COMPARTMENT REVIEW PRESENTATION

GAYLORD FOREST MANAGEMENT UNIT

COMPARTMENT: 151

ENTRY YEAR: 2013
ACREAGE: 1,641
COUNTY: Cheboygan

Revision Date: 03/23/2011

Stand Examiner: Paul Roell

Legal Description: T35N-R3W Sections 25, 26, 27, 34, 35, & 36

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: This compartment is very flat with some small changes in topography in the North West corner. Dominant soil types are excessively drained Rubicon, Grayling, and Zimmerman Sands. These very dry, sandy soils formed on outwash plains. A few small additions to this compartment are close or adjacent to the Sturgeon River. Within these additions the following soils are present, Croswell Sand, Grousehaven Variant Muck, Blue Lake Loamy Sand, and Lupton Muck.

Ownership Patterns, Development, and Land Use in and Around the Compartment: State ownership is fairly contiguous with surrounding private property being broken into small private parcels. There are some small additions to this compartment east of the Sturgeon River. There is a substantial amount of ORV, snowmobile, hunting, and hiking use throughout this compartment. The compartment is prone to illegal trash dumping, illegal deer stands, and brush dumping because of its proximity to Indian River.

Unique, Natural Features: Historical record for Alleghany plum* centered in section 26 and mapped throughout much of compartment. Hill's thistle* is mapped throughout section 36. There are red-shouldered hawk records surrounding the compartment.

Archeological, Historical, and Cultural Features: There is an archeological, historical, or cultural feature within the area of my compartment.

Special Management Designations or Considerations: None noted

Watershed and Fisheries Considerations: This compartment is within the Burt Lake watershed, which is within the larger Cheboygan River drainage. The compartment also contains a few parcels adjacent to the Sturgeon River. There are no treatments scheduled near waterbodies, so there are no Fisheries concerns at this time.

Wildlife Habitat Considerations: This compartment contains mostly upland habitat which consist mainly of oak, aspen, jack and red pine. Stands 4, 16, 21, 22, 23, and 27 are going to be treated to provide early successional habitat for white-tailed deer, wild turkey, grouse, and woodcock. These treatments will have clumps of mature oak left through out for hard mast production while still regenerating oak for future mast production.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of dune sand and lacustrine sand and gravel. An ancient shoreline is in this area. The glacial drift thickness varies between 10 and 100 feet, thinning to the south. The Devonian Traverse Group subcrops below the glacial drift. The Traverse is used for cement and stone elsewhere in the State. A brick plant, using local clay/shale resources, was located two miles to the west. The nearest gravel pit is located in the NW of Section 27. The compartment appears to have gravel potential. The nearest oil and gas production, the Antrim Shale gas play, is located 14 miles to the south. The Collingwood Formation may have oil and gas potential in the area.

There are mineral leases by the Encana Oil & Gas (USA) Inc. and there is currently survey markers placed in the southern area of the compartment.

Vehicle Access: Access is good throughout the compartment.

Survey Needs: None at this time.

Recreational Facilities and Opportunities: There are a lot of recreational trails throughout the compartment that will need to be protected as treatments are prescribed.

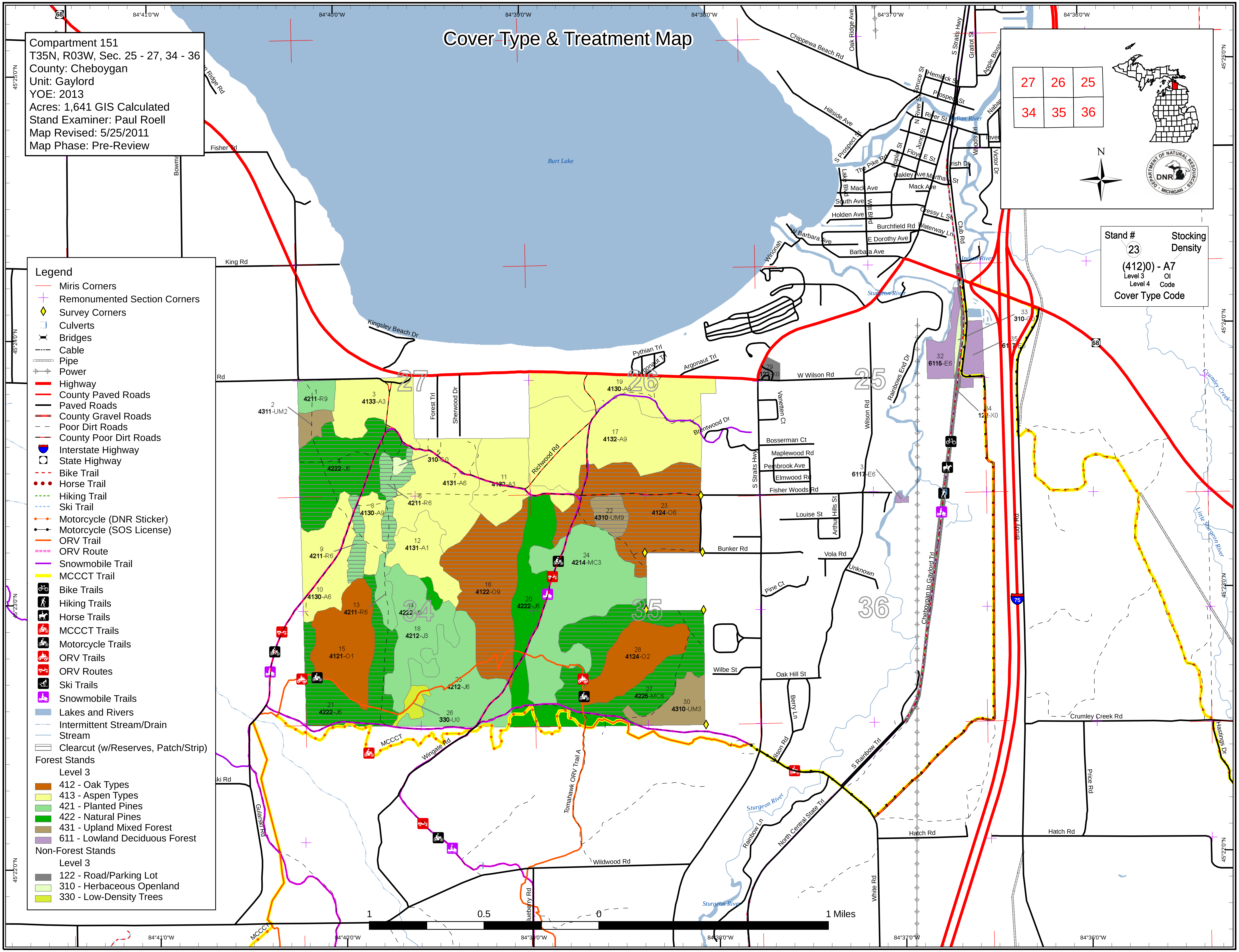
Fire Protection: There are several areas of excessive jack pine slash throughout the compartment. There is also a significant amount of mature jack pine that is proposed for treatment, which will help to reduce the fire fuel load throughout the compartment.

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
Compartment 151
T35N, R03W, Sec. 25 - 27, 34 - 36
County: Cheboygan
Unit: Gaylord
YOE: 2013
Acres: 1,641 GIS Calculated
Stand Examiner: Paul Roell
Map Revised: 5/25/2011
Map Phase: Pre-Review
27 26 25
34 35 36
Stand # 23 Stocking Density
(412)0) - A7
Level 3 Level 4 OI Code
Cover Type Code
Legend
Miris Corners
Remonumented Section Corners
Survey Corners
Culverts
Bridges
Cable
Pipe
Power
Highway
County Paved Roads
Paved Roads
County Gravel Roads
Poor Dirt Roads
County Poor Dirt Roads
Interstate Highway
State Highway
Bike Trail
Horse Trail
Hiking Trail
Ski Trail
Motorcycle (DNR Sticker)
Motorcycle (SOS License)
ORV Trail
ORV Route
Snowmobile Trail
MCCCT Trail
Bike Trails
Hiking Trails
Horse Trails
MCCCT Trails
Motorcycle Trails
ORV Trails
ORV Routes
Ski Trails
Snowmobile Trails
Lakes and Rivers
Intermittent Stream/Drain
Stream
Clearcut (w/Reserves, Patch/Strip)
Forest Stands
Level 3
412 - Oak Types
413 - Aspen Types
421 - Planted Pines
422 - Natural Pines
431 - Upland Mixed Forest
611 - Lowland Deciduous Forest
Non-Forest Stands
Level 3
122 - Road/Parking Lot
310 - Herbaceous Openland
330 - Low-Density Trees
Burt Lake
Sturgeon River
Indian River
Crumley Creek
Little Sturgeon River
1 4211-R9
2 4311-UM2
3 4133-A3
4 4222-J6
5 310-O0
6 4211-R6
7 4131-A6
8 4130-A9
9 4211-R6
10 4130-A6
11 4132-A3
12 4131-A1
13 4211-R6
14 4222-J6
15 4121-O1
16 4122-O9
17 4132-A9
18 4212-J3
19 4130-A8
20 4222-J6
21 4222-J6
22 4310-UM9
23 4124-O6
24 4214-MC3
25 4212-J6
26 330-U0
27 4225-MC6
28 4124-O2
29 122-X0
30 4310-UM3
31 6117-E6
32 6115-E6
33 310-O0
34 122-X0
Kingsley Beach Dr
Fisher Rd
King Rd
Richwood Rd
Brentwood Dr
W Wilson Rd
Wilson Rd
Bunker Rd
Vola Rd
Wilbe St
Oak Hill St
Crumley Creek Rd
Hatch Rd
Wildwood Rd
White Rd
Wingate Rd
MCCCT
Tomahawk ORV Trail A
North Central State Trl
S Rainbow Trl
Cheboygan to Gaylord Trl
Brady Rd
Gularski Rd
Chippewa Beach Rd
Hillside Ave
Forest Trl
Sherwood Dr
Pythian Trl
Argonaut Trl
Fisher Woods Rd
Maplewood Rd
Bosserman Ct
Pembrook Ave
Elmwood Rd
Louise St
Arthur Hills St
Pine Ct
Varetten Ct
S Straits Hwy
Rainbows End Dr
Berry Ln
Rainbow Ln
Hastings Dr
Price Rd
84°41'0"W
84°40'0"W
84°39'0"W
84°38'0"W
84°37'0"W
84°36'0"W
45°25'0"N
45°24'0"N
45°23'0"N
45°22'0"N
1 0.5 0 1 Miles
N

Stand Boundary Map

Compartment 151
T35N, R03W, Sec. 25 - 27, 34 - 36
County: Cheboygan
Unit: Gaylord
YOE: 2013
Acres: 1,641 GIS Calculated
Stand Examiner: Paul Roell
Map Revised: 5/25/2011
Map Phase: Pre-Review

27	26	25
34	35	36

N

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

Legend

- Miris Corners
- Survey Corners
- Remonumented Section Corners
- Cable
- Pipe
- Power
- Culverts
- Bridges
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Interstate Highway
- State Highway
- Bike Trail
- Horse Trail
- MCCCT Trail
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Hiking Trail
- Ski Trail
- Bike Trails
- Hiking Trails
- Horse Trails
- MCCCT Trails
- Motorcycle Trails
- ORV Trails
- ORV Routes
- Ski Trails
- Snowmobile Trails
- Intermittent Stream/Drain
- Stream
- Stand Boundaries

Forest Stands

Level 3

- 412 - Oak Types
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees

1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 151
T35N, R03W, Sec. 25 - 27, 34 - 36
County: Cheboygan
Unit: Gaylord
YOE: 2013
Acres: 1,641 GIS Calculated
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Map Revised: 5/25/2011
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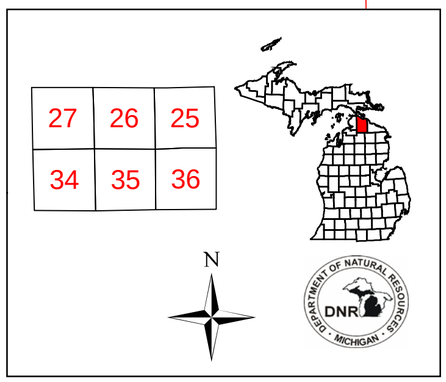
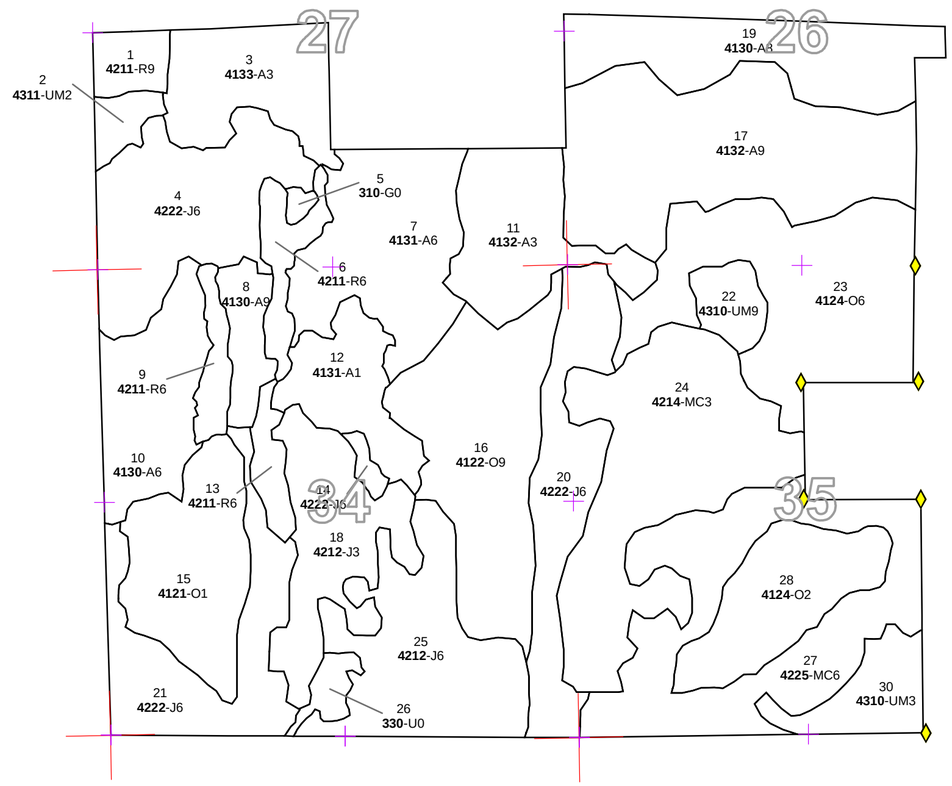


Stand # 23 — Stocking Density
(412)0) - A7
Level 3 / Level 4 — OI Code
Cover Type Code



Legend
- Miris Corners
- Survey Corners
- Remonumented Section Corners

Dedicated Special Conservation Areas
- Cold Water Streams
- Boat Access Sites
- Stand Boundaries

Forest Stands

Level 3
- 412 - Oak Types
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest

Non-Forest Stands

Level 3
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees

1 0.5 0 1 Miles

84°41'0"W 84°40'0"W 84°39'0"W 84°38'0"W 84°37'0"W 84°36'0"W
45°25'0"N 45°24'0"N 45°23'0"N 45°22'0"N

Table 1 – Total Acres by Cover Type and Age Class

Gaylord Mgt. Unit **Compartment 151 Year of Entry 2013**

Paul Roell : 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	92	57	0	0	80	74	0	0	208	0	0	0	0	0	**510**
Herbaceous Openland	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Jack Pine	0	0	62	0	0	0	134	167	0	0	0	0	0	0	0	**362**
Low-Density Trees	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**
Lowland Deciduous	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	**33**
Natural Mixed Pines	0	0	0	0	0	0	116	0	0	0	0	0	0	0	0	**116**
Oak	0	122	0	0	0	0	115	0	0	0	102	0	0	0	0	**339**
Planted Mixed Pines	0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	**129**
Red Pine	0	0	0	0	0	0	43	0	0	14	0	0	0	0	0	**57**
Upland Mixed Forest	0	0	10	27	0	0	15	0	0	0	0	0	0	0	0	**52**
Urban	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
Total	**43**	**213**	**257**	**27**	**0**	**80**	**496**	**167**	**0**	**254**	**102**	**0**	**0**	**0**	**0**	**1641**

Table 2 – Proposed Treatment Summaries

Gaylord Mgt. Unit
Year of Entry 2013

Compartment 151
Total Compartment Acres: 1641

Acres by Treatment Type

Commercial Harvest - 508	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
Jack Pine	147	0	0	0	0	0	**147**
Natural Mixed Pines	97	0	0	0	0	0	**97**
Oak	217	0	0	0	0	0	**217**
Red Pine	31	0	0	0	0	0	**31**
Upland Mixed Forest	15	0	0	0	0	0	**15**
Total	**508**	**0**	**0**	**0**	**0**	**0**	**508**

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4	52151004-Cut	82.2	42220 - Natural Jack Pine	High Density Pole	61	Harvest	Clearcut with Reserves	42121 - Planted Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest cut all trees, EXCEPT oak. Low stumps and slash removal to facilitate planting operations. Follow basic retention guidelines. Maintain and protect the snowmobile trail during harvesting operations.

Other Comments:

Next Steps: Trench and plant.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	52151006-Cut	18.4	42110 - Planted Red Pine	High Density Pole	50	Harvest	Clearcut	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Clearcut with no retention.

Other Comments: Part of the red pine project. Stand is currently under contract 52-127-08-0.

Next Steps: Replant to red pine also intermix with oak acorns. (plant 50-100 acorns per acre) No Retention.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	52151009-Cut	12.7	42110 - Planted Red Pine	High Density Pole	50	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Clearcut with retention.

Other Comments: Part of the Red Pine Project. Most retention should be grouped in the northeast finger of the stand as islands to be harvested arounnd, though some retention should be left in the south portion to buffer adjacent clearcut to satisfy green-up requirements. Stand is currently under contract 52-127-08-0.

Next Steps: Trench and replant stand to redpine also intermix with acorns. (plant 50-100 acorns per acre)

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
16	52151016-Cut	102.5	4122 - Oak, Pine	High Density Log	94	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final Harvest, cut all trees 2 inches and larger in diameter. Leave tree mark clumps, 2-5 trees, of oaks per acre with green paint scattered throughout the stand. Retention in the south portion of stand to protect the trail.

Other Comments:

Next Steps: Regeneration survey in two years after harvest is complete.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
21	52151021-Cut	65.0	42220 - Natural Jack Pine	High Density Pole	55	Harvest	Clearcut with Reserves	42121 - Planted Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest all trees. Leave tree mark clumps (2-5 trees) of oaks with green paint scattered throughout the stand. Low stumps and slash removal to facilitate planting operations. Retention along southern edge to protect the snowmobile trail. Maintain and protect the ATV trail during harvesting operations.

Other Comments: Jack pine is declining and there is a significant amount of dead and down. Stand 15 was prescribed the same way and is currently stocked with dense jack pine under 3 feet.

Next Steps: Trench and plant with jack pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	52151022-Cut	15.0	4310 - Pine, Oak Mix	High Density Log	58	Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final Harvest, cut all trees 2 inches and larger in diameter. Leave tree mark clumps (2-5 trees) of oaks per acre with green paint scattered throughout the stand.

Other Comments: Put sale up with stand 23 should have the same cutting specs.

Next Steps: Regeneration survey in five years

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
23	52151023-Cut	114.7	4124 - Red with White Oak	High Density Pole	53	Harvest	Clearcut with Reserves	4129 - Mixed Oak	Cmpt. Review Proposal

Prescription Specs: Final Harvest, cut all trees 2 inches and larger in diameter. Leave tree mark clumps, 2-5 trees, of oaks per acre with green paint scattered throughout the stand.

Other Comments: Mark leave trees in a clumpy arrangement as retention along the trail to protect the integrity of the trail.

Next Steps: Regen survey 2 years after the harvest is complete.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
27	52151027-Cut	97.3	42250 - Pine, Oak	High Density Pole	58	Harvest	Clearcut	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Clearcut, cut all trees 2 inches and larger in diameter. Leave tree mark clumps, 2-5 trees, of oaks per acre with green paint scattered throughout the stand.
Summer harvest with a long wood operation to provide scarification, good break up harvest.Retention for this stand is going to be south of the snowmobile trail (including a buffer just to the north of the trail), this will protect two trails.

Other Comments: The harvest should mimic stand 28, which has natural regeneration occuring.

Next Steps: Regen Survey in two years after the harvest is complete.

Total Treatment Acreage Proposed: 507.7

Gaylord Mgt. Unit

Table 4 -- Treatments Prescribed with a Limiting Factor

Compartment: 151
Year of Entry 2013

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**

Data updated before 2:00 PM

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**

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42110 - Planted Red Pine	High Density Log	13.7	81	81-110	Thinned in 1988
2	4311 - Pine, Aspen Mix	Medium Density	10.0	17	1-50	Cut in 1993 Evenly distributed Red Pine and Red Oak log sized trees in the overstory.
3	4133 - Aspen, Mixed Pine	High Density Sapling	52.8	8	1-50	Clear Cut in 2003 Evenly scattered mature white pine, red pine, white oak, and red oak
4	42220 - Natural Jack Pine	High Density Pole	82.2	61	81-110	Access to the stand is provided by the snowmobile trail which intersects a woods road to provide adequate access.
6	42110 - Planted Red Pine	High Density Pole	18.4	50	141-170	
7	4131 - Aspen, Oak	High Density Pole	80.5	41	81-110	Dumped furniture of the snowmobile trail. Three Couches.
8	4130 - Aspen	High Density Log	18.7	54	111-140	
9	42110 - Planted Red Pine	High Density Pole	12.7	50	141-170	
10	4130 - Aspen	High Density Pole	54.9	55	81-110	
11	4132 - Aspen, Jack Pine	High Density Sapling	56.9	17		Last timber sale was Back Yard Pulp completed in 1994. Evenly distributed mature white oak, red oak, and red pine residual overstory trees.
12	4131 - Aspen, Oak	Low Density Sapling	38.8	7		Planted jack pine that is established and starting to take off. Which is under three feet tall.
13	42110 - Planted Red Pine	High Density Pole	12.0	51	111-140	
14	42220 - Natural Jack Pine	High Density Pole	3.8	53	81-110	
15	4121 - Oak, Aspen	Low Density Sapling	67.0	7		Planted jack pine that is established and starting to take off. Which is under three feet tall.
16	4122 - Oak, Pine	High Density Log	102.5	94	51-80	
17	4132 - Aspen, Jack Pine	High Density Log	136.0	86	141-170	
18	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	61.9	18		

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4130 - Aspen	Medium Density Log	71.7	86	81-110	
20	42220 - Natural Jack Pine	High Density Pole	65.1	53		
21	42220 - Natural Jack Pine	High Density Pole	65.0	55	81-110	
22	4310 - Pine, Oak Mix	High Density Log	15.0	58	51-80	
23	4124 - Red with White Oak	High Density Pole	114.7	53	1-50	
24	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Sapling	128.7	19		
25	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	84.4	61	111-140	
27	42250 - Pine, Oak	High Density Pole	115.8	58	81-110	
28	4124 - Red with White Oak	Medium Density	55.0	6		
30	4310 - Pine, Oak Mix	High Density Sapling	27.2	20		
31	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	1.1	80		
32	6115 - Lowland Ash	High Density Pole	17.1	85		
35	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	14.6	82	51-80	

6 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
5	3104 - Degraded	2.4	No	Unspecified	
26	3302 - Low Density Conifer Trees	8.1	No	Unspecified	
29	122 - Road/Parking Lot	4.9	No	Unspecified	Indian River Field
33	310 - Herbaceous Openland	2.6	No	Unspecified	Power line Right of way
34	122 - Road/Parking Lot	25.2	N\A	Unspecified	Snowmobile Trail

Data updated before 2:00 PM

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.