



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32251

Entry Year 2021

Acreage: 1,699

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2019-07-25

Stand Examiner: Rick Hill

Legal Description:

T46N R27W, Sec. 16, 17, 20 and 21

Identified Planning Goals:

Vegetative management in the Chain Lake management area (MA) will provide a variety of forest products; maintain or enhance wildlife habitat; protect areas with unique characteristics; and provide for forest based recreational uses. Timber management objectives for the 10-year planning period include improving the age-class distribution of aspen, lowland conifer and lowland spruce/fir; maintaining the conifer component in northern hardwood stands; maintaining the presence of minor cover types on the landscape; and maintaining non-forest vegetation types. Wildlife management objectives include increasing diversity and long-term oak sustainability through under planting white and red pine; and to maintain or increase wildlife corridors especially along riparian areas. Management activities may be constrained by site conditions and the skewed age-class distributions. Balancing age classes and oak regeneration will be priority issues in this 10-year planning period.

Soil and topography:

This area is flat to gently rolling; it is on the eastern edge of a larger sandy outwash plain. Soil makeup in this compartment is almost entirely Pence fine sandy loam. There is a small amount of Carbondale and Tawas soils present in the drainages

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

Ownership is primarily State with some private individual holdings scattered throughout. Two other larger land owners within the vicinity are Empire Mining Partners, Tilden and Empire mines immediately to the north, and the Michigan Northwoods Club to the south. Development is minimal, aside from the mines, with camps being on private land. Land use is consistent with that of State land, primarily hunting and fishing.

Unique Natural Features:

This compartment is home to an extensive maintained area of upland brush openings.

Archeological, Historical, and Cultural Features:

This area had been looked as a potential location for the Marquette Co. landfill.

Special Management Designations or Considerations:

The Escanaba River and associated tributaries are trout streams that require buffers for management.

Watershed and Fisheries Considerations:

The northeastern region of this compartment contains the Middle Branch of the Escanaba River which serves as a tributary to the Main Branch of the Escanaba River. The Middle Branch of the Escanaba River is designated a Type 1 trout stream greater than 50' width. 100' plus 5' per 1% increase in slope; buffers are recommended to protect the Middle Branch of the Escanaba River in accordance with Best Management Practices.

The southcentral region of this compartment contains an unnamed stream, and an unnamed waterbody (small lake). The unnamed stream is designated a Type 1 trout stream less than 50' width and serves as a tributary to the Middle Branch of the Escanaba River. A 300' buffer is recommended for the unnamed stream in riparian areas susceptible to Aspen regeneration. For areas not susceptible to Aspen regeneration, 100' plus 5' per 1% increase in slope; buffers are recommended to protect these areas in accordance with Best Management Practices.

For the unnamed waterbody: a 100' plus 5' per 1% increase in slope; buffer is recommended to protect shoreline areas in accordance with Best Management Practices.

Wildlife Habitat Considerations:

Compartment 251 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 the Chain Lakes Management Area: black bear, gray jay, pileated woodpecker, Northern goshawk, red crossbill.

Mineral Resource and Development Concerns and/or Restrictions

Active aggregate mining operations are located approximately four miles away, two of which are associated with waste from Tilden and Empire iron mines. There appears to be sand & gravel potential within the compartment. Tilden and Empire iron mines are four miles to the northeast. There is no known iron ore potential within the compartment, but there may be potential for other metallic minerals. There has been past metallic mineral leasing activity in the area, but nothing within the past 30 years. There is no known potential for economic hydrocarbon production in the UP. The state does not own all mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

Primary access to this compartment is via Co. Rd. PSB, Voelker Lake Rd. and Co. Rd. PS, Hemmings Lake Rd. Poor dirt roads network the remainder of the compartment providing access to individual stands.

Survey Needs:

Any survey needs for timber sale work will be requested well before sale work begins.

Recreational Facilities and Opportunities:

There are no current recreational opportunities in this area beyond dispersed activities. There is little potential for future development.

Fire Protection:

This compartment falls within the South Ishpeming-581 Zone dispatch area. There is good access throughout the compartment for all fire equipment. Vegetation is a mix of aspen, pine and upland brush/grass opening. Jack pine is the main timber species surrounding the compartment to the west and south with the majority of it being seedlings and saplings to mid-rotation pole timber.

Additional Compartment Information:

The following reports from the Inventory are attached:

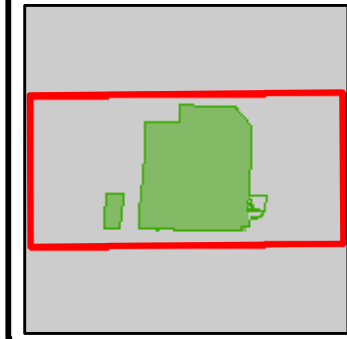
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

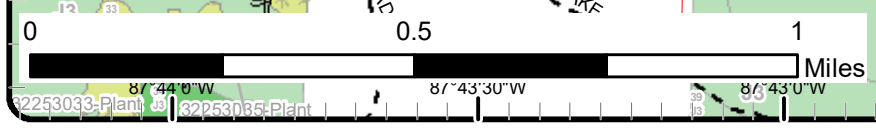
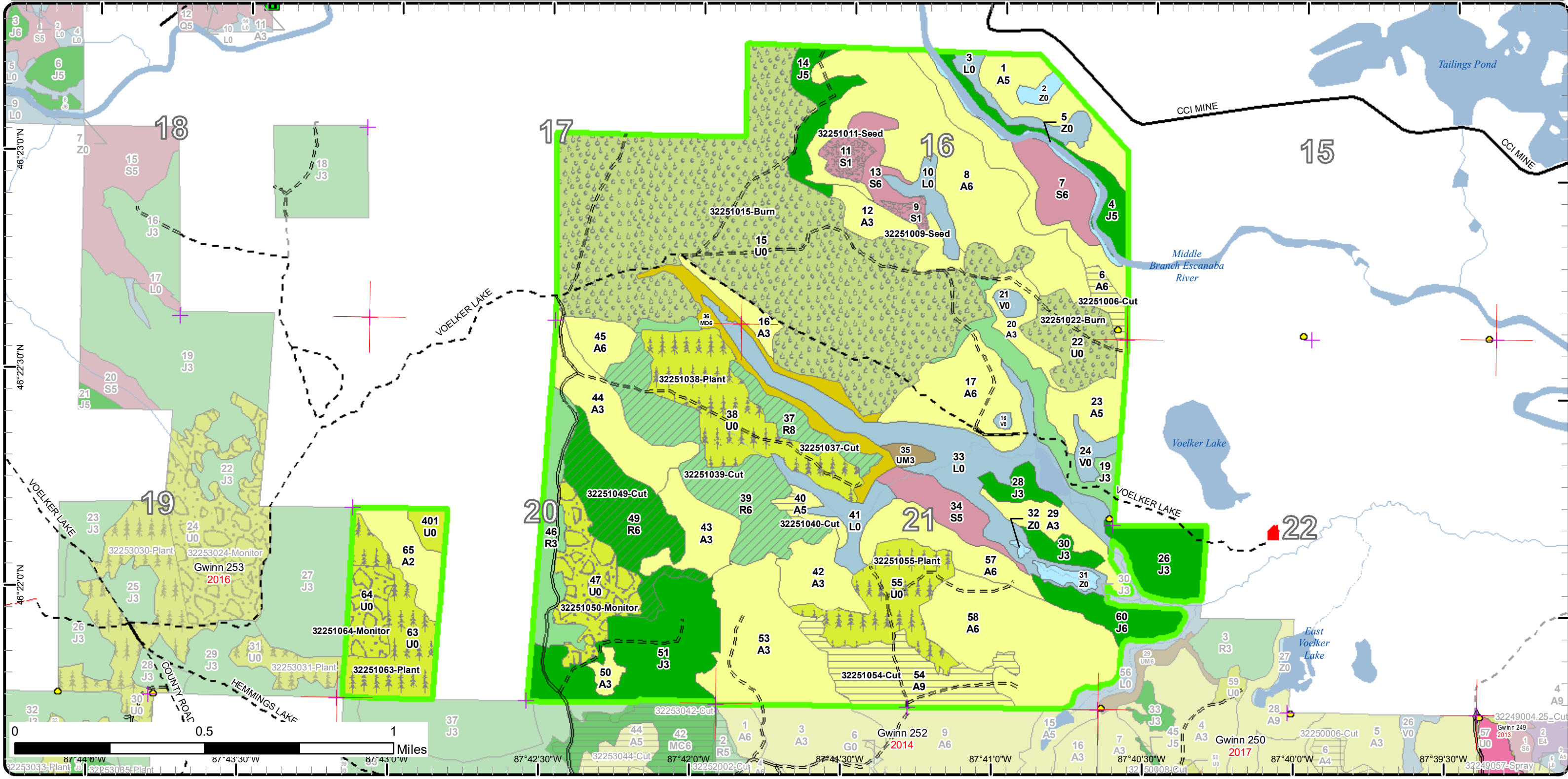
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 251
 T46N, R27W, Sec: 16, 17, 20, 21
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2021
 Acres: 1,699 GIS Calculated
 Examiner: Rick Hill
 Map Revised: 8/5/2019
 Map Phase: Web-Post

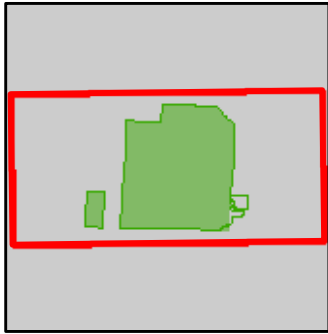


- Miris Corners
- Remonumented Section Corners
- Survey Grade Corners
- ◆ Field Grade Corners
- Counties
- == DNR - Secondary Forest Road
- == DNR - Forest Access Route
- Federal / State / County - Paved Road
- - Federal / State - Dirt / Gravel Road
- - County - Dirt Road (Seasonal)
- - Private - Dirt / Gravel Road
- ▲ Cabin
- ▲ Berms
- Gate
- ▲ Structures
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Planting (tree species)
- Clearcut (w/Reserves)
- Prescribed Burn
- Seeding (tree species)
- Thinning (Crown, Low, Systematic)
- Regeneration Survey
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- Lakes

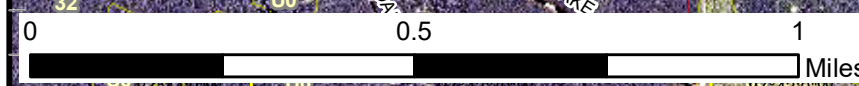
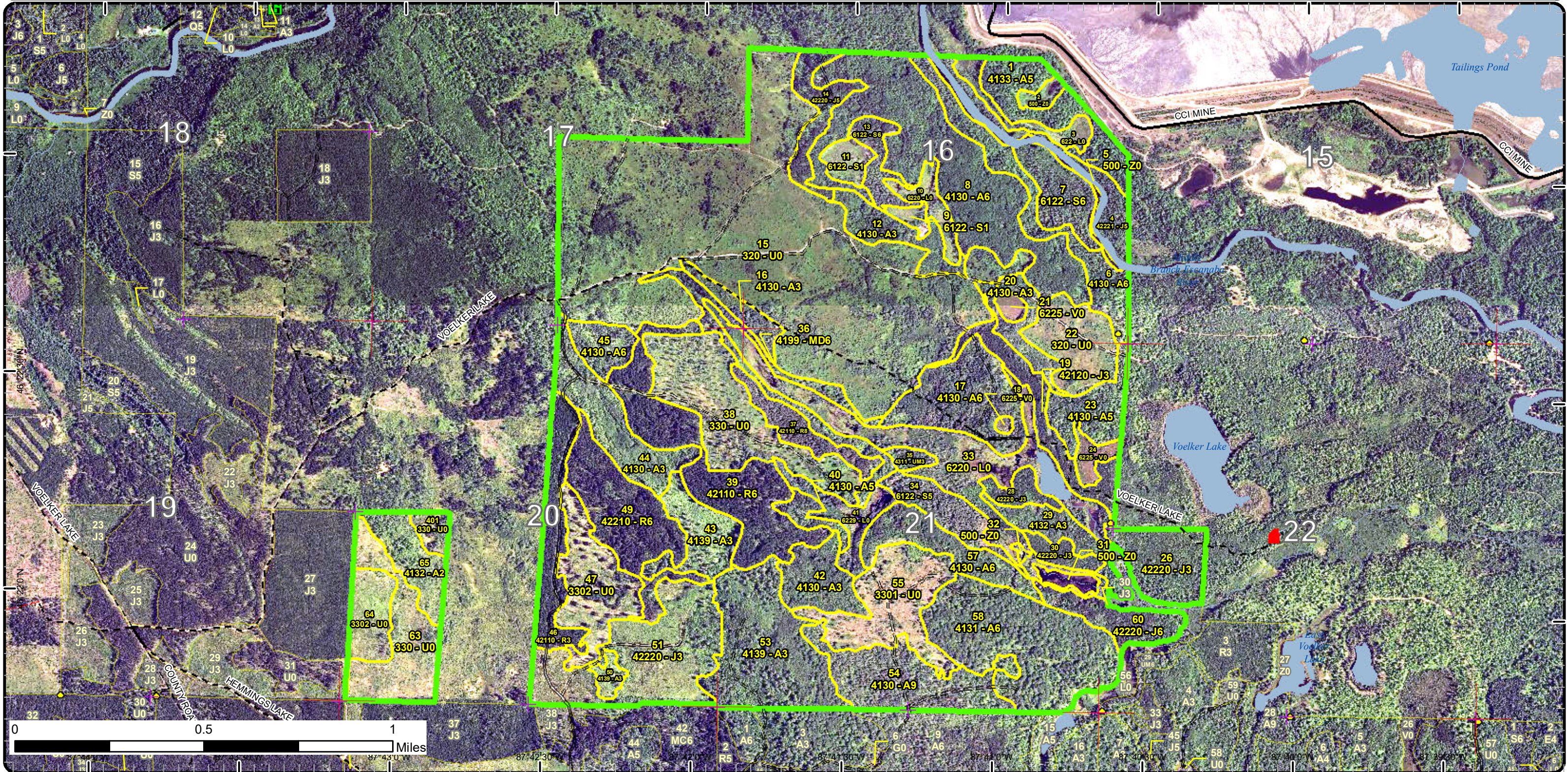


Stand Boundary Map

Compartment: 251
 T46N, R27W, Sec: 16, 17, 20, 21
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2021
 Acres: 1,699 GIS Calculated
 Examiner: Rick Hill
 Map Revised: 8/5/2019
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- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- ▲ Cabin
- ▲ Berms
- Gate
- ▲ Structures
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Stand Boundaries
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest



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	45	42	76	208	154	0	0	7	61	0	0	0	0	0	0	0	0	592
Bog	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Jack Pine	0	0	89	31	8	35	0	0	0	21	0	0	0	0	0	0	0	0	182
Low-Density Trees	195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195
Lowland Shrub	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104
Lowland Spruce/Fir	0	11	0	0	0	0	0	0	0	12	17	0	0	0	20	0	0	0	60
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	24
Red Pine	0	0	0	28	0	0	121	0	0	0	0	0	0	0	0	0	0	0	149
Upland Mixed Forest	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Upland Shrub	360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	360
Water	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	685	56	131	139	216	189	121	0	32	94	17	0	0	0	20	0	0	0	1695



Report 2 – Treatment Summary

Gwinn Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 251

Total Compartment Acres: 1,699

Commercial Harvest - 171
 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	53	0	0	0	0	0	0	0	0	53
Red Pine	0	0	0	0	0	118	0	0	0	118
Total	53	0	0	0	0	118	0	0	0	171

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	171	0	136	11	360	0	52	0	0	731
Next Step	0	75	35	35	0	0	862	0	0	1007
Total	171	75	172	47	360	0	913	0	0	1737



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
6	32251006-Cut	7.3	4130 - Aspen	Poetimber Well	84	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Clearcut stand leaving only oak, red and white pine. Use a 2 inch spec, retention will be large river buffer and steep hill some large big tooth											
<u>Specs:</u> aspen will be included in this retention area.											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Aspen, oak, birch, mixed hardwood, spruce, fir, mixed pine and mixed hardwood											
<u>Regen:</u>											
<u>Other</u> Treatment will improve or protect habitat for black bear.											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 4 /10/2019											
9	32251009- Seed	3.6	6122 - Black Spruce	Sapling Poor	8	Immatur re	Seeding	Machine Seed	6122 - Black Spruce	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Seed for spruce off of snowmobile.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Direct Seeding											
<u>Treatments:</u>											
<u>Acceptable</u> spruce, tamarack, mixed hardwood, mixed pine.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2020											
11	32251011- Seed	7.8	6122 - Black Spruce	Sapling Poor	8	Immatur re	Seeding	Machine Seed	6122 - Black Spruce	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Seed for spruce off of snowmobile.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Direct Seeding											
<u>Treatments:</u>											
<u>Acceptable</u> Black spruce, tamarack, mixed hardwood, mixed pine.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2019											
15	32251015- Burn	332.7	320 - Upland Shrub	Nonstocked	0	Unspec ified	Burn	Opening	3102 - Grass		Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Burn per Fire Supervisors prescription to reduce woody vegetation encroachment and improve opening quality.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Prescribed Burn											
<u>Treatments:</u>											
<u>Acceptable</u> Grass, upland brush											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2019											



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
22	32251022- Burn	27.6	320 - Upland Shrub	Nonstocked	30	Immature	Burn	Opening	3102 - Grass		Proposal

Habitat Cut: No**Site Condition:**

Prescription Burn per Fire Supervisors prescription to reduce woody vegetation encroachment and improve opening quality.

Specs:

Next Step Monitoring, Prescribed Burn

Treatments:

Acceptable Upland brush, warm season grasses

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

37	32251037-Cut	15.0	42110 - Planted Red Pine	Sawtimber Medium	59	81-110	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Thin stand removing defective trees and improving quality and spacing to 100SF of basil area. Do not mark any white pine or red pine of legacy

Specs: tree size.

Next Step

Treatments:

Acceptable

Regen:

Other Treatment will improve or protect habitat for black bear, and red crossbill. This stand was purchased by state game funds.

Comment:

Proposed Start Date: 10/1 /2020

38	32251038- Plant	58.3	330 - Low-Density Trees	Nonstocked	0	Unspec ified	Planting	Replant	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Replant at a rate of 450-600 Trees per acre.

Specs:

Next Step ; SitePrep, Trenching; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable Jack Pine, red pine

Regen:

Other C32-838

Comment:

Proposed Start Date: 10/16/2018

39	32251039-Cut	57.7	42110 - Planted Red Pine	Poletimber Well	59	171- 200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Thin stand removing defective trees and improving quality and spacing to 100SF of basil area.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Where possible save aspen regeneration.

Comment:

Proposed Start Date: 10/1 /2020



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
40	32251040-Cut	2.5	4130 - Aspen	Poletimber Medium	77	1-50	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Clearcut stand leaving only oak, white pine, and red pine. Use a 2-inch spec, leave retention in far western lobe of stand along drainage, insure some bigtooth aspen is within retention area. Consider restricting growing season harvest to allow for better sprouting.

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

Acceptable Aspen, maple, oak, birch, mixed hardwood, mixed conifer
Regen:

Other Treatment will improve or protect habitat for northern goshawk and pileated woodpecker. This stand was purchased by state game funds.
Comment:

Proposed Start Date: 4 /9 /2019

49	32251049-Cut	45.6	42210 - Natural Red Pine	Poletimber Well	59	111- 140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Thin stand removing defective trees and improving quality and spacing to 100SF of basil area. Mark only red pine to improve stand diversity.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2020

47	32251050- Monitor	35.4	3302 - Low Density Conifer Trees	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(3yr)	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Count per TMS spec
Specs:

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

Acceptable Red pine, jack pine
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

54	32251054-Cut	43.0	4130 - Aspen	Sawtimber Well	46	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut stand leaving only oak, white pine, and red pine. Use a 2-inch spec, leave retention in far eastern lobe of stand. ensure big tooth aspen is present in retention area. Consider restricting growing season harvest to allow for better sprouting.

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

Acceptable Aspen, maple, oak, birch, mixed hardwood, mixed conifer
Regen:

Other Treatment will improve or protect habitat for northern goshawk and pileated woodpecker. This stand was purchased by state game funds.
Comment:

Proposed Start Date: 10/1 /2020



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
55	32251055- Plant	42.6	3301 - Low Density Deciduous Trees	Nonstocked	0	Unspec ified	Planting	Replant	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Replant site at a rate of 450-600 Trees per acre.

Specs:

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable Jack pine, mixed hardwood

Regen:

Other C32-807

Comment:

Proposed Start Date: 10/1 /2018

63	32251063- Plant	35.2	330 - Low-Density Trees	Nonstocked	0	Unspec ified	Planting	Replant	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Replant site at a rate of 450-600 Trees per acre in areas not overtopped with aspen.

Specs:

Next Step Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); ; Seeding, Machine Seed; Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Jack Pine

Regen:

Other C32-837

Comment:

Proposed Start Date: 10/17/2018

64	32251064- Monitor	16.2	3302 - Low Density Conifer Trees	Nonstocked		Unspec ified	Monitoring	Artificial Regen(1yr)	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription

Specs:

Next Step SitePrep, Trenching; ; ; Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable jack pine

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/17/2018

**Total Treatment
Acreage Proposed: 730.5**

Report 4 – Site Conditions

Gwinn Mgt. Unit
Rick Hill : Examiner

Compartment: 251
Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions				
		With Condition	Not Available		2F	2H	3J	5D	ed
592	500	0	92	Aspen	10	28	54		
11	11	0	0	Bog					
183	137	0	47	Jack Pine			47		0
195	195	0	0	Low-Density Trees					
104	104	0	0	Lowland Shrub					
61	11	0	49	Lowland Spruce/Fir		8	34	8	
24	1	0	23	Mixed Upland Deciduous			23		
149	149	0	0	Red Pine					
4	1	0	3	Upland Mixed Forest			3		
360	360	0	0	Upland Shrub					
15	15	0	0	Water					
1,699	1,485		214	Total Forested Acres	10	36	160	8	0
	87%		13%	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	3J: Water quality / BMPs (stream, river, or lake)	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	29	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Rick Hill : Examiner

Compartment: 251
Year of Entry: 2021

3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	33	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unspecified	Unspecified	0				
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	85	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	2F: Too steep	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	5D: Unproductive Forest Land	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																			
1	4133 - Aspen, Mixed Pine	Poletimber Medium	28.5	84	51-80	N/A	Stand separates the tailings impoundment for the Empire Mine from the Escanaba River. Thus its greatest value at present is to provide a buffer for the river.																																			
2	500 - Water	Nonstocked	3.8		Unspecified	No																																				
3	622 - Lowland Shrub	Nonstocked	10.4		Unspecified	No	Riparian area along Escanaba River.																																			
4	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Medium	20.5	84	51-80	N/A	This stand separates the tailings impoundments from the Middle Branch of the Escanaba River. Thus providing a buffer between the ponds and river as well as an aesthetics buffer along the river.																																			
5	500 - Water	Nonstocked	6.0		Unspecified	No	Middle branch of the Escanaba River.																																			
6	4130 - Aspen	Poletimber Well	31.7	84	51-80	N/A	Steep hillside bordering Mid. Branch of Escanaba River.																																			
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7	6122 - Black Spruce	Poletimber Well	20.4	137	81-110	N/A	Difficult access and borders Middle Branch of the Escanaba River.																																			
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8	4130 - Aspen	Poletimber Well	98.4	39	Unspecified	N/A																																				
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10	6220 - Alder/willow	Nonstocked	9.5		Unspecified	No																																				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
11	6122 - Black Spruce	Sapling Poor	7.8	8	Immature	N/A	Cut by Holli FP in 2014 under sale 32-109-11-01 Voelker Red pine-Spruce.		
Canopy Species		% Cover	Size Class	DBH	Age				
Red Maple		15	Sapling	1					
Tamarack		8	Sapling	1					
Black Spruce		75	Sapling	1	8				
12	4130 - Aspen	Sapling Well	17.4	39	Unspecified	N/A	Stand was cut under permit 10-74A. KG bladed under prop W-31-48.		
Canopy Species		% Cover	Size Class	DBH	Age	Canopy Species	Density	Avg. Height	Size
Bigtooth Aspen		15	Pole/Sapling	6		Pin Cherry	Low	5 - 10 feet	Sapling
Quaking Aspen		74	Pole/Sapling	7	39	White Pine	Low	5 - 10 feet	Sapling
13	6122 - Black Spruce	Poletimber Well	11.7	80	Unspecified	N/A			
Canopy Species		% Cover	Size Class	DBH	Age				
Tamarack		10	Log/Pole	12					
Northern White Cedar		30	Log/Pole	10					
Black Spruce		50	Log/Pole	10	80				
14	42220 - Natural Jack Pine	Poletimber Medium	17.4	41	1-50	N/A	Cut by Dave Holli under permit 10-74A.		
Canopy Species		% Cover	Size Class	DBH	Age	Canopy Species	Density	Avg. Height	Size
Quaking Aspen		15	Pole/Sapling	7		Pin Cherry	Low	10 - 20 feet	Sapling
Jack Pine		85	Pole/Sapling	7	41				
15	320 - Upland Shrub	Nonstocked	332.7	0	Unspecified	Managed Opening	This area has traditionally been managed as part of the sharptail grouse management area (Voelker Plains) and has received various treatments in the past-prescribed burns, roller chopping, etc. Site burned in 2017 W32-762		
16	4130 - Aspen	Sapling Well	9.3	15	81-110	N/A	Buffer/Transition zone along feeder creek to Voelker Creek.		
Canopy Species		% Cover	Size Class	DBH	Age	Canopy Species	Density	Avg. Height	Size
Red Maple		12	Sapling	2		Red Maple	Low	10 - 20 feet	Sapling
Quaking Aspen		72	Sapling	2	15	Pin Cherry	Low	10 - 20 feet	Sapling
						Balsam Fir	Low	10 - 20 feet	Sapling
						Jack Pine	Low	10 - 20 feet	Sapling
17	4130 - Aspen	Poletimber Well	39.8	35	1-50	N/A	Cut by Holli Forest Products, permit #13-81, completed in June 1984.		
Canopy Species		% Cover	Size Class	DBH	Age	Canopy Species	Density	Avg. Height	Size
Black Spruce		10	Pole	6	35	Pin Cherry	Low	10 - 20 feet	Sapling
Bigtooth Aspen		10	Pole	7		Black Spruce	Low	10 - 20 feet	Sapling
Quaking Aspen		66	Pole	7	35	Balsam Fir	Low	10 - 20 feet	Sapling
18	6225 - Bog	Nonstocked	1.1		Unspecified	No			



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																											
19	42120 - Planted Jack Pine	Sapling Well	23.8	24	Immature	N/A	Cut by Holli Forest Products, permit #6-91, Voelker Creek Jack Pine Block in 1994. Was herbicided, trenched and hand planted with jack pine in May 1995 via FTP C-31-291.																											
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20	4130 - Aspen	Sapling Well	12.7	34	Immature	N/A	Stand has been managed in the past for sharptail grouse. Was roller chopped in September 1985. This area is now fully stocked with aspen. This stand should be allowed to be maintained in a forested condition.																											
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21	6225 - Bog	Nonstocked	3.1		Unspecified	No																												
22	320 - Upland Shrub	Nonstocked	27.6	30	Immature	Managed Opening	This stand has previously been managed for sharptail grouse and was last burned in 2017 under W32-762.																											
23	4130 - Aspen	Poletimber Medium	19.2	35	51-80	N/A	Harvested by Holli Forest Products, permit #13-81, completed June 1984.																											
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26	42220 - Natural Jack Pine	Sapling Well	26.0	19	Immature	N/A	Stand was harvested in 1999. TS# 25-98-01. All oak, cherry, red & white pine was left. Seeded to jack pine in 2000. FTP #C31-403 for herbiciding, disk trenching, and seeding of jack pine.																											
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29	4132 - Aspen, Jack Pine	Sapling Well	15.6	25	Immature	N/A	Harvested by Holli Forest Products 1993-94, permit #6-91, Voelker Creek Jack Pine Block. There is some jack pine mixed in this stand as well. Beaver very active here in 1999.																											
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30	42220 - Natural Jack Pine	Sapling Well	7.0	25	Immature	N/A	Harvested in winter of 1993-94 by Holli Forest Products, permit #6-91, Voelker Creek Jack Pine Block. Beaver very active in 1999.																											
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Tag Alder	Low	5 - 10 feet	Tall Shrub																																							
35	4311 - Pine, Aspen Mix	Sapling Well	3.7	26	Immature	N/A	Harvested in fall of 1992 by Oscar Antilla, permit #24-91, Voelker Plains Road Sale. Red pine, white pine, and oak were left. No cultural work done. Wildlife Division requested that this stand be added to the potential old growth category on 10/16/2000. Stand is a mix of jack pine, red maple, cherry, spruce and balsam.																																			
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36	4199 - Other Mixed Upland Deciduous	Poletimber Well	24.5	77	81-110	N/A	Buffer/Transition zone along feeder creek to Voelker Creek.																																			
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37	42110 - Planted Red Pine	Sawtimber Medium	15.0	59	81-110	N/A	Cut by Holli FP in 2014 under sale 32-109-11-01 Voelker Red pine-Spruce.																																			
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38	330 - Low-Density Trees	Nonstocked	58.3	0	Unspecified	4212 - Planted Jack Pine	Under FTP # 32-838. Cut by Holli FP in 2014 under sale 32-109-11-01 Voelker Red pine-Spruce. Site trenched in the summer of 2017 see FTP for cost info. Site planted in 2018 at a rate of 1000 T/A. Site Failed a 2018 regen count with stocking ranging from 100-300 Trees per acre.																																			
39	42110 - Planted Red Pine	Poletimber Well	60.6	59	171-200	N/A	Stand was thinned by Giguere logging, timber sale #112-01, during August-October 2004, Voelker Plantation Pine. Damaged timber from the storm of 7/21/2002 was salvaged at this time. This stand was originally part of a larger red pine plantation but is now a stand alone stand.																																			
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																											
40	4130 - Aspen	Poletimber Medium	6.6	77	1-50	N/A	Steep, short hillside surrounding a drainage. Was reserved in past for mature aspen buds for grouse habitat.																											
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41	6229 - Mixed lowland shrub	Nonstocked	15.4		Unspecified	No	Drainage that is predominately tag alder and hazel brush with tamarack and spruce scattered throughout.																											
42	4130 - Aspen	Sapling Well	20.4	34	Immature	N/A	Stand was KG'd by Wildlife Division in 1985. No associated FTP on file.																											
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43	4139 - Aspen, Mixed Deciduous	Sapling Well	22.0	7	Immature	N/A	Harvested in 2012: TS# 110-11-01. Left all birch and oak.																											
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44	4130 - Aspen	Sapling Well	32.3	17	Immature	N/A	Harvested in 2002, under sale #113-01-01.																											
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45	4130 - Aspen	Poletimber Well	12.1	46	Unspecified	N/A	Stand is assumed to be of fire origin based on a wildfire map drawn by Bruce Veneberg that occurred in May 1973. It was previously part of the red pine stand to the south.																											
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46	42110 - Planted Red Pine	Sapling Well	28.1	23	Immature	N/A	Stand was planted FTP C31-338, trenching and handplanted red pine.																											
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47	3302 - Low Density Conifer Trees	Nonstocked	35.5	0	Unspecified	4222 - Natural Jack Pine	Regen survey reveals that an avg of 740 JP TPA are present on the areas that were trenched and seeded in 2014. Approx 52.2% of this area presents as fully-stocked at 600+ TPA, with another 17.4% averaging 4-500 TPA. The remaining 30.4% of the area averages around 243 TPA. Seedling heights are quite variable down to 0.5', indicating that numbers may still be still increasing as more seed germinates. However, it should be noted that the survey plots with low numbers appear to fall in areas that were open or semi-open prior to harvest.																											



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																	
49	42210 - Natural Red Pine	Poletimber Well	45.6	59	111-140	N/A	Thinned in 2012: TS# 110-11-01. Left all oak and any cherry.																																	
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50	4139 - Aspen, Mixed Deciduous	Sapling Well	4.3	7	Immature	N/A	Clearcut I 2012: TS# 110-11-01 Left 3-6 trees/acre of white birch.																																	
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51	42220 - Natural Jack Pine	Sapling Well	62.5	10	Immature	N/A	This stand will be trenched and seeded during the spring/summer of 2009. It was herbicided during the summer of 2008 to kill aspen and maple sprouts.																																	
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53	4139 - Aspen, Mixed Deciduous	Sapling Well	60.7	26	Immature	N/A	Stand created under cutting permit #5-91, Dimondville North Sale. 16 oak per acre were left (total of 740 oak). Basal area for oak is estimated based on old OIPC notes and new imagery interpretation.																																	
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54	4130 - Aspen	Sawtimber Well	43.0	46	81-110	N/A	Some of this stand is better quality (west end) whereas the east end is more sparse and poorer form.																																	
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55	3301 - Low Density Deciduous Trees	Nonstocked	42.6	0	Unspecified	4212 - Planted Jack Pine	Harvested in 2013: TS# 111-11-01. Stand was planted in 2018. The site failed a regen check in the fall of 2018.																																	
57	4130 - Aspen	Poletimber Well	25.1	40	1-50	N/A	Variable density stand; ranges from A3/M3 to A6/J6 with scattered oak clumps. Was harvested during 1978-79 under permit #13-77A by Holli Forest Products, Voelker Lake Block. No oak was cut and the stand was further treated by KG blading of residual stems (except for oak) under FTP W31-7.																																	
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58	4131 - Aspen, Oak	Poletimber Well	74.2	40	1-50	N/A	Stand was harvested during 1978-79 under permit #13-77A by Holli Forest Products, Voelker Lake Block. No oak was cut and the stand was further treated with a KG blade (FTP W31-7) to cut residual hardwood stems. Site index was taken from old OI data. This stand is on a fairly sandy site which would explain the slow diameter growth as this stand is still in the sapling stage of development. Also, with the heavy amount of oak overstory it may be out competing some of the aspen.																																	
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																										
60	42220 - Natural Jack Pine	Poletimber Well	18.4	40	51-80	N/A	Naturally regenerated stand. Cut in 1979 via permit #13-77A by Holli Forest Products.																										
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63	330 - Low-Density Trees	Nonstocked	35.5	0	Unspecified	4222 - Natural Jack Pine	Sand was harvested in summer of 2014 by Heidtman Logging, sale # 32-115-10-01 Voelker Plains Jack Pine-Aspen. stand under ftp 32-837 for trenching and seeding. Site was only trenched in 2017 to be planted in 2018. See FTP for cost info. Site planted in the spring of 2018. Regen check failed in the fall of 2018 replant ASAP.																										
64	3302 - Low Density Conifer Trees	Nonstocked	17.6		Unspecified	4212 - Planted Jack Pine	Site failed a regen check and has been trenched in summer of 2017. for cost info see ftp.																										
65	4132 - Aspen, Jack Pine	Sapling Medium	18.9	5	Immature	N/A	Cut in 2014 by Heidtman Logging, Under Sale # 32-115-10-01 Voelker plains Jack Pine-Aspen.																										
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401	330 - Low-Density Trees	Nonstocked	5.7		Unspecified	Managed Opening																											