

GAYLORD FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT: 19

ENTRY YEAR: 2013 Compartment Acreage: 1,616 County: OTSEGO

Revision Date: 5/11/2011

Stand Examiner: Josh Wall

Legal Description: T29N R3W Sec. 25,26,27,35

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 hilly with slope percentages ranging from 0-50%. Dominant soil types include Blue Lake loamy sand, Kalkaska sand, Lindquist sand, and Blue Lake loamy sand in order of occurrence.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Compartment is 75% state land. Hunting and snowmobiling are the most common public uses and Antrim gas development is extensive.

Unique, Natural Features: Red-shouldered hawk and Goshawk noted 1/2 mile south of section 35 and also to the west. Blanding's turtle to the SW associated with Guthrie Lake and numerous bald eagle records surround the compartment. The potential for other species of flora and fauna exists and noted in the MNFI compartment notes.

Archeological, Historical, and Cultural Features: None found in search.

Special Management Designations or Considerations: Compartment falls within the Grayling Outwash Plain MA and includes large, irregular ice-contact ridges, a few kettle lakes, and well drained sandy loam often dominated by Beech-Sugar Maple-Hemlock. Broad, flat outwash plains with well drained loamy sand dominated by White Pine and Red Pine make up the rest of the compartment.

Watershed and Fisheries Considerations: This compartment is within the Chub Creek and East Branch Au Sable River watersheds, both of which are within the larger Au Sable River drainage basin. They are also classified as Natural Rivers, and Natural Rivers guidelines should be followed.

Wildlife Habitat Considerations: The majority of this compartment consists of upland habitat containing aspen, oak, hardwoods, red and white pine. Stands 4, 6, and 20 are going to be treated and will provide some structural diversity within this compartment. Stands 14, 15, 50, 54, 55, 72, and 78 are going to be clear cut to provide early successional habitat favored by white-tailed deer, wild turkey, grouse, woodcock, and various songbirds. Mature oak will be left in some of these stands for hard mast production. This area receives significant hunting pressure due to the proximity to a subdivision and the significant oak component in this compartment.

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 800 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is located two miles to the southwest, and gravel potential appears limited. All of the state land in the compartment has been leased for oil and gas development and the Antrim Shale has been developed on most of the state fee land. Additional oil and gas potential from the Guelph (Niagaran) reef trend is possible.

Vehicle Access: No additional roads required. Gas pipelines run throughout the whole compartment.

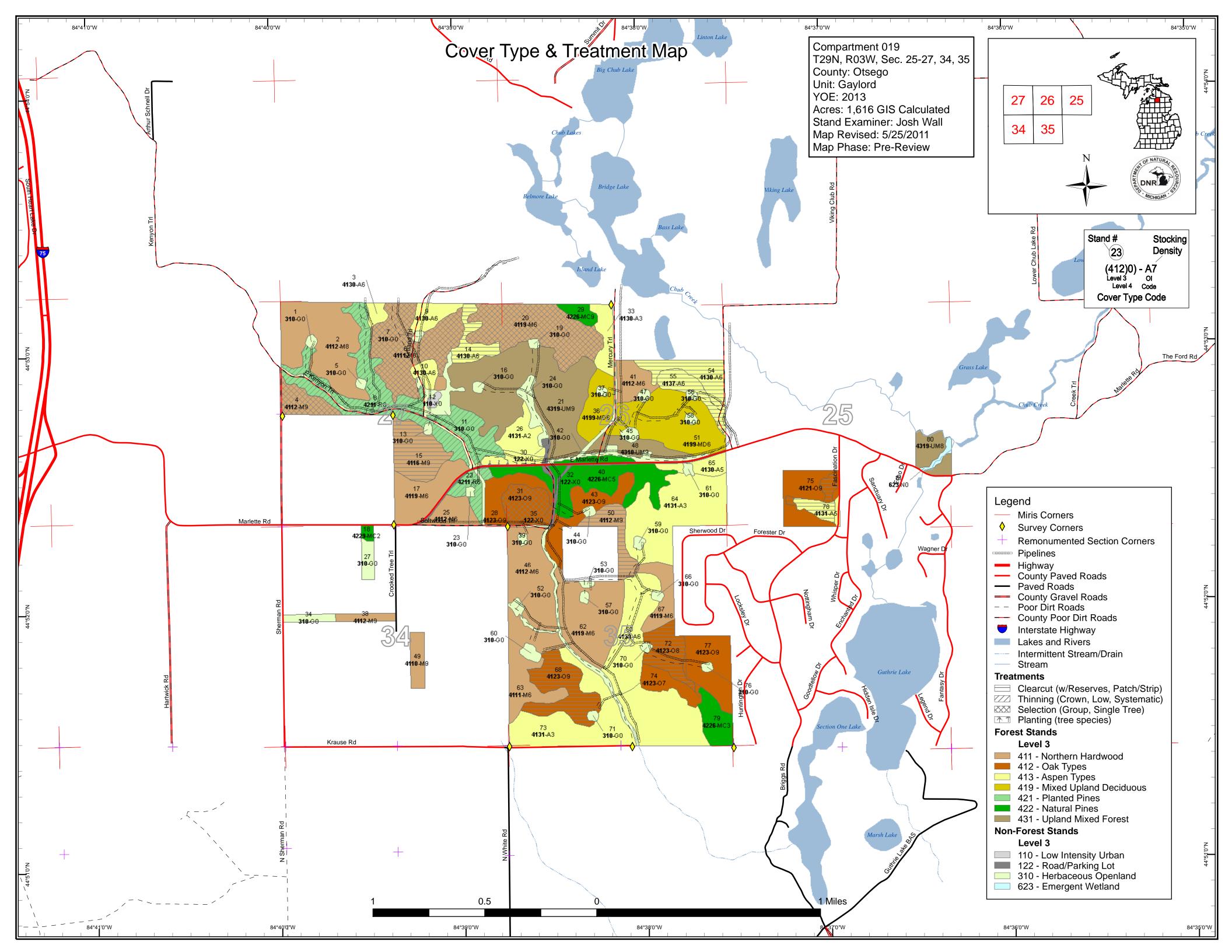
Survey Needs: No survey needs at this time, private lines will have to be run for timber sales but existing corners should work.

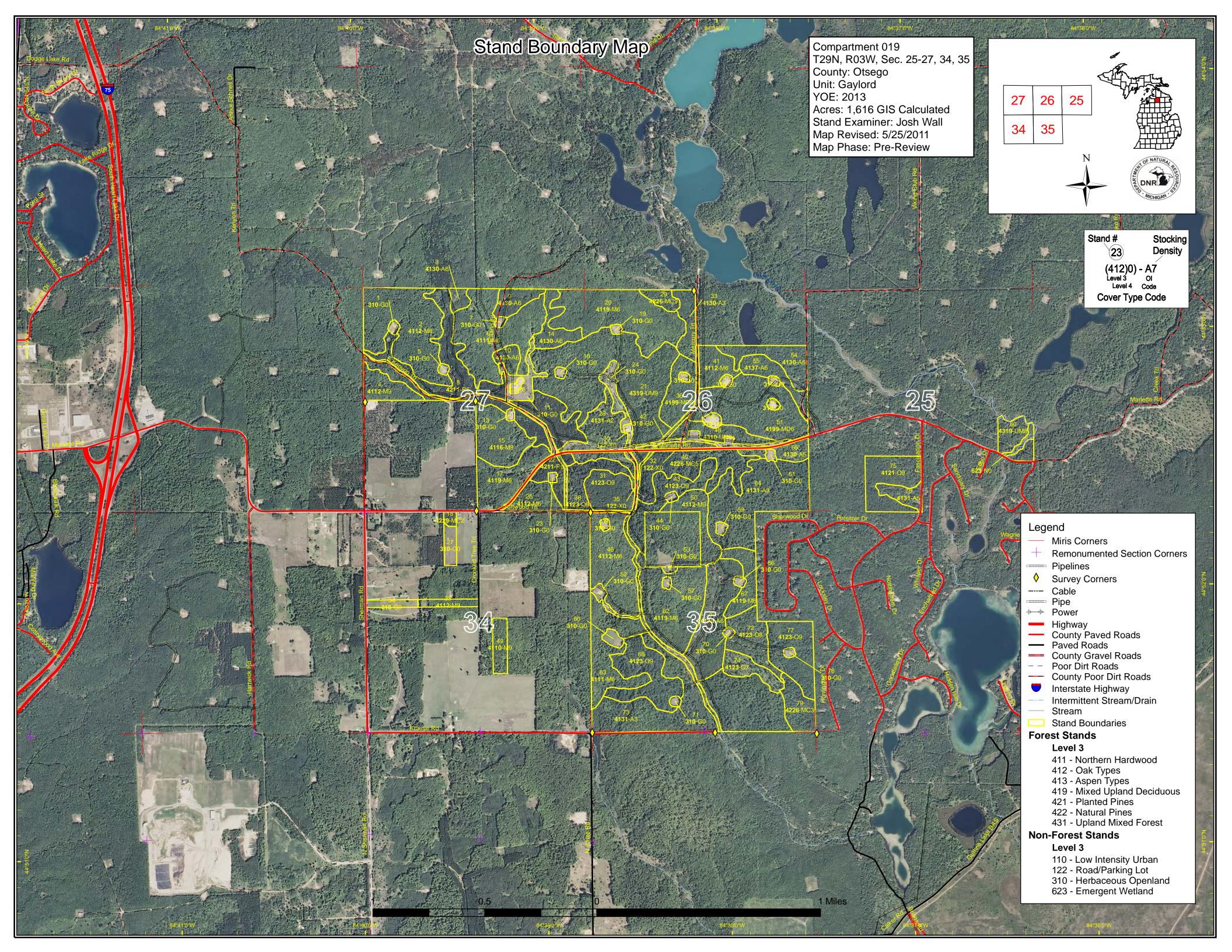
Recreational Facilities and Opportunities: There is a boat launch on Guthrie Lake and snowmobiles run most of the pipelines. No official trails in the compartment.

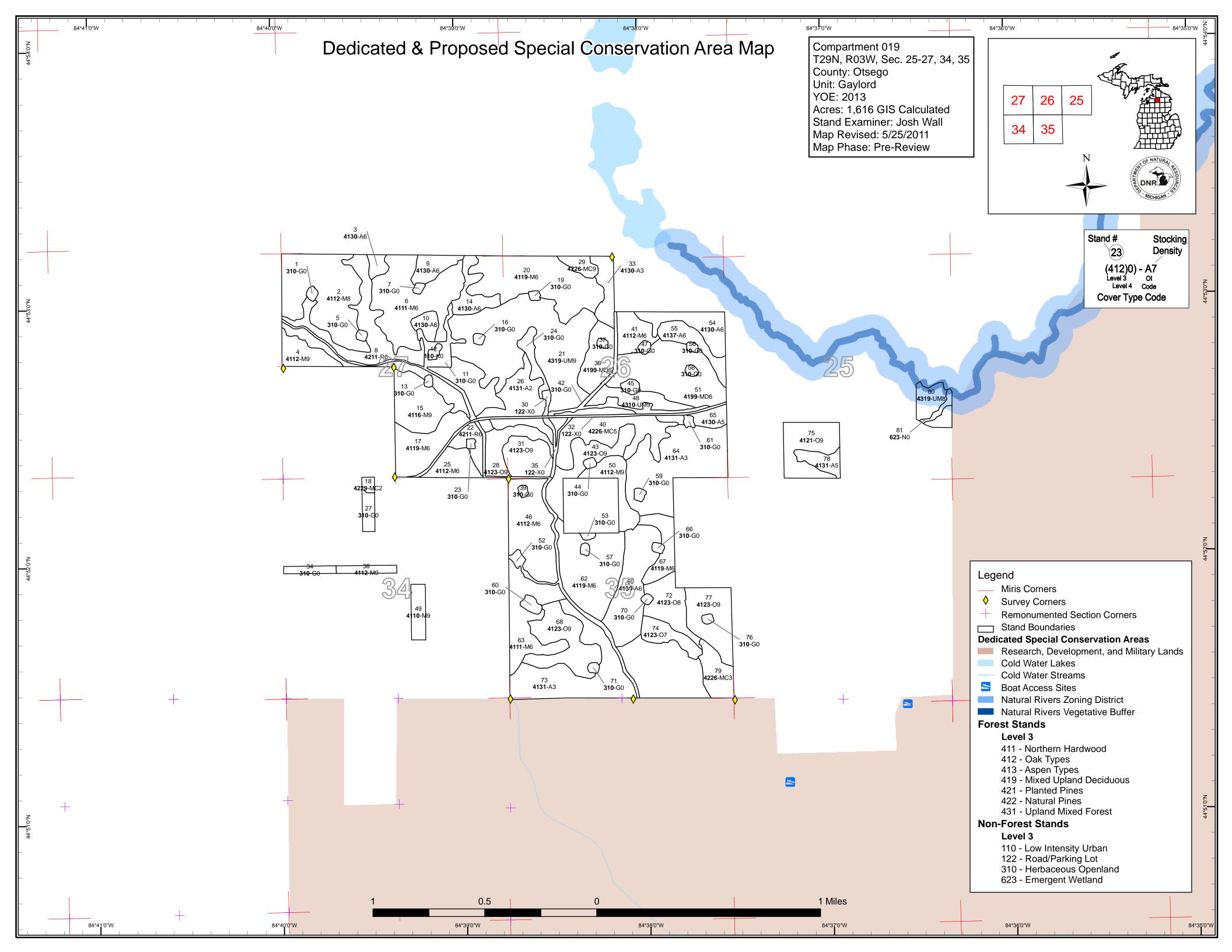
Fire Protection: Fires which spread from adjacent outwash areas were important in determining species composition. Fire suppression has prevented fires from occurring and thus making timber management the primary disturbance regime.

Additional Compartment Information:

- > The following 5 reports from the Operations Inventory System (OIPC) are attached:
 - **♦** Cover Type by Age Class
 - **♦** Cover Type by Management Objective
 - **♦** Compartment Volume Summary
 - **♦** 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 old growth







Gaylord Mgt. Unit

Josh WALL : Examiner



Age Class

						Age	Ciass									
¥ori	A SE	?; /	\$2,0	25.5	No. No.	do de	\$ / S	8,0	R. J.	\$ 6	8.00	00,00	70,70	70× /30°	KS	
0	0	0	235	89	42	0	0	0	0	0	0	0	0	0	366	
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
0	0	0	0	0	0	21	0	0	61	0	0	0	0	0	82	1
0	0	2	17	0	7	0	0	0	0	0	0	0	0	54	80	1
0	0	0	0	0	15	119	218	140	0	18	0	0	0	0	510	1
0	0	0	0	0	0	0	30	87	88	0	0	0	0	0	205	1
0	0	0	0	0	97	0	0	0	0	0	0	0	0	0	97	1
0	0	0	0	0	137	0	0	15	0	0	0	0	0	0	152	İ
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	j
122	0	2	252	89	298	141	248	243	149	18	0	0	0	54	1616	
	0 103 3 0 0 0 0 0 0	0 0 103 0 103 0 0 0 0 0 0 0 0 0 0 0 17 0 0	Page Page	0 0 0 235 103 0 0 0 3 0 0 0 0 0 0 0 0 0 2 17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 17 0 0 0	0 0 0 235 89 103 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 2 17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 17 0 0 0 0	0 0 0 235 89 42 103 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 2 17 0 7 0 0 0 0 0 15 0 0 0 0 0 0 0 0 0 0 97 0 0 0 0 0 0 17 0 0 0 0 0	Legen 29 89 42 0 103 0 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 15 119 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 17 0 0 0 0 0 0 0 0	0 0 0 235 89 42 0 0 103 0 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 21 0 0 0 2 17 0 7 0 0 0 0 0 0 0 15 119 218 0 0 0 0 0 0 30 0 0 0 0 97 0 0 0 0 0 0 137 0 0 17 0 0 0 0 0 0 0	Logo Logo <th< td=""><td>Legen 235 89 42 0</td><td>O O</td><td>103 0</td><td>0 0 0 235 89 42 0</td></th<> <td>0 0 0 235 89 42 0<td>103 0</td><td> 103</td></td>	Legen 235 89 42 0	O O	103 0	0 0 0 235 89 42 0	0 0 0 235 89 42 0 <td>103 0</td> <td> 103</td>	103 0	103



Table 2 – Proposed Treatment Summaries

Gaylord Mgt. Unit Year of Entry 2013

Compartment 019 **Total Compartment Acres: 1616**

Acres by Treatment Type

Commercial Harvest - 441 Site Prep - 0 Tree Planting - 8 Prescribed Burn - 0 Other - 0

Habitat Cut - 0 Tree Seeding - 0 Pesticide - 0 Opening Maintenance - 0

Cover Type by Harvest Method

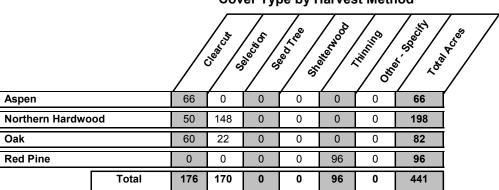


Table 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 019
Year of Entry 2013

DNR DNR	No DURCEY
nnroval	

t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4	52019004-Cut	15.8	4112 - Maple, Beech, Cherry Association	High Density Log	79	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

<u>Prescription</u> Thin stand maintaing a BA of 80, favor maple using seven foot crown release guidelines for crop trees (best tree in place).

Specs:

s

Other private lines need ran

Comments:

Next Steps:

6 52019006-Cut 64.4 4111 - S.Maple, High Density Pole 62 Harvest S Hard Mast

Association

Single Tree Selection

4111 - S.Maple, Hard Mast Association Cmpt. Review Proposal

<u>Prescription</u> Thin stand maintaing a BA of 80, favor maple using seven foot crown release guidelines for crop trees (best tree in place).

Specs:

Other private line on the north to run Kotar: AFOCa

Comments:

Next Steps:

8 52019008-Cut 84.0 42110 - Planted High Density Pole 46 Harvest Crown Thinning 42110 - Planted Red Cmpt. Review Red Pine Proposal

<u>Prescription</u> thin stand maintaining a BA of 120. Favor single stem, co-domiant, single topped trees.

Specs:

Other Kotar: PArVVb and AFOCa

Comments:

Next Steps:

14 52019014-Cut 15.0 4130 - Aspen High Density Pole 39 Harvest Clearcut 4130 - Aspen Cmpt. Review Proposal

<u>Prescription</u> Clear-cut stand and expand aspen into the adjacent hardwood covertypes where possible. Leave no retention to encourage the Aspen regen. <u>Specs:</u> Smaller diameter wood that is being cut early to balance out the age classes. Would make a good chip job.

Other Comments:

Next Steps:

15 52019015-Cut 32.1 4116 - Mixed N. High Density Log 55 Harvest Clearcut with 4116 - Mixed N. Cmpt. Review Hardwood - Aspen Proposal

<u>Prescription</u> Propose cutting stand early to capture aspen mortality and promote aspen regen in pockets. Manage stand for aspen by clear-cutting aspen and species that might play a factor in suppressing aspen regen. Pockets of northern hardwoods mixed within this stand can be thinned down to

a BA of 80.

Other Comments:

Kotar: AFOCa

Next Steps:

Table 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 019 Year of Entry 2013

2	OF NATURAL
RTME	
OEPA	DNR
	MICHIGAN

a n d	Treatment Name	Acres	s Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
20	52019020-Cut	67.7	4119 - Mixed	High Density Pole	76	Harvest	Single Tree Selection	4119 - Mixed	Cmpt. Review

Prescription thin stand maintaing a BA of 80, favor maple using seven foot crown release guidelines for crop trees (best tree in place).

Specs: Other_

S

Kotar:AFOCa

Comments:

<u>Next</u>

Steps:

52019022-Cut 11.5 42110 - Planted High Density Pole Harvest Systematic Thinning 42110 - Planted Red Cmpt. Review Red Pine Pine Proposal

Prescription First row thinning, take every third row starting with the third row from the outside or mark stand down to 120 BA using established trails to work

Specs:

<u>Other</u>

Comments:

Next Steps:

> 52019031-Cut 22.0 4123 - Red Oak High Density Log 82 Harvest Single Tree Selection 4123 - Red Oak Cmpt. Review 31 Proposal

Prescription Thin stand maintaining a BA of 80-100 favoring health trees with good form. Beautiful, stocked stand of oak that needs thinned to promote

growth of residuals. Specs:

Other_

Kotar: AFOCa

Comments:

<u>Next</u> Steps:

50 52019050-Cut 18.1 4112 - Maple, High Density Log 90 Harvest Clearcut with 4112 - Maple, Cmpt. Review Beech, Cherry Reserves Beech, Cherry Proposal Association Association

Prescription Clear-cut stand to regenerate overmature aspen and beech. Cut some red oak to promote stump sprouting and leave some for mast

production. Leave 1 large beech per acre for mast production and den trees. Specs:

The private 40 adjacent to this stand has been painted (blue) by a consulting forester and looks to be right on. Other

Comments:

Next

Steps:

54 52019054-Cut 22.4 4130 - Aspen High Density Pole 40 Harvest Clearcut with 4130 - Aspen Cmpt. Review Reserves Proposal

Prescription Clear-cut stand and expand aspen into the adjacent hardwood covertypes where possible. Reserve all Pine and scattered Oak but no more than 2-3 Oak per ac. Use wet bowl on the east end of the stand for retention. Smaller diameter wood that is being cut early to balance out the age <u>Specs:</u>

classes. Would make a good chip job.

<u>Other</u>

Comments:

Next

Steps:

Table 3 -- Treatments Prescribed Compartment: 019 Gaylord Mgt. Unit with No Limiting Factor Year of Entry 2013 s t а **Treatment** Size Stand **Treatment Treatment** Cover Type Acres Stage1 **Approval** n Method Name Density Objective Status CoverType Type d Age 55 52019055-Cut 15.7 4137 - Aspen, Birch High Density Pole 36 Harvest Clearcut with 4130 - Aspen Cmpt. Review Reserves Proposal Prescription Clear-cut stand and expand aspen into the adjacent hardwood covertypes where possible. Smaller diameter wood that is being cut early to balance out the age classes. Reserve Oak but no more than 2-3 per ac. Would make a good chip job. Specs: **Other** Comments: **Next** Steps: Cmpt. Review 68 52019068-Cut 37.5 4123 - Red Oak High Density Log 74 Harvest Clearcut with 4123 - Red Oak Reserves Proposal Prescription Create small clear-cuts (patches) in this stand to promote oak regeneartion. Cut half the acerage using variable size patches (1/2 to 1 ac in size) Avoid the crow rookery in the SE corner of the stand next to the gas pad. Goal is to regenerate Oak through stump sprouting. Design sale to Specs: look like a string of pearls, connecting the pockets. Most of the Aspen around this stand was cut in 94'. Kotar: AFOCa <u>Other</u> Comments: Monitor the success of the regen patches with a regen survey at appropriate intervals. Acceptable regeneration will be Oak stump sprouts that <u>Next</u>

are at or above any competing species total height. Steps:

52019072-Cut 22.3 4123 - Red Oak Medium Density 70 Clearcut with 4123 - Red Oak Cmpt. Review 72 Harvest Log Reserves Proposal

Prescription Clear-cut oak to promote stump sprouting thus regenerating the oak. Leave other species that might compete with the oak regeneration standing Specs: (Red Maple). Leave retention around the private lines.

Other_ Stand was cut in 04' (shelterwood) leaving most of the oak standing. The oak that was cut is stump sprouting nicely, competing with the other regen. Priavte lines need ran. Kotar: AFOCa Comments:

Monitor the success of the clear-cut with a regen survey at appropraite intervals. Acceptable regeneration will be Oak stump sprouts that are at Next or above any competing species total height. Steps:

Medium Density 52019078-Cut 12.9 47 Clearcut with 78 4131 - Aspen, Oak Harvest 4131 - Aspen, Oak Cmpt. Review Pole Reserves Proposal

Prescription Clear-cut stand leaving retention (white pine, oak saps) along the road for an visual buffer. Expand stand towards the NW and NE into Stand 75 to increase the acreage of aspen and the size of stand 78 to 15-20 acres. Specs:

Other Comments:

<u>Next</u> Steps:

52019026-4131 - Aspen, Oak 27 Hand Plant 26 7.9 Medium Density Tree Planting 4131 - Aspen, Oak Cmpt. Review **Plant** Saplin Proposal

Prescription No site prep, plant white pine (250 ac) bareroot stock on toe slopes, under aspen. Also plant oak acorns (250 ac) Site index for aspen is 60 Specs: while the site index for white pine is 70. Aspen will provide cover for planted pine and will continue to fall apart. Types out as an PArVVb in the Kotar system.

Other_

Comments:

<u>Next</u> Steps:

Total Treatment

449.2 Acreage Proposed:

05/26/2011 5:05:11 PM - Page 3 of 3

S t a		Gay	lord Mgt. Unit	Table 4 -		ents Prescrib ing Factor	Compartment: 019 Year of Entry 2013	DNR MICHIGAN		
n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status	
			#Error							
Preso Spec	cription s:									
Othe Com	<u>r</u> ment:									
Next Steps	<u>5:</u>									
	ing Factor and N ment Reason	<u>lo</u>								

Total Treatment
Acreage Proposed:

0

Out of YOE -- Treatments Prescribed with No Limiting Factor

Year of Entry: 2013

OF NATURAL DE LA CONTROL DE LA

Treatment Cover Type Objective Approval Status **Treatment Treatment Acres** Stage1 Size Stand Name CoverType Density Type Method Age <u>Prescription</u> Specs: <u>Other</u> Comments:

Total Treatment

Next Steps:

Acreage Proposed:

0

s t	Gaylord Mgt. Unit			5 – Fo	orested Stands	Compartment: 019 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4112 - Maple, Beech, Cherry Association	Medium Density Log	71.3	68	81-110	
3	4130 - Aspen	High Density Pole	4.9	30	51-80	
4	4112 - Maple, Beech, Cherry Association	High Density Log	15.8	79	111-140	
6	4111 - S.Maple, Hard Mast Association	High Density Pole	66.1	62	111-140	
8	42110 - Planted Red Pine	High Density Pole	85.4	46	141-170	
9	4130 - Aspen	High Density Pole	11.6	27	51-80	
10	4130 - Aspen	High Density Pole	7.0	35	51-80	
14	4130 - Aspen	High Density Pole	15.0	39	81-110	
15	4116 - Mixed N. Hardwood - Aspen	High Density Log	32.1	55	51-80	
17	4119 - Mixed Northern Hardwoods	High Density Pole	31.4	60	81-110	
18	42290 - Natural Mixed Pine	Medium Density	2.4	10	1-50	
20	4119 - Mixed Northern Hardwoods	High Density Pole	67.7	76	111-140	
21	4319 - Mixed Upland Forest	High Density Log	120.8	45	81-110	
22	42110 - Planted Red Pine	High Density Pole	11.5	45	171-200	
25	4112 - Maple, Beech, Cherry Association	High Density Pole	15.2	56	81-110	
26	4131 - Aspen, Oak	Medium Density	24.9	27	1-50	
28	4123 - Red Oak	High Density Log	18.5	88	1-50	
29	42260 - Natural Pine, Mixed Deciduous	High Density Log	6.8	44	81-110	

s t	Gaylord Mgt. Unit			5 – For	rested Stands	Compartment: 019 Year of Entry: 2013	DNR DNR
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	MICHIGAN .
31	4123 - Red Oak	High Density Log	22.0	82	111-140		
33	4130 - Aspen	High Density Sapling	14.0	22	1-50		
36	4199 - Other Mixed Upland Deciduous	High Density Pole	21.3	50	51-80		
38	4112 - Maple, Beech, Cherry Association	High Density Log	5.9	50	81-110		
40	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	53.7	Uneven Age	51-80		
41	4112 - Maple, Beech, Cherry Association	High Density Pole	15.4	46	51-80	New stand added.	
43	4123 - Red Oak	High Density Log	26.1	70	51-80		
46	4112 - Maple, Beech, Cherry Association	High Density Pole	48.8	60	51-80		
48	4310 - Pine, Oak Mix	High Density Log	16.1	40	51-80		
49	4110 - Sugar Maple Association	High Density Log	10.2	50	81-110		
50	4112 - Maple, Beech, Cherry Association	High Density Log	18.1	90	81-110		
51	4199 - Other Mixed Upland Deciduous	High Density Pole	61.1	89	81-110		
54	4130 - Aspen	High Density Pole	22.4	40	51-80		
	4137 - Aspen, Birch	High Density Pole	15.7	36	51-80		
62	4119 - Mixed Northern Hardwoods	High Density Pole	56.8	70	51-80		
63	4111 - S.Maple, Hard Mast Association	High Density Pole	38.8	52	51-80		
64	4131 - Aspen, Oak	High Density Sapling	74.8	24	1-50		
65	4130 - Aspen	Medium Density Pole	10.1	40	51-80		

S t	Gaylord Mgt. Unit			5 – Fo	orested Stands	Compartment: 019 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
67	4119 - Mixed Northern Hardwoods	High Density Pole	17.0	50	81-110	New stand added.
68	4123 - Red Oak	High Density Log	37.5	74	51-80	
69	4130 - Aspen	High Density Pole	46.3	30	51-80	
72	4123 - Red Oak	Medium Density Log	23.7	70	51-80	
73	4131 - Aspen, Oak	High Density Sapling	110.1	22	51-80	
74	4123 - Red Oak	Low Density Log	13.9	80	1-50	
75	4121 - Oak, Aspen	High Density Log	30.5	69	51-80	
77	4123 - Red Oak	High Density Log	33.2	85	51-80	
78	4131 - Aspen, Oak	Medium Density Pole	9.5	47	51-80	
79	42260 - Natural Pine, Mixed Deciduous	High Density Sapling	17.1	26	51-80	
80	4319 - Mixed Upland Forest	Medium Density Log	15.3	72	51-80	

6 - Nonforested Stands

Compartment: 019 Year of Entry: 2013



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	310 - Herbaceous Openland	1.6	No	Unspecified	
5	3102 - Grass	1.3	No	Unspecified	
7	3102 - Grass	1.3	No	Unspecified	
11	3102 - Grass	17.9	No	Unspecified	
12	11 - Low Intensity Urban	1.8	No	Unspecified	
13	3102 - Grass	1.2	No	Unspecified	
16	3102 - Grass	1.4	No	Unspecified	
19	3102 - Grass	1.3	No	Low (NonForested)	
23	3102 - Grass	1.1	No	Low (NonForested)	
24	3102 - Grass	8.5	No	Low (NonForested)	
27	3102 - Grass	6.3	No	Low (NonForested)	
30	122 - Road/Parking Lot	1.8	N\A	Unspecified	
32	122 - Road/Parking Lot	9.3	N\A	Unspecified	
34	3102 - Grass	5.0	No	Low (NonForested)	
35	122 - Road/Parking Lot	3.8	N\A	Unspecified	
37	3102 - Grass	1.1	No	Low (NonForested)	
39	3102 - Grass	1.3	No	Low (NonForested)	
42	3102 - Grass	13.1	No	Low (NonForested)	

6 - Nonforested Stands

Compartment: 019 Year of Entry: 2013



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:	WICHIGAT
44	3102 - Grass	1.4	No	Low (NonForested)		
45	3102 - Grass	2.8	No	Low (NonForested)		
47	310 - Herbaceous Openland	1.6	No	Unspecified		
52	3102 - Grass	18.1	No	Low (NonForested)		
53	3102 - Grass	1.1	No	Low (NonForested)		
56	310 - Herbaceous Openland	1.3	No	Unspecified		
57	3102 - Grass	1.3	No	Low (NonForested)		
58	310 - Herbaceous Openland	1.5	No	Unspecified		
59	3102 - Grass	1.6	No	Low (NonForested)		
60	3102 - Grass	3.3	No	Low (NonForested)		
61	3102 - Grass	1.4	No	Low (NonForested)		
66	3102 - Grass	1.4	No	Low (NonForested)		
70	3102 - Grass	1.2	No	Low (NonForested)		
71	3102 - Grass	1.3	No	Low (NonForested)		
76	3102 - Grass	1.2	No	Low (NonForested)		
81	623 - Emergent Wetland	2.9	No	Unspecified		

Compartment: 019 Year of Entry: 2013



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

Compartment: 019 Year of Entry 2013



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.

Conservati Area	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
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.	
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.	
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for include the 5,847 acre Forest Fire Experiment Station, the 12,000 Area, the Beaver Islands Archipelago Wildlife Research Area (the High and Hog Islands, all state owned land on Beaver, South For Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Resources, and over 144,000 acres of Military Lands.	0 acre Houghton Lake Wildlife Research at includes most of Garden Island, all of x and North Fox Islands), the Cusino