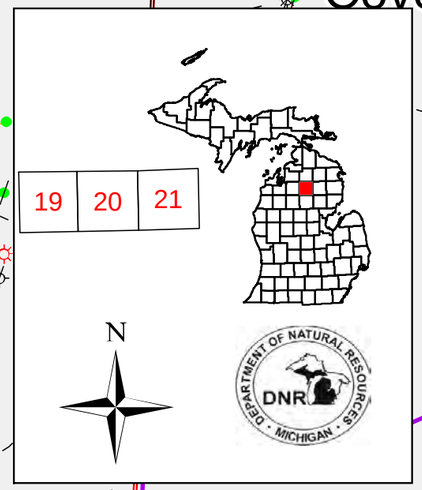
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

Compartment: 172
T28N R04W Sec. 19,20,21
County: Crawford
Unit: Grayling
Management Area: Grayling Ice Contact
YOE: 2016
Acres: 1,625 GIS Calculated
Examiner: Patrick Mohney
Map Revised: 09/04/2014
Map Phase: Pre-Review

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



Legend

- Miris Corners
- Remonumented Section Corners
- PLSS Corner
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Snowmobile Trail
- ORV Trail
- ORV Route
- Directional
- Horizontal (90 deg.)
- Oil & Gas Well Surface Locations
- Oil
- Natural Gas
- Gas Condensate
- Gas Injection
- Gas Storage
- Liquified Petroleum Gas Storage
- Gas Production and Brine Disposal
- Brine Disposal
- Dry Hole
- Water Injection
- Other Injection
- Observation
- Other
- Permitted Well Location
- Oil & Gas Wells Plugged Wells
- Pipeline
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Planting (tree species)

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 622 - Lowland Shrub
- 710 - Sand, Soil

Stand Boundary Map

Compartment: 172
T28N R04W Sec. 19,20,21
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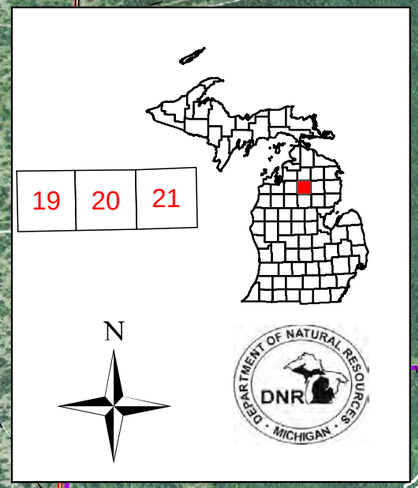
Level 3 Level 4 — OI Code
Cover Type Code



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- Highway
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- Brine Disposal
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- Stream
- Intermittent Stream
- Stand Boundaries

Forest Stands

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Special Conservation Areas & Site Conditions Map

Compartment: 172
T28N R04W Sec. 19,20,21
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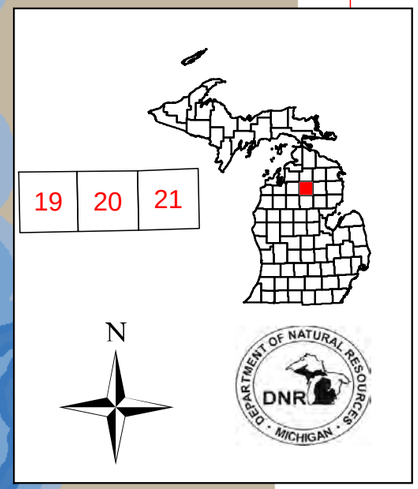

Legend
- Remonumented Section Corners
- Miris Corners
- Stand Boundaries

Special Conservation Areas
- Cold Water Streams
- Dedicated Management Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Lakes
- High Priority Trout Stream Buffer

17
15
19
20
21
22
30

9 **4211**-R9
5 **4212**-J6
2 **4211**-R6
3 **6112**-P5
8 **320**-U0
1 **622**-L0
4 **310**-G0
6 **310**-G0
10 **310**-G0
7 **310**-G0
14 **4133**-A5
18 **320**-U0
13 **310**-G0
11 **4211**-R9
17 **6124**-Q6
12 **4211**-R6
16 **310**-G0
15 **4191**-MD8
21 **4199**-MD3
24 **4199**-MD6
20 **310**-G0
22 **4131**-A6
23 **4199**-MD3
26 **4124**-O7
29 **4211**-R9
19 **4131**-A3
27 **4111**-M6
28 **710**-Y0
25 **310**-G0
32 **4211**-R6
33 **320**-U0
30 **4119**-M3
34 **310**-G0
37 **310**-G0
35 **4211**-R9
31 **4199**-MD6
38 **4139**-A3
36 **4199**-MD9
39 **4116**-M9
40 **4211**-R9
42 **310**-G0
44 **4110**-M3
41 **4110**-M8
43 **310**-G0
45 **4111**-M5
46 **4211**-R9
47 **310**-G0
48 **4116**-M9
51 **4130**-A6
56 **4110**-M6
49 **310**-G0
50 **4210**-W6
55 **310**-G0
52 **310**-G0
54 **310**-G0
53 **310**-G0
57 **320**-U0

1 0.5 0 1 Miles

84°51'0"W 84°50'0"W 84°49'0"W 84°48'0"W 84°47'0"W
44°49'0"N 44°48'0"N

Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit **Compartment 172 Year of Entry 2016**

Patrick Mohney : Examiner

Age Class

	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	Total
Aspen	0	0	250	0	59	0	0	0	0	0	0	0	0	0	**309**
Herbaceous Openland	148	0	0	0	0	0	0	0	0	0	0	0	0	0	**148**
Jack Pine	0	0	0	0	0	65	0	0	0	0	0	0	0	0	**65**
Lowland Aspen/Balsam Poplar	0	0	0	0	0	17	0	0	0	0	0	0	0	0	**17**
Lowland Conifers	0	0	0	0	0	0	0	3	0	0	0	0	0	0	**3**
Lowland Shrub	6	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
Mixed Upland Deciduous	33	0	20	0	0	0	82	75	19	0	0	0	0	0	**229**
Northern Hardwood	11	0	20	0	0	0	150	431	0	0	0	0	0	0	**612**
Oak	0	0	0	0	0	0	0	0	28	0	0	0	0	0	**28**
Red Pine	0	0	0	0	0	157	12	0	0	0	0	0	0	0	**170**
Sand, Soil	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Upland Shrub	11	0	0	0	0	0	0	0	0	0	0	0	0	0	**11**
White Pine	0	0	0	0	0	0	23	0	0	0	0	0	0	0	**23**
Total	**214**	**0**	**290**	**0**	**59**	**240**	**268**	**508**	**47**	**0**	**0**	**0**	**0**	**0**	**1625**

Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2016

Compartment 172
Total Compartment Acres: 1,625

Acres by Treatment Type

Commercial Harvest - 305	Tree Planting - 274	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Mixed Upland Deciduous	86	0	0	0	0	0	**86**
Northern Hardwood	86	0	0	0	0	0	**86**
Oak Types	28	0	0	0	0	0	**28**
Planted Pines	104	0	0	0	0	0	**104**
Total	**305**	**0**	**0**	**0**	**0**	**0**	**305**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	72172002-Cut	16.3	42110 - Planted Red Pine	High Density Pole	58	81-110	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest stand, utilize island retention

Other Comments: Place islands near edges of stands to make site prep easier for planting. Use any means necessary to prep site including herbicide, roller chopping, fire, etc...

Next Steps: Trench and plant to RP, regen survey.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
5	72172005-Cut	65.2	42120 - Planted Jack Pine	High Density Pole	54		Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: final harvest stand, utilize island retention

Other Comments: place islands near edges of stand to make site prep easier for planting. Use any means necessary to prep site including herbicide, roller chopping, fire, etc...

Next Steps: Trench and plant to RP, regen survey.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
15	72172015-Cut_small	29.8	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	66	51-80	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest stand, utilize island retention. Add Grouse drumming log spec.

Other Comments: let stand regenerate naturally. Will accept any combo of oak, aspen, RM, pine

Next Steps: regen survey

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
26	72172026-Cut	27.9	4124 - Red with White Oak	Low Density Log	87	1-50	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Final harvest stand 4" and up. Leave retention in islands. Protect as much regen as possible in the stand.

Other Comments:

Next Steps: Regen survey

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31	72172031-Cut	18.8	4199 - Other Mixed Upland Deciduous	High Density Pole	86	51-80	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: Final harvest stand. Place retention in islands around hemlock.

Other Comments: Let stand regenerate naturally. Any combination of oak, aspen, hardwood, conifer is acceptable.

Next Steps: regen survey

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
36	72172036-Cut	37.4	4199 - Other Mixed Upland Deciduous	High Density Log	78	51-80	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: final harvest stand. use island retention throughout stand. let stand regenerate naturally.

Other Comments: any combination of oak, aspen, hardwood and conifer is acceptable.

Next Steps: regen survey

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
45	72172045-Cut_small	46.0	4111 - S.Maple, Hard Mast Association	Medium Density Pole	78	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest selected portion of this stand. Leave no retention to maximize area for planting.

Other Comments: Herbicide, burn, roller chop, use any means necessary to prep site for planting to red pine. Also underplant some oak in the stand.

Next Steps: regen survey

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
48	72172048-Cut	40.1	4116 - Mixed N. Hardwood - Aspen	High Density Log	68	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest stand, leave no retention so that site conversion will be much easier.

Other Comments: Herbicide, burn, roller chop, use any means necessary to prep site for planting to red pine. Interplant oak as well in the stand.

Next Steps: regen survey.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
50	72172050-Cut	23.0	42100 - Planted White Pine	High Density Pole	63	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest stand. No retention to remove poor quality plantation trees and to maximize the area to replant.

Other Comments: trench and plant to RP. Use any means necessary to prep site such as herbicide or roller chopping. Also underplant oak in stand.

Next Steps: Regen Survey

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	72172003-Plant	17.1	6112 - Lowland Aspen	Medium Density Pole	53		Tree Planting	Hand Plant	613 - Lowland Mixed Forest	Cmpt. Review Proposal

Prescription Specs: cedars for the ausable has been planting and caging cedar trees along the river for 5 years.

Other Comments:

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
14	72172014-Plant	58.9	4133 - Aspen, Mixed Pine	Medium Density Pole	43	1-50	Tree Planting	Hand Plant	613 - Lowland Mixed Forest	Cmpt. Review Proposal

Prescription Specs: cedars for the ausable has been hand planting and caging cedar trees along the river for the last 5 years.

Other Comments:

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
17	72172017-Plant	7.2	6124 - Lowland Spruce-Fir	High Density Pole	73	51-80	Tree Planting	Hand Plant	613 - Lowland Mixed Forest	Cmpt. Review Proposal

Prescription Specs: Cedars for the Ausable has been planting cedar trees in here for the last 5 years. They are being planted and caged by a volunteeer group.

Other Comments:

Next Steps:

Proposed Start Date: Unspecified

Total Treatment Acreage Proposed: 387.7

Report 4 -- Treatments Prescribed with a Site Condition

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

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Type!

Limiting Factor

Total Treatment Acreage Proposed: 0.0

Report 5 – Site Conditions

Grayling Mgt. Unit

Patrick Mohney : Examiner

Compartment 172

Year of Entry 2016

Dominant Site Conditions

	No
Aspen	308
Jack Pine	65
Lowland Aspen/Balsam Poplar	17
Lowland Conifers	7
Mixed Upland Deciduous	229
Northern Hardwood	612
Oak	28
Red Pine	170
White Pine	23
Total Forested Acres	1,459
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.*

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

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	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
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.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42110 - Planted Red Pine	High Density Pole	16.3	58	81-110	Stand was thinned in 2007 under tsale contract 0060601. Poor site, RP is suffering. Lots of the rows are broken and scattered resulting in varying BA. Trees are short for age.
3	6112 - Lowland Aspen	Medium Density Pole	17.1	53		small acerage low wet aspen, a few white pine present. Quality is poor. Ground is wet and mucky in spots. Adjacent to Manistee River, in the natural river corridor.
5	42120 - Planted Jack Pine	High Density Pole	65.2	54		Poor quality JP stand. Site is about as bad as it gets. SI is in the low 30's. Kotar has it as PARVVB Soils, but I am confident that is incorrect. PVCD woudl be my guess. This area of Deward has had a long history of extremely hot and frequent fires basically sterilizing the soil. It is beginning to show signs of recovery, but there are many areas that have nothing growing at all.
9	42110 - Planted Red Pine	High Density Log	1.5	58	81-110	small red pine stand, stand continues north into adjacent compartment. RP is decent quality. Has red maple and oak regen underneath
11	42110 - Planted Red Pine	High Density Log	43.4	58	81-110	Stand was third row thinned in 2007 under tsale contract 0060601. Rows were difficult to delineate so producer was asked to stay with rows as best as they could. (6/18/09) 3rd row thin. Rows not always straight, some open areas of plantation failure. PART OF DEWARD MGT AREA. Stand has responded well to the thinning in spots, some areas are still kind of slow.
12	42110 - Planted Red Pine	High Density Pole	5.3	56	111-140	THINNED IN 1998 CONTRACT # 055-96-01. Original plantation was split due to pipeline construction.
14	4133 - Aspen, Mixed Pine	Medium Density Pole	58.9	43	1-50	Aspen and hardwood mixed stand. there is a powerline corridor running through the center of it. Low quality aspen, slowly transitions into poor quality hardwood/aspen/pine mix as you head east. Lots of deer activity in the winter. Low quality soils, very poor site.
15	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	82.2	66	51-80	Mix of large diam oaks with scattered red pine poles and log trees. Red maple and oak understory. Low BA, let understory become better established. OLD COMMENT. This is all scrubby oak with poor quality pine and aspen mixed in. It is along Manistee River road and has been neglected for years. The quality is poor and the health of the oak is starting to decline.
17	6124 - Lowland Spruce-Fir	High Density Pole	2.6	73	51-80	lowland stand with a nice mix of species. There is aspen along the edges as teh terrain starts to slope up away from the river. Down directly along the river has a nice lowland conifer component. I would like to spend more time in this stand if time allows just to get a better grasp on species makeup. Natural river corridor due to Manistee River. Cedars for the ausable planting is going on in this stand along the river.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4131 - Aspen, Oak	High Density Sapling	74.6	28		CLEARCUT IN 1988-GOOD REPRO, CUT SAME TIME AS STD 117. Poles beginning to develop. Red maple and hard maple stump sprouts . Maple aand beech in understory. Higher site index on east end of stand than in the west. Varying SI OLD COMMENT. Aspen is doing well, quality is fair, reaching pole sized.
21	4199 - Other Mixed Upland Deciduous	High Density Sapling	32.5	9		Stand was final harvested under tsale contract 0060601 in 2007. Sale has decent regen. It is filling in nicely. Some areas are open but should fill in over time.
22	4131 - Aspen, Oak	High Density Pole	18.9	26	1-50	Mixed oak and aspen stand. All decent quality. Getting into pole sized.
23	4199 - Other Mixed Upland Deciduous	High Density Sapling	20.2	26		A good mix of red maple, oak and aspen. Mostly red maple with aspen in pockets or clones. A few scattered red pine. CLEARCUT IN 1988. Steep terrain in stand.
24	4199 - Other Mixed Upland Deciduous	High Density Pole	37.7	78	81-110	SI calculates to high 50's, low 60's. Decent site. Very steep hills. Pipeline goes through the stand.
26	4124 - Red with White Oak	Low Density Log	27.9	87	1-50	Stand was shelterwood harvested under tsale contract 0060601 in 2007. FTP was submitted for white pine understory planting-FTP C72-613. Oak is hanging on, decent amount of regen. Observed numerous deer on south side of the stand staying warm this winter on the south facing slopes of hills. Deer browse is an issue in this stand. It was agreed to drop FTP C72-613 at compartment review. Planting of WP in understory is no longer desirable.
27	4111 - S.Maple, Hard Mast Association	High Density Pole	50.0	75	81-110	Stand has good regen, lots of small poles, open in some areas other areas better quality and more tightly spacing in others. A few scattered Red maple and aspen. Mostly beech regen. Quality is fair. Would like to re-visit if time allows and collect more data.
29	42110 - Planted Red Pine	High Density Log	41.4	59	81-110	THINNED IN 1998 CONTRACT # 055-96-01. RP Plantation is decent quality. Not doing much self pruning at this point. Understory is very dense in some spots.
30	4119 - Mixed Northern Hardwoods	High Density Sapling	11.2	6		Stand harvested 2008. decent regen. oak, and aspen filling in.
31	4199 - Other Mixed Upland Deciduous	High Density Pole	18.8	86	51-80	Nice mixed stand. Birch and aspen are starting to fail, oak is looking good and just getting into log class. Good regen underneath. Stand to the north was cut last YOE, I would expect similar results from this stand.
32	42110 - Planted Red Pine	High Density Pole	12.5	61	81-110	THINNED IN 1997 CONTRACT #055-96-01. RP plantation is decent quality. Self pruning has started.
35	42110 - Planted Red Pine	High Density Log	3.1	59	81-110	THINNED IN 1997 CONTRACT #055-96-01. RP is doing well, quality is decent. Dense hardwood understory.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4199 - Other Mixed Upland Deciduous	High Density Log	37.4	78	51-80	Mixed stand. Steep hills. Oak is getting old. Aspen is also showing its age. Access is good to stand, hills should be operable in most places
38	4139 - Aspen, Mixed Deciduous	High Density Sapling	48.5	25		Stand final harvested 1989. Dense regen, good condition. Not quite pole sized yet.
39	4116 - Mixed N. Hardwood - Aspen	High Density Log	40.0	74	51-80	Nice mixed stand, quality is fair. Understory is coming up nicely. Aspen is old and beginning to decline. Aspen has heavy concentrations in some areas. Some steep topography in the stand. Beech has scale on the bark. Old SI said 68, I was getting low 60's, its still a good site.
40	42110 - Planted Red Pine	High Density Log	31.2	51	111-140	3RD ROW THIN FDF POTENTIAL. THINNED IN 1997 CONTRACT #055-96-01. Trees have started to self prune. Growth is still decent and has responded well from thinning.
41	4110 - Sugar Maple Association	Medium Density Log	188.0	76	51-80	THINNED TO 80 BA IN 1996 UNDER CONTRACT #057-96. Decent quality hardwoods. Canopy is starting to fill in. Beech has scale on the bark.
44	4110 - Sugar Maple Association	High Density Sapling	19.8	28		cut in 1988. Regen is excellent. Good soils, SI was listed at 75 previously, I checked and agree. Fully stocked hardwood stand with a bit of an oak presence.
45	4111 - S.Maple, Hard Mast Association	Medium Density Pole	152.6	78	81-110	PARVHA soils. SI 55. Stand is made up mostly of poor quality and multi stemmed trees. Featured trees are log class, canopy is completely closed, but a large portion of the closure is made up from advanced regen in the understory. Thinning in adjacent stands has not really done much to improve things. It appears as the stands in this area were grazed at one point resulting in poor stem quality.
46	42110 - Planted Red Pine	High Density Log	15.0	58	81-110	3rd row THINNED last entry IN 1996 CONTRACT #055-96-01. RP plantation, trees are not real tall. Quality is decent. Trees are now getting into log sized in most places.
48	4116 - Mixed N. Hardwood - Aspen	High Density Log	40.1	68	81-110	Stand has a fairly decent representation of all 3 size classes of timber. Aspen is in poor condition. SM and Basswood are doing fairly well. This stand wasnt thinned when adjacent stand was for some reason. Beech has scale on the bark. Visited stand with Dan Heckman to discuss options.
50	42100 - Planted White Pine	High Density Pole	23.0	63	111-140	Poor quality white pine plantation. Lots of multi stem trees. Poor form. Decent hardwood component coming in understory. There is a fair amount of spruce planted in the stand as well.
51	4130 - Aspen	High Density Pole	107.6	26		Stand is on a decent site, SI of 65-70 in some places. SM is decent quality as well as aspen. Basswood is only a small component of the stand. Aspen size varies somewhat through the stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	4110 - Sugar Maple Association	High Density Pole	110.2	66	81-110	Decent hardwood stand. Pole sized stuff just now getting into log sized in most cases. Nice intermediate stand, a little younger than most of the other hardwood stands in the area. Beech has some scale starting on it. SM shows decent growth when cored.

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6223 - Inundated Shrub Swamp	6.1	No	Unspecified	cat tail and alder marsh area along side of the Manistee River.
4	3102 - Grass	24.1	No	Unspecified	well site
6	3102 - Grass	0.8	No	Unspecified	well site
7	3102 - Grass	0.8	No	Unspecified	well site
8	320 - Upland Shrub	2.1	Unspecified	Unspecified	
10	3105 - Mixed Upland Herbaceous	103.4	Natural Regen	Natural Mixed Pines	SCRUB PLAIN,IN DEWARD MGT AREA. Numerous old white pine stumps throughout the stand. Clumps of J6 scattered about with scattered pin oak, pin cherry, red maple and red pine. Understory is a mix of grass, blueberry, pin cherry and caribo moss. Stand barely has average of 10 sq ft of any species. OLD COMMENT
13	3105 - Mixed Upland Herbaceous	1.5	Yes	Low	Non forested stand, has some pin cherry and various conifers filling along the edges.
16	3102 - Grass	1.3	No	Unspecified	well site
18	320 - Upland Shrub	5.2	Unspecified	Unspecified	
20	3102 - Grass	1.0	No	Unspecified	well site
25	3102 - Grass	2.4	No	Unspecified	
28	710 - Sand, Soil	5.3	No	Unspecified	Large H2S facility
33	320 - Upland Shrub	2.5	Unspecified	Unspecified	
34	310 - Herbaceous Openland	1.3	Unspecified	Unspecified	
37	310 - Herbaceous Openland	0.9	Unspecified	Unspecified	
42	3102 - Grass	1.8	No	Unspecified	Well site Frederic 2-20
43	310 - Herbaceous Openland	0.9	Unspecified	Unspecified	

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
47	310 - Herbaceous Openland	1.1	Unspecified	Unspecified	
49	310 - Herbaceous Openland	2.0	Unspecified	Unspecified	
52	310 - Herbaceous Openland	1.1	Unspecified	Unspecified	
53	310 - Herbaceous Openland	1.9	Unspecified	Unspecified	
54	3102 - Grass	0.7	No	Unspecified	well site
55	310 - Herbaceous Openland	0.8	Unspecified	Unspecified	
57	320 - Upland Shrub	1.2	Unspecified	Unspecified	