COMPARTMENT REVIEW PRESENTATION

GAYLORD FOREST MANAGEMENT UNIT

COMPARTMENT: 22

ENTRY YEAR: 2013
ACREAGE: 2,203
COUNTY: Otsego

Revision Date: 04/01/2011

Stand Examiner: Ric Barta

Legal Description: T29N R04W Sec. 6, 7, 18, 19, 30-32

Management Goals: To provide for the protection, integrated management and responsible use of a healthy, productive, and undiminished forest resource base for the social, recreational, environmental, and economic benefit of the State of Michigan.

Soil and Topography: The low, level wetland areas are underlain with Rifle Peat-Carbondale Muck Association. The upland areas are dominated by Rubicon-Grayling sand everywhere except the east half of Section 32 which consists of Roselawn Sand.

Ownership Patterns, Development, and Land Use in and Around the Compartment: This compartment is the eastern edge of a vast tract of state land, the Deward Area. East of it is Wilderness Valley, a golf course and associated private properties. Immediately to the north lies Lakes of the North, a residential development. Some of the private holdings contain pine plantations while the remainder is scrubland. Deer hunting is evident here, as is camping and fishing along the Manistee river. Snowmobilers take advantage of the semi-open nature of the compartment and freely travel throughout it with little need for trails. A major gas pipeline traverses the entire north/south length of the compartment.

Unique, Natural Features: None noted

Archeological, Historical, and Cultural Features: Railroad grades from the logging era can be found throughout the compartment.

Special Management Designations or Considerations: Deward Management Area and Manistee Natural River. Restrictions on access and off-road travel have been put in place in the form of a Director's Order.

Watershed and Fisheries Considerations: The Upper Manistee River in Compartment 22 is a designated trout stream as well as a state designated Natural River, so Natural Rivers guidelines should be adhered to. Since this river is of very high quality, its trout population is supported through natural reproduction and is not stocked. To keep trout streams in good condition it is important to limit sediment input, maintain riparian shading, and encourage woody debris recruitment. Restricting cutting to outside of the appropriate buffers will help to maintain the temperatures and habitat required to keep the river healthy. As always, the appropriate BMP's should be applied when working in the proximity of surface water.

Wildlife Habitat Considerations: This compartment consists of a mix of upland and wetland's associated with the northern reaches of the Manistee River. The Manistee River corridor is used by waterfowl, numerous furbearers, and a variety of amphibian and songbird species. The upland areas of this compartment consist mainly of red and jack pine and aspen which are used by white-tailed deer, wild turkey, woodcock and grouse. There is a considerable amount of mature planted jack pine along the river that are going to be treated with a variety of methods to encourage native plant communities.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 1,000 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is located one mile to the east (Section 17), and gravel potential appears to be good. Most of the State land in the compartment has been leased for oil and gas development. The Antrim Shale has not been developed on the State land for the most part. Production has been developed on private acreage to the east and gas is most likely being drained from under the State land. Additional oil and gas potential from the Guelph (Niagaran) reef trend is possible.

Vehicle Access: Director's Order II-80-5 restricts access and prohibits off-road traffic in that part of the compartment bounded by Deward road, Mancelona Road and Manistee River Road.

Survey Needs: None are expected.

Recreational Facilities and Opportunities: This compartment has a segment of snowmobile trail in Sections 6 and 7.

Fire Protection: No foreseen problems

Additional Compartment Information:

- **The following 3 reports from the IFMAP Inventory System are attached:**
  - **Cover Type by Age Class**
  - **Proposed Treatments – No Limiting Factors**
  - **Proposed Treatments – With Limiting Factors**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
  - **Base feature information, stand numbers, cover types**
  - **Proposed treatments**
  - **Proposed road access system**
  - **Suggested potential and current SCA's**

Cover Type & Treatment Map

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

Compartment 022
T29N, R04W, Sec. 6, 7, 18, 19, 30 - 32
County: Otsego
Unit: Gaylord
YOE: 2013
Acres: 2,152 GIS Calculated
Stand Examiner: Ric Barta
Map Revised: 5/26/2011
Map Phase: Pre-Review

6 | 7 | 18 | 19 | 30 | 31 | 32

N

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Legend
- Pipelines
- Culverts
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Snowmobile Trail
- Lakes and Rivers
- Intermittent Stream/Drain
- Stream

Planned Regeneration
- Natural
- Planted

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)

Forest Stands
Level 3
- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands
Level 3
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil
- 790 - Other Bare/Sparsely Vegetated

1 0.5 0 1 Miles

Stand Boundary Map

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

Compartment 022
T29N, R04W, Sec. 6, 7, 18, 19, 30 - 32
County: Otsego
Unit: Gaylord
YOE: 2013
Acres: 2,152 GIS Calculated
Stand Examiner: Ric Barta
Map Revised: 5/26/2011
Map Phase: Pre-Review

Legend
- Miris Corners
- Remonumented Section Corners
- Pipelines
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Culverts
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Snowmobile Trail
- Intermittent Stream/Drain
- Stream
- Stand Boundaries

Forest Stands
- Level 3
  - 411 - Northern Hardwood
  - 413 - Aspen Types
  - 421 - Planted Pines
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Non-Forest Stands
- Level 3
  - 310 - Herbaceous Openland
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  - 330 - Low-Density Trees
  - 500 - Water
  - 622 - Lowland Shrub
  - 623 - Emergent Wetland
  - 710 - Sand, Soil
  - 790 - Other Bare/Sparsely Vegetated

6 7 18 19 30 31 32

N

1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

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

Compartment 022
T29N, R04W, Sec. 6, 7, 18, 19, 30 - 32
County: Otsego
Unit: Gaylord
YOE: 2013
Acres: 2,152 GIS Calculated
Stand Examiner: Ric Barta
Map Revised: 5/26/2011
Map Phase: Pre-Review

6 7 18 19 30 31 32

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Legend
- Miris Corners
- Stand Boundaries

Cold Water Streams
- Cold Water Streams
- Dedicated Management Areas
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer

Forest Stands

Level 3
- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil
- 790 - Other Bare/Sparsely Vegetated

6
1 330-U0
3 4211-R6
4 622-V0
2 500-Z0
7 6124-Q5
6 6123-Q5
8 6120-C6
5 6113-E6
9 310-G0
11 4212-J6
10 4211-R6
13 4211-R6
12 6124-Q5
14 330-U0
15 6117-E5
17 622-D0
16 310-G0
18 330-U0

7
18
19 310-G0
27 310-G0
23 4112-M6
20 622-V0
25 4133-A6
21 622-L0
24 620-U0
22 6128-Q9
29 320-U0
28 622-V0
30 710-Y0
26 6128-Q9
33 6128-Q9
31 310-G0
32 790-X0
36 330-U0
35 4211-R6
34 4212-J6
39 330-U0
38 310-G0
37 6128-Q9
19
42 4212-J6
41 622-L0
40 4211-R6
43 4212-J6
44 320-U0
45 323-N0
46 4211-R6
48 6112-P6
50 310-G0
51 622-L0
49 4212-J6
47 310-G0
53 310-G0
54 4211-R6
58 4220-W6
56 4133-A6
57 4130-A5
55 310-G0
59 622-L0
60 4139-A4
61 330-U0
62 4211-R6
52 310-G0
63 4220-W6
65 330-U0
64 4211-R6
68 4130-A3
74 330-U0
70 330-U0
30
66 4130-A3
67 4212-J6
71 330-U0
72 330-U0
69 330-U0
73 4212-J6
75 310-G0
76 330-U0
79 310-G0
77 4212-J6
80 310-G0
84 4212-J6
78 622-L0
88 4133-A5
90 310-G0
83 4212-J6
82 310-G0
86 4211-R6
85 320-U0
92 6124-Q6
87 4212-J6
89 4212-J6
81 622-L0
91 500-Z0
94 4130-A6
100 4212-J6
98 4212-J6
97 622-V0
99 4212-J6
95 330-U0
102 4211-R3
105 4112-M3
96 4212-J6
107 4211-R6
109 4130-A4
111 622-L0
108 622-L0
110 710-Y0

32
93 4130-A3
103 310-G0
101 4130-A3
104 330-U0
112 4130-A6
106 4112-M6

1 0.5 0 1 Miles

84°52'0"W 84°51'0"W 84°50'0"W 84°49'0"W 84°48'0"W 84°47'0"W
44°57'0"N 44°56'0"N 44°55'0"N 44°54'0"N 44°53'0"N 44°52'0"N 44°51'0"N

Table 1 – Total Acres by Cover Type and Age Class

Gaylord Mgt. Unit **Compartment 022 Year of Entry 2013**

Richard Barta : Examiner

Age Class

	Non-Forested	1-9	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	4	110	45	124	0	31	0	11	0	0	0	0	0	0	**324**
Bare/Sparsely Vegetated	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Bog	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
Cedar	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	**28**
Herbaceous Openland	217	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**217**
Jack Pine	0	0	0	0	0	0	231	0	0	0	0	0	0	0	0	**231**
Low-Density Trees	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**248**
Lowland Aspen/Balsam Poplar	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	**6**
Lowland Conifers	0	0	0	0	16	0	0	0	108	122	8	0	0	0	0	**254**
Lowland Deciduous	0	0	0	0	3	57	0	0	0	0	0	0	0	0	0	**60**
Lowland Shrub	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**263**
Marsh	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Northern Hardwood	0	21	0	0	0	6	0	0	59	0	0	0	0	0	0	**85**
Red Pine	0	0	0	139	0	49	145	0	0	0	0	0	0	0	0	**333**
Sand, Soil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Treed Bog	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Upland Shrub	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**51**
Water	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**20**
White Pine	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	**6**
Total	**824**	**24**	**110**	**184**	**149**	**112**	**407**	**0**	**206**	**128**	**8**	**0**	**0**	**0**	**0**	**2152**

Table 2 – Proposed Treatment Summaries

Gaylord Mgt. Unit
Year of Entry 2013

Compartment 022
Total Compartment Acres: 2152

Acres by Treatment Type

Commercial Harvest - 318	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	11	0	0	0	0	0	**11**
Jack Pine	212	0	0	0	17	0	**229**
Red Pine	0	77	0	0	0	0	**77**
Total	**223**	**77**	**0**	**0**	**17**	**0**	**318**

Table 3 -- Treatments Prescribed with No Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	52022003-Cut	41.7	42110 - Planted Red Pine	High Density Pole	54	Harvest	Single Tree Selection	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Mark to thin no lower than 120 BA. No retention.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
10	52022010-Cut	35.8	42110 - Planted Red Pine	High Density Pole	53	Harvest	Single Tree Selection	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Mark to thin no lower than 120 BA. No retention.

Other Comments: Only treat the north half of the stand.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	52022034-Cut	19.5	42120 - Planted Jack Pine	High Density Pole	51	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Clearcut. Leave retention along wetland.

Other Comments:

Next Steps: Reconsider management objective during discussions on Compartment 64 in 2017YOE.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
42	52022042-Cut	3.9	42120 - Planted Jack Pine	High Density Pole	51	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Stands 42, 43 and 49 were originally one plantation. Leave enough of this stand to serve as retention for all three, with no retention on 43 and 49.

Other Comments: Chipping is preferable.

Next Steps: Replant red pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
43	52022043-Cut	25.3	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs:

Other Comments: Retention is in Stand 42. Chipping is preferable.

Next Steps: Replant red pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
49	52022049-Cut	3.2	42120 - Planted Jack Pine	High Density Pole	51	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs:

Other Comments: Retention is in Stand 42. Chipping is preferable.

Next Steps: Replant red pine.

67	52022067-Cut	4.9	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	3205 - Mixed Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Clear cut. Retention along the wetland.

Other Comments:

Next Steps: Goal is nonforested, but will accept natural regeneration as well.

73	52022073-Cut	16.1	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	3205 - Mixed Upland Shrub	Cmpt. Review Proposal

Prescription Specs: --Richard Barta : 05/23/2011 comments:

Clear cut with no retention.

Other Comments: Must be chipped to facilitate burn.

Next Steps: Possible prescribed burn to maintain opening. Natural River buffer will be left to revegetate naturally and then left untreated henceforth.

73	52022073-Cut_south	10.9	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Systematic Thinning	42141 - Planted Mixed Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Remove 50%.

Other Comments:

Next Steps: Underplant entire stand with white pine and red oak while minimizing site prep (containerized stock?).

77	52022077-Cut	13.1	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	3205 - Mixed Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention along wetland.

Other Comments:

Next Steps: Burn the northern 2/3rds with stand 76.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
83	52022083-Cut	6.5	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Systematic Thinning	42141 - Planted Mixed Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Remove 50%.

Other Comments:

Next Steps: Underplant entire stand with white pine and red oak while minimizing site prep (containerized stock?).

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
84	52022084-Cut	36.6	42120 - Planted Jack Pine	High Density Pole	51	Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Clear cut w/reserves. Retention west of road and north of area to be planted.

Other Comments:

Next Steps: Replant red pine adjacent to stand 86. Manage for upland brush adjacent to stand 69.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
87	52022087-Cut	22.9	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	3205 - Mixed Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention along the wetland.

Other Comments:

Next Steps: Burn the south half of stand (south of stand 82) with stand 85 to the east.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
89	52022089-Cut north	10.5	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention along wetland.

Other Comments:

Next Steps: Replant a mix of white pine, red pine and red oak.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
89	52022089-Cut_south	3.6	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	4132 - Aspen, Jack Pine	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention along wetland.

Other Comments:

Next Steps: Allow to naturally regenerate to some mix of aspen, mixed deciduous and pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
94	52022094-Cut	10.9	4130 - Aspen	High Density Pole	72	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention at the east end.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
96	52022096-Cut	26.4	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention near center of stand around the aspen clone.

Other Comments:

Next Steps: Replant red pine north of stand 95. Management objective is upland brush east of 95. Natural regeneration of jack pine and mixed deciduous adjacent to stand 105.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
98	52022098-Cut	4.3	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	4132 - Aspen, Jack Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest.

Other Comments: Retention is in the adjacent stand. This should have been a multi-part stand, so this would qualify.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
99	52022099-Cut	8.5	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	4132 - Aspen, Jack Pine	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention along bog at west edge.

Other Comments:

Next Steps: Natural regeneration to jack pine and aspen w/mixed deciduous.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
100	52022100-Cut	12.9	42120 - Planted Jack Pine	High Density Pole	50	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Clear cut with retention along the wetland.

Other Comments:

Next Steps: Replant red pine. No site prep or planting inside of the 175' Natural River buffer with the goal of natural regeneration for that area.

Total Treatment Acreage Proposed: 317.7

Table 4 -- Treatments Prescribed with a Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error						

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: **0**

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status

Prescription Specs:

Other Comments:

Next Steps:

Total Treatment Acreage Proposed: **0**

Data updated before 10:00 AM

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
3	42110 - Planted Red Pine	High Density Pole	41.7	54	171-200	
5	6113 - Lowland Maple	High Density Pole	57.4	47	81-110	Erratic stocking. Wet. Form is weak.
6	6123 - Lowland Fir	Medium Density Pole	36.8	75	51-80	Stocking is patchy.
7	6124 - Lowland Spruce-Fir	Medium Density Pole	44.5	73	51-80	Wet.
8	6120 - Lowland Cedar	High Density Pole	28.4	79	111-140	Tag alder is patchy.
10	42110 - Planted Red Pine	High Density Pole	94.4	53	141-170	Doubles are common.
11	42120 - Planted Jack Pine	High Density Pole	2.0	52	51-80	Natural River protocol may apply. This small acreage should be managed with the rest of this plantation, which lies in the adjacent compartment.
12	6124 - Lowland Spruce-Fir	Medium Density Pole	15.8	37	51-80	
13	42110 - Planted Red Pine	High Density Pole	6.0	49	111-140	Natural River protocol may apply.
15	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	3.1	33	1-50	
22	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	12.4	80	81-110	
23	4112 - Maple, Beech, Cherry Association	High Density Pole	6.0	42	51-80	One of only two hardwood stands in the compartment.
25	4133 - Aspen, Mixed Pine	High Density Pole	7.4	32		
26	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	3.1	70	81-110	
33	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	23.8	79	51-80	
34	42120 - Planted Jack Pine	High Density Pole	19.5	51	111-140	Natural River is nearby.
35	42110 - Planted Red Pine	High Density Pole	22.1	28	111-140	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	8.0	97	51-80	
40	42110 - Planted Red Pine	High Density Pole	9.1	51	141-170	Stocking is erratic. Canopy is slightly broken.
42	42120 - Planted Jack Pine	High Density Pole	3.9	51	81-110	
43	42120 - Planted Jack Pine	High Density Pole	25.3	52	81-110	
46	42110 - Planted Red Pine	High Density Pole	12.4	49	141-170	
48	6112 - Lowland Aspen	High Density Pole	5.8	31	51-80	Seems transitional between dry and wet; difficult to tell in winter.
49	42120 - Planted Jack Pine	High Density Pole	3.2	51	81-110	
54	42110 - Planted Red Pine	High Density Pole	17.6	49	81-110	
56	4133 - Aspen, Mixed Pine	High Density Pole	7.6	39	51-80	
57	4130 - Aspen	Medium Density Pole	54.4	39	1-50	
58	42200 - Natural White Pine	High Density Pole	3.8	80	81-110	Stand consists of poles surrounding a few dominant sawlogs. Dominant trees too large to bore accurately; age is estimated.
60	4139 - Aspen, Mixed Deciduous	Low Density Pole	2.7	31	1-50	
62	42110 - Planted Red Pine	High Density Pole	14.1	28	51-80	
63	42200 - Natural White Pine	High Density Pole	2.1	80	111-140	
64	42110 - Planted Red Pine	High Density Pole	32.7	28	51-80	
66	4130 - Aspen	High Density Sapling	2.4	6		Recently clearcut.
67	42120 - Planted Jack Pine	High Density Pole	4.9	52	81-110	
68	4130 - Aspen	High Density Sapling	1.5	6		Recently clearcut.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
73	42120 - Planted Jack Pine	High Density Pole	27.1	52	111-140	
77	42120 - Planted Jack Pine	High Density Pole	13.1	52	81-110	
83	42120 - Planted Jack Pine	High Density Pole	6.5	52	111-140	
84	42120 - Planted Jack Pine	High Density Pole	36.6	51	51-80	
86	42110 - Planted Red Pine	High Density Pole	44.5	29	51-80	
87	42120 - Planted Jack Pine	High Density Pole	22.9	52	81-110	
88	4133 - Aspen, Mixed Pine	Medium Density Pole	27.2	36	1-50	
89	42120 - Planted Jack Pine	High Density Pole	14.1	52	111-140	
92	6124 - Lowland Spruce-Fir	High Density Pole	109.5	85	51-80	Natural River present.
93	4130 - Aspen	High Density Sapling	109.5	16		Recent clearcut.
94	4130 - Aspen	High Density Pole	10.9	72	51-80	Clones consisting of varying sizes/ages. May want to cut with adjacent jack pine stands and replant.
96	42120 - Planted Jack Pine	High Density Pole	26.4	52	111-140	
98	42120 - Planted Jack Pine	High Density Pole	4.3	52	111-140	
99	42120 - Planted Jack Pine	High Density Pole	8.5	52	81-110	
100	42120 - Planted Jack Pine	High Density Pole	12.9	50	81-110	
101	4130 - Aspen	High Density Sapling	24.9	37	1-50	Small for its age.
102	42110 - Planted Red Pine	High Density Sapling	25.8	29	111-140	
105	4112 - Maple, Beech, Cherry Association	High Density Sapling	20.6	8		Recent clearcut.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
106	4112 - Maple, Beech, Cherry Association	High Density Pole	58.8	74	81-110	Appears to have the potential to grow decent hard maple. Aspen is falling out now. Stocking is more erratic than BA swings indicate..
107	42110 - Planted Red Pine	High Density Pole	12.9	49	141-170	
109	4130 - Aspen	Low Density Pole	30.8	50	1-50	Patchy stocking that grades in and out of aspen and upland brush.
112	4130 - Aspen	High Density Pole	44.6	24	1-50	

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3301 - Low Density Deciduous Tree	2.1	N\A	Unspecified	
2	50 - Water	13.2	N\A	Unspecified	Duck Lake.
4	6225 - Bog	1.4	N\A	Unspecified	
9	3105 - Mixed Upland Herbaceous	21.9	N\A	Unspecified	Pipeline.
14	3302 - Low Density Conifer Trees	17.6	N\A	Unspecified	Scattered small cedar and spruce with tag alder and marsh grass/sedge.
16	3102 - Grass	1.0	N\A	Unspecified	
17	6224 - Treed Bog	5.1	N\A	Unspecified	
18	3301 - Low Density Deciduous Tree	6.1	N\A	Unspecified	
19	3102 - Grass	1.9	N\A	Unspecified	
20	6225 - Bog	1.6	N\A	Unspecified	Covered at times at least in part by standing water.
21	6229 - Mixed lowland shrub	16.3	N\A	Unspecified	
24	3205 - Mixed Upland Shrub	11.8	N\A	Unspecified	
27	3105 - Mixed Upland Herbaceous	5.0	N\A	Unspecified	Pipeline.
28	6225 - Bog	5.6	N\A	Unspecified	
29	3205 - Mixed Upland Shrub	1.0	N\A	Unspecified	
30	710 - Sand, Soil	1.2	N\A	Unspecified	Gas facility.
31	3102 - Grass	4.1	N\A	Unspecified	Mancelona Road right of way.
32	790 - Other Bare/Sparsely Vegetate	3.3	N\A	Unspecified	Appears to be a borrow pit.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
36	3301 - Low Density Deciduous Tree	24.9	N\A	Unspecified	Scattered red maple mostly with some cherry and white pine.
38	3102 - Grass	4.2	N\A	Unspecified	
39	3301 - Low Density Deciduous Tree	2.4	N\A	Unspecified	
41	6229 - Mixed lowland shrub	107.8	N\A	Unspecified	
44	3205 - Mixed Upland Shrub	1.5	N\A	Unspecified	
45	6233 - Wet Meadow	4.2	N\A	Unspecified	Some tag alder as well.
47	3102 - Grass	1.7	N\A	Unspecified	Scattered small white pine and cherry.
50	3105 - Mixed Upland Herbaceous	24.4	Planted	Red Pine	Red Pine Project. It is supposed to be replanted to red pine in the not too distant future.
51	6229 - Mixed lowland shrub	18.9	N\A	Unspecified	
52	3105 - Mixed Upland Herbaceous	35.9	N\A	Unspecified	Pipeline.
53	3102 - Grass	1.0	N\A	Unspecified	
55	3104 - Degraded	1.1	N\A	Unspecified	Well site.
59	6220 - Alder/willow	9.1	N\A	Unspecified	
61	3301 - Low Density Deciduous Tree	4.7	N\A	Unspecified	
65	3301 - Low Density Deciduous Tree	5.9	N\A	Unspecified	
69	3301 - Low Density Deciduous Tree	21.3	N\A	Unspecified	
70	3302 - Low Density Conifer Trees	9.0	N\A	Unspecified	Stocking up to 90 BA can be found at the edge of the upland but overall the trees are scattered over wetland shrubs.
71	3302 - Low Density Conifer Trees	15.4	Planted	Jack Pine	Mix of planted white pine and natural jack pine, all of which are seedling size.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
72	3301 - Low Density Deciduous Tree	15.1	Yes	Unspecified	Recently burned.
74	3301 - Low Density Deciduous Tree	11.0	N\A	Unspecified	
75	3105 - Mixed Upland Herbaceous	62.2	Planted	Red Pine	Red Pine Project. It is supposed to be replanted to red pine in the not too distant future.
76	3301 - Low Density Deciduous Tree	7.2	N\A	Unspecified	
78	6229 - Mixed lowland shrub	45.4	N\A	Unspecified	
79	3105 - Mixed Upland Herbaceous	3.5	N\A	Unspecified	Pipeline.
80	3105 - Mixed Upland Herbaceous	7.0	Planted	Red Pine	Red Pine Project. It is supposed to be replanted to red pine in the not too distant future.
81	6229 - Mixed lowland shrub	50.2	N\A	Unspecified	
82	3105 - Mixed Upland Herbaceous	24.5	Planted	White Pine	Mix of planted white pine and naturally regenerating jack pine, all of which are seedling size.
85	3205 - Mixed Upland Shrub	36.7	N\A	Unspecified	
90	3102 - Grass	16.4	N\A	Unspecified	Pipeline.
91	50 - Water	7.0	N\A	Unspecified	
95	3301 - Low Density Deciduous Tree	25.0	N\A	Unspecified	
97	6225 - Bog	1.8	N\A	Unspecified	
103	3104 - Degraded	1.0	N\A	Unspecified	Well site.
104	3302 - Low Density Conifer Trees	79.8	Planted	Red Pine	Red Pine Project. It is supposed to be planted back to red pine.
108	6229 - Mixed lowland shrub	5.7	N\A	Unspecified	

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
110	710 - Sand, Soil	1.1	N\A	Unspecified	Facility.
111	6229 - Mixed lowland shrub	9.7	N\A	Unspecified	

7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Stand	SCA Type	SCA Name	Acres	Comments

8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

Conservation Area	Type	Description
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.
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.