



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32221

Entry Year 2021

Acreage: 1,077

County Marquette

Management Area: Voelker Plains

Revision Date: 2019-08-05

Stand Examiner: Rankin Smith

Legal Description:

T46N R28W Sec. 16, 17, and 18

Identified Planning Goals:

Vegetative management in the Voelker Plains management area 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 jack pine, aspen and lowland spruce/fir; maintaining the presence of minor cover types on the landscape; and maintaining non-forest vegetation types. Wildlife management objectives include addressing the habitat requirements identified for the following featured species: American woodcock, beaver, black bear and Kirtland's warbler. Management activities may be constrained by site conditions and the skewed age-class distributions. Balancing age classes and spruce budworm will be issues for this 10-year planning period.

Soil and topography:

This compartment is generally level to gently rolling. It is on the northern fringe of a larger sandy outwash plain. Soils are predominantly sands and mucks. The marsh complex within this area is made up of the Greenwood and Dawson soil mapping unit while the uplands are Pence fine sandy loam and to a lesser degree Rubicon-Ishpeming-Rock outcrop complex.

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

Ownership is primarily state and private individuals with some timber company land in the area. Development is in both primary residency and camps. The majority of the primary residences are to the east of the compartment along the Co. Rd. 581 corridor. Land use is a mix of timber management and recreation.

Unique Natural Features:

None

Archeological, Historical, and Cultural Features:

None

Special Management Designations or Considerations:

Stands along the Black River and West Branch Creek are riparian buffers.

Watershed and Fisheries Considerations:

The southwest region of this compartment contains the West Branch of the Middle Branch of the Escanaba River. The West Branch of the Middle Branch of the Escanaba River is designated a Type 1 trout stream less than 50' width. A 300' buffer is recommended 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.

Wildlife Habitat Considerations:

Compartment 221 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 the Voelker Plains Management Area: American woodcock, beaver, black bear, and Kirtland's warbler.

Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pit is located three miles to the northeast. There appears to be good gravel potential within the compartment, but there is probably not high demand in this area and with other developed sources nearby and the abundance of wetlands in the area, sand & gravel development potential within the compartment is considered low at this time. Abandoned iron mines are located six miles to the west and north. There is no potential for iron ore beneath the compartment, and there has been no metallic mineral production in this area and little to no known exploration, but there has been recent metallic mineral leasing just south of the compartment, and there could be potential for other metallic minerals. There is no known potential for economic hydrocarbon production in the UP.

Vehicle Access:

Vehicle access is good. County roads lead to the compartment and secondary roads are networked throughout the remainder of the compartment. An easement to the north of section 17 exists to access northwest portion of the compartment.

Survey Needs:

None

Recreational Facilities and Opportunities:

No facilities exist and there are no opportunities.

Fire Protection:

This compartment is on the northern fringe of a sandy outwash plain that is predominantly jack pine and is within the boundary of the South Ishpeming-581 Zone dispatch. Access for the fire equipment to this compartment and area is good. The most western edge of this compartment and immediately to the west access becomes more difficult as the vegetation is predominantly marsh and granite outcrop islands. The jack pine in this compartment and surrounding area is fairly young, 0-30 years, with relatively little mature timber.

Additional Compartment Information:

None

The following reports from the Inventory are attached:

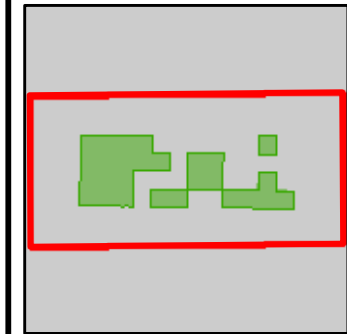
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

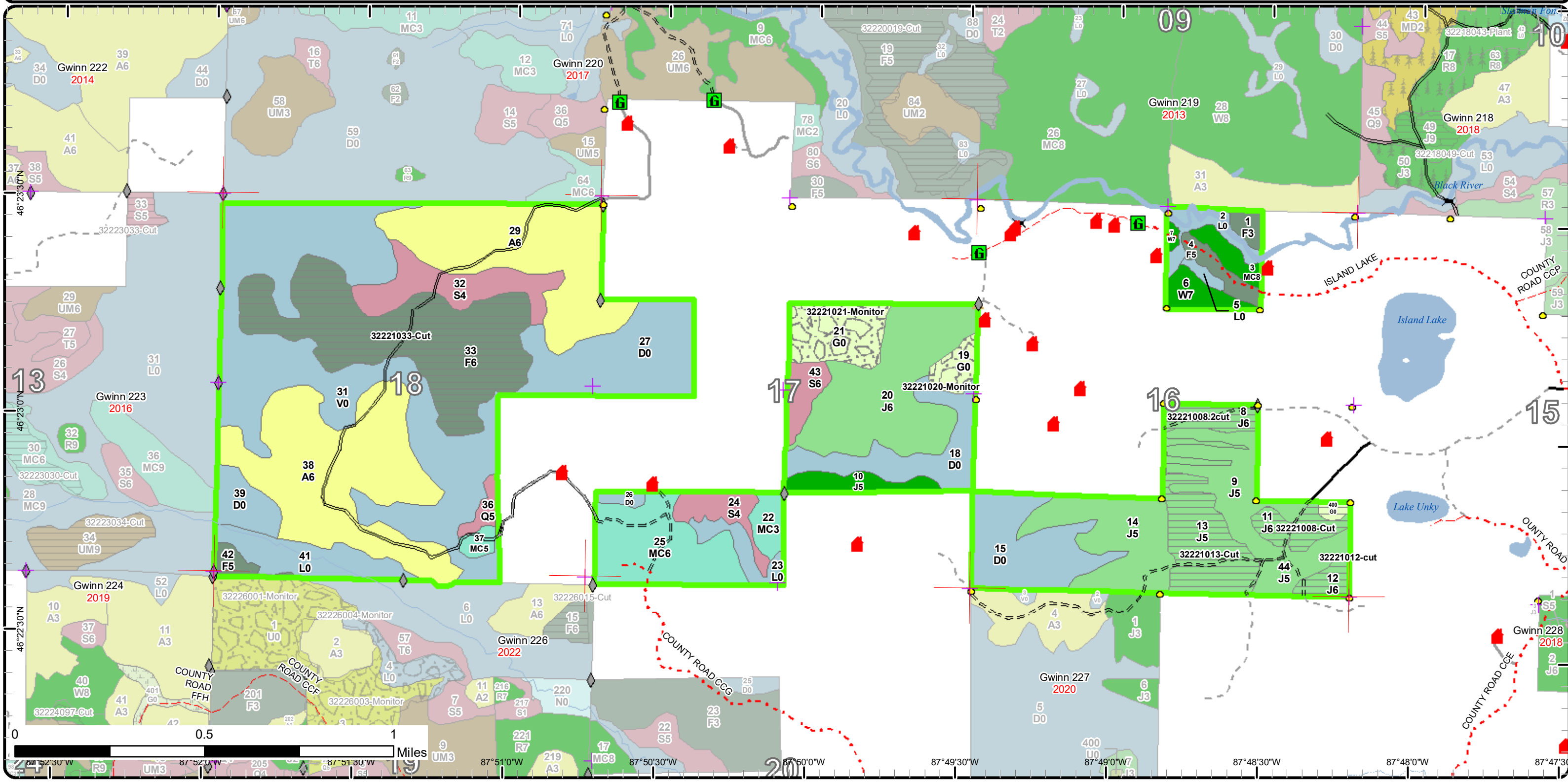
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 221
 T46N, R28W, Sec: 16, 17, 18
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Voelker Plains
 YOE: 2021
 Acres: 1,077 GIS Calculated
 Examiner: Rankin Smith
 Map Revised: 8/5/2019
 Map Phase: Web-Post

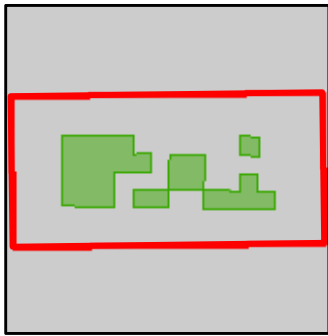


- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Paved Road
- Private - Dirt / Gravel Road
- ▲ Cabin
- ▲ Berms
- Gate
- ✕ Bridges
- ▲ Structures
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Clearcut (w/Reserves)
- Regeneration Survey
- 413 - Aspen
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 622 - Lowland Shrub
- Lakes

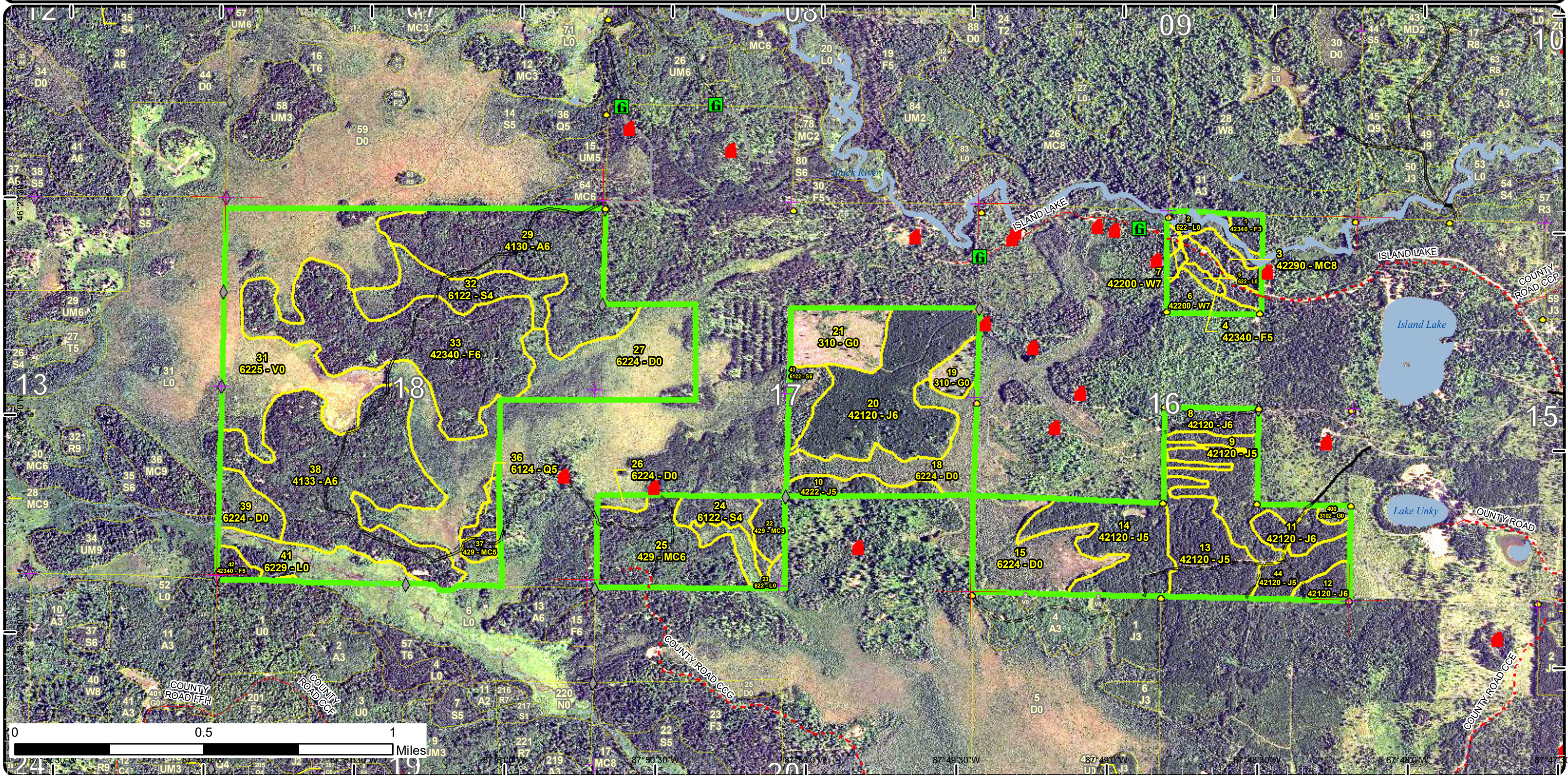


Stand Boundary Map

Compartment: 221
 T46N, R28W, Sec: 16, 17, 18
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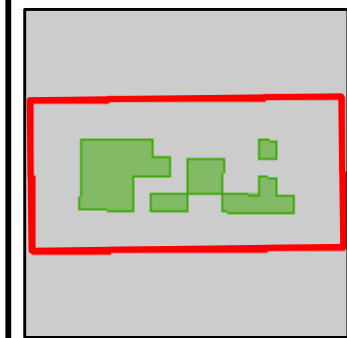


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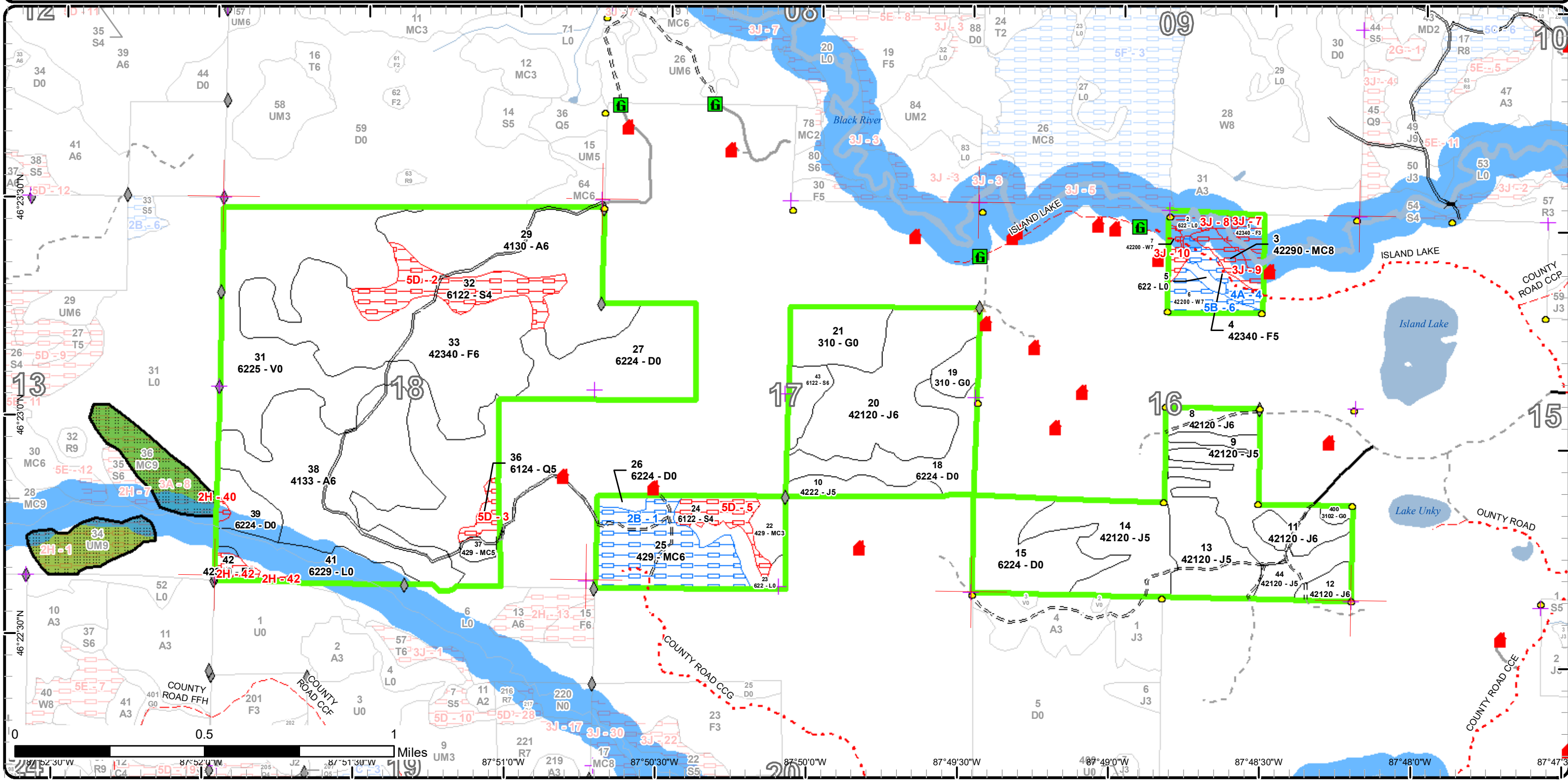


Special Conservation Areas & Site Conditions Map

Compartment: 221
 T46N, R28W, Sec: 16, 17, 18
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Voelker Plains
 YOE: 2021
 Acres: 1,077 GIS Calculated
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- ▲ Berms
- G Gate
- ✕ Bridges
- Structures
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 4A: No Markets Available for these Forest Products
- 5B: Maintain for regeneration purposes
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5D: Unproductive Forest Land
- Stand Boundaries
- SCA
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Verified Type 1 Old Growth
- Verified Type 2 Old Growth



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	0	0	191	0	0	0	0	0	0	0	0	0	0	0	0	0	191
Bog	163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	163
Herbaceous Openland	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Jack Pine	0	0	0	72	100	0	68	0	0	0	0	0	0	0	0	0	0	0	240
Lowland Conifers	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	4
Lowland Shrub	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Lowland Spruce/Fir	0	0	0	0	0	0	10	0	42	0	0	0	0	0	0	0	0	0	52
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Treed Bog	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	146
Upland Conifers	0	0	0	0	54	4	0	0	0	0	0	0	0	0	0	0	0	0	58
Upland Spruce/Fir	0	0	0	0	4	105	0	0	5	0	0	0	0	0	0	0	0	8	122
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
Total	393	0	0	72	349	109	78	0	52	0	0	0	0	0	0	0	0	26	1078



Report 2 – Treatment Summary

Gwinn Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 221

Total Compartment Acres: 1,077

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
Herbaceous Openland	3	0	0	0	0	0	0	0	0	3
Jack Pine	63	0	0	0	0	0	0	0	0	63
Upland Spruce/Fir	105	0	0	0	0	0	0	0	0	105
Total	171	0	0	0	0	0	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	0	0	0	34	0	0	0	205
Next Step	0	134	95	74	0	55	402	0	0	759
Total	171	134	95	74	0	55	435	0	0	964



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
8	32221008.2cut	10.6	42120 - Planted Jack Pine	Poletimber Well	54	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Clear cut all jack pine. Leave no retention due to small stand size. Leave white pine and red pine over 25 inches on the stump.

Specs:

Next Step SitePrep, Trenching; SitePrep, Roller Chopping; Seeding, Machine Seed; Planting, Initial Plant; Planting, Replant; Monitoring, Artificial
Treatments: Regen(1yr); Monitoring, Artificial Regen(3yr); Monitoring, Herbicide Use; Monitoring, Direct Seeding

Acceptable Jack Pine

Regen:

Other This treatment will create Kirtland warbler habitat.

Comment:

Proposed Start Date: 10/1 /2020

11	32221008-Cut	11.9	42120 - Planted Jack Pine	Poletimber Well	54	111- 140	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all jack pine. Leave some retention on the edge.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); SitePrep, Roller Chopping; Planting, Replant; Seeding,
Treatments: Machine Seed; Pesticide, Skidder - Site Prep; Monitoring, Artificial Regen(3yr); Monitoring, Herbicide

Acceptable Jack Pine

Regen:

Other This treatment will create Kirtland warbler habitat.

Comment:

Proposed Start Date: 10/1 /2020

12	32221012-cut	6.8	42120 - Planted Jack Pine	Poletimber Well	54	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all jack pine. Leave some retention on the edge.

Specs:

Next Step Monitoring, Herbicide Use; Monitoring, Direct Seeding; Monitoring, Artificial Regen(3yr); Monitoring, Artificial Regen(1yr); Pesticide,
Treatments: Skidder - Site Prep; Seeding, Machine Seed; Planting, Initial Plant; Planting, Replant; SitePrep, Trenc

Acceptable Jack Pine

Regen:

Other This treatment will create Kirtland warbler habitat.

Comment:

Proposed Start Date: 10/1 /2020

13	32221013-Cut	33.8	42120 - Planted Jack Pine	Poletimber Medium	54	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clear cut all jack pine. Leave 10% retention as one or two of the strips on the north. Leave white pine and red pine over 25 inches on the stump.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Pesticide, Skidder - Site Prep; Monitoring, Artificial
Treatments: Regen(3yr); Seeding, Machine Seed; Monitoring, Direct Seeding

Acceptable Jack pine

Regen:

Other This treatment will create kirtland warbler habitat.

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
19	32221020- Monitor	8.3	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(3yr)	42220 - Natural Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Count per regen manual

Specs:

Next Step Monitoring, Direct Seeding; Seeding, Machine Seed; Monitoring, Artificial Regen(1yr); ; ; SitePrep, Scarification

Treatments:

Acceptable Jack Pine.

Regen:

Other C32-836

Comment:

Proposed Start Date: 10/10/2018

21	32221021- Monitor	25.5	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(3yr)	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Count per regen manual

Specs:

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

Treatments:

Acceptable Jack Pine

Regen:

Other C32-835

Comment:

Proposed Start Date: 10/1 /2019

33	32221033-Cut	105.4	42340 - Upland Spruce/Fir	Poletimber Well	41	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all species except White Pine. Leave some pockets of immature aspen for retention and wildlife habitat ensure some paper birch and white spruce are included in retention pockets to provide habitat for pileated woodpecker and other cavity nesters. Cut in frozen winter or dry summer conditions.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen, Spruce, Fir, Maple

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2020

400	32221400-Cut	2.5	3102 - Grass	Nonstocked		Unspec ified	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clear cut all jack pine. Leave no retention due to small stand size. Leave white pine and red pine over 25 inches on the stump.

Specs:

Next Step Monitoring, Herbicide Use; SitePrep, Trenching; SitePrep, Roller Chopping; Seeding, Machine Seed; Pesticide, Skidder - Site Prep;

Treatments: Planting, Initial Plant; SitePrep, Scarification; Monitoring, Direct Seeding; Monitoring, Artificial Regen(1y

Acceptable Jack Pine

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2020

**Total Treatment
Acreage Proposed: 204.8**

Report 4 – Site Conditions

Gwinn Mgt. Unit
Rankin Smith : Examiner

Compartment: 221
Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions						
		With Condition	Not Available		2B	4A	5B	2H	3J	5D	
191	191	0	0	Aspen							
163	163	0	0	Bog							
36	36	0	0	Herbaceous Openland							
239	239	0	0	Jack Pine							
5	0	0	5	Lowland Conifers							5
48	37	0	11	Lowland Shrub		0	0			11	
52	10	0	42	Lowland Spruce/Fir							42
7	0	0	7	Natural Mixed Pines						7	
146	145	0	1	Treed Bog				1			
58	12	45	0	Upland Conifers	45						
123	106	8	9	Upland Spruce/Fir		8		5		4	
11	0	10	1	White Pine		0	10			1	
1,077	939	63	75	Total Forested Acres	45	8	10	6	24		46
	87%	6%	7%	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	2B: Unknown if access through adjacent landowner(s) is possible	45	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	5D: Unproductive Forest Land	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Rankin Smith : Examiner

Compartment: 221
Year of Entry: 2021

3	Unavailable	5D: Unproductive Forest Land	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	4A: No Markets Available for these Forest Products	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	5D: Unproductive Forest Land	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5B: Maintain for regeneration purposes	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Rankin Smith : Examiner

Compartment: 221
Year of Entry: 2021

9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
40	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
42	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	5	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	Type 1 and Type 2 Old Growth	Old-Growth forest (also termed primary forest, ancient forest, virgin forest, or primeval forest) is an area of forest that has few or no signs of human disturbance and that exhibits unique ecological features related to age, composition and associated structure. Old growth forests are of natural origin. They may be dominated by late successional forest species (i.e. sugar maple and American beech), or may be a very old example of a stand dominated by long-lived early- or mid-seral species (i.e. oak, or red pine).
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	42340 - Upland Spruce/Fir	Sapling Well	4.4	32	Immature	N/A	Corridor along Black River. Was cut by Holli Forest Products, permit #28-82, around 1987 with comparment 219 to the north.																																					
2	622 - Lowland Shrub	Nonstocked	10.5		Unspecified	No	Corridor along Black River.																																					
		<table border="1"> <thead> <tr> <th>Canopy Species</th> <th>Density</th> <th>Avg. Height</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>Black Spruce</td> <td>Medium</td> <td>>20 feet</td> <td>Pole</td> </tr> <tr> <td>Tamarack</td> <td>Medium</td> <td>>20 feet</td> <td>Pole</td> </tr> <tr> <td>Tag Alder</td> <td>Full</td> <td>5 - 10 feet</td> <td>Tall Shrub</td> </tr> </tbody> </table>				Canopy Species	Density	Avg. Height	Size	Black Spruce	Medium	>20 feet	Pole	Tamarack	Medium	>20 feet	Pole	Tag Alder	Full	5 - 10 feet	Tall Shrub																							
Canopy Species	Density	Avg. Height	Size																																									
Black Spruce	Medium	>20 feet	Pole																																									
Tamarack	Medium	>20 feet	Pole																																									
Tag Alder	Full	5 - 10 feet	Tall Shrub																																									
3	42290 - Natural Mixed Pine	Sawtimber Medium	7.3	110	51-80	N/A	Corridor along the Black River. Was commercially cut in 1993-94 under permit #21-91, Oscar Antilla, "Black River Block". Spruce and Fir are experiencing high mortality.																																					
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4	42340 - Upland Spruce/Fir	Poletimber Medium	7.6	110	51-80	N/A	Stand was cut in 1993-94 under permit #21-91 by Oscar Antilla, Black River Block. Spruce and fir and experiencing heavy mortality.																																					
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5	622 - Lowland Shrub	Nonstocked	2.3		Unspecified	No	This is currently an L type that is beginning to seed in along the edges with red pine and tamarack with a minor spruce component.																																					
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6	42200 - Natural White Pine	Sawtimber Poor	9.8	110	1-50	N/A	6/19/14 TJS: At time of sale prep in 2011, Jim Ferris and I felt that we should hold this stand to protect the understory. We found adequate white pine, maple, and fir regen that was not observable at time of inventory and determined that harvesting it would be detrimental to the seedlings. 4/7/2009: Stand will be clearcut and converted to fir. All trees except red and white pine and those spruce with less than a 6-inch stump diameter will be cut. Regeneration of pine and spruce-fir will be protected. A summer harvest will be required to obtain scarification. (1999) Cut in 1993-94 by Oscar Antilla, permit #21-91, Black River Block. Marked red and white pine were cut as well as all merchantable aspen and birch, jack pine with 2 or more sticks, and spruce/fir with 3 or more sticks. After the windstorm of July 21, 2002, a salvage cut was made by Holli Forest Products in the fall of 2002, timbersale #101-03-02 (scaled sale) to cut all broken, downed and uprooted trees.																																					
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8	42120 - Planted Jack Pine	Poletimber Well	10.9	54	81-110	N/A	Stand was cut around 1962 under a few permits, Dan Rintamaki and Alfred Millimaki. Area was disked in the fall of 1964 and seeded in the spring of 1965. 4-5 stick trees. Northwest corner is sparsely stocked.																											
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9	42120 - Planted Jack Pine	Poletimber Medium	33.0	34	51-80	N/A	OPIC - FMD: Stand was cut in 1971, permit #28/70A. Disked in 1973-Failure. Machine planted in 1985. Trees are short and bushy. Trace red pine and white pine. Most trees 1 stick or none yet.																											
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10	4222 - Natural Jack Pine	Poletimber Medium	11.4	37	51-80	N/A	One planted jack pine island located within. Probably planted by mistake. Stand can be used to access 24, 22 via ice road. A low stocked natural jack pine island on southern edge.																											
11	42120 - Planted Jack Pine	Poletimber Well	11.8	54	111-140	N/A	OPIC - FMD: Stand was cut around 1962 and was disked in the fall of 1964 and seeded with jack pine in the spring of 1965. Significant damage from winter 18-19. Mostly 4 some 5 stick trees. East side has smaller diameter trees.																											
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12	42120 - Planted Jack Pine	Poletimber Well	6.8	54	81-110	N/A	Stand was cut around 1962 and was disked in the fall of 1964 and seeded with jack pine in the spring of 1965. Trace XL Red Pine and White Pine.																											
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13	42120 - Planted Jack Pine	Poletimber Medium	37.7	54	81-110	N/A	OPIC - FMD: Stand was cut around 1962 and was disked in the fall of 1964 and seeded with jack pine in the spring of 1965. Trees are of varying form class. Trees are mostly 4 stick, with some 5 stick. Lots of cherry brush in this stand. Significant mortality and ice damage from winter 18-19.																											
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14	42120 - Planted Jack Pine	Poletimber Medium	41.8	36	51-80	N/A	Stand was cut in the winter of 1981-82 by Holli Forest Products for Thillmany Pulp and Paper Co., permit #1-81A. It was scarified in October of 1982 and seeded in March of 1983 using 20 lbs of jack pine seed, FTP #C31-71. Numerous wet depressions and cherry thickets within stand. Aspen patches along edge of treed bog. Minor ice damage from winter of 18-19.																											
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
15	6224 - Treed Bog	Nonstocked	42.4	0	Unspecified	No	Small island in southwest corner contained xl white pine and dense balsam fir and white spruce.					
								Canopy Species	Density	Avg. Height	Size	
								Jack Pine	Full	>20 feet	Pole	
								Black Spruce	Medium	>20 feet	Pole	
								Tamarack	Medium	>20 feet	Pole	
18	6224 - Treed Bog	Nonstocked	31.7	0	Unspecified	No	Bog with an ice road for access into stands 22, 24.					
								Canopy Species	Density	Avg. Height	Size	
								Tamarack	Medium	>20 feet	Pole	
								Jack Pine	Low	>20 feet	Pole	
								Black Spruce	Medium	>20 feet	Pole	
White Pine	Low	>20 feet	Log									
19	310 - Herbaceous Openland	Nonstocked	8.3	0	Unspecified	4212 - Planted Jack Pine	Stand was harvested in the winter of 2015. TS# 102-11. Site will be anchor chained following completion of harvest to regenerate jack pine. FTP# 32-835. Scarifying in this manner will also aid in the regeneration of spruce and fir. There is a seed source for these species on the southern edge of the stand. SEE LOCKED COMMENTS. Due to delays scarification was no longer practical so the site was trenched in 2017 and will be planted. Stand was planted in 2018 first year count was done and results are 820T/A.					
								Canopy Species	Density	Avg. Height	Size	
								Paper Birch	Low	>20 feet	Log	
								White Pine	Low	>20 feet	Log	
								Red Pine	Low	>20 feet	Log	
Black Spruce	Low	>20 feet	Pole									
20	42120 - Planted Jack Pine	Poletimber Well	71.5	23	51-80	N/A	5-10% stembreak after winter 18-19 ice damage. Trace Red Pine. 1 stick of merchantability at this time.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Jack Pine	90	Pole	5	23
			Canopy Species	Density	Avg. Height	Size						
			Balsam Fir	Low	< 5 feet	Sapling						
21	310 - Herbaceous Openland	Nonstocked	25.5	0	Unspecified	4212 - Planted Jack Pine	Stand was harvested in the winter of 2015. TS# 102-11. Pockets of jack pine regeneration are within the stand due to a former windstorm and salvage from 7-21-2002. Young spruce and fir were cut during harvest to assist in the reforestation efforts of jack pine. Stand will be anchor chained in an attempt to regenerate jack pine. FTP# 32-835 Due to delays scarification was no longer practical so the site was trenched in 2017 and will be planted. Site was planted in 2018, 1st year count came in at 792 TPA.					
								Canopy Species	Density	Avg. Height	Size	
								Jack Pine	Low	5 - 10 feet	Sapling	
								White Pine	Low	>20 feet	Log	
								Paper Birch	Low	>20 feet	Log	
22	429 - Mixed Upland Conifers	Sapling Well	8.4	37	81-110	N/A	Trace Red Pine, and Paper Birch. Upland island with boggy edges. Offsite jack pine. Should be cut with stand 20. Can be accessed via ice road catty corner of stand 18. Must be accessed through private.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Jack Pine	50	Pole/Sapling	7	37
								White Spruce	25	Pole/Sapling	5	
								Balsam Fir	15	Pole/Sapling	6	
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23	622 - Lowland Shrub	Nonstocked	9.6		Unspecified	No																														
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24	6122 - Black Spruce	Poletimber Poor	11.9	79	1-50	N/A	Borderline treed bog next to creek corridor. Surprisingly lower density than aerial photos show.																													
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25	429 - Mixed Upland Conifers	Poletimber Well	45.3	37	81-110	N/A	Stand was cut under permit #14-72 by Dave Holli via winter road. Some areas are a complete mix while others are pure pockets. Aspen is of poor quality. Stand should be cut next entry with stands 36, 38. Make sure access is allowed to facilitate as there are no current easements.																													
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27	6224 - Treed Bog	Nonstocked	55.2		Unspecified	No	There are a couple of two acre patches of fir and jack pine on southern and eastern edge. Marsh with tamarack and black spruce.																													
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29	4130 - Aspen	Poletimber Well	82.3	37	51-80	N/A	Aspen mix with scattered large White Pines. Mostly 3 some 4 stick trees. Trace Red Pine as well. Fir island to west of stand can be cut when stand is ready in 10 years.																													
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31	6225 - Bog	Nonstocked	162.9		Unspecified	No	Large marsh. Some areas of trees exist but predominately cat tails. There is also a winter road system that exists in this stand.																													
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																		
32	6122 - Black Spruce	Poletimber Poor	29.6	78	1-50	N/A	Trace Aspen, Red Pine, Paper Birch, and Balsam Poplar. 5 stick tamarack with numerous tag alder thickets.																																		
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33	42340 - Upland Spruce/Fir	Poletimber Well	105.4	41	51-80	N/A	Previously cut under permit #14-72A by Holli Forest Products. Stand contains leftover Balsam Fir with patches of varying age class Aspen. Some spruce budworm mortality present. Patch of young fir absorbed into the southeast corner.																																		
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36	6124 - Lowland Spruce-Fir	Poletimber Medium	4.5	79	1-50	N/A	Mix of lowland conifers with a mx of open areas. Low productivity. Stand can be cut with 38 and 25 next entry.																																		
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37	429 - Mixed Upland Conifers	Poletimber Medium	4.0	41	51-80	N/A	Cut under permit #14-72A by Holli Forest Products. True mix of species with trace Aspen. Advance regen of Res Pine present. Numerous open patches that haven't filled in.																																		
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38	4133 - Aspen, Mixed Pine	Poletimber Well	108.9	38	51-80	N/A	Stand cut under permit #14-72A by Holli Forest Products. Old stands 19 and 20 have been absorbed into this stand. They were pockets of red pine. Trace Legacy White Pine located throughout. Scattered log size Aspen scattered throughout. Mostly 3 some 4 stick aspen. Should transition to 81-110 BA by next entry.																																		
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39	6224 - Treed Bog	Nonstocked	13.7		Unspecified	No	Corridor along West Branch Creek. Contains a White Pine island on western edge that could be harvested with stand to the west in compartment 223.																																		
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41	6229 - Mixed lowland shrub	Nonstocked	25.2		Unspecified	No	Low area along West Branch Creek.																																		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																									
42	42340 - Upland Spruce/Fir	Poletimber Medium	5.2	79	51-80	N/A	Corridor along West Branch Creek.																									
43	6122 - Black Spruce	Poletimber Well	10.1	55	111-140	N/A	Large bog in mlddle. Completely devoid of understory and midstory. 3-4 stick jack pine and black spruce. Should be cut with adjacent jack pine stand once it is mature.																									
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44	42120 - Planted Jack Pine	Poletimber Medium	13.9	34	81-110	N/A	Stand was cut in 1971, permit #28/70A. Disked in 1973-Failure. Machine planted in 1985. 1-2 stick trees.																									
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400	3102 - Grass	Nonstocked	2.3		Unspecified	No	Grass opening composed of sweet fern and cherry. Becoming completely grown in with cherry.																									
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