



# Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 52018

Entry Year 2018

Acreage: 1,110

County Otsego

Management Area: Grayling Ice Contact

---

**Revision Date:** 2016-05-17

**Stand Examiner:** Lucas Merrick

**Legal Description:**

T29N, R03W, Sections 14, 15, 22, and 24

**Identified Planning 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:**

Topography is flat to slightly rolling. Soils are a Rubicon-Lindquist association consisting mostly of Lindquist, Blue Lake, Feldhauser, and Rubicon Soil types. These soils are excessively to somewhat excessively drained soils formed in sand material primarily on moraines and outwash plains.

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

Public land is fractured in this area. Many small lakes are found around the compartment.

**Unique Natural Features:**

Potential for Doll's merolonche, blazing star borer moth, grizzled skipper and boreal brachionyncha in open oak stands. Loons are known to occur on the surrounding water bodies.

**Archeological, Historical, and Cultural Features:**

None know at this time.

**Special Management Designations or Considerations:**

None at this time.

**Watershed and Fisheries Considerations:**

Compartment 18 is within the North Branch Au Sable River watershed. There are no waterbodies within the compartment, however, so there are no Fisheries concerns at this time.

**Wildlife Habitat Considerations:**

Cover types including aspen, oak, and upland brush provide habitat for good populations of featured species which include deer, turkey, and ruffed grouse. The area is impacted by oil and gas development. Easy access into oak and aspen stands make this compartment popular for hunting recreation. Past management in oak types has had varying success in creating oak regeneration. Some stands will need treatment to promote stump sprouting if oak type is to persist in the compartment.

**Mineral Resource and Development Concerns and/or Restrictions**

Surface sediments consist of ice-contact outwash sand and gravel. The glacial drift thickness varies between 600 and 800 feet. The Mississippian Coldwater Shale subcrops below the glacial drift. The Coldwater does not have an economic use. There are some sand and gravel pits to the south and west, along I-75, and potential is good within the compartment. Most of the compartment has been developed for Antrim Shale gas production. All state land within the compartment is currently leased for oil and gas development and is held by production within the NMAG 1 and Viking Lake unitized areas. The Niagaran reef trend is located in this area and there has been some oil production in Section 24. There may be additional potential for Niagaran reefs in the compartment.

**Vehicle Access:**

Access throughout the compartment is adequate by way of county roads, forest two-tracks, and pipeline easements.

**Survey Needs:**

None at this time.

**Recreational Facilities and Opportunities:**

Dispersed recreation occurs throughout the compartment.

**Fire Protection:**

Current cover types are not prone to frequent fire events. County roads and multiple pipelines provide adequate access. Sour gas lines occur throughout this portion of the county.

**Additional Compartment Information:**

**The following reports from the Inventory are attached:**

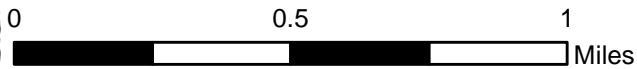
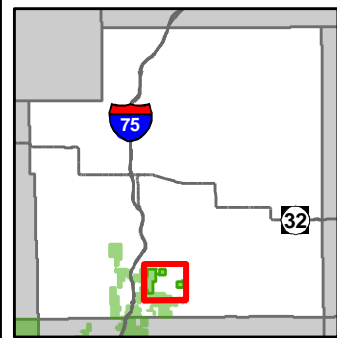
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

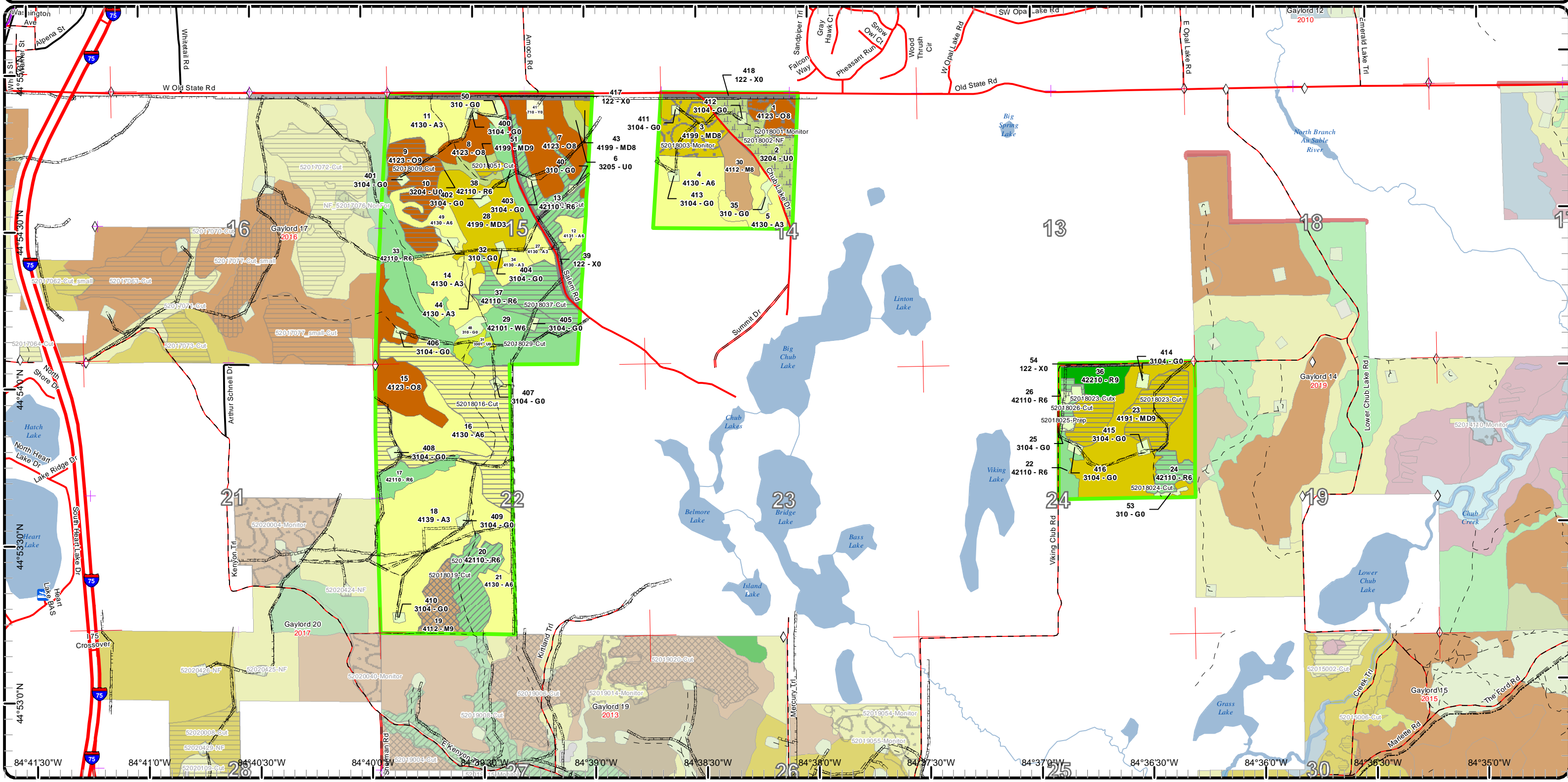
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 18  
 T29N,R03W, Sec. 14-15, 22, 24  
 County: Otsego  
 Unit: Gaylord  
 Mgmt Area: Grayling Ice Contact  
 YOE: 2018  
 Acres: 1110 GIS Calculated  
 Examiner: Lucas Merrick  
 Map Revised: 8/26/2016  
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- County Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Rivers
- Pipeline
- Compartment Boundary
- Site Prep
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Regeneration Survey
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 710 - Sand/Soil
- Lakes

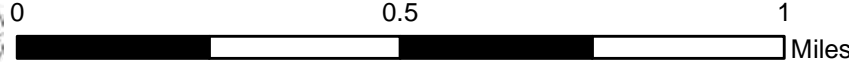
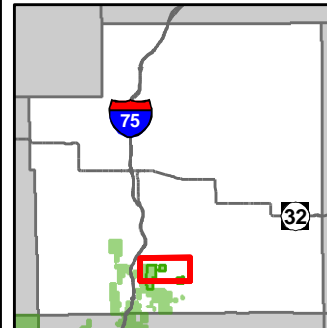




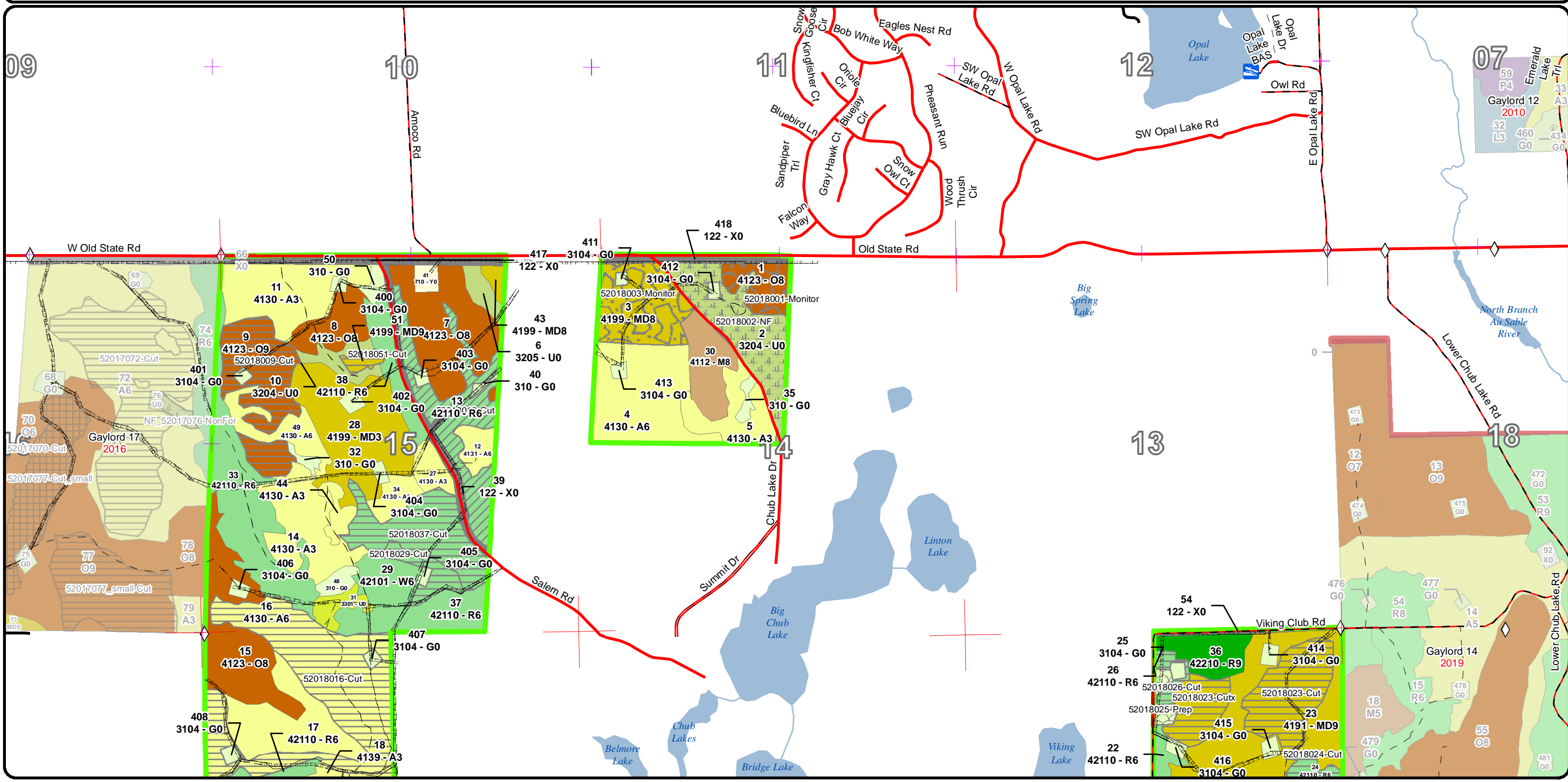


# Cover Type & Treatments Map

Compartment: 18  
 T29N,R03W, Sec. 14-15, 22, 24  
 County: Otsego  
 Unit: Gaylord  
 Mgmt Area: Grayling Ice Contact  
 YOE: 2018  
 Acres: 1110 GIS Calculated  
 Examiner: Lucas Merrick  
 Map Revised: 8/26/2016  
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Boating Access Site
- Paved Roads
- County Gravel Roads
- - Poor Dirt Roads
- - County Poor Dirt Roads
- Rivers
- Pipeline
- Compartment Boundary
- Site Prep
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Regeneration Survey
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 710 - Sand/Soil
- Lakes



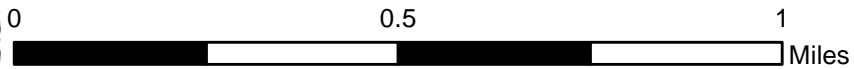
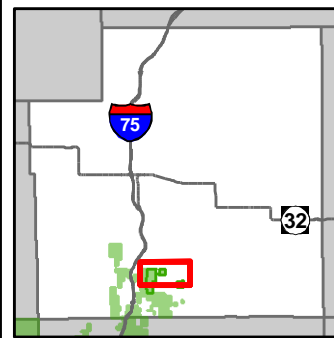




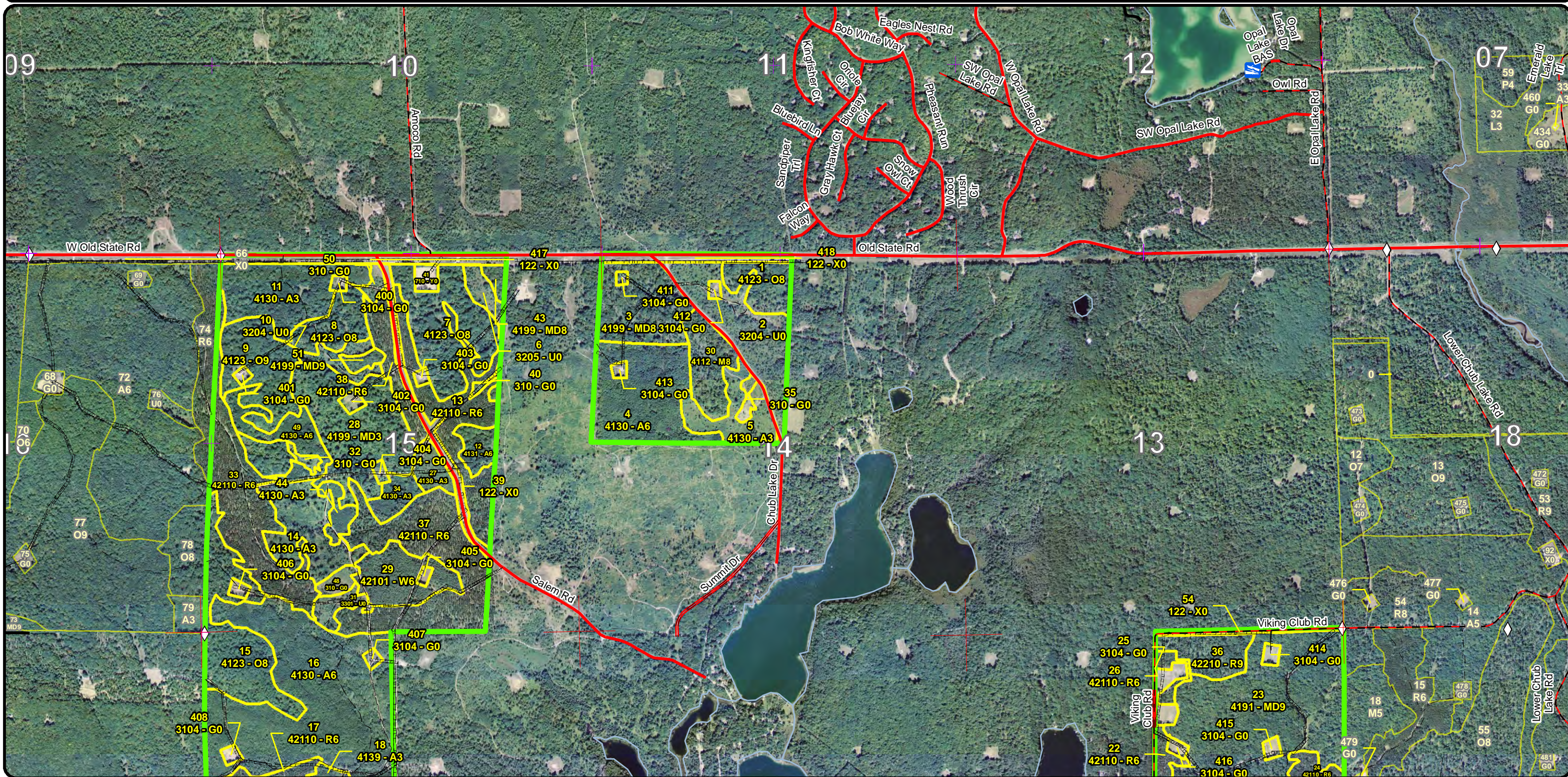


# Stand Boundary Map

Compartment: 18  
 T29N,R03W, Sec. 14-15, 22, 24  
 County: Otsego  
 Unit: Gaylord  
 Mgmt Area: Grayling Ice Contact  
 YOE: 2018  
 Acres: 1110 GIS Calculated  
 Examiner: Lucas Merrick  
 Map Revised: 8/26/2016  
 Map Phase: Post-Review



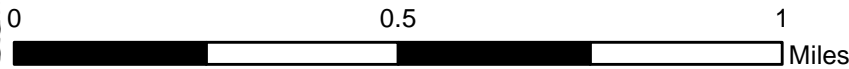
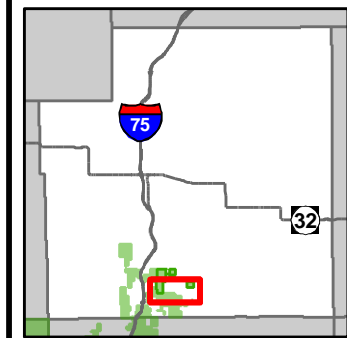
- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Boating Access Site
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Rivers
- Pipeline
- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 710 - Sand/Soil



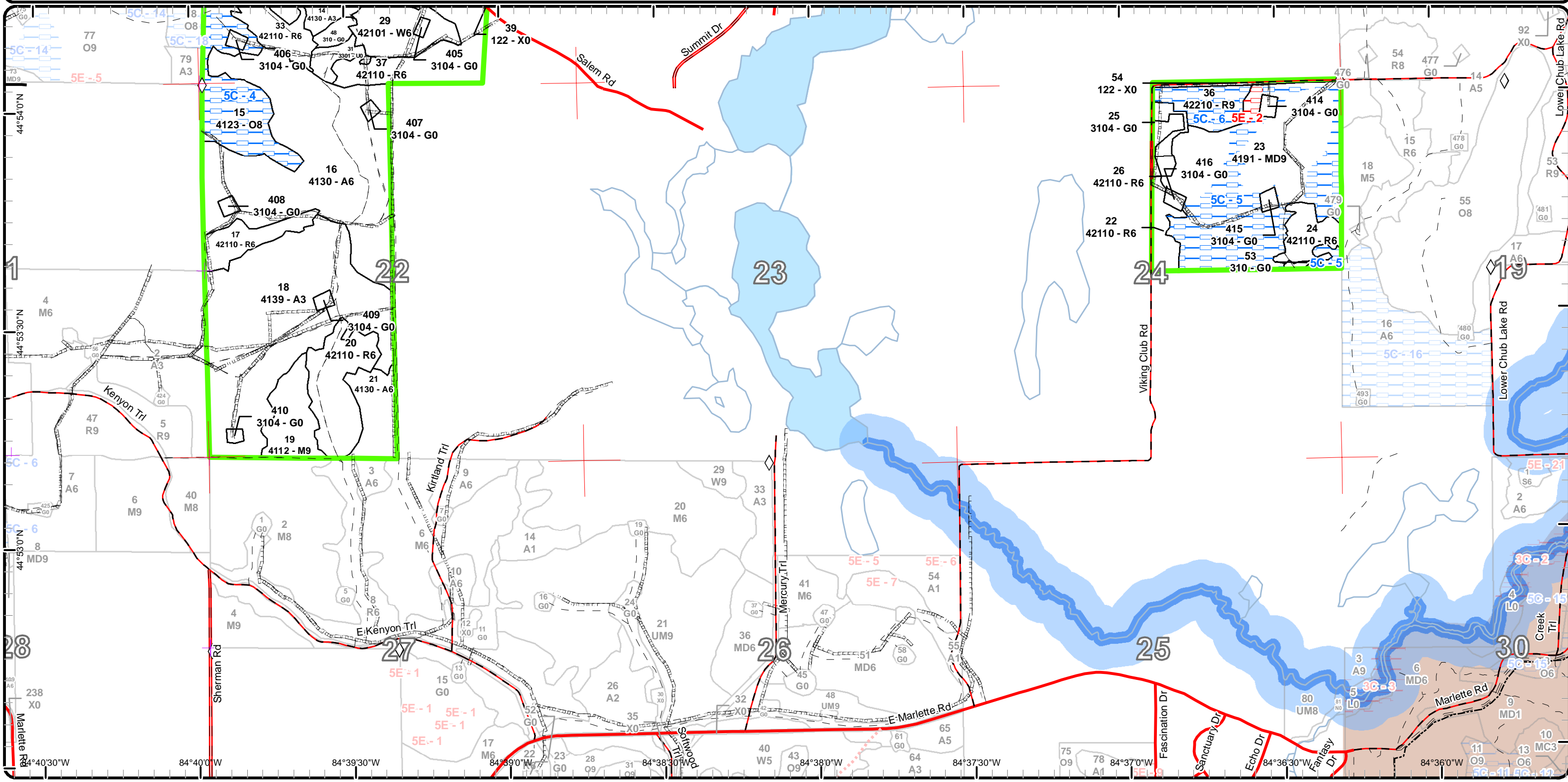


# Special Conservation Areas & Site Conditions Map

Compartment: 18  
 T29N,R03W, Sec. 14-15, 22, 24  
 County: Otsego  
 Unit: Gaylord  
 Mgmt Area: Grayling Ice Contact  
 YOE: 2018  
 Acres: 1110 GIS Calculated  
 Examiner: Lucas Merrick  
 Map Revised: 8/26/2016  
 Map Phase: Post-Review



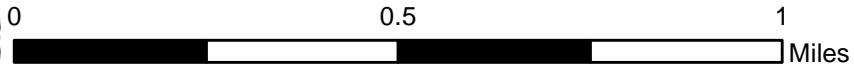
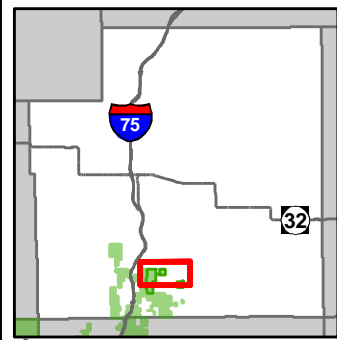
- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Closed Roads
- Rivers
- Pipeline
- - - Fence
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 5E: Long-Term Retention
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes
- Research, Development, and Military Lands



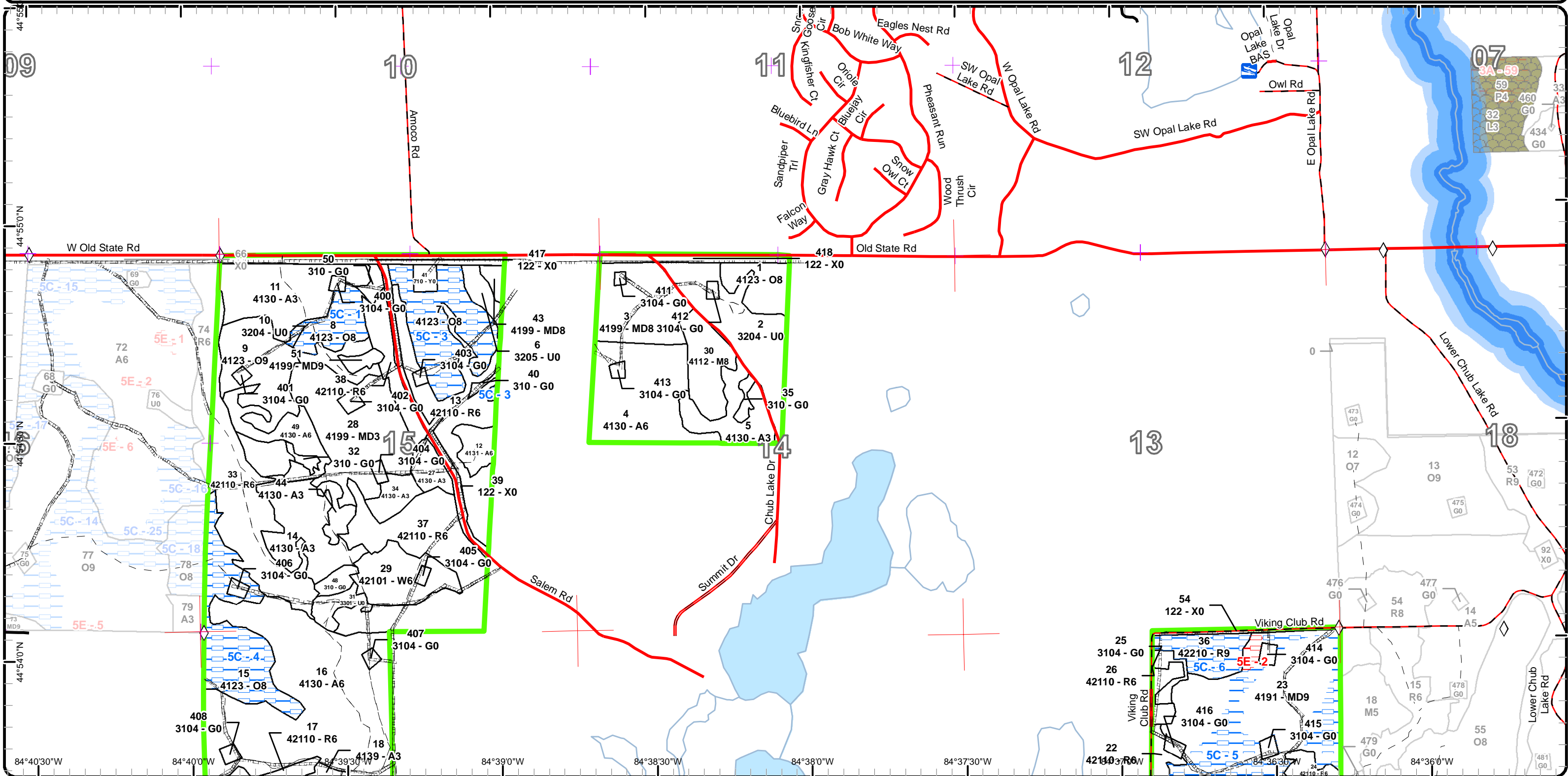


# Special Conservation Areas & Site Conditions Map

Compartment: 18  
 T29N,R03W, Sec. 14-15, 22, 24  
 County: Otsego  
 Unit: Gaylord  
 Mgmt Area: Grayling Ice Contact  
 YOE: 2018  
 Acres: 1110 GIS Calculated  
 Examiner: Lucas Merrick  
 Map Revised: 8/26/2016  
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Boating Access Site
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Rivers
- Pipeline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 5E: Long-Term Retention
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Potential Old Growth





Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	49	0	150	173	0	0	0	0	0	0	0	0	0	0	0	0	0	370
Herbaceous Openland	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Low-Density Trees	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Mixed Upland Deciduous	0	0	45	0	0	0	0	0	29	109	0	0	0	0	0	0	0	0	183
Northern Hardwood	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	35
Oak	0	0	0	0	0	0	0	0	48	84	0	0	0	0	0	0	0	0	132
Red Pine	0	0	0	0	0	0	190	0	0	14	0	0	0	0	0	0	0	0	204
Upland Shrub	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Urban	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
White Pine	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	20
<b>Total</b>	<b>95</b>	<b>49</b>	<b>45</b>	<b>150</b>	<b>173</b>	<b>0</b>	<b>210</b>	<b>0</b>	<b>0</b>	<b>91</b>	<b>228</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1039</b>





## Report 2 – Treatment Summary

Gaylord Mgt. Unit

Year of Entry: 2018

Acres of Harvest

Compartment 18

Total Compartment Acres: 1,110

Commercial Harvest - 294  
 Harvests with Site Condition - 0  
 Next Step Harvest - 0  
 Habitat Cut - 0

### Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	85	0	0	0	0	0	0	0	0	85
Mixed Upland Deciduous	45	0	0	0	0	0	0	0	0	45
Northern Hardwood	0	18	0	0	0	0	0	0	0	18
Oak	34	0	0	0	0	0	0	0	0	34
Red Pine	46	0	0	0	0	60	0	0	0	105
White Pine	8	0	0	0	0	0	0	0	0	8
<b>Total</b>	<b>216</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>294</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	294	4	0	0	0	0	41	0	33	372
Next Step	0	106	57	0	0	0	287	71	0	521
<b>Total</b>	<b>294</b>	<b>110</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>328</b>	<b>71</b>	<b>33</b>	<b>893</b>





S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	52018001-Monitor	12.2	4123 - Red Oak	Sawtimber Medium	95	81-110	Monitoring	Natural Regen (Intermediate)	4199 - Other Mixed Upland Deciduous	Two-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription First regen check was not satisfactory. Re-check in 3 years.

Specs:

Next Step

Treatments:

Acceptable Oak, red maple, aspen, birch and misc northern hardwoods with a minor conifer component acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

2	52018002-NF	33.4	3204 - Mast Producing Shrub	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	3204 - Mast Producing Shrub		Draft Field Boundary
---	-------------	------	-----------------------------	------------	--	--------------	--------------	-----------------	-----------------------------	--	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Brush, mow, plant, burn and/or herbicide to maintain opening. Planting of hard and soft mast

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Good wildlife opening with mast producing shrubs.

Comment:

Proposed Start Date: 10/01/2017

3	52018003-Monitor	28.8	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	89	1-50	Monitoring	Natural Regen (Intermediate)	4199 - Other Mixed Upland Deciduous	Two-Aged	Draft Field Boundary
---	------------------	------	-------------------------------------	------------------	----	------	------------	------------------------------	-------------------------------------	----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Regeneration not adequate. Re-check in 3 years.

Specs:

Next Step

Treatments:

Acceptable Oak, red maple, aspen, birch and misc northern hardwoods with a minor conifer component acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

9	52018009-Cut	33.7	4123 - Red Oak	Sawtimber Well	88	81-110	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
---	--------------	------	----------------	----------------	----	--------	---------	-------------------------	-------------------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest all trees 2" and up. Leave 3 -5% in retention.

Specs:

Next Step

Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Oak, red maple, aspen, birch and mixed conifer at minimal stocking.

Regen:

Other

Apply oak wilt specs to sale.

Comment:

Proposed Start Date: 10/01/2017





S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
13	52018013-Cut	32.4	42110 - Planted Red Pine	Poletimber Well	57	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No****Site Condition:**

Prescription Thin to an average of 120BA.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Variable BA but many locations around 200sq/ft. Do not cut oak (approx. 10 - 20 BA in southern part) the southern portion has lower BA. Clean up poor form and damaged trees, red pine BA average may be lower than 120sq/ft in this location.

Proposed Start Date: 10/01/2017

16	52018016-Cut	84.6	4130 - Aspen	Poletimber Well	37	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
----	--------------	------	--------------	-----------------	----	-------------	---------	-------------------------	-------------	-----------	----------------------

**Habitat Cut: No****Site Condition:**

Prescription Final Harvest all trees 2" dbh and up. Leave 3-5% in islands for retention. Some single trees or clumps may be marked to leave throughout the

Specs: sale if they provide added benefits (mast, cover, diversity). Recommend that leave trees do not exceed 5 BA for sale area.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen dominated with mixed deciduous and mixed conifer.

Regen:

Other the narrow portion in the south includes a white pine pocket found on south side of ridge.

Comment:

Proposed Start Date: 10/01/2017

19	52018019-Cut	17.9	4112 - Maple, Beech, Cherry Association	Sawtimber Well	92	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Two-Aged	Draft Field Boundary
----	--------------	------	---	----------------	----	---------	---------	-----------------------	-------------------------	----------	----------------------

**Habitat Cut: No****Site Condition:**

Prescription Mark to an avg residual of 70. Find locations for 3 to 5 large regen gaps of at least 100x100'. Salvage beech. Leave at least 1 beech per acre

Specs: for mast. Protect/leave cavity trees..

Next Step Monitoring, Natural Regen (Re-Inventory); Other, Other

Treatments:

Acceptable Sugar maple, red maple, birch, mixed conifer, aspen at moderate stocking within canopy gaps.

Regen:

Other Road will need to be fixed to access sale.

Comment:

Proposed Start Date: 10/01/2017

20	52018020-Cut	27.2	42110 - Planted Red Pine	Poletimber Well	57	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	------	--------------------------	-----------------	----	---------	---------	----------------	-------------------------	-----------	----------------------

**Habitat Cut: No****Site Condition:**

Prescription Thin to 120 BA average in areas where density allows. Perimeter of stand is not as well stocked and will not need much marking. Clean up

Specs: poor formed or damaged trees in these areas(BA will be less than 120 more than likely). Mark desired misc. hardwoods to remove. Do not remove oak.

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017





S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
23	52018023-Cut	27.9	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	91	81-110	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Cut all trees 2" and up except for white oak. Do not cut white oak.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventry)

Treatments:

Acceptable Aspen with oak, red maple, white pine and red pine.

Regen:

Other Long term retention for this stand has already been identified. Leave islands within sale boundary will not be needed.

Comment:

Proposed Start Date: 10/01/2017

23	52018023-Cutx	14.3	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	91	81-110	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
----	---------------	------	--	----------------	----	--------	---------	-------------------------	-------------------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest all trees 2" DBH and up except for white oak. Do not cut white oak.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventry)

Treatments:

Acceptable A mixed type featuring oak, red maple, birch, aspen and conifer.

Regen:

Other Retention for sale already specified for stand. Islands within sale boundary are not needed.

Comment:

Proposed Start Date: 10/01/2017

24	52018024-Cut	11.0	42110 - Planted Red Pine	Poletimber Well	57	141-170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	------	--------------------------	-----------------	----	---------	---------	----------	-------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest all trees 2" and up. Do not leave retention.

Specs:

Next Step SitePrep, Other - Specify; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr);

Treatments: Other, Other

Acceptable Plant red pine

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

25	52018025-Prep	3.7	3104 - Degraded	Nonstocked		Unspecified	SitePrep	Trenching	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	---------------	-----	-----------------	------------	--	-------------	----------	-----------	-------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Plant to red pine with adjacent stand

Specs:

Next Step Planting, Initial Plant

Treatments:

Acceptable Plant red pine

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017





Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
26	52018026-Cut	3.5	42110 - Planted Red Pine	Poletimber Well	57	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Final Harvest all trees 2" dbh and up. Do not leave retention. Plant to red pine with adjacent opening.

Specs:

Next Step SitePrep, Trenching; SitePrep, Other - Specify; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr);  
Treatments: Other, Other

Acceptable Plant red pine

Regen:

Other Wildlife will plant some oak if opportunity allows

Comment:

Proposed Start Date: 10/01/2017

29	52018029-Cut	7.6	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	57	141-170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	-----	---	-----------------	----	---------	---------	----------	-------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Harvest all trees 2" and up. Do not leave retention in this portion of stand. Leave retention west of pipeline road.

Specs:

Next Step SitePrep, Trenching; SitePrep, Other - Specify; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr);  
Treatments: Other, Other

Acceptable Plant red pine.

Regen:

Other Chip harvest if markets allow. Apply seasonal restrictions to protect adjacent rookery if active.

Comment: Wild life will plant areas to oak if opportunity allows.

Proposed Start Date: 10/01/2017

37	52018037-Cut	31.0	42110 - Planted Red Pine	Poletimber Well	57	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	------	--------------------------	-----------------	----	---------	---------	----------	-------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest all trees 2" and up. Do not leave retention or biomass (if markets allow) due to forest health concerns (bark beetle in stand).

Specs:

Next Step SitePrep, Trenching; SitePrep, Other - Specify; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr);  
Treatments: Other, Other

Acceptable plant red pine

Regen:

Other Chip harvest if markets allow to facilitate planting. Wildlife will plant oak in areas if opportunity allows.

Comment:

Proposed Start Date: 10/01/2017

51	52018051-Cut	2.6	4199 - Other Mixed Upland Deciduous	Sawtimber Well	87	81-110	Harvest	Clearcut	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
----	--------------	-----	-------------------------------------	----------------	----	--------	---------	----------	-------------------------------------	-----------	----------------------

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest all trees 2" and up. Do not leave retention due to small acreage.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Red maple, oak, aspen, birch and misc conifer at minimal stocking

Regen:

Other Set up with oak stands to west or as a small fuel wood sale.

Comment:

Proposed Start Date: 10/01/2017

**Total Treatment Acreage Proposed: 371.8**



## Report 4 – Site Conditions

Gaylord Mgt. Unit  
Lucas Merrick : Examiner

Compartment: 18  
Year of Entry: 2018

### Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	5E
		With Condition	Not Available			
398	398	0	0	Aspen		
36	36	0	0	Herbaceous Openland		
6	6	0	0	Low-Density Trees		
188	125	61	2	Mixed Upland Deciduous	61	2
35	35	0	0	Northern Hardwood		
132	46	86	0	Oak	86	
216	202	14	0	Red Pine	14	
3	3	0	0	Sand, Soil		
46	46	0	0	Upland Shrub		
33	33	0	0	Urban		
19	19	0	0	White Pine		
1,110	947	161	2	Total Forested Acres	161	2
	85%	15%	0%	Relative Percent		

*\*Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	14	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
2	Unavailable	<b>5E: Long-Term Retention</b>	2	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Long-term retention for 2018 harvests.							



## Report 4 – Site Conditions

Gaylord Mgt. Unit  
Lucas Merrick : Examiner

Compartment: 18  
Year of Entry: 2018

3	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	36	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Keep oak for mast.							
4	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	36	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Maintain stand for hard mast.							
5	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	61	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> A unique stand with a decent class of 40 yr old oak							
6	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	14	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> A natural red pine stand, thinned in 08 YOE							



Mgt. Unit

Compartment: #Type!

Year of Entry:



**Report 5 – 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 6 – 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	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.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4123 - Red Oak	Sawtimber Medium	12.2	95	81-110	Very poor regeneration results from harvest. Browse evident. A pocket of aspen regen in SE. Majority of over story oak appears to be stump sprout origin.
3	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	28.8	89	1-50	Majority of regeneration is from stump sprouts. Fairly heavy browse. Fair amount of sedge. Canopy cover is right around 50%. A treated oak wilt site found in stand. Variable stocking and quality. Aspen regeneration is in pockets. Minimal successful oak regeneration.
4	4130 - Aspen	Poletimber Well	41.9	38	1-50	Aspen starting to thin out, many trees breaking up, most beech are covered in scale. Variable amounts of sedge.
5	4130 - Aspen	Sapling Well	16.8	6	1-50	Patched of moderately socked aspen found, especially in north/west. An illegal quad trail has been created running through stand.
7	4123 - Red Oak	Sawtimber Medium	36.3	98	1-50	Aspen regeneration in patches. Consisted red maple stump sprouts. Some scattered oak >10 ft. tall regeneration. Canopy closure right around 50%.
8	4123 - Red Oak	Sawtimber Medium	13.6	86	51-80	Pockets of smaller oak present. Brushy with variable stocking in understory. Eastern portions of understory very thick. There is some healthy looking oak regen above the browse line present.
9	4123 - Red Oak	Sawtimber Well	33.7	88	81-110	Majority of overstory is stump sprout origin. Browse evident. Aspen regen is found in pockets and varies in quality. Understory has variable stocking, open in some areas and very thick in others. Some established oak saplings present. Some oak decline evident.
11	4130 - Aspen	Sapling Well	31.9	28	Immature	Aspen is merchantable in areas with little to no oak overstory. Some paper birch mixed in with the aspen. High density shrub component. Much of the residual super canopy oak found in clumps or have rot at base due to logging damage and blow down. Quaking aspen dominates the eastern portions. A nice oak understory present adjacent to well site. A handful of saw log red pine present in east.
12	4131 - Aspen, Oak	Poletimber Well	6.7	28	Unspecified	Approx 20BA (avg) overstory oak. BA plots ranged from 0BA - 70BA. Heavy bracken component in understory. Aspen component poor in areas with oak.
13	42110 - Planted Red Pine	Poletimber Well	32.4	57	141-170	Minor amounts of blow down present. BA avg- 156sq/ft for red pine. BA plots ranged from 80sq/ft - 220sq/ft. Rolling topo.
14	4130 - Aspen	Sapling Well	26.1	8	Immature	Open pockets with sweet fern, bracken, and blueberry. Epicormic Branching on oak. Canopy cover is right around 75%. A few nice pockets of hawthorn found in the north.
15	4123 - Red Oak	Sawtimber Medium	36.1	92	51-80	Rolling hills. Quality oak. Some 10'+ oak and paper birch regeneration present. Majority of over story is single stem oak.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
16	4130 - Aspen	Poletimber Well	114.3	37	Unspecified	Majority of quaking aspen seems to be in north and east. Some larger white pine left throughout with a pocket of it found in south. Rolling hills.
17	42110 - Planted Red Pine	Poletimber Well	12.4	55	111-140	Some misc. hardwoods present in canopy. Pockets of quality oak regeneration present. Understory thicker in the eastern portions. BA does not warrant entry.
18	4139 - Aspen, Mixed Deciduous	Sapling Well	110.5	28	Immature	Rolling top. Pockets of stand dominated by red maple, paper birch and oak. White pine and red pine also found in stand. Some poorly stocked open areas present.
19	4112 - Maple, Beech, Cherry Association	Sawtimber Well	17.9	92	111-140	Scattered high quality 14-16"dbh logs mixed in with average quality timber. Beech scale found in stand. Some good looking sugar maple saplings established though out stand and are starting to enter the sub canopy. A decent collection of living cavity trees. A minor component of paper and yellow birch. Many standing dead paper birch stems.
20	42110 - Planted Red Pine	Poletimber Well	27.2	57	141-170	White pine, birch, sugar maple, beech, oak and aspen in canopy. Above average quality. Good sugar maple regeneration.
21	4130 - Aspen	Poletimber Well	16.3	38	Unspecified	Scattered conifer. Sugar maple doing well in stand. Aspen starting to lay on ground. A couple open pockets. A few pole size hardwood stems present.
22	42110 - Planted Red Pine	Poletimber Well	8.5	57	141-170	Minor blow down present. Wind firmness a concern for re-entry. 2-3 acres with higher BA. Rolling topo. 20% crown ratio. Minimal under story.
23	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	108.9	91	81-110	Several harvests within stand between 1968 - 1975 establishing a 40yr age class. A mixed stand with birch, pine, maple, oak, and aspen. A low-moderately stocked sub canopy of 40 yr old oak established. Several pockets of white oak regen found throughout (3-6' tall). A variable stand with areas heavier to pine and others with a fully stocked 40 yr aspen class. White pine regenerating well within stand. A few sticks of natural red pine.
24	42110 - Planted Red Pine	Poletimber Well	11.0	57	141-170	5 stick trees. Limby with a fair amount of double tops through out. Row integrity compromised in many places and difficult to follow. Heavy component of bracken fern. Red maple under story well stocked along outer edges of stand.
26	42110 - Planted Red Pine	Poletimber Well	3.5	57	81-110	Pipeline runs through stand. Better regeneration in the narrow portions where stand wraps around opening.
27	4130 - Aspen	Sapling Well	6.5	8	Immature	Regeneration 10-15' tall. Shorter in south.
28	4199 - Other Mixed Upland Deciduous	Sapling Well	45.2	18	1-50	Browse evident. Brushy pockets consisting of cherry, witch hazel, and beaked hazelnut. There is some oak regeneration within stand (approx. 4% of the oak canopy is sapling size).





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	19.5	57	141-170	Possible raven rookery? Pockets of dead pine. Old rr grade found in.
30	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	16.6	90	51-80	Birch dying out of stand. Stump sprout regen shows signs of browse. Some windthrow throughout stand.
33	42110 - Planted Red Pine	Poletimber Well	42.3	57	111-140	Some wind throw present. Northern portions have better stocking. Very nice looking oak regeneration. Regeneration variable throughout, some pockets of dense red maple and aspen, other areas open with an oak component. Rolling topography. BA right at 140 average.
34	4130 - Aspen	Sapling Well	6.9	18	Immature	Some scattered over story oak and pine. Aspen 25-35' tall. A couple larger birch and aspen snags present in the south. A couple nice pockets of hawthorn and service berry.
36	42210 - Natural Red Pine	Sawtimber Well	13.7	87	51-80	Plenty of pine in the 7-9" diameter class to go along with saw logs. Browse present. Stocking variable throughout stand. Ba avg 78sq/ft
37	42110 - Planted Red Pine	Poletimber Well	52.9	57	111-140	Pocket of bark beetle present in stand. Variable density. Scattered aspen present in over story. Wind throw in SE. Old plow line and fire scars present in SW portions from a 1992 fire. A few row of white pine mixed in the south.
38	42110 - Planted Red Pine	Poletimber Well	11.9	57	111-140	Wind throw throughout. A RR grade found in stand and BA for stand is less adjacent to it. Some very nice stems of oak regeneration.
43	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	2.6	87	51-80	Canopy right around 75% coverage. Some quality stems of advanced oak regeneration present. Fairly open under story.
44	4130 - Aspen	Sapling Well	5.1	17	Immature	A regenerating aspen stand. Red pine in south portion.
49	4130 - Aspen	Poletimber Well	15.0	28	Immature	Aspen starting to thin out. Plenty of horizontal structure. Some pockets of open brush and non-merchantable aspen, quality and size seems to decline in southern portions. Areas with cankers.
51	4199 - Other Mixed Upland Deciduous	Sawtimber Well	2.6	87	81-110	Small stand on top of a small hill.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	3204 - Mast Producing Shrub	33.4	Yes	Pockets of aspen moderate quality aspen scattered throughout. Cherry and serviceberry consistent across stand(some very thick pockets). High canker presence on cherry.
6	3205 - Mixed Upland Shrub	5.4	No	Quaking aspen around the perimeter. Extensive sedge and bracken fern. Sweet fern, blueberry, and juneberry present.
10	3204 - Mast Producing Shrub	6.8	No	Sweet fern, blackberry, and bracken present. Aspen and white pine in SE ,
25	3104 - Degraded	4.7	No	well site. Abandoned facility location also. Muskegon Development - State Otsego Lake A3-24
31	3301 - Low Density Deciduous Tree	5.7	No	Fire in 1992, old plow lines still evident. Lots of sedge cover. Fire scars evident on pine.
32	310 - Herbaceous Openland	1.6	No	
35	310 - Herbaceous Openland	2.0	No	Cherry in clumps. Old landing/mulch pile in stand.
39	122 - Road/Parking Lot	10.1	No	County road and pipeline.
40	310 - Herbaceous Openland	1.0	No	OPIC - FMD: SEED TREE CUT COMPLETED IN 1989. Harvest removed aspen, birch, & red maple. Red Oak is 18 - 22" d,b,h. Understory along Old State Road is well stocked A3.
41	710 - Sand, Soil	2.8	No	Top soil mounded around perimeter. No vegetation on site. Core Energy 8-15A
48	310 - Herbaceous Openland	3.6	No	Open area with some cherry
50	310 - Herbaceous Openland	2.4	No	Open area created by pipe lines and roads. Sedge, bracken fern, aspen, black berry, sweet fern and blue berry.
53	310 - Herbaceous Openland	1.3	No	Couple cherry trees and pine saplings.
54	122 - Road/Parking Lot	3.2	No	Viking Club road and R.O.W's
400	3104 - Degraded	1.0	No	Enervest Operating, State Otsego LK 4-15
401	3104 - Degraded	0.9	No	Well site. Enervest Operating LLC, State Otsego Lake 8-15





Stand	Cover Type	Acres	Managed Site	General Comments:
402	3104 - Degraded	1.7	No	Enervest Operating State Otsego Lk 9-15
403	3104 - Degraded	0.9	No	Well site. Enervest Otsego Lk 3-15
404	3104 - Degraded	1.2	No	Well site. Enervest Operating, State Otsego Lk 1-15
405	3104 - Degraded	0.8	No	State Otsego Lake 7-15, permit # 40227, 989-705-2803,
406	3104 - Degraded	1.2	No	Well site. Enervest Operating, State Otsego Lk 10-15
407	3104 - Degraded	1.0	No	OPIC - FMD: Gas Well site with well head. No pump jack & maintained currently by Inervest.
408	3104 - Degraded	1.3	No	Well site, Enervest Operating, State Otsego Lk 9-22
409	3104 - Degraded	1.2	No	well site, Enervest Operating, State Otsego Lk 8-22
410	3104 - Degraded	1.0	No	Well site, Enervest Operating, State Otsego Lk 7-22. Some chip debris from old landing on site.
411	3104 - Degraded	0.7	No	Well site. Oak and red maple around perimeter <5 ft. Knapweed present. Enervest operating-State Otsego Lake 4-14.
412	3104 - Degraded	0.9	No	Well site, Enervest Operating, State Otsego Lk 2-14
413	3104 - Degraded	1.0	No	well site, Enervest Operating, State Otsego Lake 1-14
414	3104 - Degraded	1.5	No	Muskegon Development, State Otsego LK A4-24
415	3104 - Degraded	1.4	No	Well site. Warning signs for poison gas. State Otsego Lk B4-24 Muskegon Development
416	3104 - Degraded	1.3	No	Well site, Muskegon Development, State Otsego Lk B3-24
417	122 - Road/Parking Lot	12.2	No	OPIC - FMD: Buried gas pipeline along south side of Old State Road.
418	122 - Road/Parking Lot	7.1	No	OPIC - FMD: Buried gas pipeline along south side of Old State Road.