



# Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 9

Entry Year 2016

Acreage: 783

County Otsego

Management Area: AuSable Outwash

**Revision Date:** 02/21/2014

**Stand Examiner:** Kim Lentz

**Legal Description:**

T29N, R01W, Sec. 19 & 31

**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:**

Dominant soil type is Rubicon-Grayling Sand, except drainage system through Section 19 which is Rifle Peat - Carbondale Muck.

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

Compartment is 100% state ownership. Adjacent ownership consists of large hunting clubs on the north branch of the AuSable River and Blue Water Realty Company on the west side of Crapo Lake Road.

**Unique Natural Features:**

No Unique Natural Features known.

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

No Archeological, Historical, or Cultural Features known.

**Special Management Designations or Considerations:**

This compartment is part of the AuSable Outwash Management Area Plan.

**Watershed and Fisheries Considerations:**

This compartment contains portions of Little Crapo Creek and Carpenter Creek, and is adjacent to Crapo Lake. Crapo and Little Crapo Lakes have warmwater fish communities of largemouth bass, pumpkinseed sunfish, bluegill, and northern pike. These lakes are drained by Crapo Creek, a tributary to the North Branch Au Sable River. Crapo Creek is not a natural river, but AuSable River two miles to the south is a Natural River. Proposed treatments are appropriate for the protection of these waterbodies, and Fisheries has no concerns at this time. State access on west side of lake permits public use. A recent RDR project was completed with boulders at this access site to resolve erosion problems.

**Wildlife Habitat Considerations:**

Treatments in this compartment will maintain age class diversity in aspen and oak while creating early successional habitat benefiting deer, grouse, and woodcock. Clumps of mature oak will be left for mast production.

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

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. 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. The nearest gravel pit is located three miles to the north and potential appears to be limited. The compartment appears to be completely developed for Antrim Shale gas production and is south of the Niagaran reef trend.

**Vehicle Access:**

This compartment has good access with Little Crapo Lake Road which is a county good dirt road located in Section 19, and Crapo Lake Road which is a county gravel road in Section 31. There are several gas pipeline roads within the compartment boundaries. There is no need for road closures at this time.

**Survey Needs:**

None needed at this time.

**Recreational Facilities and Opportunities:**

There are no designated recreational trails within the compartment boundaries. The closest recreational trail is the Shupac

Snowmobile Trail to the east in Section 32. Crapo Lake receives light fishing pressure summer and winter from local residents.

**Fire Protection:**

**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**

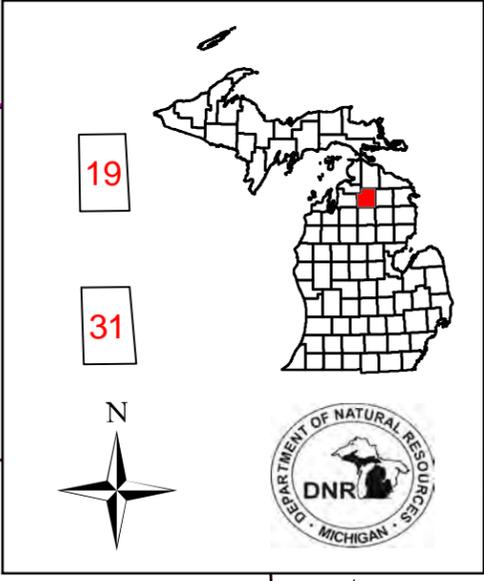
**The following information is displayed, where pertinent, on the attached compartment maps:**

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

# Cover Type & Treatment Map

Compartment: 009  
 T29N R01W Sections 19, 31  
 County: Otsego  
 Unit: Gaylord  
 YOE: 2016  
 Acres: 783 GIS Calculated  
 Examiner: Kim Lentz  
 Map Revised: 05/12/2014  
 Map Phase: Pre-Review

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



### Legend

- Miris Corners
- Remonumented Section Corners
- PLSS Corner
- Unclassified Corners
- Culverts
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Pipeline
- Powerline
- ORV Trail
- ORV Route
- Snowmobile Trail
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land

### Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)

### Forest Stands

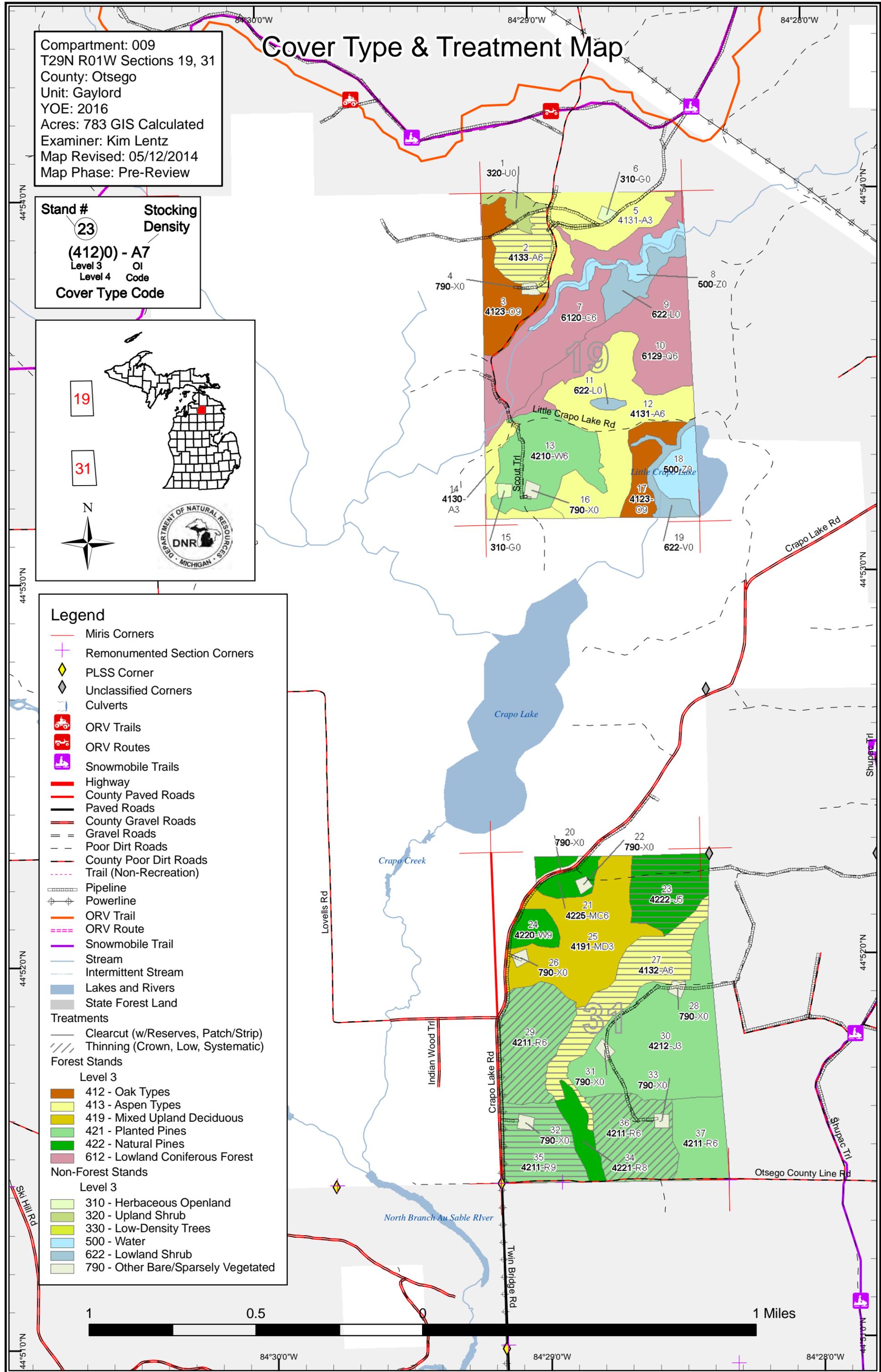
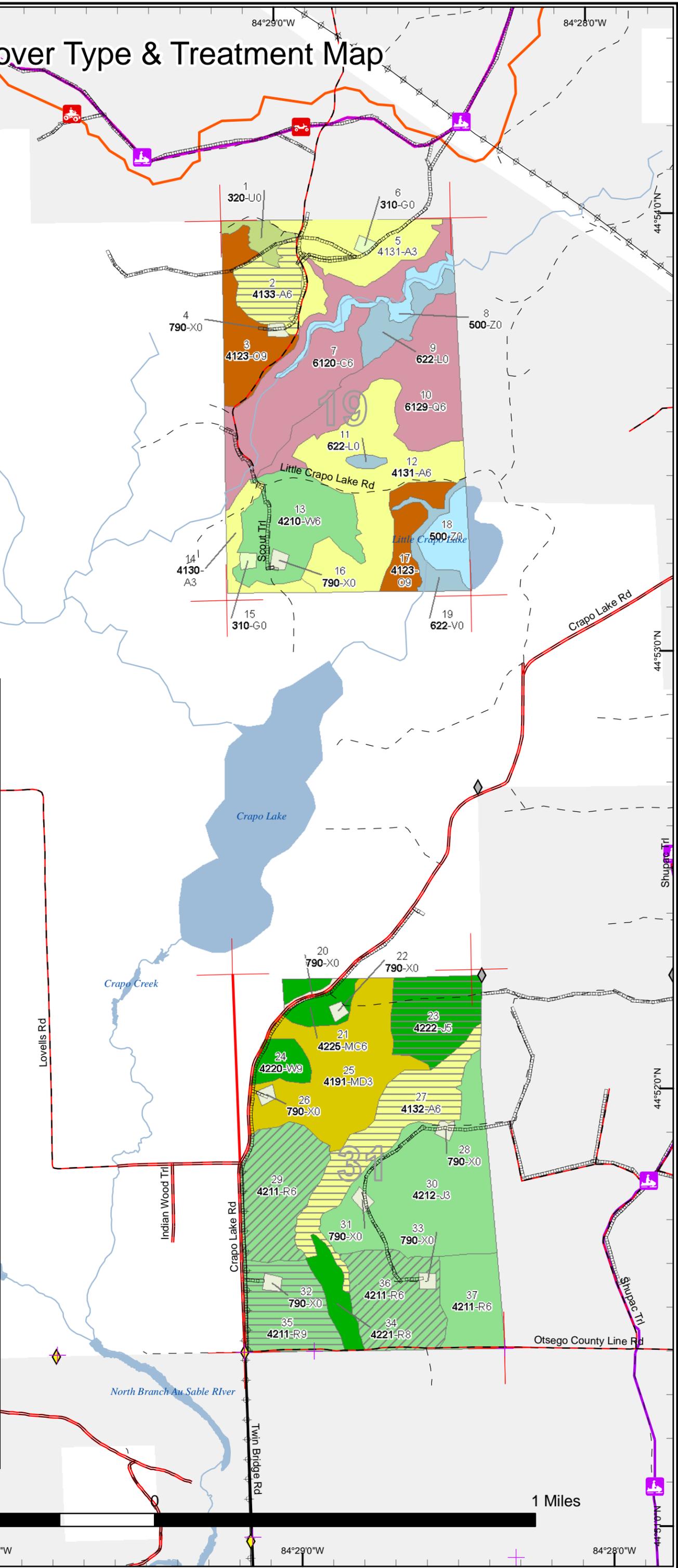
Level 3

- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 612 - Lowland Coniferous Forest

### Non-Forest Stands

Level 3

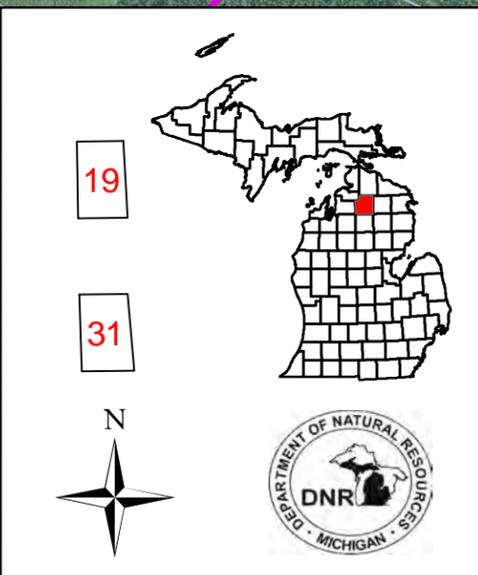
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 790 - Other Bare/Sparsely Vegetated



# Stand Boundary Map

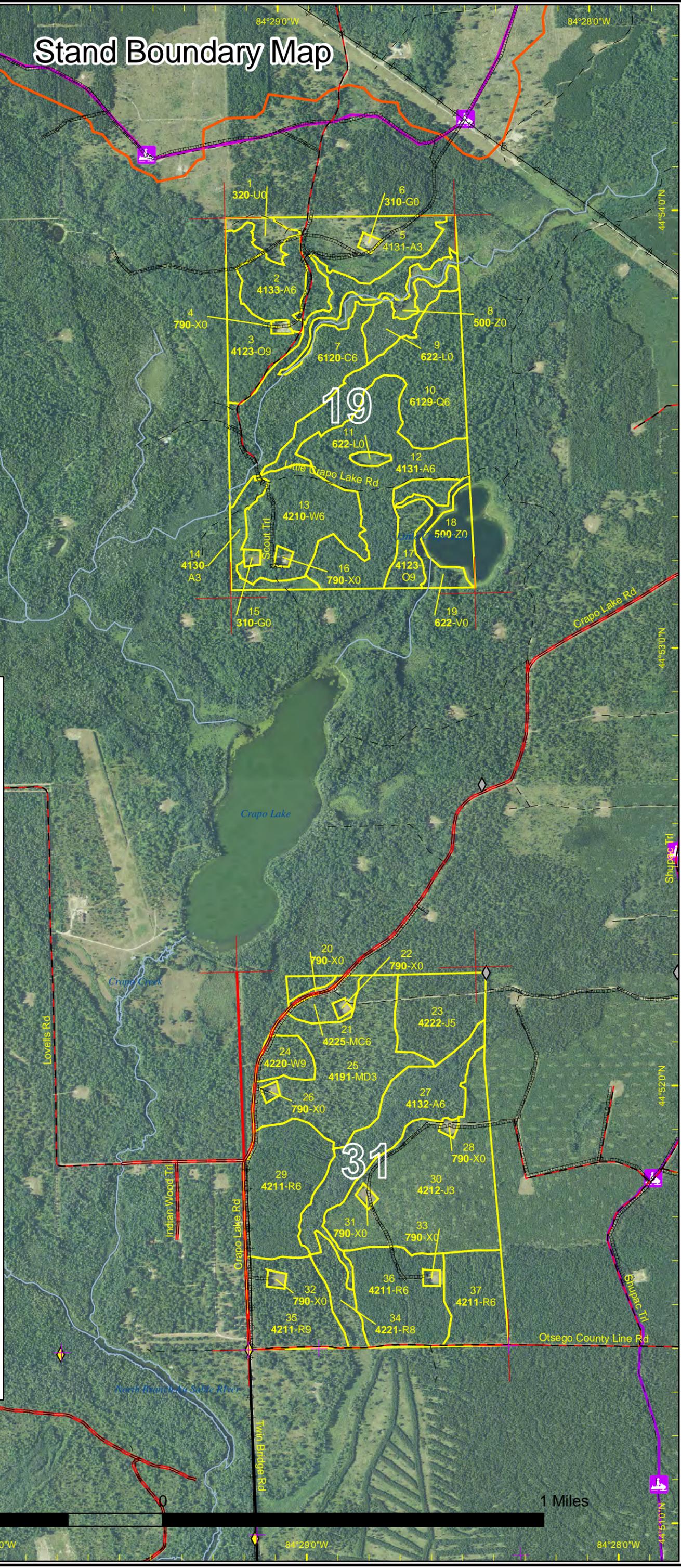
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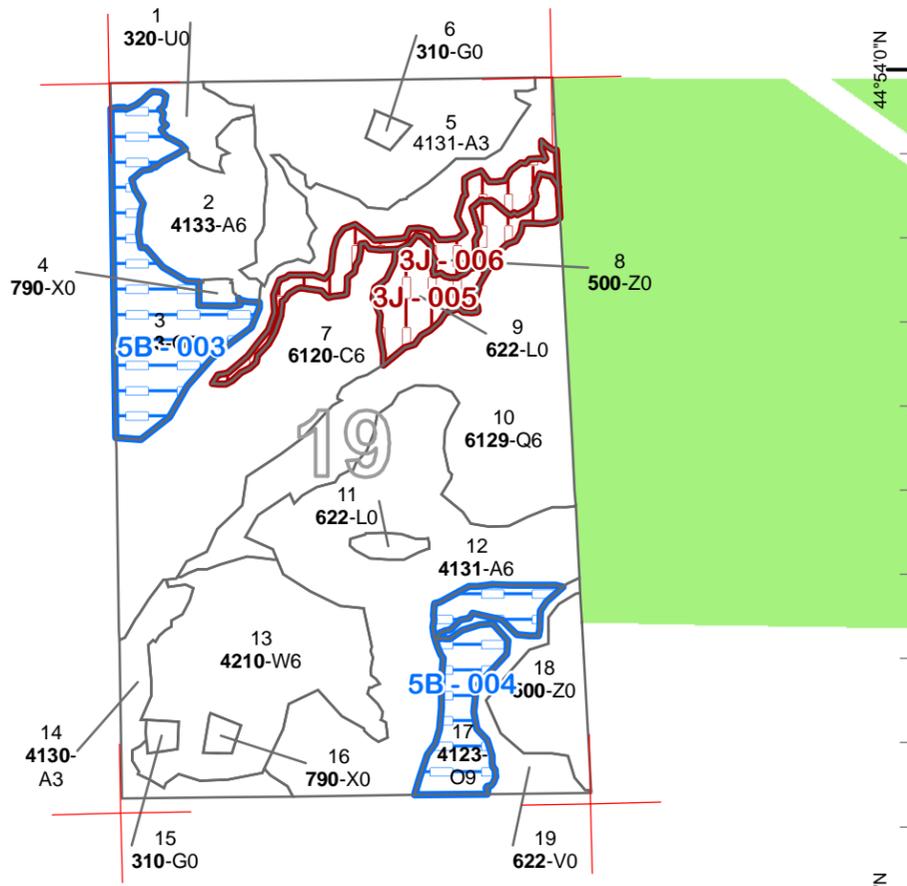
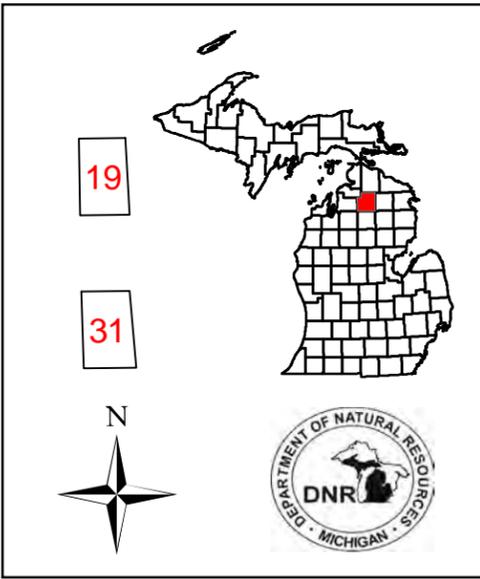
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# Special Conservation Areas & Site Conditions Map

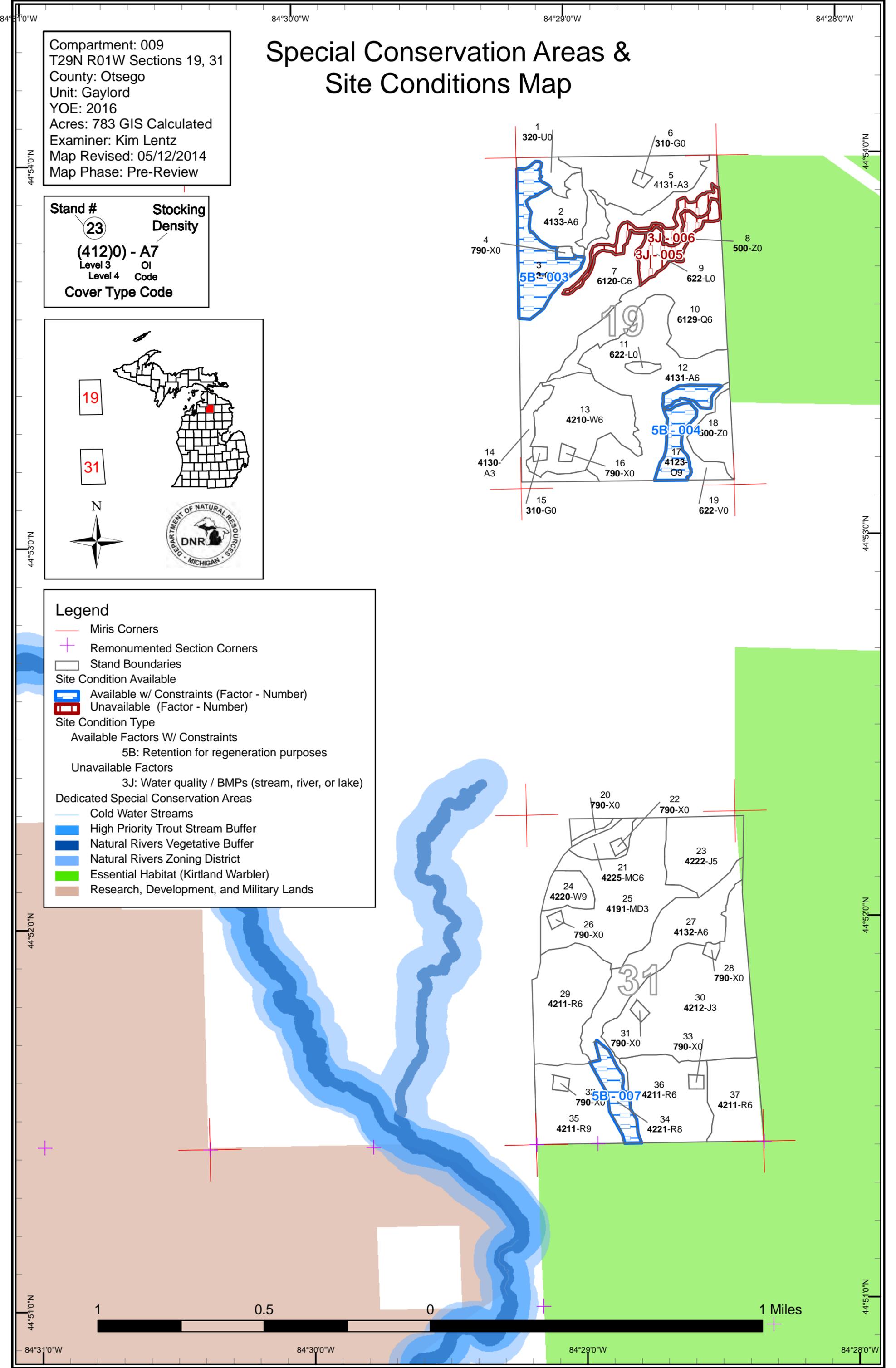
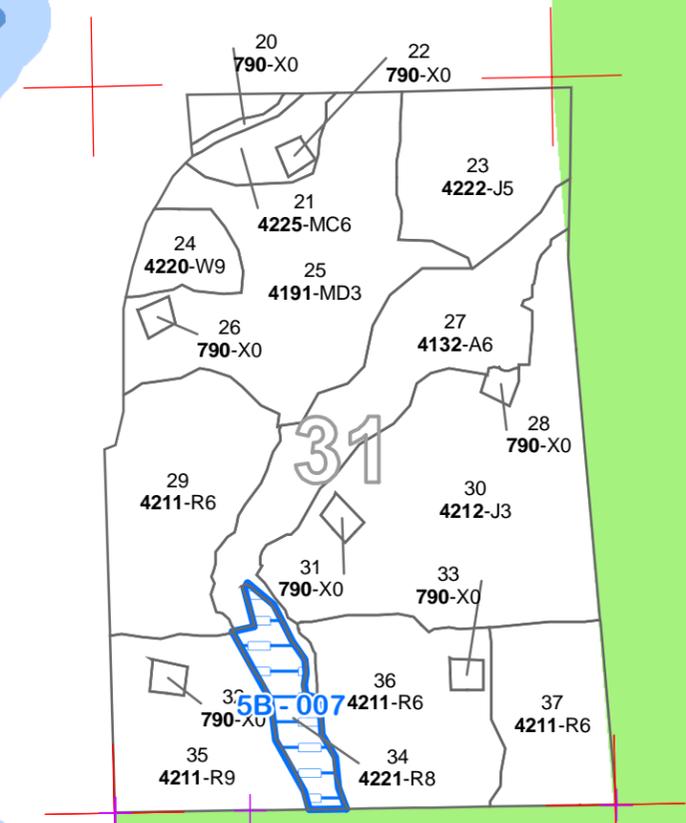
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**Stand #**  
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**Legend**

- Miris Corners
- Remonumented Section Corners
- Stand Boundaries
- Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Site Condition Type
- Available Factors W/ Constraints
- 5B: Retention for regeneration purposes
- Unavailable Factors
- 3J: Water quality / BMPs (stream, river, or lake)
- Dedicated Special Conservation Areas
- Cold Water Streams
- High Priority Trout Stream Buffer
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Essential Habitat (Kirtland Warbler)
- Research, Development, and Military Lands





	Age Class													Total	
	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 +		Uneven Age
Aspen	47	0	0	65	62	0	0	0	0	0	0	0	0	0	174
Bare/Sparsely Vegetated	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Bog	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Cedar	0	0	0	0	0	0	0	0	63	0	0	0	0	0	63
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Jack Pine	0	82	0	0	30	0	0	0	0	0	0	0	0	0	112
Lowland Conifers	0	0	54	0	0	0	0	0	0	0	0	0	0	0	54
Lowland Shrub	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Mixed Upland Deciduous	0	63	0	0	0	0	0	0	0	0	0	0	0	0	63
Natural Mixed Pines	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11
Oak	0	0	0	0	0	0	0	0	26	16	0	0	0	0	41
Red Pine	0	0	0	0	0	78	57	0	0	0	11	0	0	0	146
Upland Shrub	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Water	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
White Pine	0	0	0	0	0	42	0	9	0	0	0	0	0	0	51
<b>Total</b>	<b>114</b>	<b>145</b>	<b>54</b>	<b>65</b>	<b>91</b>	<b>119</b>	<b>57</b>	<b>21</b>	<b>26</b>	<b>79</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>783</b>



## Report 2 – Proposed Treatment Summaries

**Gaylord Mgt. Unit**  
**Year of Entry 2016**

**Compartment 009**  
**Total Compartment Acres: 783**

### Acres by Treatment Type

Commercial Harvest - 202    Tree Planting - 62    Other - 0  
 Habitat Cut - 0    Opening Maintenance - 0

### Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
<b>Aspen Types</b>	62	0	0	0	0	0	62
<b>Natural Pines</b>	30	0	0	0	0	0	30
<b>Planted Pines</b>	33	0	0	0	78	0	110
<b>Total</b>	124	0	0	0	78	0	202



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	52009002-Cut	18.5	4133 - Aspen, Mixed Pine	High Density Pole	48	81-110	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest with reserves. Mark To Leave: Healthy, large crowned Red Oak &amp; All White Oak, and Old Relic Red Pine in clumps of 3-5 trees <u>Specs:</u> per clump. Create approximately one clump of reserve trees per acre. Remove all aspen, jack pine, red maple.</p> <p><u>Other</u> Quaking aspen of low quality ranging from 6"-9" dbh mixed with jack pine, red &amp; white oak, and old relic red pine. Note: Red maple is only a <u>Comments:</u> minor component of 5% which should not be a concern as competing with natural regen.</p> <p><u>Next</u> Monitor success of natural regeneration. A mixed stand with aspen, oak, and pine is acceptable similar to current stand composition. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
23	52009023-Cut	29.7	42220 - Natural Jack Pine	Medium Density Pole	48	1-50	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest with reserves. Favor leaving oak in retention pockets which are concentrated on the north side of access road. In addition to <u>Specs:</u> overstory pin oak, include established oak regeneration in the retention area.</p> <p><u>Other</u> Natural jack pine with mix of low quality pin oak &amp; quaking aspen. Density and timber quality is variable with higher stocking of 4 stick jack pine <u>Comments:</u> &amp; 12"dbh pin oak in north half. South half of stand has lower stocking and some open grown jack pine. Site Index of Red Pine in nearby stand 29 is = 65 SI. Site Index for JP = 55. Kotar: PVCd: Common forest types: Jack pine, Red pine, White pine, Oak. Regeneration: Jack pine, Red pine, &amp; Scrub oak are best adapted species. Soils: Rubicon Grayling Sand.</p> <p><u>Next</u> Unit manager nominated stand for red pine planting. Prepare FTP for trench &amp; planting red pine as per TMS recommendations. Monitor <u>Steps:</u> success of planting and natural regeneration which can be expected with oak and jack pine intermixed.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
27	52009027-Cut	43.2	4132 - Aspen, Jack Pine	High Density Pole	42	51-80	Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves. Leave all oak, red pine, &amp; white pine uncut. No other retention marking will be needed since the oak &amp; pine is <u>Specs:</u> established in pockets. Protect hawthorne as much as possible during harvest.</p> <p><u>Other</u> Aspen mixed with some jack pine, red maple, pin oak, white oak, &amp; scattered old relic red &amp; white pine. Aspen is 42 years old but evidence of <u>Comments:</u> hypoxylon canker, conks, &amp; mortality in 6" dbh trees. Overall health and quality dictates a final harvest now. Average stand density is 75 sq.ft./acre.</p> <p><u>Next</u> Monitor the success of natural regeneration. In addition to aspen, natural regen of mixed oak and pine is acceptable. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
29	52009029-Cut	40.7	42110 - Planted Red Pine	High Density Pole	52	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin to remove one-third of the red pine. Jack pine &amp; aspen should be cut only in the third row sequence. Protect oak during thinning <u>Specs:</u> where feasible. Some marking to designate cut rows might be needed in the north part of stand. Rows are otherwise distinct in the south half.</p> <p><u>Other</u> Red pine plantation which has never had a row thinning to establish skid trails. North half of stand had oak tsi cut in 1988. Variable density was <u>Comments:</u> noted especially in the north half where oak was previously cut, but re-sprouted back as saplings. Good quality red pine 4-5 pulp stick average. Stand density averages 180 sq.ft.BA/ac.</p> <p><u>Next</u> <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35	52009035-Cut	32.6	42110 - Planted Red Pine	High Density Log	65	51-80	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest with reserves. For retention, leave 3% with two 1/2 acre islands along Crapo Lake Road. In addition, mark out 2 one acre patches of well established oak regeneration to leave unplanted near the edges of stand. The red pine overstory for these 2 one acre patches will be removed, and the oak regen should be protected during logging.</p> <p><u>Specs:</u></p> <p><u>Other</u> Red Pine plantation which was species thinned out in 2001 removing all the oak, aspen, and most of the jack pine. Variable residual density based on amount of other species thinned out of stand. Red pine densities range from 40 BA to 110 BA with the lower stocking located along the south and east boundaries. Average BA = 66 Sq.Ft./Ac. Note: Year round residents across from this stand on Crapo Lake Road. Note: Use caution when operating equipment near the overhead powerline that runs along the east side of Crapo Lake Rd. Red pine are 14"- 16" dbh &amp; have reached a merchantable size for the lower densitites left in this stand.</p> <p><u>Comments:</u></p> <p><u>Next</u> Following harvest, prepare a FTP to complete site prep and planting red pine. Monitor success of red pine plantation. In addition to planted red pine, stand will have natural oak regeneration.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
36	52009036-Cut	37.1	42110 - Planted Red Pine	High Density Pole	52	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin to establish skid trails. Remove the jack pine in the cut rows only. Protect oak as much as possible during thinning. Some marking may be needed to establish the cut rows.</p> <p><u>Specs:</u></p> <p><u>Other</u> Red Pine plantation never thinned. Red pine stand would benefit from a one-third first time thinning. Average density is 170 sq.ft./ac.</p> <p><u>Comments:</u></p> <p><u>Next</u></p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										

**Total Treatment  
Acreage Proposed: 201.9**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type! #Type!

Prescription  
Specs:

Other  
Comment:

Next  
Steps:

Proposed  
Start Date: #Type!

Limiting Factor

**Total Treatment**  
**Acreage Proposed: 0.0**

## Report 5 – Site Conditions

Gaylord Mgt. Unit  
Kim Lentz : Examiner

Compartment 009  
Year of Entry 2016

### Availability for Management

Total		Acres		Acres		Dominant Site Conditions	
Acres	Available	Acres	Not Available	No	5B		
174	174			<b>Aspen</b>	174		
63	63			<b>Cedar</b>	63		
112	112			<b>Jack Pine</b>	112		
54	54			<b>Lowland Conifers</b>	54		
63	63			<b>Mixed Upland Deciduous</b>	63		
11	11			<b>Natural Mixed Pines</b>	11		
41	41			<b>Oak</b>		41	
146	146			<b>Red Pine</b>	135	11	
51	51			<b>White Pine</b>	51		
715	715			Total Forested Acres	663	52	
	100%			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
003	Available	<b>5B: Maintain for regeneration purposes</b>	26				
<b>Comments:</b> stand was selectively cut in 2011.							
004	Available	<b>5B: Maintain for regeneration purposes</b>	16				
<b>Comments:</b> Stand shelterwood cut in 2011.							
005	Not Available	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	12	4A: No merchantable products (see product standards)			
<b>Comments:</b> Riparian zone of Little Crapo Creek. Lowly stocked swamp conifer with tag alder.							

## Report 5 – Site Conditions

Gaylord Mgt. Unit  
Kim Lentz : Examiner

Compartment 009  
Year of Entry 2016

006	Not Available	3J: Water quality / BMPs (stream, river, or lake)	11
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**Comments:**

Crapo Creek, water

007	Available	5B: Maintain for regeneration purposes	11
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**Comments:**

Well established advanced regeneration of white & red pine ranging from 15' - 25' tall to protect in stand. Scattered old relics of low quality.



### 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
<b>Comments</b>				



**Report 7 – DEDICATED CONSERVATION AREA DETAILS**

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

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

Conservation Area	Type	Description
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
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	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4133 - Aspen, Mixed Pine	High Density Pole	18.5	48	81-110	Quaking aspen of low quality ranging from 6"-9" dbh mixed with jack pine, red & white oak, and old relic red pine.
3	4123 - Red Oak	High Density Log	25.7	82	51-80	Red Oak sawlog stand of good quality. Select harvest completed on this stand in 2011 under contract 52-005-06-01. Noted deer feeding activity during winter under oak trees. Selection cut left some old relic red & white pine primarily in NE and along south boundary adjacent to swamp. White pine understory ranges from dense 2'-5' height to 10'-20' saplings. Overall, stand looks good. Minor component of aspen & red maple left.
5	4131 - Aspen, Oak	High Density Sapling	36.2	3		This stand was final harvested in 2011 with a few scattered oak & pine left primarily on outside edges of stand. Well established sapling stand with quaking aspen, pin oak, and jack pine.
7	6120 - Lowland Cedar	High Density Pole	63.1	91	51-80	Swamp conifer stand with minor component of quaking aspen, red maple, white birch. Good winter deer cover. Note: South half of stand has lower stand densities of 40 - 60 BA/ac. with well stocked balsam fir understory which is not of commercial value at this time.
10	6129 - Mixed Coniferous Lowland Forest	High Density Pole	54.2	25	51-80	Mixed stand white pine, red pine, swamp conifer, & hemlock. Unique stand with Crapo Creek influence, bog-like leatherleaf ground cover and patches with almost pure black spruce poletimber. Lots of deer activity. Standing water in December. A pine log selection cut was completed in 1988. Residual pine were left as seed trees which created advanced regen of white pine, black spruce, balsam fir, & red maple now 25 yrs. old.
12	4131 - Aspen, Oak	High Density Pole	65.5	38		Young aspen stand with overtopping red oak. Stand was cut 38 years ago removing the aspen which still remains small & sub-merchantable.
13	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	41.6	52	51-80	White pine plantation established in 1962. Other species intermixed include aspen, red maple, birch & oak.
14	4130 - Aspen	High Density Sapling	10.4	3		Final harvest completed in 2011. All species cut except a few scattered white & red pine and white oak. Very dense aspen regeneration 12'-15' in height
17	4123 - Red Oak	High Density Log	15.6	97	81-110	Red Oak adjacent to Little Crapo Lake. The north side of stand has a walk-in boat launch which became a successful RDR restoration project with boulders & erosion control. North half of stand had a light selection cut leaving the residual BA an average of 100 sq.ft/ac. The south half was cut in 2011, marking to leave oak & aspen with an average of 60 sq.ft.BA/ac. Maintained as one 16.5 acre stand currently.
21	42250 - Pine, Oak	High Density Pole	11.1	78	1-50	Natural white pine stand with intermixed pin oak, aspen, white oak, and red pine. Aspen was cut out of this stand in 1997 which has generated clones of aspen regen 25' tall. The south side of Crapo Lake Rd. had a second cut in 2011. Adequate stocking and species diversity.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	42220 - Natural Jack Pine	Medium Density Pole	29.7	48	1-50	Natural jack pine with mix of low quality pin oak & quaking aspen. Semi-open, limby open grown jack pine with 2-3 pulp stick av. Some 4 pulp stick jack pine.
24	42200 - Natural White Pine	High Density Log	9.5	78	51-80	Predominantly a natural white pine stand mixed with pin oak, red maple, and red pine. White pine has a mix of six classes from 12"-14" dbh as well as 4"-6" dbh.
25	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	62.9	17		This stand had two shelterwood cuts in 1997 and then in 2011. Featured stand is currently a well stocked stand of natural regeneration with a mix of pin oak over 10' tall, quaking aspen 25' tall, jack pine & white pine over 10' tall. The minor component of pin oak in overstory had died which provides beneficial long standing wildlife snags.
27	4132 - Aspen, Jack Pine	High Density Pole	43.2	42	51-80	Aspen mixed with some jack pine, red maple, pin oak, white oak, & scattered old relic red & white pine. Aspen is 42 years old but evidence of hypoxylon canker, conks, & mortality in 6" dbh trees. Overall health and quality dictates a final harvest now. Average stand density is 75 sq.ft./acre.
29	42110 - Planted Red Pine	High Density Pole	40.7	52	171-200	Red pine plantation which has never had a row thinning to establish skid trails. North half of stand had overtopping oak cut in 1988. Some of the oak stump sprouted back to a height of 20' in the understory. Variable density was noted especially in the north half where oak was previously present. Good quality red pine 4-5 pulp stick average.
30	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	82.1	18		Planted jack pine established in 1996. This stand was included in the adjacent KW mgt to the east when harvesting in 1995 was completed. Note: Compartment 9 is not included in the designated KW mgt. plan.
34	42210 - Natural Red Pine	Medium Density Log	11.2	106	1-50	Natural red & white pine of old growth character (20"-24" dbh) Narrow corridor between red pine plantations. Advanced regeneration of white pine, red pine, & pine oak to favor.
35	42110 - Planted Red Pine	High Density Log	32.6	65	51-80	Red Pine plantation which was species thinned out in 2001 removing all the oak, aspen, and most of the jack pine. Variable residual density based on amount of other species thinned out of stand. Red pine densities range from 40 BA to 110 BA with the lower stocking located along the south and east boundaries. Average BA = 66 Sq.Ft./Ac. Note: Year round residents across from this stand on Crapo Lake Road.
36	42110 - Planted Red Pine	High Density Pole	37.1	52	171-200	Red Pine plantation never thinned. Red pine stand would benefit from a one-third first time thinning.
37	42110 - Planted Red Pine	High Density Pole	24.7	65	81-110	Red pine plantation species thinned in 2001 by removing most of jack pine, pin oak, and aspen. No red pine was cut. Good quality red pine stand with 4-5 pulp sticks average. The sale was prepared in 1996, but it took 5 yrs. to accomplish the harvest. (Sale 52-009-96-01 was Bill Karnes last prepared sale) Species thinning opened up red pine crowns. Ave BA = 122 sq.ft./ac.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3205 - Mixed Upland Shrub	6.6	No	Unspecified	
4	790 - Other Bare/Sparsely Vegetate	1.1	No	Unspecified	
6	3102 - Grass	1.2	Yes	Unspecified	
8	50 - Water	11.1	No	Unspecified	
9	6229 - Mixed lowland shrub	12.4	No	Low	
11	6229 - Mixed lowland shrub	1.9	No	Unspecified	
15	3102 - Grass	1.1	No	Unspecified	
16	790 - Other Bare/Sparsely Vegetate	1.3	No	Unspecified	
18	50 - Water	12.9	No	Unspecified	
19	6225 - Bog	8.8	No	Low	
20	790 - Other Bare/Sparsely Vegetate	1.5	No	Unspecified	
22	790 - Other Bare/Sparsely Vegetate	1.0	No	Unspecified	
26	790 - Other Bare/Sparsely Vegetate	1.1	No	Unspecified	
28	790 - Other Bare/Sparsely Vegetate	1.2	No	Unspecified	
31	790 - Other Bare/Sparsely Vegetate	1.2	No	Unspecified	
32	790 - Other Bare/Sparsely Vegetate	1.3	No	Unspecified	
33	790 - Other Bare/Sparsely Vegetate	1.2	No	Unspecified	