



# Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32218

Entry Year 2018

Acreage: 1,056

County Marquette

Management Area: Voelker Plains

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**Revision Date:** 2016-08-08

**Stand Examiner:** Jason Caron

**Legal Description:**

T46N-R28W. Sections 3,10,15

**Identified Planning Goals:**

Timber harvesting to promote regeneration and improve wildlife habitat.

**Soil and topography:**

Glacial drainage ways and outwash plains form topography that is nearly level to moderately steep. Soils are courser sands to loamy sands.

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

Private land exists to the north, east, and south. The west side of the compartment borders state land. Land use in and around the compartment consists primarily of hunting & gathering.

**Unique Natural Features:**

The Escanaba river flows through the northern portion of this compartment. The Black river flows through the southern part of the compartment. A third flowage forms a unique wetland habitat and drains into Sleeman Pond which exists within the middle of the compartment.

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

The Black River Falls Campground, which is now abandoned, was constructed in this compartment. Also, an extensive upland hunting dog trial course existed within this compartment at one time, but was also discontinued.

**Special Management Designations or Considerations:**

No timber harvest will occur next to the water courses within the compartment due to BMP concerns.

**Watershed and Fisheries Considerations:**

This compartment contains Black River which is a designated Type 1 trout stream less than 50' wide. The Black River is a tributary to the Middle Branch of the Escanaba River. No fisheries data are available for Black River. A 300' buffer is recommended for Black River in riparian areas adjacent to stands which include Aspen. For all other riparian areas, Best Management Practices should be followed to reduce erosion into waterbodies.

**Wildlife Habitat Considerations:**

Compartment 218 is found within the Voelker Plains Management Area; on an Outwash Plain in central Marquette County. The dominant Natural Communities are dry northern forests and dry mesic northern forests. Wildlife considerations in the Voelker Plains management area consist of: managing jack pine habitat with strategies that more closely mimic natural fire disturbance regimes, and increasing stand size and striving to accommodate many species associated with xeric forest habitat is desirable. Wildlife management issues in the management area are: early successional forest conditions (associated with alder, riparian zones, or forested wetlands), mast (hard and soft); habitat fragmentation, early successional forest; and large open land complexes.

The following have been identified as featured species for Voelker Plains Management Area: American woodcock, beaver, black bear, and Kirtland's warbler.

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

Sections 3, 10, & 15, T46N R28W, Marquette County

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium that are thin to discontinuous in places. The glacial drift thickness varies between 0 and 100 feet. Archean granite and gneiss subcrop below the glacial drift. This rock could be used as dimension stone. Sand/gravel pits are located in Section 2 to the east and Section 34 to the north, and there appears to be good sand and gravel potential in the compartment. The abandoned Republic Mine is located eight miles to the west and other abandoned iron mines are less than four miles to the northeast. The geology in the vicinity of the compartment does not support the occurrence of iron ore deposits but can be associated with other

metallic minerals. There has not been any metallic mineral leasing here, but there was recent leasing activity (leases released in 2009) located roughly three miles to the southwest focused around a magnetic anomaly (potential sulfide deposit). There is no economic oil and gas production in the UP.

**Vehicle Access:**

Vehicle access is good within all areas within the compartment.

**Survey Needs:**

No survey needed.

**Recreational Facilities and Opportunities:**

There are no recreational facilities within this compartment. The primary public use is for hunting and gathering.

**Fire Protection:**

Fire protection is a concern within this area due to the forest types. This compartment is within the 581 Zone Dispatch Area.

**Additional Compartment Information:**

The following reports from the Inventory are attached:

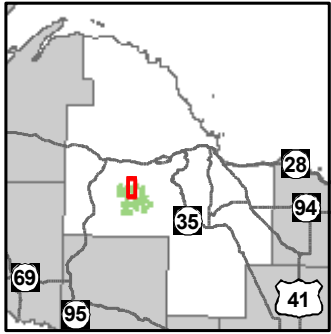
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

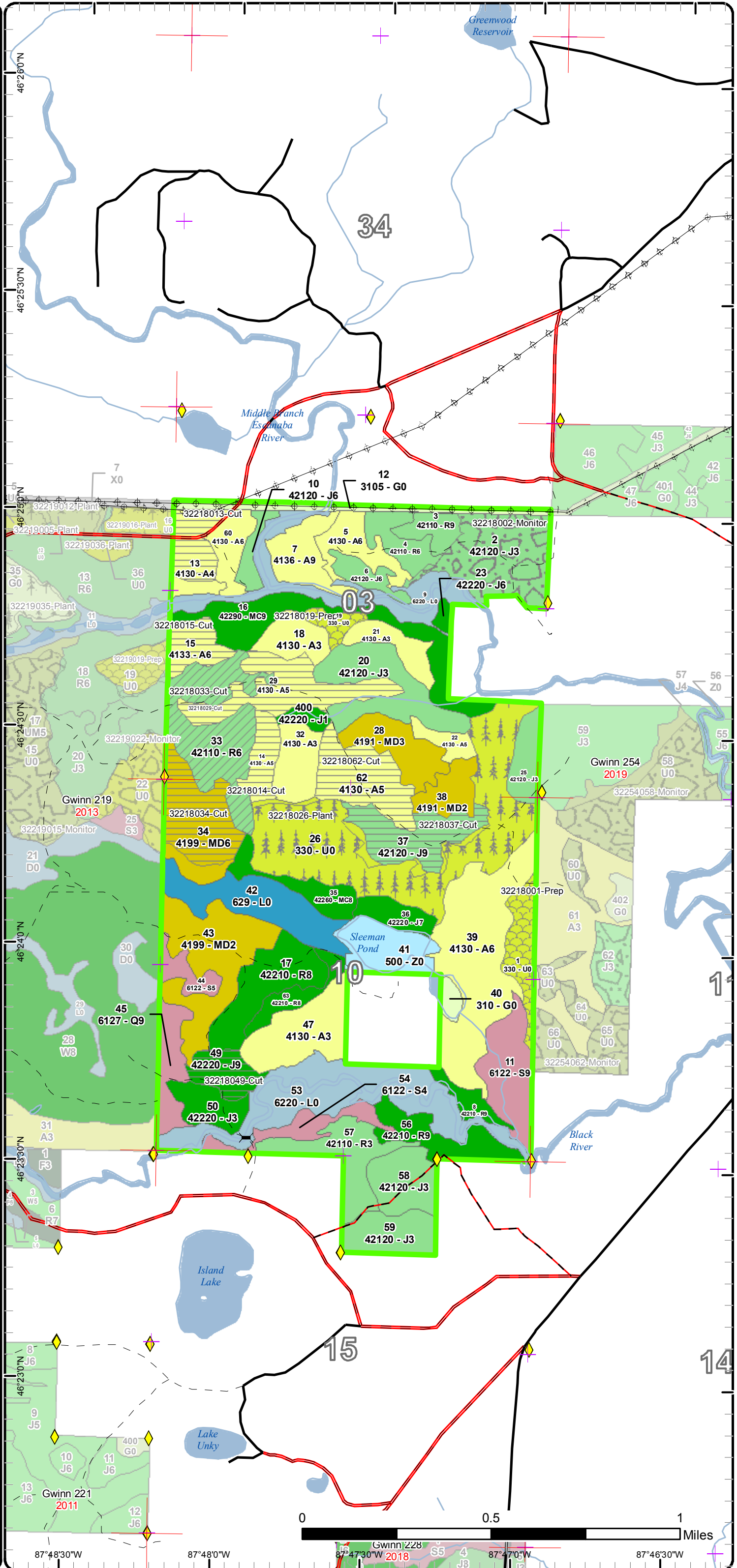
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 218  
 T46N, R28W, Sec. 03, 10, 15  
 County: Marquette  
 Unit: Gwinn  
 Mgmt Area: Voelker Plains  
 YOE: 2018  
 Acres: 1056 GIS Calculated  
 Examiner: Jason Caron  
 Map Revised: 2/8/2017  
 Map Phase: Post-Review



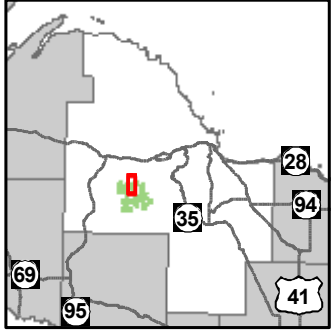
- Miris Corners
- Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Bridges
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Rivers
- Powerline
- Compartment Boundary
- Site Prep
- Clearcut (w/Reserves)
- Planting (tree species)
- Regeneration Survey
- Thinning (Crown, Low, Systematic)
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 629 - Mixed non-forested wetland
- Lakes



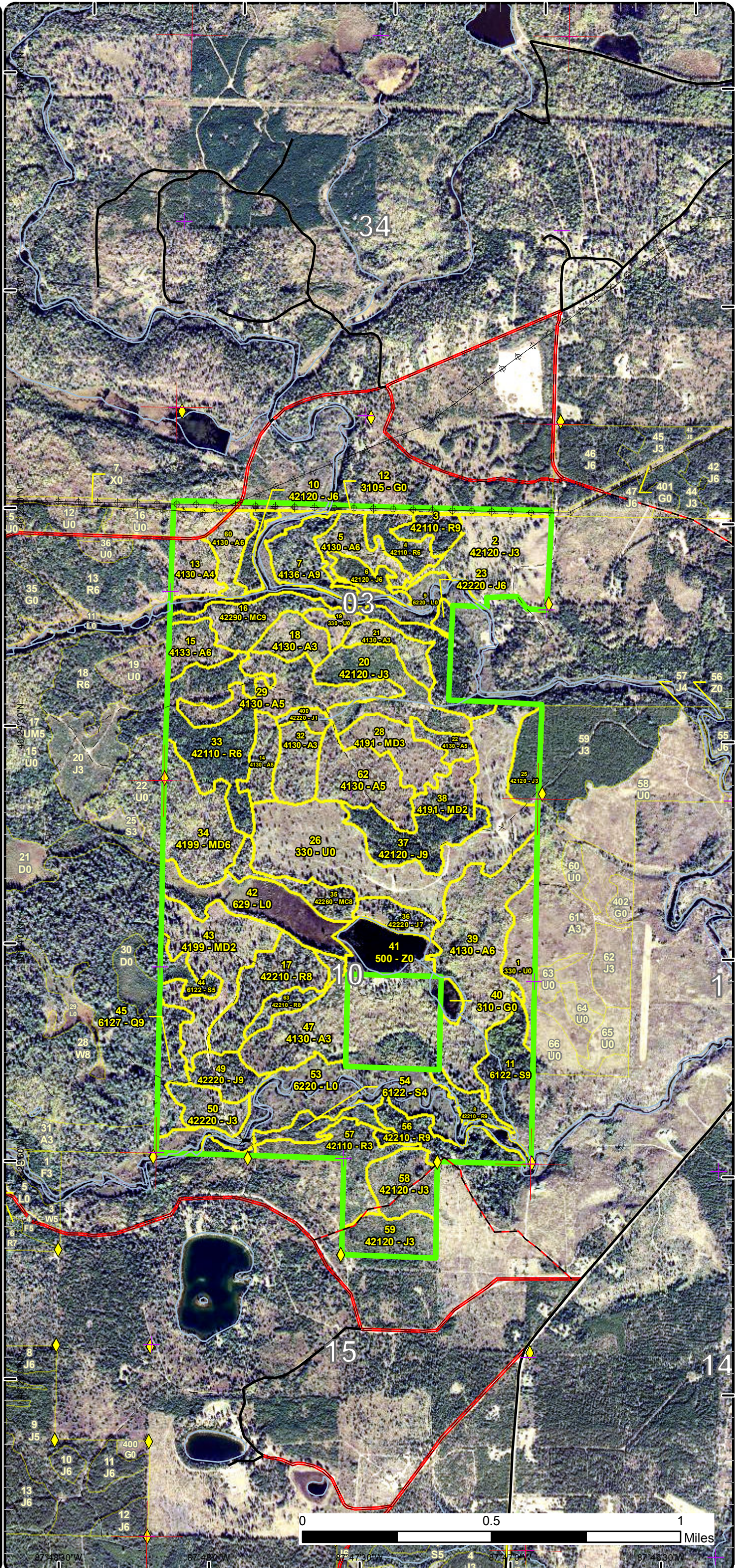


# Stand Boundary Map

Compartment: 218  
 T46N, R28W, Sec. 03, 10, 15  
 County: Marquette  
 Unit: Gwinn  
 Mgmt Area: Voelker Plains  
 YOE: 2018  
 Acres: 1056 GIS Calculated  
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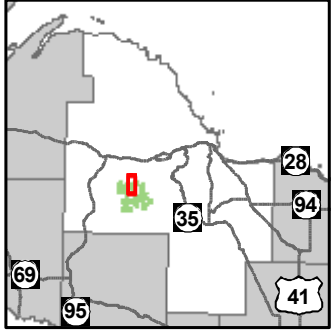
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Bridges
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
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- Compartment Boundary
- Stand Boundaries
- 413 - Aspen Types
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- 422 - Natural Pines
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- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
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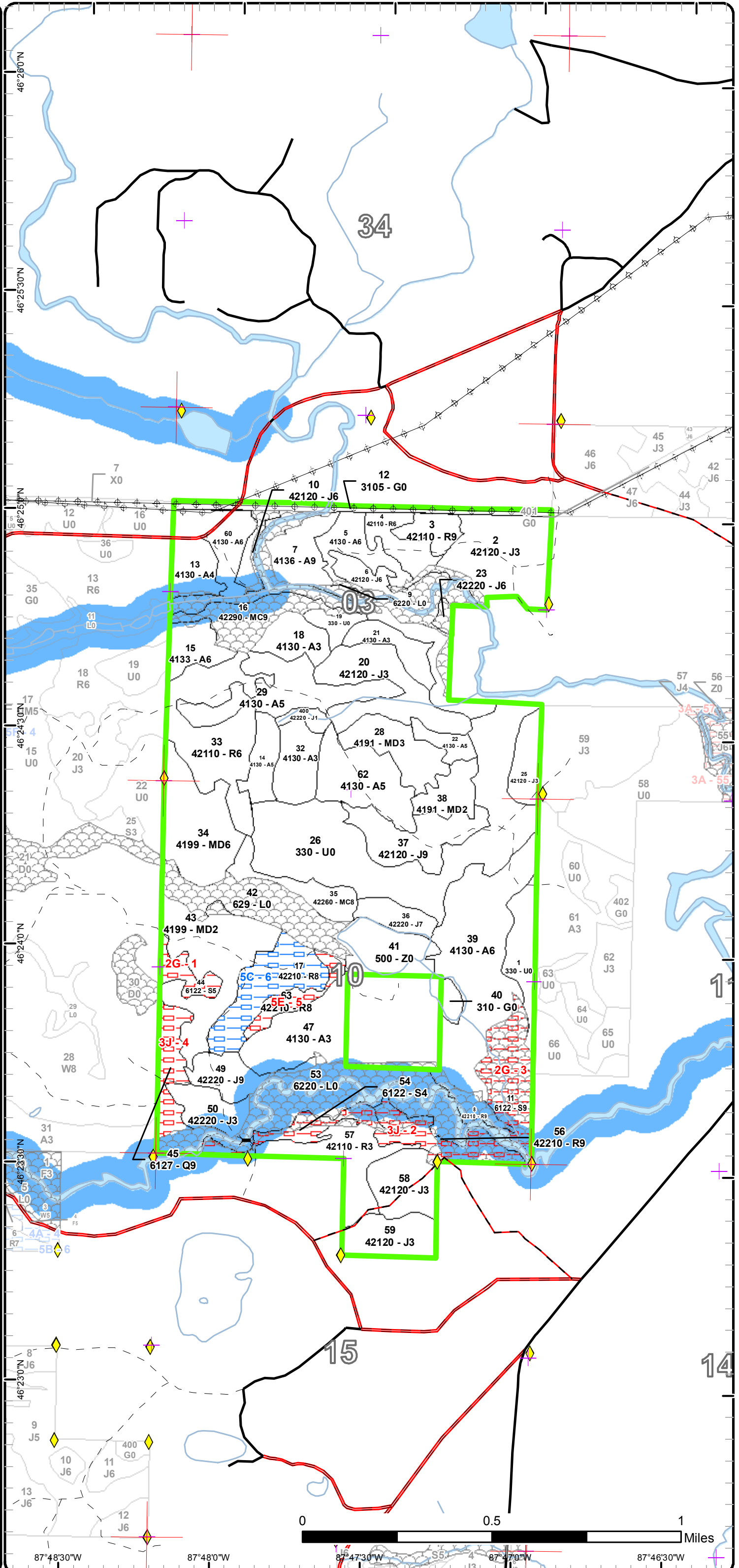


# Special Conservation Areas & Site Conditions Map

Compartment: 218  
 T46N, R28W, Sec. 03, 10, 15  
 County: Marquette  
 Unit: Gwinn  
 Mgmt Area: Voelker Plains  
 YOE: 2018  
 Acres: 1056 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
- Bridges
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Rivers
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	15	33	131	58	17	10	0	0	0	0	0	0	0	0	0	0	264
Herbaceous Openland	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Jack Pine	0	38	80	17	0	16	23	0	0	12	2	0	0	0	0	0	0	0	187
Low-Density Trees	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
Lowland Conifers	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	14
Lowland Shrub	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	24	0	19	0	0	0	0	0	0	43
Mixed Upland Deciduous	0	58	0	0	11	0	0	0	32	0	0	0	0	0	0	0	0	0	101
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	44
Red Pine	0	0	23	11	0	0	49	0	15	26	0	18	0	0	0	0	0	0	142
Water	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
<b>Total</b>	<b>261</b>	<b>96</b>	<b>118</b>	<b>61</b>	<b>142</b>	<b>74</b>	<b>89</b>	<b>10</b>	<b>47</b>	<b>120</b>	<b>2</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1056</b>



## Report 2 – Treatment Summary

Gwinn Mgt. Unit

Year of Entry: 2018

Acres of Harvest

Compartment 218

Total Compartment Acres: 1,056

Commercial Harvest - 201  
 Harvests with Site Condition - 0  
 Next Step Harvest - 0  
 Habitat Cut - 0

### Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	90	0	0	0	0	0	0	0	0	90
Jack Pine	35	0	0	0	0	0	0	0	0	35
Mixed Upland Deciduous	27	0	0	0	0	0	0	0	0	27
Red Pine	0	0	0	0	0	49	0	0	0	49
<b>Total</b>	<b>152</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>201</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	201	20	85	0	0	0	38	0	0	344
Next Step	0	133	234	0	0	133	323	0	0	823
<b>Total</b>	<b>201</b>	<b>153</b>	<b>318</b>	<b>0</b>	<b>0</b>	<b>133</b>	<b>361</b>	<b>0</b>	<b>0</b>	<b>1167</b>



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	32218001- Prep	15.0	330 - Low-Density Trees	Nonstocked	0	Unspec ified	SitePrep	Trenching	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

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

Prescription Trench the site to provide better success for JP or RP seedlings.

Specs:

Next Step Planting, Initial Plant

Treatments:

Acceptable Jack pine and red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

2	32218002- Monitor	38.0	42120 - Planted Jack Pine	Sapling Well	4	Immatu re	Monitoring	Artificial Regen(1yr)	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription The stand was trenched and seeded in the fall of 2013. Monitor the stand to see if the stand has fully regenerated.

Specs:

Next Step

Treatments:

Acceptable Jack Pine

Regen:

Other FTP# 32-773

Comment:

Proposed Start Date: 10/01/2017

3	32218003-Cut	7.9	42110 - Planted Red Pine	Sawtimber Well	58	81-110	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Crown thin the red pine to open up the canopy. Basal area of red pine may be lower in areas due to inclusions of jack pine & aspen. Cut all jack pine and aspen.

Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

13	32218013-Cut	13.8	4130 - Aspen	Poletimber Poor	52	Unspec ified	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clearcut with reserves. Use the red line to exclude a patch of mature timber to meet retention guidelines.

Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Planting, Interplant

Treatments:

Acceptable Red Pine

Regen:

Other A ravine exists further to the south of the stand. This would make a good area for retention.

Comment:

Three years after cutting large oak (6ft.) should be added to the pine failed areas. Any herbicide used should not kill white pine.

Proposed Start Date: 10/01/2017





Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
14	32218014-Cut	10.3	4130 - Aspen	Poletimber Medium	68	Unspecified	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

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

Prescription Clear cut with reserves. Use the red line to exclude a patch of mature timber to meet retention guidelines. Retention should include some aspen.  
Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)  
Treatments:

Acceptable Red Pine.  
Regen:

Other retention should include aspen for cavity nesters and future drumming logs.  
Comment:

Proposed Start Date: 10/01/2017

15	32218015-Cut	11.0	4133 - Aspen, Mixed Pine	Poletimber Well	39	Unspecified	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clear cut with reserves. Use the red line to exclude a patch of mature timber to meet retention guidelines.  
Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Planting, Interplant  
Treatments:

Acceptable Red Pine.  
Regen:

Other Three years after cutting large oak (6ft.) should be added to the pine failed areas. Any herbicide used should not kill white pine.  
Comment:

Proposed Start Date: 10/01/2017

19	32218019-Prep	5.2	330 - Low-Density Trees	Nonstocked	0	Unspecified	SitePrep	Trenching	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Trench the stand and plant it to red pine.  
Specs:

Next Step Planting, Replant; Monitoring, Artificial Regen(1yr)  
Treatments:

Acceptable Red pine  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2016

26	32218026-Plant	84.7	330 - Low-Density Trees	Nonstocked	0	Unspecified	Planting	Initial Plant	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription  
Specs:

Next Step ; ; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)  
Treatments:

Acceptable Red pine, white pine, jack pine, spruce and fir.  
Regen:

Other Percent to Treat = 100%  
Comment:

Proposed Start Date: 04/01/2016



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
29	32218029-Cut	29.4	4130 - Aspen	Poletimber Medium	42	Unspec ified	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

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

Prescription Clearcut with reserves. Use the red line to exclude a patch of mature timber to meet retention guidelines.

Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Planting, Interplant  
Treatments:

Acceptable Red Pine

Regen:

Other Three years after cutting large oak (6ft.) should be added to the pine failed areas. Any herbicide used should not kill white pine.

Comment:

Proposed Start Date: 10/01/2017

33	32218033-Cut	40.7	42110 - Planted Red Pine	Poletimber Well	58	81-110	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Crown thin red pine to promote growth. Remove aspen and jack pine within the stand.

Specs:

Next Step  
Treatments:

Acceptable red pine

Regen:

Other Red pine basal area is lower due to aspen and jack pine inclusions. Original t/ac of red pine must've been low when it was originally planted.

Comment:

Proposed Start Date: 10/01/2017

34	32218034-Cut	27.0	4199 - Other Mixed Upland Deciduous	Poletimber Well	77	81-110	Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clearcut with reserves. Retention will be the buffer along stand 42 to the south. No cut on pine. Retention area should include aspen.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)  
Treatments:

Acceptable aspen, fir, spruce, maple, birch, pine

Regen:

Other Consider putting a winter cutting only spec. on this stand to promote better regeneration.

Comment:

Woodcock, retention should include aspen for cavity nesters and future drumming logs

Proposed Start Date: 10/01/2017

37	32218037-Cut	23.4	42120 - Planted Jack Pine	Sawtimber Well	58	81-110	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clear cut with no reserves. Plant the stand back to jack pine after harvest.

Specs:

Next Step Pesticide, Aerial; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)  
Treatments:

Acceptable Jack pine.

Regen:

Other The jack pine is starting to decline. The start date was pushed back to allow the adjacent stand (stand 26) to become established.

Comment:

Proposed Start Date: 10/01/2022





Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
49	32218049-Cut	11.5	42220 - Natural Jack Pine	Sawtimber Well	85	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

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

Prescription Clearcut with reserves. Red line out a patch of mature timber to meet retention guidelines.

Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant

Treatments:

Acceptable Red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

62	32218062-Cut	25.9	4130 - Aspen	Poletimber Medium	39	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clear cut with reserves. Use the red line to exclude patches of mature timber to meet retention guidelines. Herbicide and plant back to red pine

Specs: after the harvest.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Planting, Interplant

Treatments:

Acceptable Red Pine.

Regen:

Other

Three years after cutting large oak (6ft.) should be added to the pine failed areas. Any herbicide used should not kill white pine.

Comment:

Proposed Start Date: 10/01/2022

**Total Treatment  
Acreage Proposed: 343.8**

## Report 4 – Site Conditions

Gwinn Mgt. Unit  
Jason Caron : Examiner

Compartment: 218  
Year of Entry: 2018

### Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	2G	3J	5E
		With Condition	Not Available					
265	265	0	0	Aspen				
14	14	0	0	Herbaceous Openland				
187	187	0	0	Jack Pine				
110	110	0	0	Low-Density Trees				
14	0	0	14	Lowland Conifers			14	
117	117	0	0	Lowland Shrub				
43	0	0	43	Lowland Spruce/Fir		31	12	
101	101	0	0	Mixed Upland Deciduous				
45	45	0	0	Natural Mixed Pines				
141	89	26	27	Red Pine	26		18	9
20	20	0	0	Water				
1,056	947	26	83	Total Forested Acres	26	31	44	9
	90%	2%	8%	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	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Bog like stand of very sparse black spruce.							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	30	2F: Too steep	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This stand acts as a riparian buffer next to the Black River. Also, some areas are very rugged and steep, which would make it difficult to harvest in these stands.							



## Report 4 – Site Conditions

Gwinn Mgt. Unit  
Jason Caron : Examiner

Compartment: 218  
Year of Entry: 2018

3	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	24	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Numerous seeps and drainages that flow into the Black River.							
4	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	14	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Wet ground and a small stream that exists that runs along the compartment boundary edge.							
5	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	9	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Stand was left for long term retention.							
6	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	26	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Stand was cut recently. Hold for 10 years to allow regeneration to become established. Consider a seed tree cut once regeneration becomes established.							

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:
2	42120 - Planted Jack Pine	Sapling Well	38.0	4	Immature	Stand of planted JP with pockets of mature RP within the stand. Stand was trenched and seeded in the fall of 2013. FTP 32-773. OI notes state: Note that on 5/6/99 we disposed of 1.4 acres on the SE end of this stand via land exchange.
3	42110 - Planted Red Pine	Sawtimber Well	7.9	58	81-110	Red pine planted in 1959. Stand has never been thinned and contains pockets of mature JP.
4	42110 - Planted Red Pine	Poletimber Well	11.2	26	Immature	A young RP plantation. There are a couple of spots within the stand that could be harvested but overall the stand is too young.
5	4130 - Aspen	Poletimber Well	13.0	41	Unspecified	Stand harvested in 1976. Stand of aspen has pockets of JP. Some areas of the stand are showing signs of aspen decline.
6	42120 - Planted Jack Pine	Poletimber Well	7.2	40	81-110	OI notes state the stand was harvested in 1976. Jack pine is in good condition. Stem quality is good.
7	4136 - Aspen, Mixed Conifer	Sawtimber Well	16.3	41	51-80	Stand was cut in 1976. TS# 9-75. A mixed stand of conifer and deciduous exists. A buffer was left along the river during the last harvest which consists of white spruce, white pine and jack pine of larger diameter. Hazel is very thick in spots.
8	42210 - Natural Red Pine	Sawtimber Well	6.2	72	81-110	Stand was part of the former Black River Falls Day Use Recreational Area. Stand consists of mixed pine along the Black River. An impressive stand of natural red pine. A portion of this stand was part of the Black River Falls Fire in '09, but was just an understory fire in this part.
10	42120 - Planted Jack Pine	Poletimber Well	5.6	28	51-80	Stand of young JP. Stand is in good condition. Stand provides an adequate buffer along nearby river.
11	6122 - Black Spruce	Sawtimber Well	23.9	84	Unspecified	A stand of lowland conifer and tamarack. A couple of rock outcrops in the southern end of the stand, but mostly low ground. The stand is full of seeps and drainages due to local topography.
13	4130 - Aspen	Poletimber Poor	17.2	52	Unspecified	Stand consists of very, very poor quality aspen. Volume is very low per acre.
14	4130 - Aspen	Poletimber Medium	10.3	68	Unspecified	Stand of off-site aspen. Timber is poor quality due to well drained soils.
15	4133 - Aspen, Mixed Pine	Poletimber Well	11.0	39	Unspecified	OI notes state that this area was under development for a field trial area in 1976. The plan was abandoned however. Stand consists of off-site aspen of smaller diameter. The north edge of the stand consists of a small red pine plantation. Harvest now to salvage the remaining aspen.
16	42290 - Natural Mixed Pine	Sawtimber Well	32.2	89	51-80	Stand is within a deep bowl like draw with steep slopes down to the creek bottom. Species composition varies depending where you are within the stand. Rock outcrops in certain areas with wet seeps throughout. Maintain as a riparian buffer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42210 - Natural Red Pine	Sawtimber Medium	25.5	83	1-50	Stand was harvested in 2011: TS#106-08-01. Stand was harvested at the same time as stand 43 to the west. No pine was cut, as a result this stand has a mature overstory of pine with pockets of regeneration coming in underneath.
18	4130 - Aspen	Sapling Well	11.8	28	Immature	Stand was cut in '89. TS# 4-88. Stand consist of aspen with a small conifer component. Aspen is ok quality. The stand gets poorer in quality as you go east.
20	42120 - Planted Jack Pine	Sapling Well	29.6	17	Immature	Stand cut in '99. TS#10-98. Stand seeded to jack pine, FTP#C31-405. Planted with seed fall 2000. Currently the stand is fully stocked and doing well. Jack pine is in good condition.
21	4130 - Aspen	Sapling Well	10.6	28	Immature	Stand was cut in '89. TS# 4-88. Stand consists of younger aspen. Quality and stem density within the stand is good.
22	4130 - Aspen	Poletimber Medium	5.8	39	1-50	Low density, low quality, off-site aspen.
23	42220 - Natural Jack Pine	Poletimber Well	2.2	92	111-140	OI Notes: Upland island surrounded by Escanaba River floodplains. Treatment would negatively impact the watershed.  2016- I was unable to get to this stand during inventory.
25	42120 - Planted Jack Pine	Sapling Well	10.9	27	Immature	Stand was cut in '89. TS# 2-89. Stand was planted in '90 under FTP- C31-211. The stand consists of a fully stocked jack pine. Stand is in good condition.
28	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	18.4	5	Immature	Stand harvested in 2012: TS# 105-08. Stand currently is in tough shape due to cutting practices and no reforestation efforts. All small red maple was left within the stand and now makes up the majority of the canopy. Regeneration is very poor. Stand should of been converted to either a jack pine or red pine type. Too much competition exists now to do any herbicide treatments to the stand. I am hopeful the stand will fill in more over time.
29	4130 - Aspen	Poletimber Medium	29.4	42	Unspecified	Poor quality off-site aspen stand. Many patches of cherry brush exist. A lot of dead standing aspen from years ago exist. Scattered and pockets of mature red pine exist within the stand.  Former OI notes state: Stand was treated in 1976 to develop a field dog trial area. The plan was abandoned.
32	4130 - Aspen	Sapling Well	14.6	18	Immature	Stand was cut in 1999-TS#10-98-01. Stand is in good condition with scattered conifer of larger diameter.
33	42110 - Planted Red Pine	Poletimber Well	40.7	58	81-110	OI notes say the stand was planted to red pine in October 1959. Stand consists of mature red pine with aspen inclusions and pockets of jack pine throughout. Aspen is very poor quality. Basal area is lower due to poorer stocking.
34	4199 - Other Mixed Upland Deciduous	Poletimber Well	32.1	77	81-110	Stand of mixed deciduous with scattered white pine. Stand is old and is in decline.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
35	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	12.4	80	51-80	Stand was left to act as a buffer along wetland edge. Stand consists of a mix of both deciduous and conifer. Paper birch and jack pine are falling apart. Red pine are large diameter and good quality.
36	42220 - Natural Jack Pine	Sawtimber Poor	8.7	47	51-80	A poor quality stand of low density, mature, jack pine. Stand was left as a buffer to the lake. Open grown jack pine with open grown white pine within the understory. Signs of former beaver activity exist within the stand.
37	42120 - Planted Jack Pine	Sawtimber Well	23.4	58	81-110	Former OI notes say that the stand origin was 1959. Stand consists of mostly jack pine but has good quality red pine scattered throughout. Jack pine is beginning to show signs of age. Consider a harvest.
38	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	10.9	31	Immature	A stand of sub-merchantable cherry with pockets of poor quality jack pine. Stand might of been a failed plantation from long ago?
39	4130 - Aspen	Poletimber Well	61.7	31	Immature	OI notes state the stand originated after a fire in May of 1986. Stand consists of poorer quality aspen due to poor soil conditions (off-site aspen). Aspen is starting to fall apart but is too small in diameter for a harvest.
43	4199 - Other Mixed Upland Deciduous	Sapling Medium	40.1	6	Immature	Stand was harvested in 2011: TS#106-08-01. Red maple regeneration is dense throughout the stand. Scattered mature pine exists throughout the stand.
44	6122 - Black Spruce	Poletimber Medium	7.1	107	Unspecified	Stand consists of a former bog that is filling in with black spruce.
45	6127 - Lowland Pine	Sawtimber Well	13.7	85	81-110	Stand has a small drainage running through it from north to south. Stand is composed of pine to the north transitioning to more deciduous in the south.
47	4130 - Aspen	Sapling Well	26.7	31	Immature	Former OI notes describe this stand originating as the result of a fire in 1986. Stand consists of poorer quality aspen with a mix of red maple. Jack pine is mostly concentrated in the SW corner of the stand. A pocket of large red pine exists within a small drainage within the middle of the stand. Aspen shows signs of decline but is too young to manage.
49	42220 - Natural Jack Pine	Sawtimber Well	11.5	85	81-110	A small stand of old jack pine. Jack pine is in decline. A few aspen, red maple and white spruce exist in the stand as well.
50	42220 - Natural Jack Pine	Sapling Well	11.7	17	Immature	Stand was harvested in 2000, TS#12-98. Stand consists of a mix of deciduous and jack pine regeneration. Stand is fully stocked. Red maple tends to be located in the east half with more jack pine on the west half.
54	6122 - Black Spruce	Poletimber Poor	11.7	106	Unspecified	The stand acts as a buffer along the Black River. The jack pine is falling apart with dead tops and dead standing timber. The black spruce and balsam fir is filling in within the understory. Do not harvest. Maintain as a buffer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	42210 - Natural Red Pine	Sawtimber Well	18.1	104	141-170	Stand covers what was once the Black River Falls Day Use Recreation Area. Stand consists of good quality red pine and white pine logs with a few scattered jack pine. The jack pine are falling apart due to old age with dead standing and dead tops on some of them.
57	42110 - Planted Red Pine	Sapling Well	22.6	17	Immature	Stand was harvested in 2000, TS#12-98-01. Planted to red pine per FTP C-31-425. Stand consists of a fully stocked red pine stand with a few volunteer jack pine mixed in. Also, a few scattered mature white pine, red pine and white birch are mixed in within the stand as well.
58	42120 - Planted Jack Pine	Sapling Well	17.9	13	Immature	Stand was salvage cut in late 2002 : TS# 131-02-01. Planted to red pine per FTP C31-443. Jack pine has taken over the site and is now suppressing the planted red pine.
59	42120 - Planted Jack Pine	Sapling Well	17.0	13	Immature	Stand was salvage cut in late summer of 2002 due to blowdown: TS#131-02-01 Trenched and seeded to jack pine per FTP #C31-443. Stand is fully stocked with jack pine, some have poorer form. A few scattered red pine exist within the stand.
60	4130 - Aspen	Poletimber Well	10.9	28	Immature	Stand was cut in '89. TS# 7-88. Stand consists of poorer quality aspen due to poor (sandy) soils. Aspen is declining but overall not too bad. Fresh beaver activity exists along the southern edge of the stand.
62	4130 - Aspen	Poletimber Medium	25.9	39	1-50	Low density, low quality, off-site aspen.
63	42210 - Natural Red Pine	Sawtimber Medium	8.6	79	81-110	A small retention patch that was red lined out from the adjacent stand (stand 43). The stand consists of large diameter red pine and white pine. Charred stumps are still visible, possibly from the 1986 fire? Some blowdown has occurred within the stand. Do not manage, maintain as a retention pocket.
400	42220 - Natural Jack Pine	Sapling Poor	3.5	11	Immature	OI Notes say: Cleared, disked, and seeded in 2000. 2016- A former grass opening that is filling in with jack pine and red pine. A thick mat of sweet fern exists. Jack pine is poor form.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	330 - Low-Density Trees	15.0	No	Stand was part of the western flank of the black river falls fire in 2009. Regeneration is very poor throughout the stand.
9	6220 - Alder/willow	30.7	No	Floodplains and lowlands along the Escanaba River and one of its tributaries.
12	3105 - Mixed Upland Herbaceous	10.2	No	Former ELF line.
19	330 - Low-Density Trees	5.2	No	Stand harvested in 2012: TS# 105-08. Stand was then trenched & seeded in Oct 2014 under FTP# 32-773. A few residual, mature red pine are within the stand. Overall the stand is non-forested and should be planted back to either red pine or jack pine. I would propose red pine.
26	330 - Low-Density Trees	89.6		Under FTP 32-826. Herbicide using skips, trench and plant red pine. Stand was cut 2013 by Minerick Logging Inc 41-302-11-01 (218 Red Aspen). TCR in August 2014 due to berm and fill issues. Herbicide applied in august of 2016 by DNR resources at a cost of \$5204. Trenched in 2016 by DNR resources at a cost of \$2833.
40	310 - Herbaceous Openland	3.3	No	OI Notes: Depending on beaver activity and amount of moisture, this stand is partially open water/marsh/bog.
41	500 - Water	19.5	No	Sleeman Pond.
42	629 - Mixed non-forested wetland	29.5	No	Unique wetland drain. This wide drain contains various habitats that change depending on beaver activity and available water. Lowland brush, treed bog, and open bog, beaver meadow, and small ponds occur.
53	6220 - Alder/willow	56.9	No	Flood plains and other bottom lands of the Black River. Contains some lowland softwoods and lowland hardwoods.