



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32258

Entry Year 2018

Acreage: 1,284

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2016-08-08

Stand Examiner: Jason Caron

Legal Description:

T45N - R27W. Sections 2 & 11.

Identified Planning Goals:

Timber harvest to promote regeneration and improve wildlife habitat.

Soil and topography:

Soils consist of well drained sand in most areas of the compartment. Topography ranges from relatively level swamp conifer, tag alder, and bog/marshland to upland which is only rolling to moderately hilly. Ridges and ravines are distinguishable in parts of the compartment.

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

A fairly contiguous block of state land surrounds this compartment except for on the west side. The Northwoods Club owns a large tract of land on the west side. Development around the compartment is for the most part non-existent. A few small cottages exist along the Hemmings Lake Road. Production of forest products along with low key recreational activities such as hunting, fishing, trapping, mushroom picking, and snowmobiling/ORV riding make up the land use here.

Unique Natural Features:

The abundance of northern red oak within this compartment is a unique natural feature.

Archeological, Historical, and Cultural Features:

None known.

Special Management Designations or Considerations:

In an attempt to regenerate red oak via. stump sprouts we are cutting some of the mature oak within the prescribed stands to encourage stump sprouts.

Watershed and Fisheries Considerations:

This compartment contains an unnamed lake which serves as a headwater system to Flopper Creek. Flopper Creek is a Type 1 designated trout stream less than 50' width. A minimum 100' slope buffer is recommended for lakes/waterbodies of this type. Best Management Practices should be followed to reduce erosion into waterbodies.

Wildlife Habitat Considerations:

Compartment 258 is found within the Chain Lakes Moraine Management Area; on a Disintegration Moraine in Southwestern Marquette County. The dominant Natural Communities are dry mesic northern forests, poor conifer swamps, and mesic northern forests. This management area offers opportunities to increase diversity and perhaps long-term oak sustainability through under planting white and red pine. Another priority is to maintain or increase wildlife corridors especially along riparian corridors. Wildlife management issues in the management area are: mast (hard and soft); habitat fragmentation; mature forest conditions; mesic conifer; coarse woody debris; and retention or development of large living and dead standing trees (for cavities). This management area represents approximately ¼ of the oak resource on WUP state forest.

The following have been identified as featured species for Chain Lakes Management Area: black bear, gray jay, pileated woodpecker, Northern goshawk, red crossbill.

Mineral Resource and Development Concerns and/or Restrictions

Sections 2 & 11, T45N R27W, Marquette County

Surface sediments consist of coarse-textured glacial till. The glacial drift thickness varies between 20 and 100 feet.

Archean granite/gneiss subcrops below the glacial drift. This rock could be used as dimension stone. Sand/gravel pits are not located in the area, but there appears to be some good potential. Abandoned iron mines are located eight miles to the north and east. State mineral rights in the compartment and surrounding area were previous leased in the 1980s for metallic mineral exploration and development. There is no economic oil and gas production in the UP.

Vehicle Access:

The Hemmings Lake Road is the main access road into this compartment. It is a through road connecting CO. Rd. 565 to the east to Co. Rd. CG and 581 to the west. Branching off of this road are poor dirt, two track roads accessing the compartment for logging and recreation.

Survey Needs:

No survey needs for this YOE.

Recreational Facilities and Opportunities:

No recreational facilities exist within this compartment. Opportunities consist of hunting, gathering and snowmobile/ORV riding.

Fire Protection:

Fire protection is a concern within this compartment. This compartment is included within the 581 Zone Dispatch area.

Additional Compartment Information:

The following reports from the Inventory are attached:

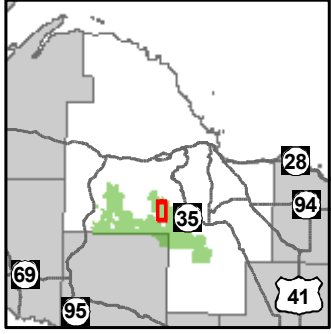
- Total Acres by Cover Type and Age Class
- Cover Type by Harvest Method
- Proposed Treatments – No Limiting Factors
- Proposed Treatments – With Limiting Factors
- Stand Details (Forested and Nonforested)
- Dedicated and Proposed Special Conservation Areas
- Site Condition Details

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

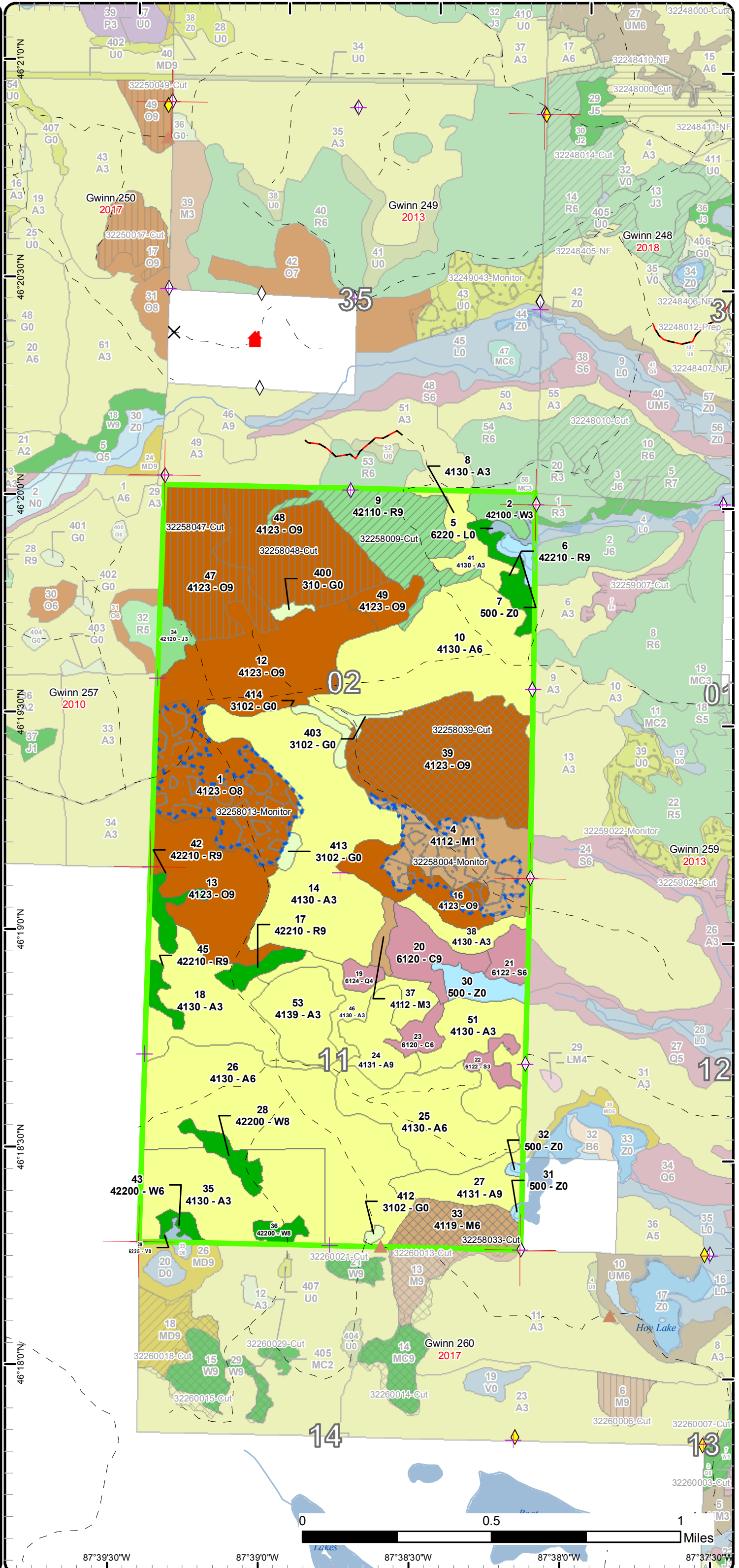
- Base feature information, stand boundaries, cover types, and numbers
- Proposed treatments
- Site condition boundaries
- Details on the road access system

Cover Type & Treatments Map

Compartment: 258
 T45N, R27W, Sec. 02, 11
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2018
 Acres: 1283.5 GIS Calculated
 Examiner: Jason Caron
 Map Revised: 2/8/2017
 Map Phase: Post-Review



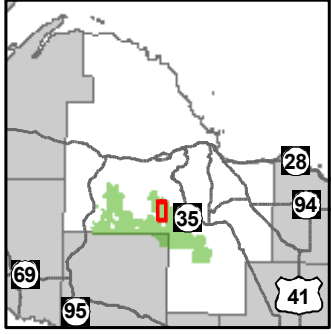
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- ✕ Gate
- ▲ Berms
- Cabin
- County Poor Dirt Roads
- - Poor Dirt Roads
- Rivers
- Compartment Boundary
- Treatments with Site Conditions
- Selection (Group, Single Tree)
- Regeneration Survey
- Thinning (Crown, Low, Systematic)
- Shelter Wood (w/Reserves)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub
- Lakes



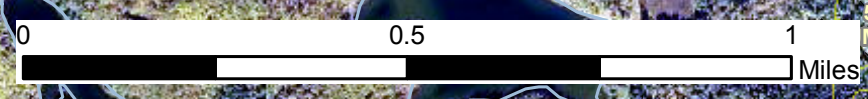
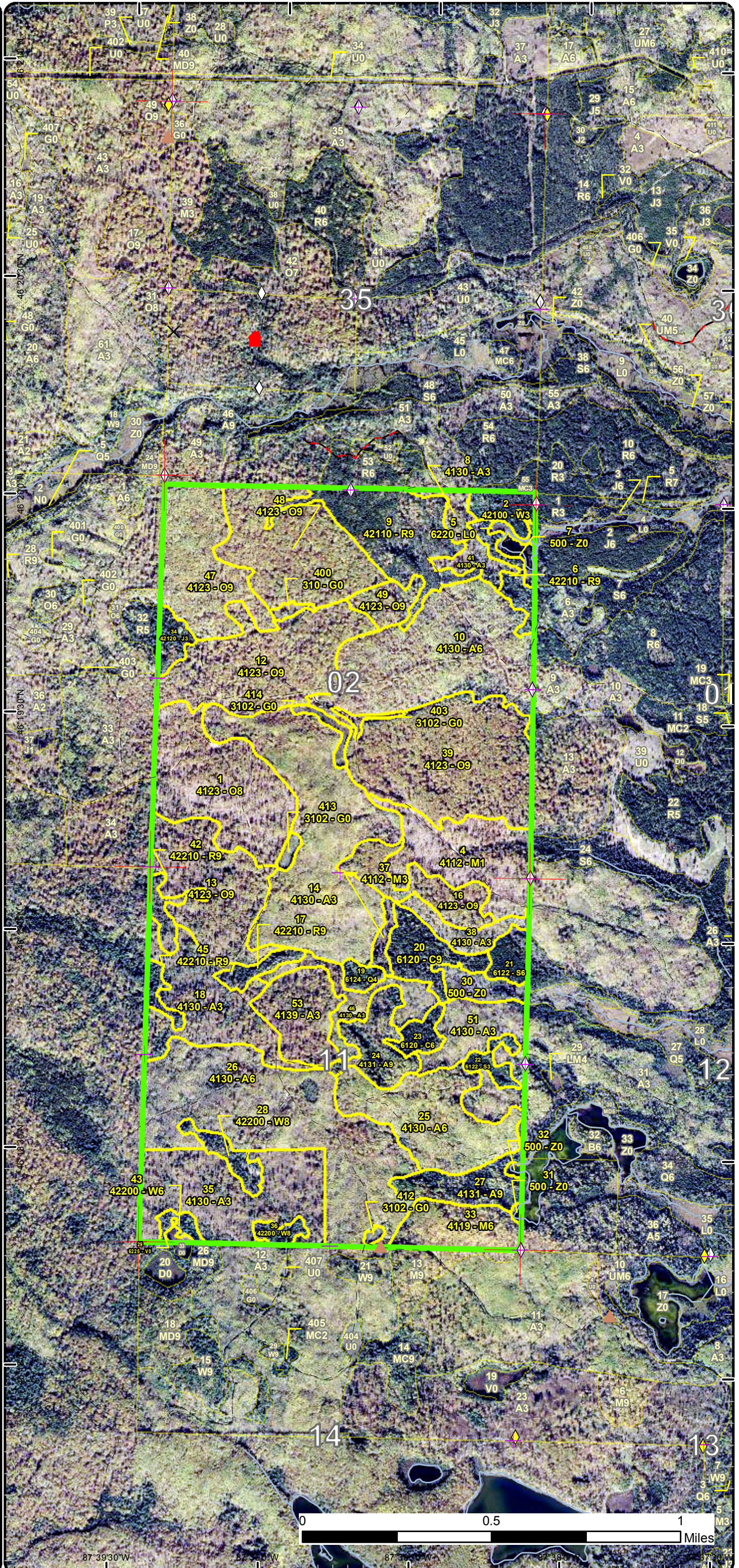
87°39'30"W 87°39'0"W 87°38'30"W 87°38'0"W 87°37'30"W

Stand Boundary Map

Compartment: 258
 T45N, R27W, Sec. 02, 11
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2018
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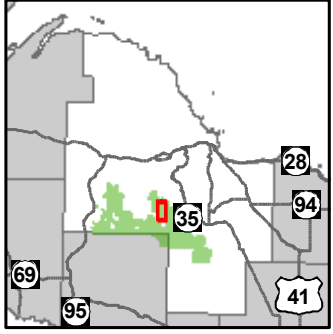
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- ◇ Field Grade GPS Corners
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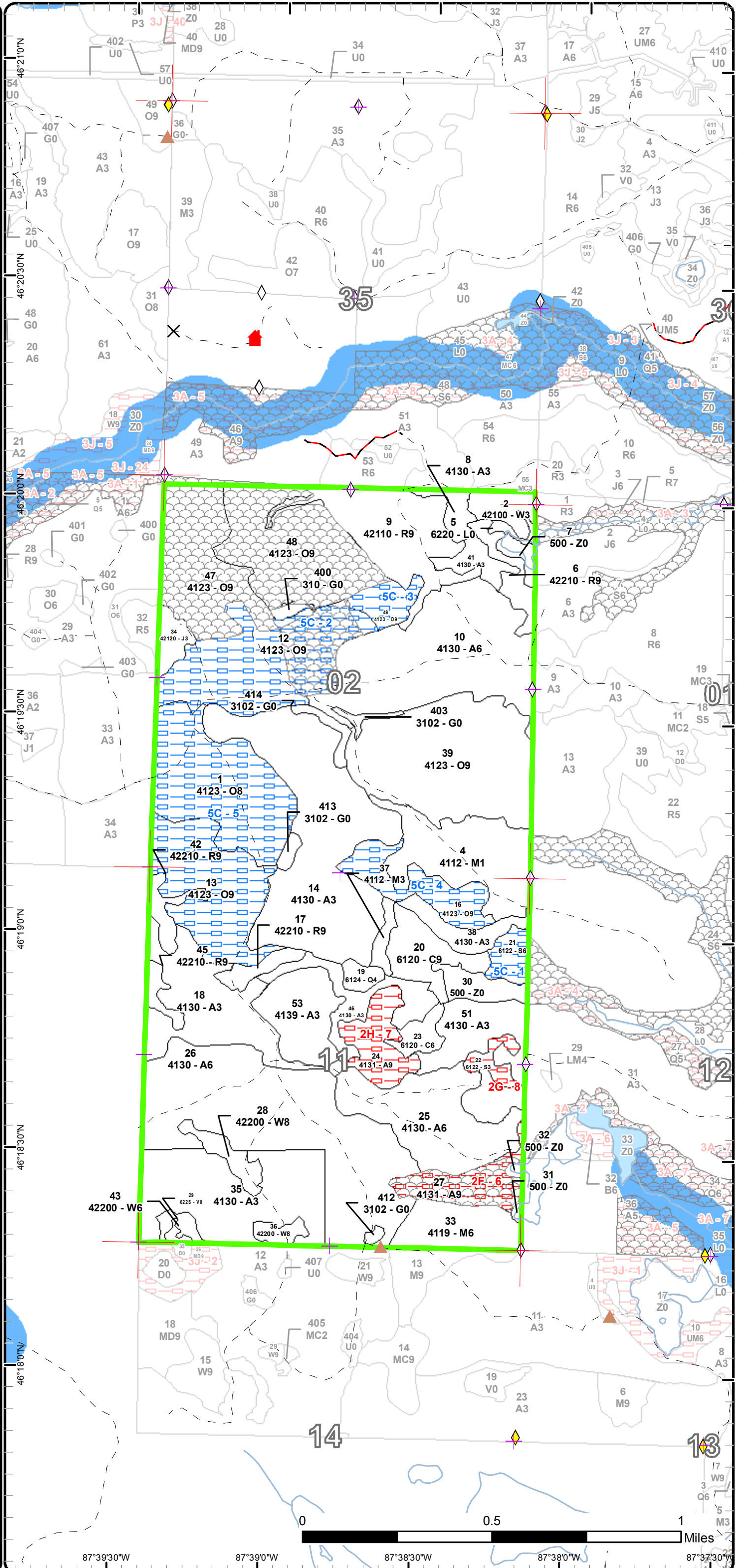
87°39'30"W 87°39'00"W 87°38'30"W 87°38'00"W

Special Conservation Areas & Site Conditions Map

Compartment: 258
 T45N, R27W, Sec. 02, 11
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
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- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- X Gate
- ▲ Berms
- Cabin
- County Poor Dirt Roads
- - Poor Dirt Roads
- Rivers
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



Report 1 – Total Acres by Cover Type and Age Class

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment 258 Year of Entry 2018



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	72	137	231	88	52	0	0	40	0	0	0	0	0	0	0	0	0	620
Bog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	19	7	0	0	0	0	26
Herbaceous Openland	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Jack Pine	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Lowland Conifers	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
Lowland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	15
Northern Hardwood	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	74
Oak	0	0	0	0	0	0	0	0	0	409	0	0	0	0	0	0	0	0	409
Red Pine	0	0	0	0	0	0	45	0	21	0	0	0	0	0	0	0	0	7	73
Water	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
White Pine	0	0	0	9	0	0	0	17	0	0	0	0	0	0	0	0	0	0	26
Total	31	122	137	240	95	52	45	17	65	424	0	0	19	7	0	0	0	31	1284



Report 2 – Treatment Summary

Gwinn Mgt. Unit

Compartment 258

Year of Entry: 2018

Acres of Harvest

Total Compartment Acres: 1,284

Commercial Harvest - 263
 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
Northern Hardwood	0	24	0	0	0	0	0	0	0	24
Oak	0	86	0	0	108	0	0	0	0	194
Red Pine	0	0	0	0	0	45	0	0	0	45
Total	0	110	0	0	108	45	0	0	0	263

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	263	0	0	0	0	0	50	0	0	313
Next Step	0	0	0	0	0	0	218	0	0	218
Total	263	0	0	0	0	0	268	0	0	531



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
9	32258009-Cut	45.0	42110 - Planted Red Pine	Sawtimber Well	54	111- 140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Crown thin the red pine to around 120 basal area. Do not cut the under-represented trees within the stand such as oak.

Specs:

Next Step

Treatments:

Acceptable Red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

13	32258013-Monitor	49.9	4123 - Red Oak	Sawtimber Well	81	51-80	Monitoring	Natural Regen (Intermediate)	411 - Northern Hardwood	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition: Age-Class or Site Quality**

Prescription TMS should monitor to see if regeneration is adequate.

Specs:

Next Step

Treatments:

Acceptable Maple, aspen, spruce, pine, oak and birch.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/13/2015

33	32258033-Cut	24.0	4119 - Mixed Northern Hardwoods	Poletimber Well	81	51-80	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven- Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mark stand using complete marker as guide. leave as much oak as possible for wildlife.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable maple, oak, birch, white pine, hemlock, and basswood.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016

39	32258039-Cut	85.8	4123 - Red Oak	Sawtimber Well	81	51-80	Harvest	Group Selection	4123 - Red Oak	Two-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Perform a group selection throughout the stand. Groups should be approx. 1/2 acre in size and evenly spread throughout the stand. Harvest all trees within the groups over 2 inches to promote regeneration. For a comparison set up at least one or two 1 acre gaps to see if a larger gap is more or less effective in regenerating oak within this stand.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Oak, pine, maple and aspen.

Regen:

Other This harvest is an attempt to promote oak regeneration while also keeping the integrity of the parent stand.

Comment:

Agree with Treatment – (State Game Fund) This is an area we are trying to determine a better way to regenerate Oak - B. Bear

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
47	32258047-Cut	47.9	4123 - Red Oak	Sawtimber Well	81	111- 140	Harvest	Shelterwood with Retention	4121 - Oak, Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Shelter wood harvest the stand. Leave 30-40 square feet of oak residual. Also, leave a patch of mature timber to meet retention guidelines. Do not cut pine. Retention should include some large big toothed aspen.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable oak, aspen, maple, birch, and pine.
Regen:

Other Retention should include some large BT for cavity nesters possible G. Hawk nesting sites. Cutting of oak should promote new growth.
Comment:

Proposed Start Date: 10/01/2017

48	32258048-Cut	60.1	4123 - Red Oak	Sawtimber Well	81	81-110	Harvest	Shelterwood with Retention	4121 - Oak, Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Shelterwood harvest the stand. Retain 40 square feet of oak residual. Do not cut pine. Retain a patch of mature timber to meet retention guidelines. Retention should include some large big toothed aspen.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable Maple, oak, aspen, birch, and pine.
Regen:

Other Retention should include some large BT for cavity nesters possible G. Hawk nesting sites. The Oak residual should be a minimum of 40 square feet.
Comment:

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 312.7**

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 258
Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions					
		With Condition	Not Available		5C	2F	2G	2H	3J
619	579	0	40	Aspen		20		19	0
1	1	0	0	Bog					0
26	26	0	0	Cedar					
11	11	0	0	Herbaceous Openland					
7	7	0	0	Jack Pine					
4	4	0	0	Lowland Conifers					
2	2	0	0	Lowland Shrub					
15	0	9	6	Lowland Spruce/Fir	9		6		
74	74	0	0	Northern Hardwood					
409	194	215	0	Oak	215				
72	72	0	0	Red Pine					
16	16	0	0	Water					
26	26	0	0	White Pine					0
1,284	1,014	224	46	Total Forested Acres	224	20	6	19	0
	79%	17%	4%	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	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments: A lot of non-merchantable black spruce within the stand. Hold for 10 years and re-assess.							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	66	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was recently thinned. Hold for 10 years. Consider a seed tree or shelterwood harvest to encourage oak stump sprouts.							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 258
Year of Entry: 2018

3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was recently thinned. Hold for 10 years. Consider a seed tree or shelterwood harvest to encourage oak stump sprouts.							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23	Unspecified	Unspecified	Unspecified	Unspecified
Comments: A significant amount of harvesting in the compartment in recent years due to extensive blowdown. Hold this stand for 10 years to allow adjacent stands to regenerate.							
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	116	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold for 10 years and consider a shelter wood or seed tree harvest within the next entry cycle.							
6	Unavailable	2F: Too steep	20	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
Comments: Stand is growing on a steep slope and would be too difficult to harvest. Serves as a good stand for long term retention.							
7	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	19	3J: Water quality / BMPs (stream, river, or lake)	5E: Long-Term Retention	Unspecified	Unspecified
Comments: Stand is within a bowl like depression. Too difficult to harvest. At the bottom of the bowl contains a small bog. This stand serves as a good place for long term retention.							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 258
Year of Entry: 2018

8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand of stagnant black spruce and tamarack. Ground is very wet, bog-like.							

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
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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.
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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4123 - Red Oak	Sawtimber Medium	63.5	81	1-50	Stand was initially cut in the winter of 2011. In 2013 a wind event came through, as a result a salvage sale was set up. TS#105-13. All blown down timber was harvested. This stand was not as heavily hit by blowdown. Some stump sprout oak exists currently. Scattered mature oak throughout the stand of decent quality. -Stand could be typed out differently depending on the examiner. I decided that the oak residual was the canopy species. As regeneration improves, and the stand fills in, the stand may revert to a red maple/aspens type instead of an oak type.
2	42100 - Planted White Pine	Sapling Well	9.3	23	Immature	FTP C31-254, herbicide in 1993, disk trenched and hand planted in 1994 with red pine. Inventory in 2006 mentioned the surprise of finding it to be a white pine plantation. It must have been a typo on the FTP? Currently in 2016 the white pine is in good condition. Surprisingly, I do not notice any weevil damage within the tops of the white pine.
4	4112 - Maple, Beech, Cherry Association	Sapling Poor	45.6	3	Immature	Stand was first harvested in 2000. A wind event in 2013 caused extensive blowdown. A salvage sale was set up. TS# 105-13. Oak regeneration from stump sprouts is poor due to the severed roots. A few scattered mature oak within the stand.
6	42210 - Natural Red Pine	Sawtimber Well	9.9	78	81-110	A stand of mature red & white pine that acts as a buffer against a small pond. The pine is very nice quality and picturesque. Scattered jack pine are old and falling out of the stand.
8	4130 - Aspen	Sapling Well	6.1	22	Immature	Stand was cut in 1995, TS#6-93. Stand consists of healthy looking aspen regeneration. A few scattered log sized oak exist throughout the stand.
9	42110 - Planted Red Pine	Sawtimber Well	45.0	54	111-140	Red pine was machine planted in Sept 1963. Red pine was last thinned in 2012: TS#116-08-01. Currently basal area is a bit low at around 110-120 square feet. Stand itself looks in very good condition.
10	4130 - Aspen	Poletimber Well	88.1	35	Unspecified	Was cut in 1982, TS# 8-79A. A nice stand of big tooth aspen with very nice stump sprout oak throughout the stand. This stand is a good example of how oak regenerates when it is cut. Some larger diameter oak exists within the south/southeast part of the stand.
12	4123 - Red Oak	Sawtimber Well	66.3	81	51-80	Stand was cut in the winter of 2011. TS #118-08-01. Stand contains pockets of aspen and red maple regeneration amongst the mature oak stand. In some areas the basal area of oak is high, in other areas the basal area is low.
13	4123 - Red Oak	Sawtimber Well	52.7	81	51-80	Stand was initially cut in 2011. TS#118-08-01. 3 small patch cuts exist within this stand due to the windstorm of 2013. TS #105-13. Cuts are very small and do not meet mapping standards. Currently the stand consists of lower density oak. During the initial cut in 2011 it appears that very little oak was cut, if any. Some areas have a higher basal area of mature oak.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	4130 - Aspen	Sapling Well	105.3	27	Immature	OI Notes: Stand was cut in 1990. TS#3-88. Mike Zuidema, Timber Mgmt Specialist, did an oak regeneration study (some small enclosures were placed) in this sale area using student labor to take plots, in 1991, 94, & 95. Jim Ferris, TMS, followed up in 2005 with another student plot study. Generally, oak stump sprouts were doing very well, but oak seedlings were suppressed by the aspen. 2016 Inventory- Stand consists of good quality aspen regeneration.
16	4123 - Red Oak	Sawtimber Well	22.5	81	81-110	A stand of poorer quality oak of stump sprout origin. This stand did not get hit by the windstorm that hit adjacent stands in 2013. Oak looks healthy but has poorer form.
17	42210 - Natural Red Pine	Sawtimber Well	6.4	71	51-80	A small pocket of conifer of decent quality. Stand may have been left as a retention patch.
18	4130 - Aspen	Sapling Well	45.9	15	Immature	Stand was cut in 2001-02. TS# 106-98-01. Stand consists of a mix of aspen and red maple regeneration with scattered mature oak and pine throughout. Regeneration is fully stocked and in good condition.
19	6124 - Lowland Spruce-Fir	Poletimber Poor	4.4	70	1-50	Small pocket of swamp, probably more valuable for wildlife than for timber.
20	6120 - Lowland Cedar	Sawtimber Well	19.1	117	Unspecified	Stand of log-sized cedar, pockets of blowdown exist within the stand. A small flowage exists within the center of the stand.
21	6122 - Black Spruce	Poletimber Well	8.5	84	Unspecified	A small stand of black spruce mixed with scattered cedar. Overall the stand is fairly small diameter with a fair amount of sub-merchantable.
22	6122 - Black Spruce	Sapling Well	6.1	89	1-50	A bog like stand of black spruce growing in a bowl. There is a high water table present
23	6120 - Lowland Cedar	Poletimber Well	6.9	121	81-110	Lowland stand of cedar. Cedar are of large diameter with scattered mature yellow birch and white spruce mixed in.
24	4131 - Aspen, Oak	Sawtimber Well	19.4	78	Unspecified	Stand is essentially in a bowl type depression. The upper half of the stand contains large diameter trees. The bottom of the bowl is a small bog with small diameter black spruce and wet ground.
25	4130 - Aspen	Poletimber Well	51.6	43	81-110	Stand was cut during a period from 1970 thru 1977 under TS# 8/70A. Good quality aspen currently exists amongst scattered residual oak logs.
26	4130 - Aspen	Poletimber Well	119.9	28	Immature	Stand was cut in 1989. TS# 10-88-01. Currently the stand is in decent shape but contains pockets of aspen decline, especially in the western half. The big tooth aspen looks healthy but the quaking aspen is in poor condition.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	4131 - Aspen, Oak	Sawtimber Well	20.2	78	51-80	Southern part of the stand consists of a very steep slope which grades down into a lowland stand (too small to delineate). A mix of large aspen and oak throughout. Stand is inoperable due to the steep terrain, and acts as a good retention area for large diameter trees.
28	42200 - Natural White Pine	Sawtimber Medium	8.1	66	81-110	Stand was harvested in 2011: TS#131-08-01. Stand currently consists of a mature stand of white pine with an understory of aspen regeneration. As the white pine matures the aspen will most likely shade out. The stand was essentially thinned during the last harvest with no white pine being removed.
33	4119 - Mixed Northern Hardwoods	Poletimber Well	24.0	81	51-80	Stand was cut in 2000. TS#03-97-01. Stand contains decent quality hardwood.
34	42120 - Planted Jack Pine	Sapling Well	7.0	33	51-80	A young stand of jack pine, fully stocked. Good stem quality within the stand. A small pocket of mature log-sized red pine and white pine exists within the stand. No former notes to mention when the stand was planted.
35	4130 - Aspen	Sapling Well	63.5	6	Immature	Stand was harvested in 2011: TS#131-08-01. Stand consists of good quality aspen and red maple stump sprouts. Scattered mature red pine and oak scattered throughout the stand.
36	42200 - Natural White Pine	Sawtimber Medium	4.6	66	81-110	Stand was harvested in 2011: TS#131-08-01. Stand currently consists of a mature stand of white pine with an understory of aspen regeneration. As the white pine matures the aspen will most likely shade out. The stand was essentially thinned during the last harvest with no white pine being removed.
37	4112 - Maple, Beech, Cherry Association	Sapling Well	4.4	6	Immature	Stand was cut in 2011: TS#131-08-01. Stand consists of a small strip that was a former buffer of sorts against the adjacent cedar swamp. A few scattered large diameter within the stand.
38	4130 - Aspen	Sapling Well	11.5	17	Immature	Stand was cut in 2000. TS#104-98-01. Stand is growing along a long ridge and consists of good quality aspen regeneration.
39	4123 - Red Oak	Sawtimber Well	85.8	81	51-80	A stand of poorer quality oak. I did see some top decline in some of the oak and also some dead standing trees. The red maple was cut out of the stand years ago. Poor quality red maple is coming up within the understory.
41	4130 - Aspen	Sapling Well	8.0	5	Immature	Stand cut in 2012: TS#116-08-01. Stand consists of aspen and red maple regeneration with scattered log sized oak throughout. Regeneration is poor on the west side of stand but improves as you go east. Stand should fill in more as it matures.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42	42210 - Natural Red Pine	Sawtimber Well	6.8	71	1-50	Notes from previous inventory. I was unable to make it to this stand during the 2018 YOE. Open this stand up sufficiently to stimulate some RP regeneration. This could be done by removing about 1/2 the RP including some but not all of the large diameter, over mature ones. There are several spots in this compartment where RP seedlings and saplings are doing very well as a result of adjacent clearcuts or road opening work. This site is very suitable to RP and it seems to be regenerating successfully in the places where conditions are favorable. Treat this stand as a shelterwood, cut the RP down to about 40 BA, leaving the oak, WP and aspen, removing the RM and WB. Aspen is being left to discourage sprouting. Remove RP in patches to create small regen openings ~1/3 ac, about 2 ch. Dia. Place these openings in the patches where the RP was the thickest. (Changed for 2008 YOE via Jim Ferris, comments entered by T.S.) 2011- Stand treated by LaFleur under contract #118-08-01 winter of 2010-11.
43	42200 - Natural White Pine	Poletimber Well	3.9	66	111-140	Stand was left to act as riparian buffer. Stand consists of decent quality pine with a few aspen and red maple scattered throughout.
45	42210 - Natural Red Pine	Sawtimber Well	4.4	71	81-110	Small stand of pine. Did not make it to this stand during inventory. Stand looks to have been thinned through when adjacent stand was cut, stand 18.
46	4130 - Aspen	Sapling Well	19.0	15	Immature	Stand was cut in 2001-02. TS# 106-98-01. Currently a thick aspen stand exists with good regeneration throughout.
47	4123 - Red Oak	Sawtimber Well	47.9	81	111-140	A stand of poorer quality oak with pockets of decent quality big tooth aspen. I am noticed a little bit of top dieback on the oak.
48	4123 - Red Oak	Sawtimber Well	60.1	81	81-110	A stand of poorer quality oak mixed with scattered big tooth aspen. Stand appears to have been thinned many years ago, but nothing mentioned in the notes. Aspen is old.
49	4123 - Red Oak	Sawtimber Well	10.2	81	51-80	Stand was harvested in 2012: TS#116-08-01. No oak was cut during the sale, only red maple. White pine and red maple are now regenerating within the understory.
51	4130 - Aspen	Sapling Well	33.7	15	Immature	Stand was cut in 2001-02. TS# 106-98. Stand contains good quality aspen regeneration. A fully stocked stand of dense regeneration.
53	4139 - Aspen, Mixed Deciduous	Sapling Well	26.8	15	Unspecified	Stand was cut in 2001-02. TS# 106-98-01, "Aspen Ridge Sale". Stand was burned in May 2008 in an attempt to kill the red maple understory and promote oak. Stand was supposedly planted with red and white pine at 200 per acre. Currently the stand consists of clearcut pockets in which the aspen and red maple regeneration is coming in very well. Other areas contain 40-50 square feet of oak which is shading out the regeneration. Some of the mature oak is showing signs of top dieback, possibly due to the Rx burn in '08. I would say that overall the Rx burn did not meet objectives. The red maple has flushed back and very little oak regeneration exists.



Stand	Cover Type	Acres	Managed Site	General Comments:
5	6220 - Alder/willow	2.5	No	Marsh around small beaver pond.
7	500 - Water	4.2	No	Small pond.
29	6225 - Bog	1.4	No	Small bog/wetland depression.
30	500 - Water	9.8	No	A former cedar stand that has been flooded out and killed by beaver. Currently the dam has been breached and no water is backed up. Dead standing and blown down cedar exist throughout the stand.
31	500 - Water	0.8	No	The southwestern end of a beaver pond, headwaters of Bear Creek.
32	500 - Water	1.0	No	The western end of a beaver pond, headwaters of Bear Creek.
400	310 - Herbaceous Openland	1.9	No	A small grass opening. Sweet fern is the dominant ground cover. A small clone of mature aspen exists within the center of the stand.
403	3102 - Grass	2.2	No	A natural opening. A narrow trail runs through it.
412	3102 - Grass	1.1	Yes	Oi Notes: Stand was created following commercial cut by Wildlife Division, disked & seeded in August 1992. FTP #W31-245. 2016- Small grass opening with a small component of Sweet fern. WP and few RP encroaching on the edges.
413	3102 - Grass	2.3	No	Former OI notes state: Was created following commercial cut by Wildlife Division, disked & seeded in August 1992. FTP #W31-242.
414	3102 - Grass	3.8	No	Former OI notes state: Was created following commercial cut by Wildlife Division, disked & seeded in August 1992. FTP W31-242.