



Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 52020

Entry Year 2017

Acreage: 1,873

County Otsego

Management Area: Grayling Ice Contact

Revision Date: 2015-05-12

Stand Examiner: Lucas Merrick

Legal Description:

T29N, R03W, Sections: 19, 21, 28, 30, 31, 32, and 33

Identified Planning Goals:

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

Soil and topography:

Rubicon sand, Blue Lake loamy sand, Kalkaska sand make up the majority of the compartment. These soils are somewhat to excessively drained. Topography varies from almost flat rolling terrain to areas with slopes of almost 45%.

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

This compartment is found around the town of Waters. Multiple lakes and private inholding break up the contiguity of the compartment. Parcels in the south of section 33 are adjacent to Waters Landfill. The majority of wells in the eastern portions of the compartment have recently been abandoned. The State of Michigan owns the majority of the Lake Marjory sub-division. Some of the lots have recently been sold to the public at auction.

Unique Natural Features:

Potential for goshawk, red-shouldered hawk, eagle, loon, and osprey

Archeological, Historical, and Cultural Features:

There are HAL concerns within the compartment

Special Management Designations or Considerations:

None at this time.

Watershed and Fisheries Considerations:

This compartment contains Bradford Lake, Little Bradford Lake, Lake Marjory, and Heart Lake, which range from shallow lakes supporting warmwater communities to deep trout lakes. Heart Lake is stocked each year with rainbow trout, while Big Bradford Lake is stocked with walleye every two years. The management plans proposed for this compartment are appropriate for protection for these waterbodies.

Wildlife Habitat Considerations:

Treatments in this compartment will maintain age class diversity in aspen and oak while creating early successional habitat benefiting deer, grouse, wild turkey and woodcock. Oak clumps and/or large crowned oak will be left where appropriate for hard mast. Openings are prescribed to be maintained and supplemented with hard and soft mast plantings benefiting deer, grouse, wild turkey, and woodcock.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 600 and 1,000 feet. The Mississippian Coldwater Shale subcrops below the glacial drift. The Coldwater does not have an economic use. The nearest gravel pit is located one mile to the west and potential is good on the uplands. There also may be a gravel pit to the north in Section 17 within the I-75 ROW. Most of the compartment has been developed for Antrim Shale gas production. The Niagaran reef trend is located in this area and there may be additional potential for Niagaran reefs. The majority of State minerals in the compartment are currently under lease.

Vehicle Access:

Vehicle access throughout the compartment is adequate. County roads, state trails, and pipeline easements intersect the compartment.

Survey Needs:

Potential survey required for treatments found in section 32 and 33.

Recreational Facilities and Opportunities:

Lake Marjory Campground, Big Bradford Boat Access Site, and the Heart Lake Access Site are found in this compartment. Snowmobile trails #4 and #7 run through this compartment.

Fire Protection:

Cover types are not prone to frequent or large fire events. There are pockets of blow sand and topography west of Big Bradford Lake that could prove to be equipment limiting. Multiple oil and gas flow lines are present. Multiple lakes and access sites provide good water points. Otsego Lake Township Fire Station found in section 29.

Additional Compartment Information:

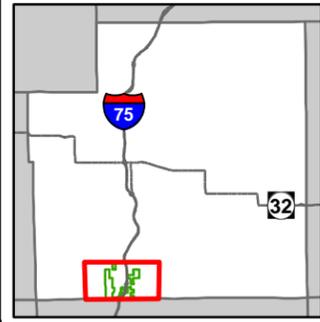
The following reports from the Inventory are attached:

- 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:

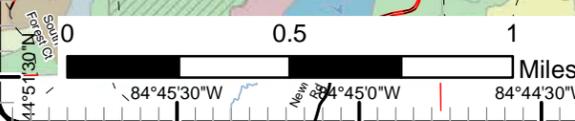
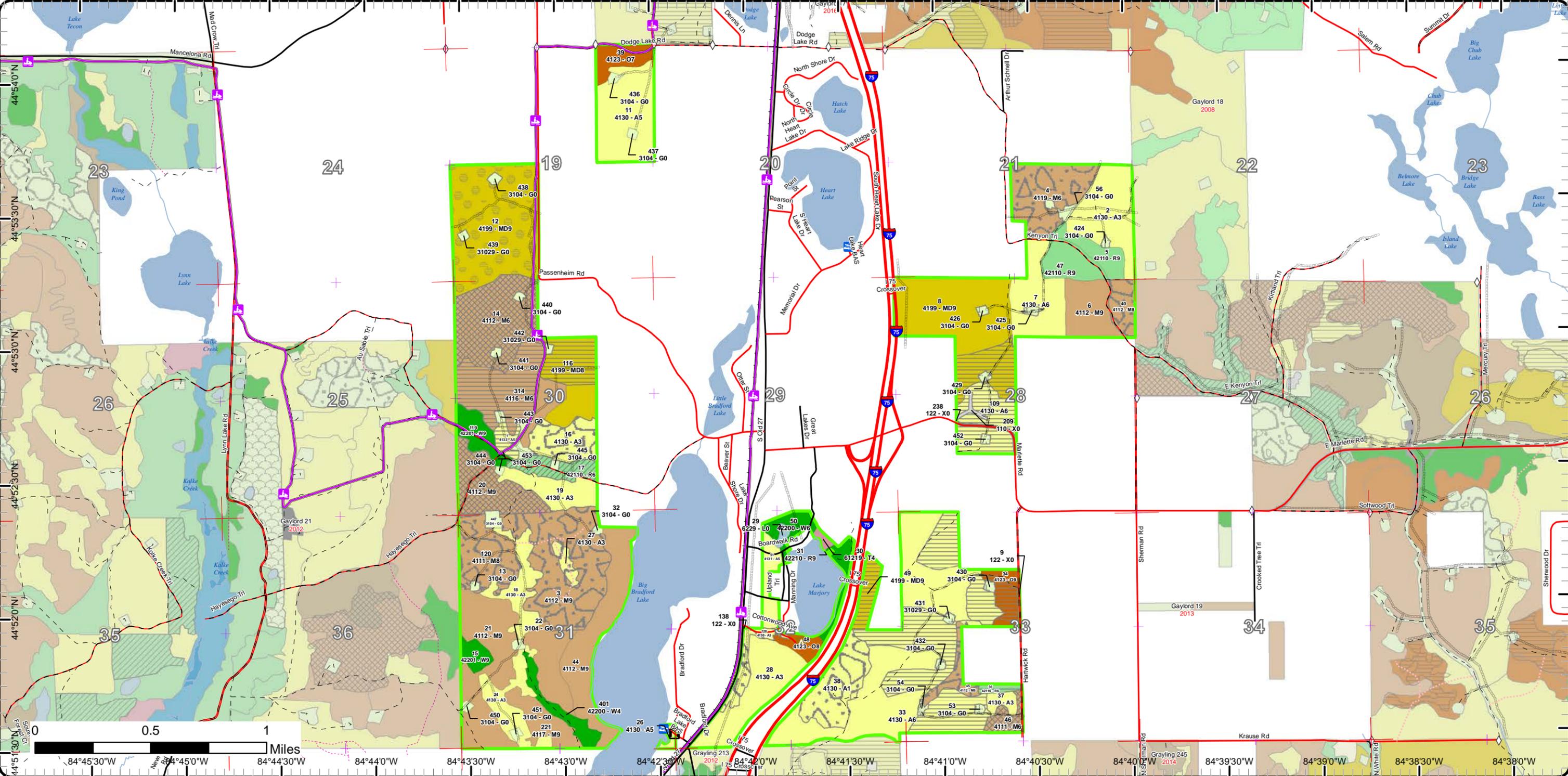
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments

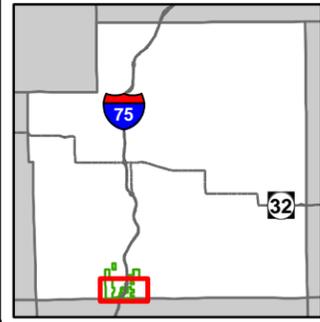


Compartment: 20
 T29N,R03W, Sec.19,21,28,30-33
 County: Otsego
 Unit: Gaylord
 Mgmt Area: Grayling Ice Contact
 YOE: 2017
 Acres: 1873 GIS Calculated
 Examiner: Lucas Merrick
 Map Revised: 5/21/2015
 Map Phase: Pre-Review

- ✦ Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- 🚤 Boating Access Site
- 🏕️ Campground
- 🚙 Snowmobile Trails
- Railroads
- Rivers
- Lakes
- Pipeline
- Treatments
- ▭ Patch/Strip Cut (Femelschlag)
- ▭ Selection (Group, Single Tree)
- ▭ Clearcut (w/Reserves)
- ▭ Other Treatment - See Comments
- ▭ Regeneration Survey
- ▭ Thinning (Crown, Low, Systematic)
- Forest Covertype
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 612 - Lowland Coniferous Forest
- Non-Forest Covertype
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 622 - Lowland Shrub



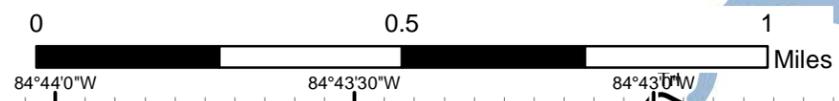
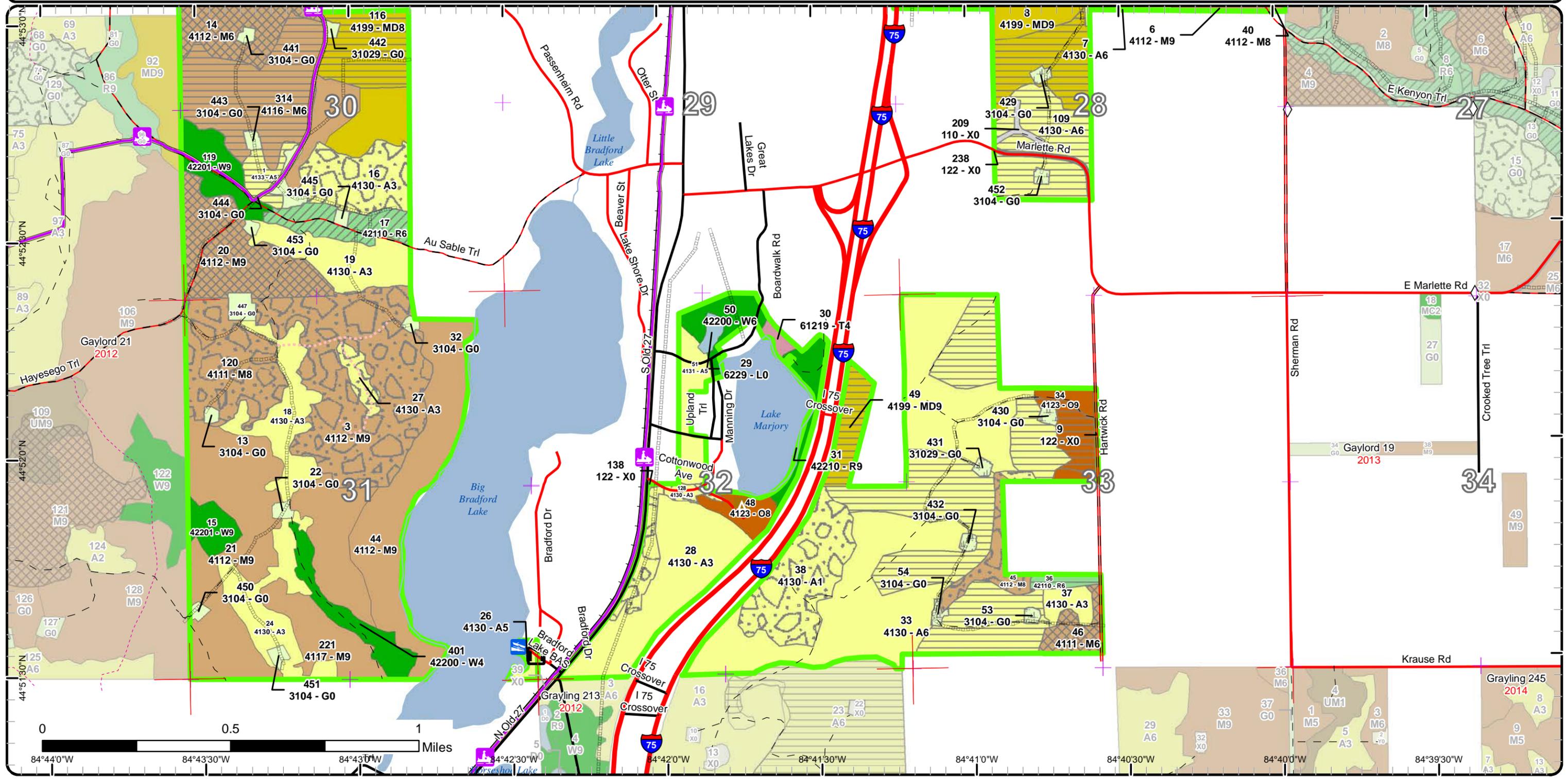
Cover Type & Treatments



Compartment: 20
 T29N,R03W, Sec.19,21,28,30-33
 County: Otsego
 Unit: Gaylord
 Mgmt Area: Grayling Ice Contact
 YOE: 2017
 Acres: 1873 GIS Calculated
 Examiner: Lucas Merrick
 Map Revised: 5/21/2015
 Map Phase: Pre-Review

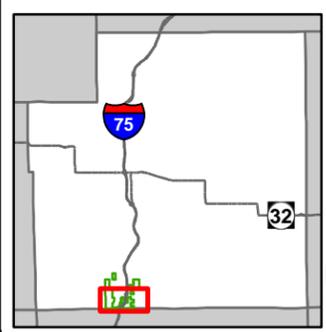


- Remonumented Section Corners
 - Field Grade GPS Corners
 - Miris Corners
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - Boating Access Site
 - Campground
 - Snowmobile Trails
 - Snowmobile Trails
 - Railroads
 - Rivers
 - Lakes
 - Pipeline
 - Selection (Group, Single Tree)
 - Clearcut (w/Reserves)
 - Other Treatment - See Comments
 - Regeneration Survey
 - Thinning (Crown, Low, Systematic)
- Forest Covertype**
- 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 612 - Lowland Coniferous Forest
- Non-Forest Covertype**
- 110 - Low Intensity Urban
 - 122 - Roads/Parking Lot
 - 310 - Herbaceous Openland
 - 622 - Lowland Shrub

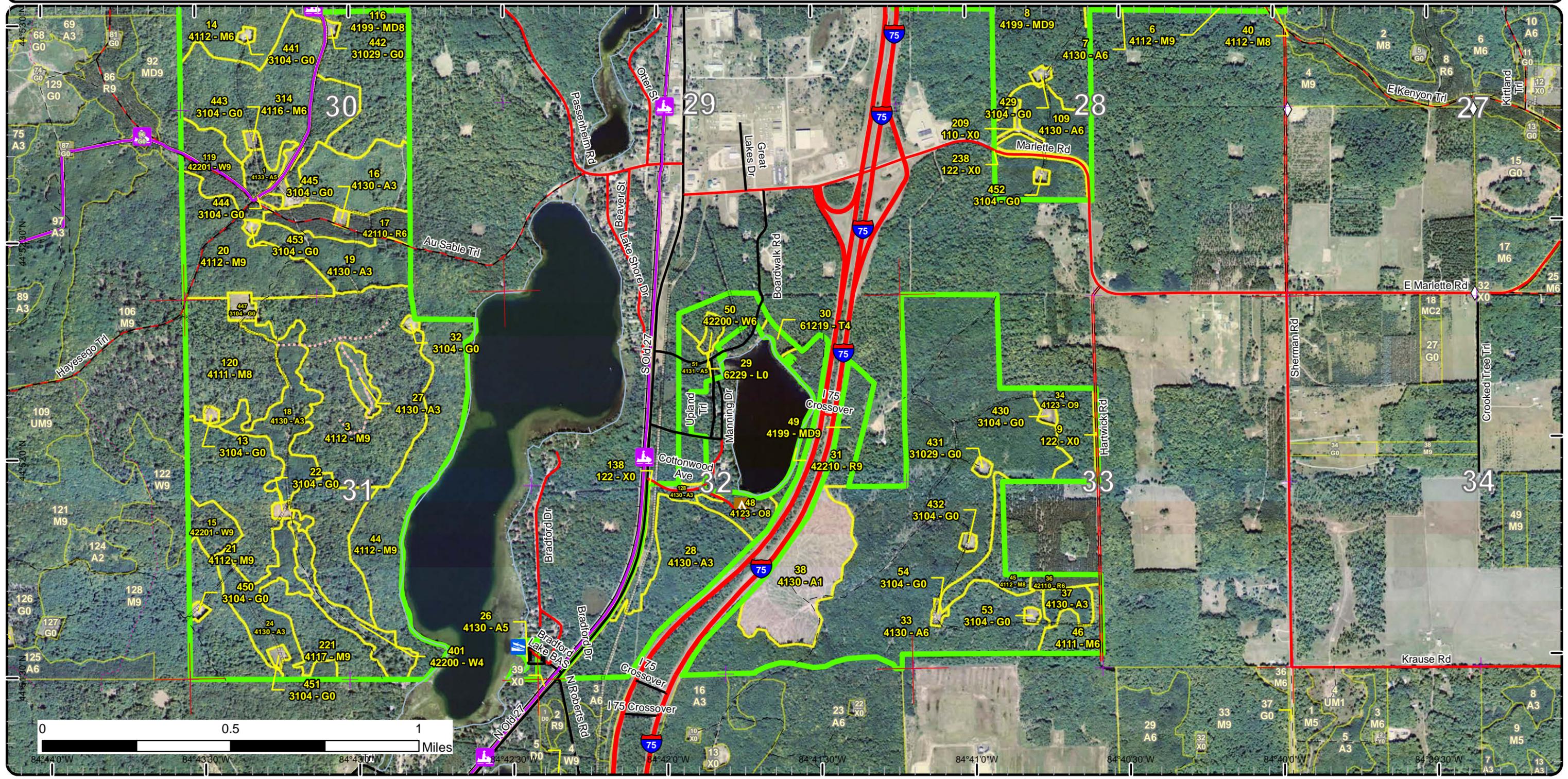


Special Conservation Areas & Site Conditions Map

Compartment: 20
 T29N,R03W, Sec.19,21,28,30-33
 County: Otsego
 Unit: Gaylord
 Mgmt Area: Grayling Ice Contact
 YOE: 2017
 Acres: 1873 GIS Calculated
 Examiner: Lucas Merrick
 Map Revised: 5/21/2015
 Map Phase: Pre-Review

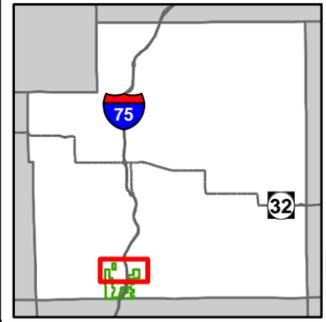


- ✦ Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- ⋯ Closed Roads
- 🚤 Boating Access Site
- 🏕 Campground
- 🚙 Snowmobile Trails
- Snowmobile Trails
- Railroads
- Rivers
- Pipeline
- 🟡 Stand Boundaries
- Forest Covertype
 - 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
- 612 - Lowland Coniferous Forest
- Non-Forest Covertype
 - 110 - Low Intensity Urban
 - 122 - Roads/Parking Lot
 - 310 - Herbaceous Openland
 - 622 - Lowland Shrub

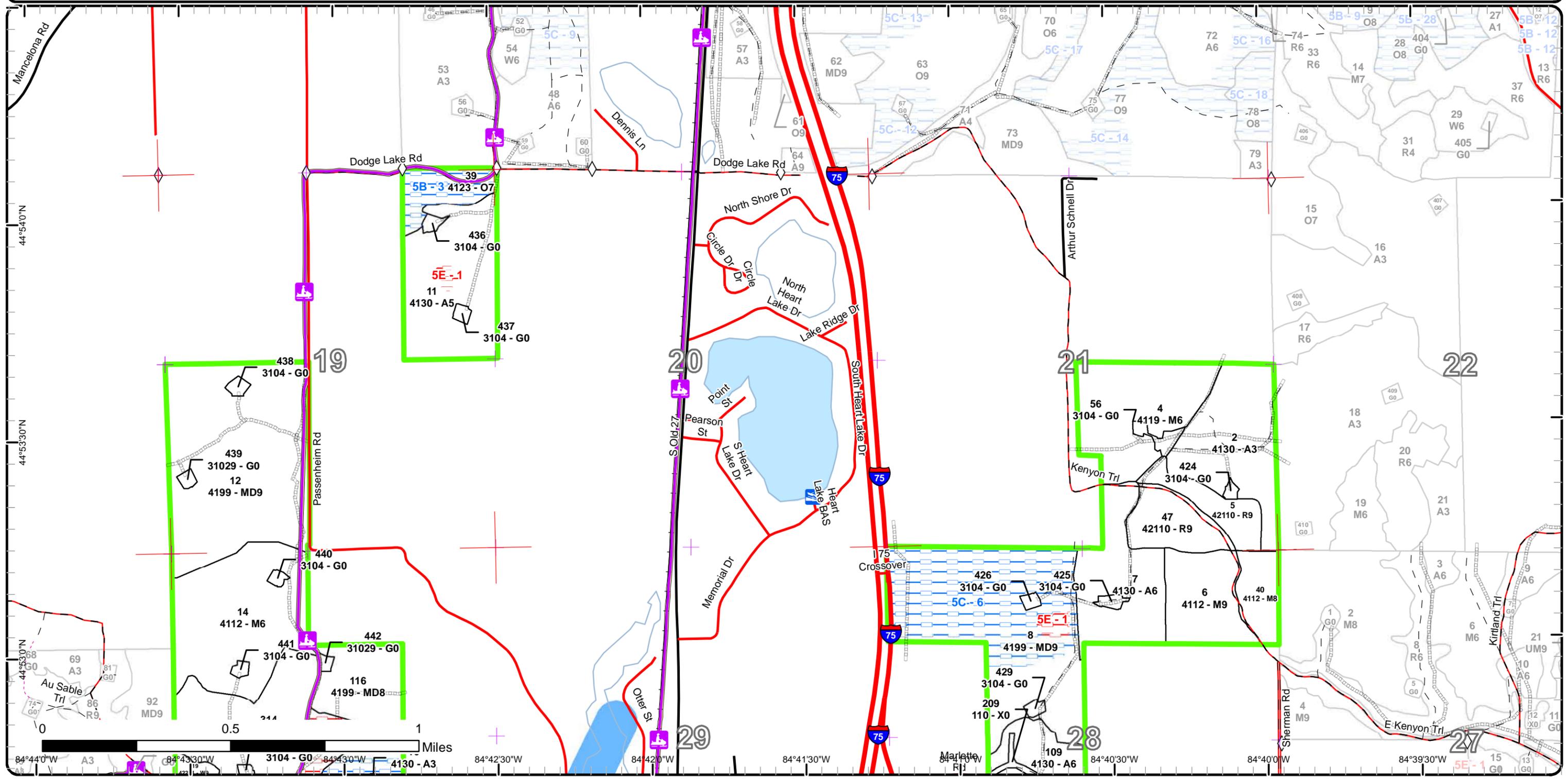


Special Conservation Areas & Site Conditions Map

Compartment: 20
 T29N,R03W, Sec.19,21,28,30-33
 County: Otsego
 Unit: Gaylord
 Mgmt Area: Grayling Ice Contact
 YOE: 2017
 Acres: 1873 GIS Calculated
 Examiner: Lucas Merrick
 Map Revised: 5/21/2015
 Map Phase: Pre-Review

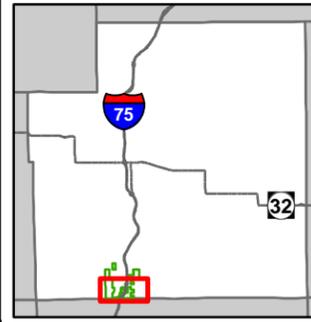


- ✚ Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- 🚤 Boating Access Site
- 🏠 Snowmobile Trails
- Snowmobile Trails
- Railroads
- Rivers
- Pipeline
- Stand Boundaries
- Site Condition
- Available w/ Constraints
- Unavailable
- Available Factors W/ Constraints
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable Factors
- 5E: Long-Term Retention Special Conservation Areas
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer

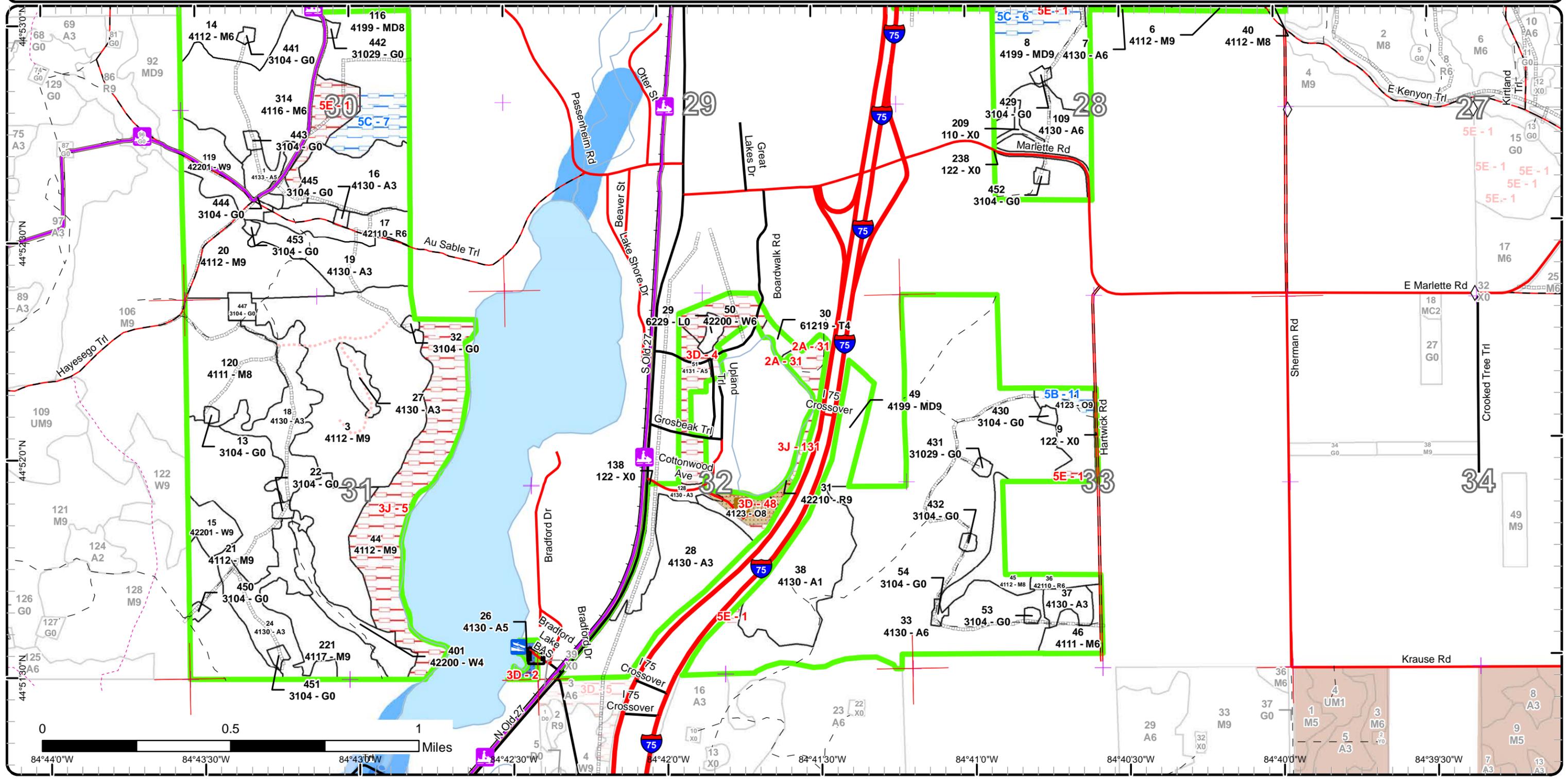


Special Conservation Areas & Site Conditions Map

Compartment: 20
 T29N,R03W, Sec.19,21,28,30-33
 County: Otsego
 Unit: Gaylord
 Mgmt Area: Grayling Ice Contact
 YOE: 2017
 Acres: 1873 GIS Calculated
 Examiner: Lucas Merrick
 Map Revised: 5/21/2015
 Map Phase: Pre-Review



- | | | | |
|---|--|--|---|
| <ul style="list-style-type: none"> ✦ Remonumented Section Corners ◇ Field Grade GPS Corners — Miris Corners — Highway — County Paved Roads — Paved Roads — County Gravel Roads — Poor Dirt Roads — County Poor Dirt Roads — Trail (Non-Recreation) — Closed Roads Boating Access Site Campground | <ul style="list-style-type: none"> Snowmobile Trails Snowmobile Trails Railroads Rivers Pipeline Stand Boundaries Review... SCAs (dq) Recom... SCA | <p>Site Condition</p> <ul style="list-style-type: none"> Available w/ Constraints Unavailable <p>Available Factors W/ Constraints</p> <ul style="list-style-type: none"> 5B: Maintain for regeneration purposes 5C: Delay treatment for age/size class diversity or exceptional site quality <p>Unavailable Factors</p> <ul style="list-style-type: none"> 2A: Adjacent landowner denied access 3D: Recreational / Scenic values | <p>3J: Water quality / BMPs (stream, river, or lake)</p> <p>5E: Long-Term Retention</p> <p>Special Conservation Areas</p> <ul style="list-style-type: none"> Natural Rivers Vegetative Buffer Natural Rivers Zoning District Cold Water Streams Cold Water Lakes High Priority Trout Stream Buffer Research, Development, and Military Lands Boat Access Site State Forest Campground |
|---|--|--|---|



Report 1 – Total Acres by Cover Type and Age Class

Gaylord Mgt. Unit

Compartment 20

Year of Entry 2017

Lucas Merrick : Examiner



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	91	86	108	115	288	18	0	0	0	0	0	0	0	0	0	0	0	706
Herbaceous Openland	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Lowland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	132	119	45	0	0	0	0	0	0	0	296
Northern Hardwood	0	0	0	0	0	0	0	146	0	89	366	0	0	0	0	0	0	45	646
Oak	0	0	0	0	0	0	0	0	0	34	0	0	10	0	0	0	0	0	44
Red Pine	0	0	0	0	0	0	60	0	0	0	0	0	0	11	0	0	0	0	71
Tamarack	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Urban	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
White Pine	0	0	0	0	0	0	16	18	0	0	0	13	0	0	0	0	0	9	56
Total	50	91	86	108	115	288	94	164	0	255	485	58	10	14	0	0	0	54	1872



Report 2 – Treatment Summary

Gaylord Mgt. Unit

Year of Entry: 2017

Acres of Harvest

Compartment 20

Total Compartment Acres: 1,873

Commercial Harvest - 572
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 323

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	160	0	0	0	0	0	0	0	0	160
Mixed Upland Deciduous	72	0	119	0	0	0	0	0	0	191
Northern Hardwood	58	131	0	0	0	0	0	0	0	189
Oak	11	0	0	0	0	0	0	0	0	11
Red Pine	4	0	0	0	0	17	0	0	0	21
Total	305	131	119	0	0	17	0	0	0	572

Proposed and Next Step Treatments by Harvest Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	572	0	0	0	0	0	312	0	12	896
Next Step	0	0	165	0	0	0	598	0	0	762
Total	572	0	165	0	0	0	909	0	12	1658



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	52020001-Cut	7.3	4133 - Aspen, Mixed Pine	Poletimber Medium	31	111-140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No**Site Condition: None**

Prescription Harvest with adjacent stand 314. Do not leave white pine except for within retention areas.

Specs:

Next Step

Treatments:

Acceptable Aspen, birch, oak, red maple, and white pine

Regen:

Other Use islands for retention. Protect snowmobile trail from operations. Keep operations out of stand 119 Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

3	52020003-Monitor	96.7	4112 - Maple, Beech, Cherry Association	Sawtimber Well	95	51-80	Monitoring	Natural Regen (Re-Inventory)	411 - Northern Hardwood	Two-Aged	Approved Proposal
---	------------------	------	---	----------------	----	-------	------------	------------------------------	-------------------------	----------	-------------------

Habitat Cut: Yes**Site Condition: None**

Prescription Monitor regen in the regen gaps.

Specs:

Next Step

Treatments:

Acceptable Maple, basswood, aspen, black cherry, white pine, and hemlock at minimal stocking levels or better.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2014

4	52020004-Monitor	53.0	4119 - Mixed Northern Hardwoods	Poletimber Well	95	51-80	Monitoring	Natural Regen (Intermediate)	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
---	------------------	------	---------------------------------	-----------------	----	-------	------------	------------------------------	-------------------------	-------------	-------------------

Habitat Cut: Yes**Site Condition: None**

Prescription Monitor regen holes to see if natural regen is establishing.

Specs:

Next Step

Treatments:

Acceptable Maple, birch, conifer, aspen, basswood, oak, and misc hwdws at minimal acceptable stocking. Beech and ash are not acceptable.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2017

8	52020008-Cut	29.6	4199 - Other Mixed Upland Deciduous	Sawtimber Well	89	81-110	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Proposal
---	--------------	------	-------------------------------------	----------------	----	--------	---------	-------------------------	-------------------------------------	-----------	----------

Habitat Cut: No**Site Condition: None**

Prescription Final harvest all trees 2" and up. Leave clumps of 2-4 oak scattered throughout sale area for mast and vertical structure. Leave 1 clump for every acre.

Specs:

Next Step

Treatments:

Acceptable Oak, red maple, sugar maple, birch, aspen, and a minor amount of mixed conifer.

Regen:

Other Long term retention for this stand has been established through the previous cut. New retention islands will not be needed. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



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
12	52020012-Cut	119.3	4199 - Other Mixed Upland Deciduous	Sawtimber Well	95	81-110	Harvest	Strip/Patch/Gap Cut (Femelschlag)	4199 - Other Mixed Upland Deciduous	Two-Aged	Proposal

Habitat Cut: No **Site Condition: None**

Prescription Harvest 30 - 60% of stand in 2 - 5 acre final harvest gaps. Position cut pockets in areas that will maximize potential oak stump sprouts.

Specs: WILDLIFE: Plant large oak stock in canopy gaps where opportunity present itself

Next Step 1 - Monitoring, Natural Regen (Re-Inventory); 2 - Planting, Underplant
Treatments:

Acceptable Oak, maple, birch, basswood, cherry and pine.
Regen:

Other Protect snowmobile trail from operations. This may be a good location to move the large enclosure currently found in the Jordan valley. Can we
Comment: get material to make more of these??? Old next step comments:

Proposed Start Date: 10/1 /2016

14	52020014-Cut	74.6	4112 - Maple, Beech, Cherry Association	Poletimber Well	68	111- 140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven- Aged	Proposal
----	--------------	------	---	--------------------	----	-------------	---------	--------------------------	----------------------------	-----------------	----------

Habitat Cut: No **Site Condition: None**

Prescription Leave some beech for mast and cavity trees. Mark to residual of 70-90. Create additional large canopy gaps at least 100' x 100' or larger - 1
Specs: gap for every 2 acres.

Next Step
Treatments:

Acceptable Maple, oak, birch, cherry, and white pine.
Regen:

Other Leave majority of healthy oak. If oak are marked to cut-try to incorporate into a large canopy gap to aid with stump sprout regeneration. Protect
Comment: snowmobile trail from operations. Old next step comments:

Proposed Start Date: 10/1 /2016

16	52020016- Monitor	29.0	4130 - Aspen	Sapling Well	5	Immatur re	Monitoring	Natural Regen (Re-Inventory)	4139 - Aspen, Mixed Deciduous	Even-Aged	Approved Proposal
----	----------------------	------	--------------	-----------------	---	---------------	------------	---------------------------------	-------------------------------------	-----------	----------------------

Habitat Cut: Yes **Site Condition: None**

Prescription Monitor regen

Specs:

Next Step
Treatments:

Acceptable aspen, maple, birch, oak, and misc hdwds with some conifer at minimal acceptable stocking.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 9 /1 /2015

17	52020017-Cut	17.3	42110 - Planted Red Pine	Poletimber Well	53	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
----	--------------	------	-----------------------------	--------------------	----	-------------	---------	----------------	----------------------------	-----------	----------

Habitat Cut: No **Site Condition: None**

Prescription Mark to residual BA of 110 - 130. Target poor form and suppressed trees. Protect snowmobile trail from operations. Protect snowmobile trail
Specs: from operations.

Next Step
Treatments:

Acceptable
Regen:

Other Sell with red pine final harvest off of Hartwick Rd. Keep operations out of stand 119 Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
20	52020020-Cut	45.3	4112 - Maple, Beech, Cherry Association	Sawtimber Well	90	141-170	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Proposal

Habitat Cut: No**Site Condition: None**

Prescription Leave some beech for mast and cavity trees. Mark to residual of 70-90. Create additional large canopy gaps at least 100' x 100' or larger - 1 gap for every 2 acres. Leave oak, supplement canopy gaps with large oak stock where opportunity arises and funding allows.

Specs:

Next Step 1 - Monitoring, Natural Regen (Re-Inventory); 2 - Planting, Underplant

Treatments:

Acceptable Maple, birch, aspen, oak, basswood, white pine.

Regen:

Other Leave under represented species where possible. Protect snowmobile trail and related confidence markers. Keep operations out of stand 119

Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

27	52020027-Monitor	6.5	4130 - Aspen	Sapling Well	3	Immatu re	Monitoring	Natural Regen (Re-Inventory)	413 - Aspen	Even-Aged	Approved Proposal
----	------------------	-----	--------------	--------------	---	-----------	------------	------------------------------	-------------	-----------	-------------------

Habitat Cut: Yes**Site Condition: None**

Prescription Monitor regen

Specs:Next StepTreatments:

Acceptable Aspen with birch, maple, and misc hdwds and conifer at minimum acceptable stocking.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2014

33	52020033-16-New	29.8	4130 - Aspen	Poletimber Well	42	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
----	-----------------	------	--------------	-----------------	----	--------	---------	-------------------------	-------------	-----------	----------

Habitat Cut: No**Site Condition: None**

Prescription Final harvest all trees 2". Exception: Leave oak 12" dbh and up for mast.

Specs:Next StepTreatments:

Acceptable Aspen with mixed deciduous (maple, oak, and cherry). A minor conifer component can also be expected.

Regen:

Other Leave conifer in retention islands only. Except for hemlock, protect hemlock if found in stand. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

33	52020033-17-New	50.9	4130 - Aspen	Poletimber Well	42	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
----	-----------------	------	--------------	-----------------	----	--------	---------	-------------------------	-------------	-----------	----------

Habitat Cut: No**Site Condition: None**

Prescription Final harvest all trees 2". Exception: Leave oak 12" dbh and up for mast.

Specs:Next StepTreatments:

Acceptable Aspen with mixed deciduous (maple, oak, and cherry). A minor conifer component can also be expected.

Regen:

Other Leave conifer in retention islands only. Except for hemlock, protect hemlock if found in stand. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



Standa	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
33	52020033-18-New	14.1	4130 - Aspen	Poletimber Well	42	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No **Site Condition: None**

Prescription Final harvest all trees 2". Exception: Leave oak 12" dbh and up for mast.

Specs:

Next Step

Treatments:

Acceptable Aspen with mixed deciduous (maple, oak, and cherry). A minor conifer component can also be expected.

Regen:

Other Leave conifer in retention islands only. Except for hemlock, protect hemlock if found in stand. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

33	52020033-19-New	20.0	4130 - Aspen	Poletimber Well	42	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
----	-----------------	------	--------------	-----------------	----	--------	---------	-------------------------	-------------	-----------	----------

Habitat Cut: No **Site Condition: None**

Prescription Final harvest all trees 2". Exception: Leave oak 12" dbh and up for mast.

Specs:

Next Step

Treatments:

Acceptable Aspen with mixed deciduous (maple, oak, and cherry). A minor conifer component can also be expected.

Regen:

Other Leave conifer in retention islands only. Except for hemlock, protect hemlock if found in stand. . Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

34	52020034-Cut	10.7	4123 - Red Oak	Sawtimber Well	85	51-80	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Proposal
----	--------------	------	----------------	----------------	----	-------	---------	-------------------------	-------------------------------------	-----------	----------

Habitat Cut: No **Site Condition: None**

Prescription Mark clumps of 2-5 oak/acre to leave throughout the sale. Harvest with adjacent aspen stand.

Specs:

Next Step

Treatments:

Acceptable Oak, maple, aspen, and mixed pine. There must be viable oak regen above the browse line to meet objective.

Regen:

Other Island retention has already been designated for stand through previous harvest. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

36	52020036-Cut	4.1	42110 - Planted Red Pine	Poletimber Well	51	171-200	Harvest	Clearcut with Retention	3301 - Low Density Deciduous Trees		Proposal
----	--------------	-----	--------------------------	-----------------	----	---------	---------	-------------------------	------------------------------------	--	----------

Habitat Cut: No **Site Condition: None**

Prescription Harvest all trees 2" and up. Mark several red pine to leave throughout sale area for retention.

Specs:

Next Step

Treatments:

Acceptable Aspen, oak, maple, and pine at any stocking level. Objective is to have aspen expand throughout stand over time with future treatments.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
38	52020038-Monitor	42.6	4130 - Aspen	Sapling Poor	2	Immature	Monitoring	Natural Regen (Intermediate)	413 - Aspen	Even-Aged	Proposal
Habitat Cut: Yes			Site Condition: None								
<u>Prescription</u> Monitor regen.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> An aspen stand mixed with oak and red maple at minimum acceptable stocking.											
<u>Regen:</u>											
<u>Other</u> Sale harvested out of YOE. Spring 2014 Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2018											
40	52020040-Monitor	15.6	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	98	51-80	Monitoring	Natural Regen (Intermediate)	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
Habitat Cut: Yes			Site Condition: None								
<u>Prescription</u> Monitor regen holes to see if natural regen is establishing.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> maple, birch, aspen, conifer, oak, and misc hdwds at minimal acceptable stocking. Beech and ash are not acceptable.											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2018											
45	52020045-Monitor	13.5	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	85	51-80	Monitoring	Natural Regen (Intermediate)	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
Habitat Cut: Yes			Site Condition: None								
<u>Prescription</u> Monitor regen holes to see if natural regen is establishing.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> maple, birch, oak, basswood, conifer, aspen, and other misc northern hdwd species at minimal acceptable stocking.											
<u>Regen:</u>											
<u>Other</u> Portion along northern pvt boundary was a small aspen final harvest and has been lumped in with adjacent aspen stand. Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2018											
46	52020046-Cut	10.7	4111 - S.Maple, Hard Mast Association	Poletimber Well	89	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Proposal
Habitat Cut: No			Site Condition: None								
<u>Prescription</u> Remove suppressed and poor form. Set this sale up as a fuel wood sale. 1 - 3 acre units.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> maple, oak, basswood, white pine, and aspen within established canopy gaps											
<u>Regen:</u>											
<u>Other</u> Create large canopy gaps for easier felling and to promote maple and oak regen. Leave some beech in stand for mast and cavity trees. Do not cut oak in stand (there are only a couple). Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											



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
49	52020049-Cut	13.8	4199 - Other Mixed Upland Deciduous	Sawtimber Well	85	81-110	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Proposal

Habitat Cut: No **Site Condition: None**

Prescription Leave conifer and mark a minimum of 1 oak per acre to leave along with minimum 3% island retention.

Specs:

Next Step

Treatments:

Acceptable aspen with maple, oak, birch, cherry, and mixed pine.

Regen:

Other Survey most likely needed. Harvest with adjacent cut in stand 33. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

53	52020053-NF	1.1	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
----	-------------	-----	-----------------	------------	--	--------------	--------------	-----------------	---------------------------	--	----------

Habitat Cut: Yes **Site Condition: None**

Prescription Mow, plant, herbicide to maintain opening. Planting of hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

54	52020054-NF	1.2	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
----	-------------	-----	-----------------	------------	--	--------------	--------------	-----------------	---------------------------	--	----------

Habitat Cut: Yes **Site Condition: None**

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

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

109	52020109-Cut	38.1	4130 - Aspen	Poletimber Well	44	111-140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
-----	--------------	------	--------------	-----------------	----	---------	---------	-------------------------	-------------	-----------	----------

Habitat Cut: No **Site Condition: None**

Prescription Final harvest all trees 2" and up. Use retention to address aesthetic concerns along Marlette Rd. A small portion of the stand in SE has oak maple and beech. Mark trees to leave for mast. 10 - 50 BA for this pocket. Identify other large diameter oak throughout sale area to leave for mast and vertical structure.

Specs:

Next Step

Treatments:

Acceptable Aspen, oak, birch, maple

Regen:

Other Pocket is located in SE corner -south of Marlette RD. Do not cut hemlock/protect from damage. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
116	52020116-Cut	28.1	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	102	51-80	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Proposal
Habitat Cut: No			Site Condition: None								
<u>Prescription</u> Final harvest all trees 2" and up. Mark clumps of 2-5 oak (1 clump for every 2 acres) to leave as a mast source and for vertical structure.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> oak, maple, birch, basswood, pine and cherry.											
<u>Regen:</u>											
<u>Other</u> Retention for stand has already been designated through a prior harvest. New retention islands are not needed. Protect snowmobile trail from operations. Old next step comments:											
<u>Proposed Start Date:</u> 10/1 /2016											
120	52020120-Monitor	42.3	4111 - S.Maple, Hard Mast Association	Sawtimber Medium	95	51-80	Monitoring	Natural Regen (Re-Inventory)	4199 - Other Mixed Upland Deciduous	Two-Aged	Approved Proposal
Habitat Cut: Yes			Site Condition: None								
<u>Prescription</u> monitor regen											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> A combination of maple, oak, basswood, aspen, birch, with a minor component of conifer also acceptable. Ash and beech are not desirable.											
<u>Regen:</u>											
<u>Other</u> #520190701 Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2014											
128	52020128-Monitor	12.7	4130 - Aspen	Sapling Well	5	Immature	Monitoring	Natural Regen (Re-Inventory)	413 - Aspen	Even-Aged	Approved Proposal
Habitat Cut: Yes			Site Condition: None								
<u>Prescription</u> monitor regen											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> Mixed aspen with a component of northern hwdws, oak, and conifer at minimal acceptable stocking.											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2015											
314	52020314-Cut	58.4	4116 - Mixed N. Hardwood - Aspen	Poletimber Well	68	111-140	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Proposal
Habitat Cut: No			Site Condition: None								
<u>Prescription</u> Final Harvest all trees 2" and up. Minimum retention left in islands.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> Aspen, red maple, birch, sugar maple, oak, white pine, and cherry. Eastern portion is anticipated to be fully stocked aspen. Western areas will lean more towards a hardwood component with some aspen.											
<u>Regen:</u>											
<u>Other</u> Mark a few trees to leave for vertical structure throughout stand. Target those that have potential to last as super canopy trees through the stand rotation (1 for every 2-5 acres). Protect snowmobile trail from operations. Keep operations out of stand 119 Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											



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
424	52020424-NF	0.9	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
			Habitat Cut: Yes		Site Condition: None						
			<u>Prescription</u> Mow, brush, and/or herbicide to maintain opening.								
			<u>Specs:</u> Plant hard and soft mast.								
			<u>Next Step</u>								
			<u>Treatments:</u>								
			<u>Acceptable</u>								
			<u>Regen:</u>								
			<u>Other</u> Old next step comments:								
			<u>Comment:</u>								
			<u>Proposed Start Date:</u> 10/1 /2016								
425	52020425-NF	1.5	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
			Habitat Cut: Yes		Site Condition: None						
			<u>Prescription</u> Mow, plant, and/or herbicide to maintain opening. Plant hard and soft mast.								
			<u>Specs:</u>								
			<u>Next Step</u>								
			<u>Treatments:</u>								
			<u>Acceptable</u>								
			<u>Regen:</u>								
			<u>Other</u> Old next step comments:								
			<u>Comment:</u>								
			<u>Proposed Start Date:</u> 10/1 /2016								
426	52020426-NF	1.1	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
			Habitat Cut: Yes		Site Condition: None						
			<u>Prescription</u> Mow, plant, and/or herbicide to maintain opening. Plant hard and soft mast.								
			<u>Specs:</u>								
			<u>Next Step</u>								
			<u>Treatments:</u>								
			<u>Acceptable</u>								
			<u>Regen:</u>								
			<u>Other</u> Old next step comments:								
			<u>Comment:</u>								
			<u>Proposed Start Date:</u> 10/1 /2016								
429	52020429-NF	1.2	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
			Habitat Cut: Yes		Site Condition: None						
			<u>Prescription</u> Mow, plant, and/or herbicide to maintain opening. Plant hard and soft mast.								
			<u>Specs:</u>								
			<u>Next Step</u>								
			<u>Treatments:</u>								
			<u>Acceptable</u>								
			<u>Regen:</u>								
			<u>Other</u> Old next step comments:								
			<u>Comment:</u>								
			<u>Proposed Start Date:</u> 10/1 /2016								



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
430	52020430-NF	1.3	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal

Habitat Cut: Yes**Site Condition: None**

Prescription Mow, plant, and/or herbicide to maintain opening. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

431	52020431-NF	1.2	31029 - Grass (OI)	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
-----	-------------	-----	--------------------	------------	--	-----------------	--------------	-----------------	---------------------------------	--	----------

Habitat Cut: Yes**Site Condition: None**

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

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

432	52020432-NF	1.2	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
-----	-------------	-----	-----------------	------------	--	-----------------	--------------	-----------------	---------------------------------	--	----------

Habitat Cut: Yes**Site Condition: None**

Prescription Plant, mow, and/or herbicide to maintain opening.

Specs: Plant hard and soft mast.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

452	52020452-NF	1.0	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
-----	-------------	-----	-----------------	------------	--	-----------------	--------------	-----------------	---------------------------------	--	----------

Habitat Cut: Yes**Site Condition: None**

Prescription Mow, plant, and/or herbicide to maintain opening. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
Acreage Proposed: 895.7**

Report 5 – Site Conditions

Gaylord Mgt. Unit
Lucas Merrick : Examiner

Compartment: 20
Year of Entry: 2017

3	Available	5B: Maintain for regeneration purposes	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3D: Recreational / Scenic values	28	1C: Other dept or div proc/practices	2I: Survey needed	Unspecified	Unspecified
Comments: Portions of stand are being disposed of. Survey needed if treated. Potentially entire stand on list for disposal?							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	66	3L: Other wildlife concerns	3D: Recreational / Scenic values	Unspecified	Unspecified
Comments: Majority of stand is on a slope running towards the lake.							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	85	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: Excellent hemlock component in NW, Nice oak on a good site. Retain for mast and see how southern portion of stand responds to treatment.							
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Available	5B: Maintain for regeneration purposes	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Gaylord Mgt. Unit
Lucas Merrick : Examiner

Compartment: 20
Year of Entry: 2017

31	Unavailable	2A: Adjacent landowner denied access	7	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
48	Unavailable	3D: Recreational / Scenic values	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Lake Marjory Campground.							
131	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	3D: Recreational / Scenic values	3G: Other Influence zones - See comments	Unspecified	Unspecified
Comments: Stand slopes from freeway towards the lake.							



Report 6 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Bradford Lake Boat Launch Comments	Concentrated Recreation Area	Boat Access Site	Proposed SCA	3
Lake Marjory CG Comments	Concentrated Recreation Area	State Forest Campground	Proposed SCA	8

**Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS**

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	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.

S
t
a
n
d

Gaylord Mgt. Unit

Report 8 – Forested Stands

Compartment: 20
Year of Entry: 2017

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4133 - Aspen, Mixed Pine	Poletimber Medium	7.3	31	111-140	A small aspen stand with larger diameter white pine. Old RR grade runs through stand. Canopy cover right around 75%.
2	4130 - Aspen	Sapling Well	52.5	26	Immature	Soft rolling topo. Some open pockets with shrubs throughout.
3	4112 - Maple, Beech, Cherry Association	Sawtimber Well	96.7	95	51-80	Scale present on beech. Recent sale has opened up stand, several regen holes throughout. Lots of raspberry. Rolling topo.
4	4119 - Mixed Northern Hardwoods	Poletimber Well	53.0	95	51-80	Harvested under 3 Part Hdwd sale #520230801. Unit cut december2012. Large chip debris pile still present at landing. Excellent hemlock component in NW.
5	42110 - Planted Red Pine	Sawtimber Well	16.5	55	141-170	Red pine avg BA = 140. Thinned in 2000. Quality and stocking is variable. A few relic pine stumps can be found. A couple pockets of nice oak regeneration with some stems reaching 8 feet but majority is under 5.
6	4112 - Maple, Beech, Cherry Association	Sawtimber Well	32.2	90	81-110	Some wind damage found in stand. Pockets with surprising sugar maple regen.
7	4130 - Aspen	Poletimber Well	45.7	38	81-110	Pocket of failed red pine plantation in northern finger. Some sugar maple regeneration along eastern boundary. A fair amount of dead and down habitat.
8	4199 - Other Mixed Upland Deciduous	Sawtimber Well	118.2	89	81-110	A harvest was completed in May, 2013 (Shelter wood prep). Hemlock found in NW. Quality oak and red maple on site. Steep topography.
11	4130 - Aspen	Poletimber Medium	61.3	35	Immature	OPIC - FMD: Section 19 E1/2NE1/4. Converting from A3 to A6.
12	4199 - Other Mixed Upland Deciduous	Sawtimber Well	119.3	95	81-110	Some top die back evident in oaks. A few stems of hemlock and yellow birch. High quality oak.
14	4112 - Maple, Beech, Cherry Association	Poletimber Well	74.6	68	111-140	High quality oak in stand. Scale present on beech. Rolling topo. Minor conifer component present in over story.
15	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	9.3	81	81-110	Variable age. A few x-log parent trees. Hardwood component is below avg quality. Multiple clumps of large diameter serviceberry. Stand encompasses a small valley, center of valley is not as heavily socked and diameters are smaller.
16	4130 - Aspen	Sapling Well	29.0	5	Immature	Stand harvested Dec 2009. Some larger oak and white pine left scattered in stand. A island left on top of one of the hills. Aspen thins out on tops of hills. A handful of great oak stump sprouts seen. Less than 1000 aspen stems/acre in some of the poorer stocked pockets.
17	42110 - Planted Red Pine	Poletimber Well	17.3	53	141-170	Understory thick in western portions. Some sort of vine established from house hold yard waste dumping. Old RR grade runs through stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	4130 - Aspen	Sapling Well	27.5	25	Immature	Some oak and white pine along with a couple pockets of open areas. Still plenty of unmerch stems in the 3" range. Some areas already 40 - 50' tall. Better quality in the north. A minor amount of paper birch also present. Witch hazel, beaked hazelnut, and serviceberry make up the majority of the deciduous shrubs.
19	4130 - Aspen	Sapling Well	26.6	17	Immature	A few white pine pockets. Areas of thick beech brush 10' tall on hill tops. Rolling hills. Diameters and quality vary. 25' tall on avg.
20	4112 - Maple, Beech, Cherry Association	Sawtimber Well	45.3	90	141-170	Scale present. Rolling topo. Quality red maple with single stems throughout.
21	4112 - Maple, Beech, Cherry Association	Sawtimber Well	102.5	95	81-110	Thinned 1998-02. Beech in over story found in pockets, some oak and wp present. A couple stick nests found in stand. Western portion seems to have a larger diameter.
24	4130 - Aspen	Sapling Well	27.9	25	Immature	A few big oak and white pine scattered about. On edge of merchantability. Southern portion encompasses a valley and has extensive sugar maple regen. Variable stocking and quality.
26	4130 - Aspen	Poletimber Medium	3.2	55	Unspecified	DNR Access site on Bradford Lake. Aspen looks healthy. Stand should have no problem converting to an oak/pine type in future. Pocket of lowland in NE corner.
27	4130 - Aspen	Sapling Well	6.5	3	Immature	Northern portions has a higher stocking. A couple oaks in the south.
28	4130 - Aspen	Sapling Well	53.1	17	Immature	OPIC - FMD: Section 32 SW1/4. LEAVE OAK. LEAVE WHITE PINE IN TRAVEL INFLUENCE ZONE
30	61219 - Tamarack (OI)	Poletimber Poor	2.8	123	1-50	OPIC - FMD: Section 32 NENE. Tamarack swamp.
31	42210 - Natural Red Pine	Sawtimber Well	11.4	125	141-170	Majority of stand is narrow and slopes towards the lake. Possible encroachment issue with pvt lake lot.
33	4130 - Aspen	Poletimber Well	249.7	42	81-110	Pockets of wind damage throughout stand but primarily evident in the western portions of stand. Rolling hills. Bigtooth looks good, quaking starting to show signs of decline.
34	4123 - Red Oak	Sawtimber Well	17.0	85	51-80	A couple oak stump sprouts. Southern portions has a lower BA along with poorer quality oak and more misc hardwood.
36	42110 - Planted Red Pine	Poletimber Well	4.1	51	171-200	Over flow from a plantation on private property. Stand has been 3rd row thinned. Better quality in the east..
37	4130 - Aspen	Sapling Well	6.8	17	Immature	A regenerating aspen stand. Some trees 30-40' tall. Nice quality.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
38	4130 - Aspen	Sapling Poor	42.6	2	Immature	Tornado salvage sale harvested spring 2014. Oak has responded well to treatment, will see how herbivores impact sprouts over the 1st winter. Stand should take off next spring and result in a fully stocked aspen stand. Currently about 25% canopy coverage 3 -4' tall.
39	4123 - Red Oak	Sawtimber Poor	17.4	89	1-50	A small buffer around a hemlock along county road. Smaller diameter in eastern portions. Severe porcupine damage in a couple areas. Majority of oak regen @5'
40	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	15.6	98	51-80	Cut late 2012 Sale #520230801 (whole tree). Some yellow birch, oak, and pine also present in the canopy. Pockets of wind damage providing horizontal structure.
44	4112 - Maple, Beech, Cherry Association	Sawtimber Well	66.3	87	111-140	Locked OFS in stand. Majority of stand is a cold water lake buffer. Majority of stand slopes towards the water except for some of the southwest, it has had treatment historically and has a lower BA. Scale present. Yellow birch, paper birch and red pine also found in stand.
45	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	12.2	85	51-80	Timber sale harvest late 2012 sale #520230801. Some wind damage. A few black cherry, oak, and birch are also found in canopy.
46	4111 - S.Maple, Hard Mast Association	Poletimber Well	10.7	89	81-110	Thinned 1998. Many multi stem/clumps. A couple oak in stand. Some wind damage.
47	42110 - Planted Red Pine	Sawtimber Well	22.4	55	111-140	Pine thinned 3/2010. Pockets of aspen and red maple. Fairly limby
48	4123 - Red Oak	Sawtimber Medium	9.7	115	51-80	Lake Marjory Camp ground. Portion of stand south of road has had the aspen removed. Very little understory in camping areas but lush along perimeter. The large oak are starting to die back in tops
49	4199 - Other Mixed Upland Deciduous	Sawtimber Well	13.8	85	81-110	Large canopy gaps present from a recent wind event. Paper birch and beech also present in stand. Stand is made up of lots from the lake sub-division.
50	42200 - Natural White Pine	Poletimber Well	12.9	105	141-170	A good looking mixed pine stand. Multiple structures near property line.
51	4131 - Aspen, Oak	Poletimber Medium	15.4	51	81-110	Portions of stand recently disposed of. Nice looking stand with an excellent understory. Plenty of 5-8" oak along with the logs (aspen similar). White pine starts to show up in the north. A small drainage runs through the stand.
109	4130 - Aspen	Poletimber Well	38.1	44	111-140	A handful of saw log oak in stand. A minor amount of wind damage evident. The SE corner of stand has approx. 2 acres of northern hardwood type with aspen. Saw one 10"dbh hemlock in stand.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
116	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	45.1	102	51-80	Shelterwood 2009. Sugar maple in southern portion. Little oak regen over 5'. Scale present in stand. Red maple stump sprouts are doing well.
119	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	18.2	61	111-140	A couple large 28" seed source trees. Limby but in good shape. Snowmobile trail runs through stand. Good looking sugar maple regen in areas, a few oak stems that look like they have a chance to make it past the browse line.
120	4111 - S.Maple, Hard Mast Association	Sawtimber Medium	42.3	95	51-80	Birch found in eastern portions. A handful of oak stump sprouts. slightly rolling topo. Heavy raspberry.
128	4130 - Aspen	Sapling Well	12.7	5	Immature	A regenerating aspen stand. A handful of saw log species scattered within stand. Q aspen showing signs of poor health.
221	4117 - Mixed N. Hardwood - Pine	Sawtimber Well	23.2	95	51-80	Treated 1998. Heavy scale on beech. Several single stem basswood. Quality low on eastern edge.
314	4116 - Mixed N. Hardwood - Aspen	Poletimber Well	71.6	68	111-140	Maple variable in quality. Rolling hills. A handful of oak and red pine present in stand. Extensive porcupine activity at time of survey. Diameter smaller in the east.
401	42200 - Natural White Pine	Poletimber Poor	16.0	51	1-50	Open grown white pine with historic weevil damage. Misc. species scattered throughout with a high concentration in southern portion of stand. A pocket of A3 in the north. A couple large diameter seed source trees present.



Stand	Cover Type	Acres	Managed Site	General Comments:
9	122 - Road/Parking Lot	1.2	No	Hartwick Rd and powerline
13	3104 - Degraded	1.0	No	Well site. No identification.
22	3104 - Degraded	1.4	No	Well site. Antrim Development Co. St Otsego Lk C2-3
29	6229 - Mixed lowland shrub	2.7	No	Blueberry bog filling in with trees. Close to better than 25% canopy coverage.
32	3104 - Degraded	0.9	No	Well site. MSPC-2783. White pine and beech seedlings around the perimeter.
53	3104 - Degraded	1.1	No	Abandoned well site. Restoration pending. Well head has been removed.
54	3104 - Degraded	1.2	No	Abandoned well site. Restoration pending.
56	3104 - Degraded	2.9	No	Well site. St Otsego LK 3-21. Enervest Operating. Portions of pipeline corridor also included.
138	122 - Road/Parking Lot	2.3	No	Old US 27.
209	110 - Low Intensity Urban	2.0	No	Michigan State Police Tower site. Posted as pvt property? Still under DNR ownership.
238	122 - Road/Parking Lot	2.7	No	Marlette Rd.
424	3104 - Degraded	0.9	No	A recently abandoned well site. Well head has been removed. Restoration pending.
425	3104 - Degraded	1.5	No	A recently abandoned well site and CPF. Well head and buildings have been removed. Restoration pending. A small radio tower still on site
426	3104 - Degraded	1.1	No	A recently abandoned well site. Well head has been removed. Restoration pending.
429	3104 - Degraded	1.2	No	Recently abandoned well site. Well head has been removed. Site restoration pending.
430	3104 - Degraded	1.3	No	Well site. Recently abandoned. Well head removed. Restoration pending.
431	31029 - Grass (OI)	1.2	No	OPIC - FMD: GAS WELL SITE. Section 33 SWNW.



Stand	Cover Type	Acres	Managed Site	General Comments:
432	3104 - Degraded	1.2	No	Abandoned well site. Restoration pending. Well head removed.
436	3104 - Degraded	1.3	No	Well site. Antrim Development Co, ST OTSEGO LK A4-19.
437	3104 - Degraded	1.1	No	Well site, Name not present on well. MPSC-3554
438	3104 - Degraded	1.4	No	Well site. No identification. Oak seedlings along perimeter.
439	31029 - Grass (OI)	1.1	No	Well site. No identification. MPSC-2508
440	3104 - Degraded	1.0	No	Well site. Antrim Development Co. St Otsego Lk A2-30
441	3104 - Degraded	1.1	No	Well site. No identification. Pad built up with fill to level pad.
442	31029 - Grass (OI)	1.0	No	Well site. No info.
443	3104 - Degraded	1.2	No	Well site. Has identification sign but unable to read it.
444	3104 - Degraded	4.3	No	CPF location. Misc debris scattered about(tires and portable fuel tanks). There are no signs identifying ownership.
445	3104 - Degraded	1.0	No	Well site. No identification.
447	3104 - Degraded	3.2	No	Large well site. No identification.
450	3104 - Degraded	1.2	No	Well site. No identification.
451	3104 - Degraded	1.4	No	Well site. Signs missing. MSPC# 2781
452	3104 - Degraded	1.0	No	Abandoned well site. Restoration pending. Site is currently gated.
453	3104 - Degraded	0.8	No	Well site. MSPC-2489