



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32226

Entry Year 2022

Acreage: 1,320

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2020-07-23

Stand Examiner: Jason Caron

Legal Description:

T46N R28W, Sections 18, 19, 30, and 31.

Identified Planning Goals:

Planning goals for this compartment are to provide a sustainable flow of timber products while also improving wildlife habitat. Timber products are primarily for fiber production (pulpwood). Wildlife habitat is being promoted primarily in early successional stages, with some seral stage habitat being provided in the white and red pine cover types.

Soil and topography:

Soils within this compartment fall into either the Kalkaska-Ishpeming-Rock Outcrop or the Rubicon-Keweenaw Association. These soils range from rock outcrop and very deep, gently rolling to very hilling somewhat excessively drained sandy soils (Kalkaska-Ishpeming) to very deep, gently undulating to very hilly, excessively drained and well drained sandy soils (Rubicon-Keweenaw). Minor soil compositions within the compartment also include Carbondale, Tawas, Deford, and Greenwood in the depressions and drainages, Keweenaw, Pelissier, Rubicon, Sayner and Waiska soils exist in areas similar to the Kalkaska and Ishpeming soils as do Sayner soils. These associations are well suited for timber management, with limitations being placed on road building due primarily to terrain. Topography is generally level to undulating.

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

Ownership within the vicinity of the compartment is primarily State with scattered private industrial and non-industrial landowners. This compartment is on the western edge of the major State landholdings in this part of the county. The abandoned Republic Mine is located approximately four to five miles west of the compartment. Two television broadcasting towers exist within the confines of the compartment. Land use is predominately woodland management, recreation and camps.

Unique Natural Features:

Archeological, Historical, and Cultural Features:

Two major television broadcasting towers are located within the confines of this compartment. The abandoned ELF line corridor also traverses this compartment.

Special Management Designations or Considerations:

Watershed and Fisheries Considerations:

This compartment contains the West Branch of the Middle Branch of the Escanaba River and an unnamed stream which serves as tributary to the West Branch of the Middle Branch of the Escanaba River. These waterbodies are both designated Type 1 trout streams less than 50' width. 300' buffers are recommended for these waterbodies 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 226 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

No known potential exists for commercial oil & gas production in this part of the state. The closest active sand/gravel pit is roughly four miles to the northeast. There appears to be good potential for sand & gravel on the uplands within the compartment. Republic Mine, and other abandoned, historic iron mines, are located more than five miles to the northwest. There is no known metallic mineral potential beneath the compartment. There has been no documented past metallic mineral exploration within the compartment, and there is no current state mineral leasing activity in the area. The state does not own all the 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:

There is generally good vehicle access to this compartment. A few winter roads exist in the northern and central portion of the compartment on the wetter soils. County road's CF, CFA, and FFH/CCF provide access to the majority of this compartment.

Survey Needs:

No survey needs for this YOE.

Recreational Facilities and Opportunities:

There are no established recreational facilities in the compartment nor do any opportunities exist.

Fire Protection:

Several volatile fire communities exist within the compartment and surrounding landscape, predominantly jack pine, spruce-fir and some red and white pine. This compartment is west of the revised 581 Zone Dispatch boundary. Adequate roads exist for fire suppression activities.

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**

Report 1 – Total Acres by Cover Type and Age Class

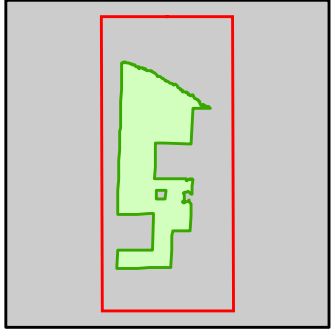


Age Class

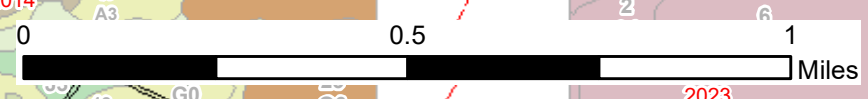
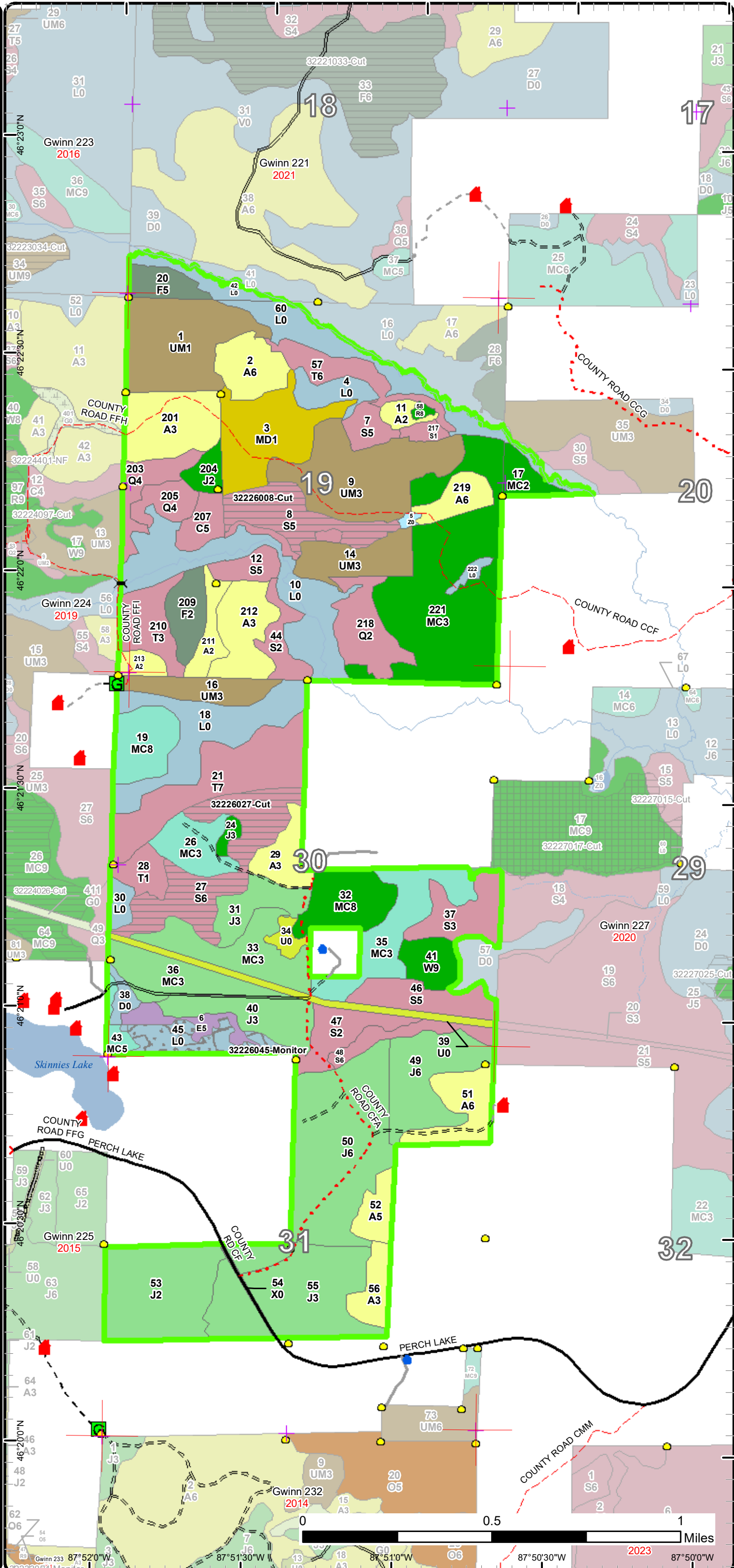
	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	12	56	68	9	0	0	0	0	0	0	0	0	0	0	0	0	144
Cedar	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9
Jack Pine	0	0	53	91	40	71	0	0	0	0	0	0	0	0	0	0	0	0	254
Low-Density Trees	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Lowland Conifers	0	0	0	21	0	0	0	0	22	0	0	0	0	0	0	0	0	0	43
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
Lowland Shrub	154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153
Lowland Spruce/Fir	0	0	0	0	10	0	0	0	3	39	94	8	8	0	0	0	0	0	162
Mixed Upland Deciduous	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Natural Mixed Pines	0	0	0	8	90	0	0	0	0	0	0	0	0	0	0	0	22	0	120
Planted Mixed Pines	0	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	49
Red Pine	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Tamarack	0	0	9	0	17	0	0	0	0	0	0	0	15	43	0	0	0	0	84
Treed Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Upland Conifers	0	0	0	0	47	0	0	0	5	0	0	0	0	0	0	0	19	0	71
Upland Mixed Forest	0	44	0	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128
Upland Spruce/Fir	0	0	0	0	13	0	0	0	0	9	0	0	0	0	0	0	0	0	22
Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12
Total	177	80	74	261	334	80	0	0	39	49	102	8	23	43	0	0	53	0	1319

Cover Type & Treatments Map

Compartment: 226
 T46N, R28W, Sec. 19, 20, 30, 31
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2022
 Acres: 1319.8 GIS Calculated
 Examiner: Jason Caron
 Map Revised: 3/2/2021
 Map Phase: Post-Review



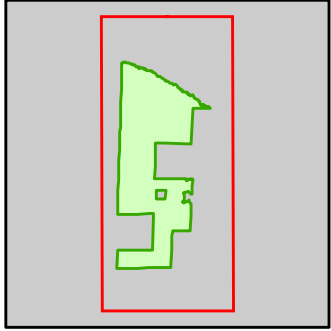
- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Paved Road
- Private - Dirt / Gravel Road
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Cabin
- G Gate
- ✕ Bridges
- Tower
- Pipeline
- Compartment Boundary
- Clearcut (w/Reserves)
- Regeneration Survey
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 122 - Roads/Parking Lot
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub



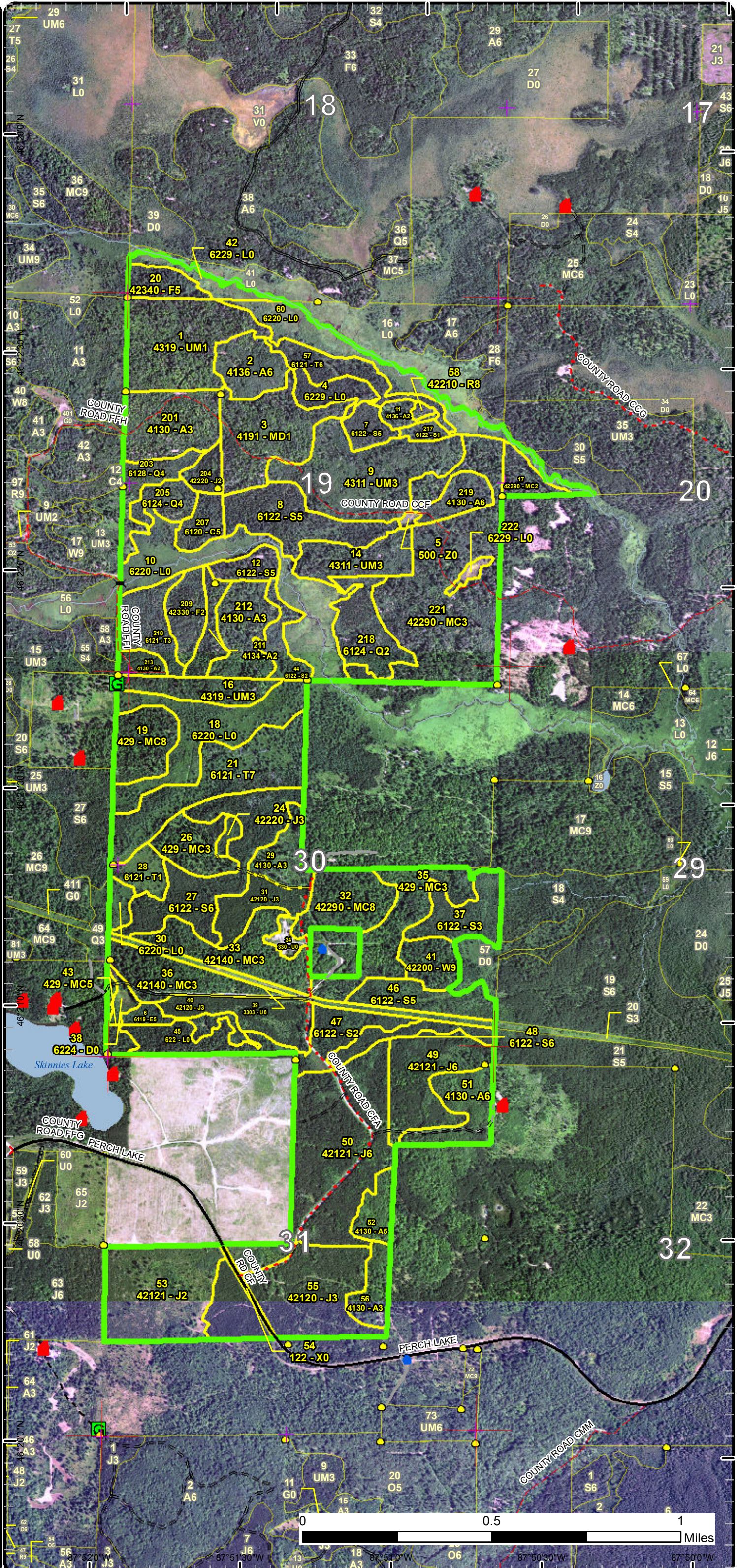
2023
 87°52'0"W 87°51'30"W 87°50'30"W 87°50'0"W

Stand Boundary Map

Compartment: 226
 T46N, R28W, Sec. 19, 20, 30, 31
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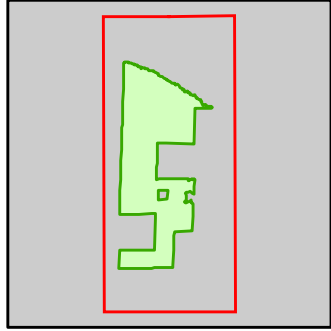


- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
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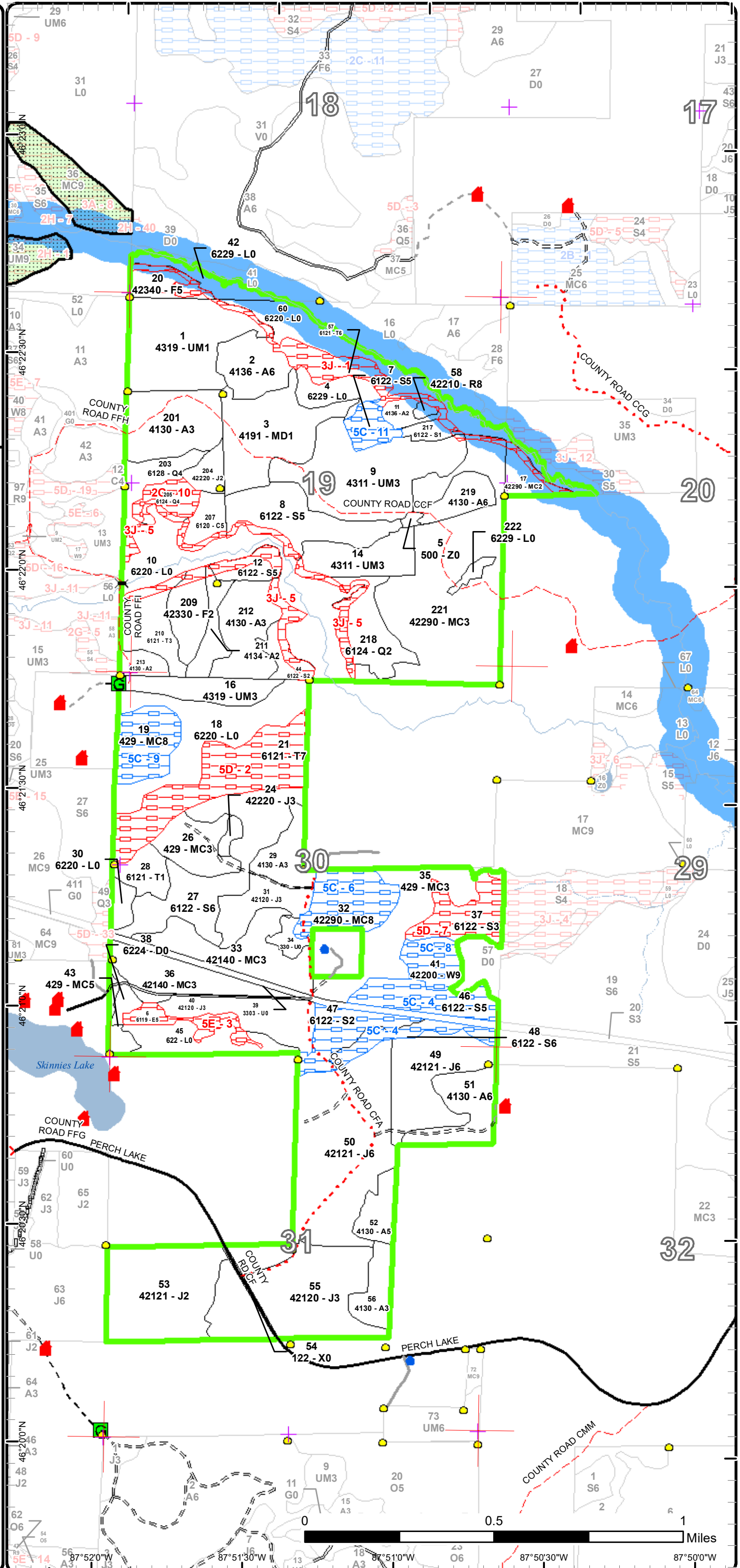


Special Conservation Areas

Compartment: 226
 T46N, R28W, Sec. 19, 20, 30, 31
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
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- Miris Corners
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- DNR - Secondary Forest Road
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- County - Dirt Road (Seasonal)
- Private - Paved Road
- Private - Dirt / Gravel Road
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Cabin
- G Gate
- ✕ Bridges
- Tower
- Pipeline
- 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)
- 5D: Unproductive Forest Land
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Cold Water Streams
- High Priority Trout Stream Buffer
- Possible Type 1 Old Growth Area





Report 2 – Treatment Summary

Gwinn Mgt. Unit
Year of Entry: 2022

Acres of Harvest

Compartment 226
Total Compartment Acres: 1,320

Commercial Harvest - 67
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
Lowland Spruce/Fir		67	0	0	0	0	0	0	0	0	67
	Total	67	0	0	0	0	0	0	0	0	67

Proposed and Next Step Treatments by Method

		Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current		67	0	0	0	0	16	0	0	0	84
Next Step		0	0	0	84	0	67	0	0	0	151
	Total	67	0	0	84	0	84	0	0	0	234



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Approved Treatments:

8	32226008-Cut	24.8	6122 - Black Spruce Poletimber	Medium	81	111-140	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	No
<p><u>Prescription Specs:</u> Clear cut with reserves. Do not harvest under-represented species such as white pine, red pine, and cedar. Red line out retention pockets of the parent stand to meet retention guidelines per the work instructions.</p> <p><u>Next Step Treatments:</u> Seeding, Machine Seed; Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Spruce, cedar, tamarack</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
27	32226027-Cut	42.3	6122 - Black Spruce Poletimber Well		91	81-110	Harvest	Clearcut with Retention	6119 - Mixed Lowland Deciduous Forest	Even-Aged	No
<p><u>Prescription Specs:</u> Clearcut with reserves. Red line out areas to serve as patch retention. Retention pockets should consist of the parent stand. Do not cut under-represented species within the stand such as white pine & cedar. Space out the retention pockets throughout the stand to serve as a future seed source. WLD: Retain all Northern White Cedar - seed source and thermal cover.</p> <p><u>Next Step Treatments:</u> Seeding, Machine Seed; Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Spruce, fir, tamarack, cedar, and pine.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
45	32226045-Monitor	16.4	622 - Lowland Shrub Nonstocked		0	Unspecified	Monitoring	Natural Regen (Intermediate)	612 - Lowland Coniferous Forest	Even-Aged	No
<p><u>Prescription Specs:</u> Monitor the stand to see if natural regeneration will suffice or if seeding via. a snowmobile would be a good option.</p> <p><u>Next Step Treatments:</u> Seeding, Machine Seed</p> <p><u>Acceptable Regen:</u> spruce, pine, fir, maple, aspen, tamarack, cedar, birch, and hemlock.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											

Total Treatment Acreage Proposed: 83.5

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 226
Year of Entry: 2022

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions				
		With Condition	Not Available		5C	2G	3J	5D	5E
146	146	0	0	Aspen			0		
9	7	0	2	Cedar			2		
255	255	0	0	Jack Pine					
16	16	0	0	Low-Density Trees					
43	27	0	16	Lowland Conifers		7	8		
8	0	0	8	Lowland Deciduous					8
153	153	0	0	Lowland Shrub			0		
161	80	50	31	Lowland Spruce/Fir	50		13	18	
36	36	0	0	Mixed Upland Deciduous					
120	95	22	3	Natural Mixed Pines	22		3		
49	49	0	0	Planted Mixed Pines					
1	1	0	0	Red Pine					
84	23	0	61	Tamarack			18	43	
4	4	0	0	Treed Bog					
70	51	19	0	Upland Conifers	19				
128	125	0	3	Upland Mixed Forest			3		
22	18	0	5	Upland Spruce/Fir			5		
2	2	0	0	Urban					
1	1	0	0	Water					
12	0	12	0	White Pine	12				
1,320	1,087	103	130	Total Forested Acres	103	7	53	61	8
	82%	8%	10%	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)	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 226
Year of Entry: 2022

2	Unavailable	5D: Unproductive Forest Land	43	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	5E: Long-Term Retention	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	43	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Very stagnant and slow growing stands of spruce. Hold for at least another 10 years to allow stand to increase in merchantability.							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand of legacy tree white and red pine.							
7	Unavailable	5D: Unproductive Forest Land	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 226
Year of Entry: 2022

8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand of large mature white and red pine of lower density. Understory of fir is nearly dead due to the budworm outbreak.							
10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand is heavy to tag alder. Too wet to harvest.							
11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Harvesting this stand would require a new road through stand 9. Allow stand 9 to mature and consider harvesting both stands at the same time.							

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 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	4319 - Mixed Upland Forest	Sapling Poor	43.5	5	Immature	N/A	Stand was harvested in the fall of 2016. "Moose Lunch Sale" 32-103-12-01. With the heavy snow load I can only see some stump sprout red maple and scattered aspen regeneration. The balsam that exists is remnant understory balsam from before the harvest. Scattered mature pine exists throughout the stand. If I make it out to this stand during snow free conditions I will monitor to see if some pine and fir regeneration exists. Both the aspen and red maple regeneration is heavily browsed by moose.			
Canopy Species		% Cover	Size Class	DBH	Age					
White Pine		8	XLog/Log	18						
Red Pine		2	Log	16						
Red Maple		50	Sapling	1	5					
Balsam Fir		40	Sapling	1						
2	4136 - Aspen, Mixed Conifer	Poletimber Well	16.3	26	Immature	N/A	Stand was harvested in the summer of 1993 by St. John Logging, permit #11-92. Stand consists of good quality aspen. The fir that is within the understory is in poor condition due to the budworm outbreak. Scattered overstory oak, some jack and red pine exist throughout the stand.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Oak		2	Log	12		Red Maple		Low	< 5 feet	Sapling
Quaking Aspen		43	Pole/Sapling	5	26	Balsam Fir		Low	< 5 feet	Sapling
Bigtooth Aspen		27	Pole/Sapling	5		White Pine		Low	< 5 feet	Sapling
Balsam Fir		10	Sapling	4		Hazelnut (Beaked)		Low	< 5 feet	Tall Shrub
White Spruce		4	Sapling	2						
Red Pine		4	Sapling	3						
Jack Pine		10	Sapling	4						
3	4191 - Mixed Upland Deciduous with Conifer	Sapling Poor	35.8	5	Immature	N/A		Stand was harvested in the fall of 2016. "Moose Lunch Sale" 32-103-12-01. Scattered mature red pine exists throughout the stand. Red maple stump sprouts exist throughout the stand. Fir is starting to fill in as well.		
Canopy Species		% Cover	Size Class	DBH	Age					
Red Maple		55	Sapling	1	5					
Balsam Fir		10	Sapling	1						
Red Pine		17	Log	17						
White Pine		2	Log	17						
Quaking Aspen		16	Sapling	1						
4	6229 - Mixed lowland shrub	Nonstocked	9.5	0		No	"Moose Lunch Sale" 32-103-12-01 Cut by Sanville Logging inc. in the fall of 2016. Stand is within low ground and may make for a good candidate for seeding. I will assess in the spring to see how it looks.			
5	500 - Water	Nonstocked	1.1		Immature	No	Small lowland pocket. Looks to be a flooded pothole on imagery.			
6	6119 - Mixed Lowland Deciduous Forest	Poletimber Medium	8.2	91	51-80	N/A	Lowland stand that was not cut with stand 45. Was not able to make it to this stand during this YOE.			
7	6122 - Black Spruce	Poletimber Medium	7.6	113	1-50	N/A	Did not make it to this stand during the 2020 inventory. If this stand is merchantable it would be best to harvested with stand 9 into the future.			



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																		
8	6122 - Black Spruce	Poletimber Medium	28.9	81	111-140	N/A	Stand of older black spruce. Stand contains scattered tamarack as well as pockets of cedar.																																																																		
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9	4311 - Pine, Aspen Mix	Sapling Well	50.0	26	1-50	N/A	Aspen mixed with jack, red & white pine; scattered balsam fir and spruce as well. There is a patch of pure jack pine on the southwest end of this stand. Stand was harvested in the summer of 1993 by St. John Forest Products, permit #11-92. Red and white pine were selectively cut and birch seed trees were left.																																																																		
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10	6220 - Alder/willow	Nonstocked	47.0			No																																																																			
11	4136 - Aspen, Mixed Conifer	Sapling Medium	4.3	26	Unspecified	N/A	Mix of red pine, aspen, and spruce as well as some jack pine. Cut summer 1993, St. John Forest Products, permit #11-92																																																																		
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12	6122 - Black Spruce	Poletimber Medium	7.8	101	51-80	N/A	Small stand, fair amount of storm damage from circa 2005. Access is from the south across private land. Did not make it to this stand during the 2020 inventory.																																																																		



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14	4311 - Pine, Aspen Mix	Sapling Well	19.5	26	Immature	N/A	Mix of predominately aspen, fir, jack pine and red pine. Some overstory red and white pine.																																																																																																			
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16	4319 - Mixed Upland Forest	Sapling Well	15.0	25	1-50	N/A	Scattered overstory red and white pine. Range of regen from birch to tamarack. Cut late winter 1995 by J. Carey Logging, permit #10-92. Spruce less than 9" dbh were left, red and white pine were marked. Access was from the south via frozen road.																																																																																																			
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17	42290 - Natural Mixed Pine	Sapling Medium	8.0	26	1-50	N/A	Harvested summer 1993 by St. John Forest Products, permit #11-92. Pine was selectively cut and any spruce smaller than 8" stump diameter were left. Regen success here is high. There are lots of white and red pine seedlings coming up.																																																																																																			
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18	6220 - Alder/willow	Nonstocked	37.3		Immature	No	Tag alder slough that contains scattered tamarack throughout. Tamarack varies in age and diameter.																																																																																																			
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19	429 - Mixed Upland Conifers	Sawtimber Medium	18.7	161	1-50	N/A	Overstory red and white pine with a heavy fir understory. Cut late winter 1995 by J. Carey Logging, permit #10-92. Access was from the south via frozen road. Stand currently has a heavy fir understory that is near dead due to the budworm infestation. The red maple that currently exists will take over once the fir eventually dies out.																																															
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20	42340 - Upland Spruce/Fir	Poletimber Medium	9.4	81	51-80	N/A	Corridor along West Branch Creek.																																															
21	6121 - Tamarack	Sawtimber Poor	42.9	128	1-50	N/A	Scattered tamarack with some heavier pockets throughout the stand. I noticed a fair amount of dead tamarack in the east side of the stand.																																															
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26	429 - Mixed Upland Conifers	Sapling Well	15.6	34	1-50	N/A	Mixed stand of white pine saplings and logs with a considerable amount of balsam fir and scattered jack pine. Scattered white pine weevil damage as well. Commercially cut between 1983-86 by Oscar Antilla, permit #6-82. All oak were left, red and white pine were marked and all other species were cut. Fir has been hit hard due to the budworm infestation and will likely die out in the next few years.																																															
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27	6122 - Black Spruce	Poletimber Well	42.3	91	81-110	N/A	Stand of black spruce that is mixed with some tamarack, cedar, and jack pine. The north half of the stand appears to be merchantable where the south half not so much. Do a better walk through to see what the south half of the stand looks like.																																															
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
28	6121 - Tamarack	Sapling Poor	8.9	17	Immature	N/A	Stand was cut in March 2006 by Minerick Logging, sale #104-02-01. Tamarack seed trees were left as well as those spruce with less than 4 merchantable sticks. 2020 Inventory - Tamarack and black spruce saplings are starting to fill in throughout the stand. I could not verify the extent of the regeneration due to the 2-3' of snow pack. I will make an attempt to look at this stand again in the spring or summer. Stand will definitely be fully stocked by the next inventory cycle.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Tamarack		70	Sapling	1	17	Tag Alder		
Black Spruce		30	Sapling	1		Density		
						Avg. Height		
						Size		
29	4130 - Aspen	Sapling Well	12.4	16	1-50	N/A	Stand was cut in June 2005. TS #104-02-01. Stand is regenerating back to aspen and is fully stocked. Aspen diameter varies within the stand. Also, a low swale exists within the stand. Large diameter white pine exists in pockets, especially in the NE corner of the stand.	
Canopy Species		% Cover	Size Class	DBH	Age			
Quaking Aspen		82	Sapling	2	16			
Balsam Fir		3	Sapling/Pole	1				
Black Spruce		2	Sapling/Pole	2				
White Pine		2	Sapling	1				
White Pine		2	XLog	22				
Red Pine		2	Sapling	1				
Red Pine		2	XLog/Log	18				
Jack Pine		5	Sapling	1				
30	6220 - Alder/willow	Nonstocked	4.6		Unspecified	No		
31	42120 - Planted Jack Pine	Sapling Well	14.8	21		N/A	Stand harvested in fall of 1993 by Minerick Logging, permit #4-92. Cherry, oak, and some red and white pine were left. Under FTP #C31-330, the site was disk trenched and hand planted with jack pine in may 1995.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		3	Sapling/Pole	2		Red Maple		
Black Spruce		2	Sapling/Pole	3		Balsam Fir		
White Pine		5	Sapling/Pole	3		Black Spruce		
Jack Pine		90	Pole/Sapling	5	21	Density		
						Avg. Height		
						Size		
32	42290 - Natural Mixed Pine	Sawtimber Medium	22.1	161	81-110	N/A	Very large red & white pine, pocket of jack pine poles on west end. Understory is white pine, aspen, balsam & red maple. Commercially cut 1984 by Holli Forest products, permit #23-81. This stand is different from the surrounding original stand in that the jack pine is bigger in diameter and the stocking for the red and white pine is higher.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		10	Pole/Sapling	6		Red Maple		
White Pine		40	XLog	24		Balsam Fir		
Red Pine		45	XLog/Log	20	161	White Pine		
Jack Pine		5	Pole	7		Red Pine		
						Density		
						Avg. Height		
						Size		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
33	42140 - Planted Mixed Pine	Sapling Well	27.1	31	1-50	N/A	Stand was cut during 1984-86 by Oscar Antilla, permit #6-82. Stand was herbicided, disk trenched and hand planted in May 1990 with white pine, FTP #C31-163. There is a considerable amount weevil damage. West end of stand was not planted but allowed to seed in naturally due to the amount of overstory left in this area. 2020 Inventory - Overall the stand is healthy and doing well. The balsam pockets that exist will most likely die out due to the budworm infestation. Red pine and white pine look good.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Maple		5	Pole/Sapling	7				
Red Oak		5	Log/Pole	10				
Balsam Fir		10	Sapling/Pole	3				
White Pine		5	XLog/Log	18				
White Pine		47	Sapling	4	31			
Red Pine		5	XLog/Log	18				
Red Pine		23	Sapling	4				
34	330 - Low-Density Trees	Nonstocked	4.2			No	Small borrow pit. Mostly sand material.	
35	429 - Mixed Upland Conifers	Sapling Well	30.9	35	Immature	N/A	Stand cut in 1984 by Holli Forest Products, permit #23-81. All maple was left to minimize weevil damage on the white pine regeneration.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Maple		10	Pole/Sapling	6				
Quaking Aspen		25	Sapling/Pole	4	35			
Balsam Fir		10	Sapling/Pole	4				
White Pine		5	XLog/Log	18				
White Pine		15	Sapling/Pole	4				
Red Pine		2	XLog/Log	18				
Red Pine		8	Sapling	4				
Jack Pine		25	Sapling/Pole	4				
36	42140 - Planted Mixed Pine	Sapling Well	22.0	31	1-50	N/A	Stand was cut during 1984-86 by Oscar Antilla, permit #6-82. The site was disk trenched in 1989, FTP #C31-163. The east end was planted with white pine in 1990, the western 1/3 was not planted and allowed to regenerate naturally which worked very well. Weevil damage prevalent throughout the stand. There is more red pine in this stand compared to north of the ELF ROW, but could still be same stand as the species composition is the same.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Maple		7	Pole	6				
Balsam Fir		10	Sapling/Pole	4				
White Pine		10	XLog/Log	16				
White Pine		30	Sapling/Pole	3	31			
Red Pine		10	XLog/Log	16	161			
Red Pine		30	Sapling/Pole	3	31			
Jack Pine		3	Sapling	3				
Sub-Canopy Species		Density	Avg. Height	Size				
Hazelnut (Beaked)		Low	< 5 feet	Tall Shrub				
37	6122 - Black Spruce	Sapling Well	18.4	91	Unspecified	N/A	Small diameter black spruce. Assuming poor site quality as growth essentially stopped at about 40-50yrs.	
Canopy Species		% Cover	Size Class	DBH	Age			
Paper Birch		2	Sapling/Pole	3				
Black Spruce		96	Sapling/Pole	4	91			
Tamarack		2	Sapling/Pole	4				
Sub-Canopy Species		Density	Avg. Height	Size				
Black Spruce		Low	< 5 feet	Sapling				
Tag Alder		Full	< 5 feet	Tall Shrub				
38	6224 - Treed Bog	Nonstocked	3.9		Unspecified	No		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																					
39	3303 - Mixed Low Density Trees	Nonstocked	11.7			No																																																						
40	42120 - Planted Jack Pine	Sapling Well	21.5	27		N/A	Site was harvested in the summer of 1994 by Minerick Logging, permit #4-92. The site was then herbicided, disk trenched and hand planted to jack pine in May 1995 under FTP #C31-330.																																																					
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41	42200 - Natural White Pine	Sawtimber Well	11.6	171	51-80	N/A	Stand cut in 1984 by Holli Forest Products, permit #23-81. Stand currently contains a dense understory of advanced red maple regeneration. Most of the trees meet our Legacy Tree diameter and age requirement. Also, I would consider this stand Type 2 Old Growth but does not meet the definition as the stand is only 11 acres in size. Type 2 OG with previous forest management needs to be 20 acres or more in size.																																																					
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42	6229 - Mixed lowland shrub	Nonstocked	8.3			No	Low area along West Branch Creek.																																																					
43	429 - Mixed Upland Conifers	Poletimber Medium	4.6	76	Unspecified	N/A	Did not make it to this stand during the 2020 inventory cycle. Was formerly typed out as a treed bog.																																																					
44	6122 - Black Spruce	Sapling Medium	10.1	39	1-50	N/A	Regenerating BS & Tam with scattered pole size BS & Tam overstory.																																																					
45	622 - Lowland Shrub	Nonstocked	16.4	0	Unspecified	612 - Lowland Coniferous Forest	"Moose Lunch Sale" 32-103-12-01 Cut by Sanville Logging inc. in the fall of 2016.																																																					
46	6122 - Black Spruce	Poletimber Medium	17.5	91	Unspecified	N/A	Variable stocking & diameter. Very small poles.																																																					
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Black Spruce	Low	< 5 feet	Sapling																																																									
Tag Alder	Full	5 - 10 feet	Tall Shrub																																																									
47	6122 - Black Spruce	Sapling Medium	15.1	96	1-50	N/A	Small diameter spruce.																																																					
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments			
48	6122 - Black Spruce	Poletimber Well	10.1	89	81-110	N/A	A very slow growing stagnant stand of black spruce. Given the small diameter of the trees I was surprised to see the age of the trees. A high water table exists within the stand as was evident by the tag alder understory and water pockets throughout the stand.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Black Spruce		98	Pole	8	89	Black Spruce		Low	< 5 feet	Sapling
Tamarack		2	Pole	8		Tag Alder	Medium	< 5 feet	Tall Shrub	
49	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Well	31.4	37	51-80	N/A	Jack pine with aspen pockets. Different than adjacent stand; much shorter and not as dense. Was commercially cut in 1982 by Holli Forest Products, permit #24-81A. FTP #C31-114 for scarifying and seeding was written but never acted upon. Enough natural regeneration was in place.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		5	Sapling/Pole	4		Red Maple		Low	< 5 feet	Sapling
Bigtooth Aspen		21	Pole	7		Hazelnut (Beaked)		Medium	< 5 feet	Tall Shrub
Balsam Fir		2	Sapling/Pole	4						
Black Spruce		2	Sapling/Pole	5						
50	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Well	71.4	43	51-80	N/A	Planted jack pine with aspen pockets. Was cut in 1973 by Oscar Antilla, permit #18/72A. Area was scarified with roller chopper and anchor chains in the spring of 1974 then seeded with 1/2 lb/acre of jack pine seed on 5/29/1974 under FTP #CF-106. This treatment was considered unsuccessful and it was followed up by machine planting of jack pine in the spring of 1977, planting form #168.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Quaking Aspen		12	Sapling/Pole	5		Red Maple		Low	< 5 feet	Sapling
Bigtooth Aspen		11	Sapling/Pole	5		Hazelnut (Beaked)		Low	< 5 feet	Tall Shrub
Black Spruce		2	Sapling/Pole	5						
51	4130 - Aspen	Poletimber Well	18.8	38	1-50	N/A	Mix of jack pine pockets within the aspen. Oak is only in north. Some red pine and white pine scattered throughout. Stand had been cut in 1982 by Holli Forest Products, permit #24-81A. Stand is very healthy and could be considered for a harvest during the next inventory cycle.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Oak		2	Log/Pole	10		White Pine		Low	< 5 feet	Sapling
Bigtooth Aspen		90	Pole	7	38	Red Pine		Low	< 5 feet	Sapling
Red Pine		2	Sapling/Pole	5		Hazelnut (Beaked)		Low	< 5 feet	Tall Shrub
Jack Pine		6	Pole	7						
52	4130 - Aspen	Poletimber Medium	9.4	43	51-80	N/A	Scattered oak & pine. Stand was cut in 1973 by Oscar Antilla, permit #18/72A. No oak was cut in this stand. There is some oak regen in the areas surrounding the residual oak, but it is heavily browsed.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		8	Pole/Sapling	7		Red Maple		Low	Variable	Sapling
Red Oak		3	Pole/Log/Sap	8		Red Oak		Low	< 5 feet	Sapling
Paper Birch		2	Pole	7		White Pine		Low	5 - 10 feet	Sapling
Bigtooth Aspen		82	Pole/Sapling	6	43	Jack Pine		Low	5 - 10 feet	Sapling
Red Pine		2	Log/Pole/XLog	10		Hazelnut (Beaked)		Medium	< 5 feet	Tall Shrub
Jack Pine		3	Pole/Sapling	6						
53	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	52.5	16	Immature	N/A	Stand was cut between Oct 2002 and June 2004 by Minerick Logging, sale #104-02-01. Site was then herbicided, disk trenched and direct seeded under FTP #C31-464. Trenching and seeding took place in spring of 2005. Stand contains some open patches where trees did not regenerate successfully. Overall the stand is fully stocked.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		3	Sapling	2		Hazelnut (Beaked)		Medium	< 5 feet	Tall Shrub
Quaking Aspen		22	Sapling	2		Sweet Fern		Low	< 5 feet	Tall Shrub
Red Pine		3	Log/XLog/Pole	13						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
54	122 - Road/Parking Lot	Nonstocked	1.7			No	
55	42120 - Planted Jack Pine	Sapling Well	55.0	26	Immature	N/A	Stand had been cut in spring of 1983 by Clarence Christian, permit #9-92, all oak were left. Under FTP #C31-287, the site was herbicided, disk trenched and hand planted in May 1995. Stand is healthy and fully stocked.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Red Maple	3	Sapling	3		
		Red Oak	2	Pole/Sap/Log	8		
		Quaking Aspen	2	Sapling	3		
		Jack Pine	93	Sapling	4	26	
56	4130 - Aspen	Sapling Well	10.8	27	Immature	N/A	Stand was harvested in 1993 by Clarence Christian, permit #9-92. All oak and most red and white pine were left.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Red Maple	10	Sapling	2		
		Red Oak	3	Pole/Log	8		
		Quaking Aspen	7	Sapling	3		
		Bigtooth Aspen	70	Sapling/Pole	4	27	
		White Pine	3	Pole/Sap/Log	7		
		Red Pine	3	Log/XLog	14		
		Jack Pine	4	Sapling	3		
		Sub-Canopy Species	Density	Avg. Height	Size		
		Red Maple	Medium	< 5 feet	Sapling		
		Red Oak	Low	< 5 feet	Seeding		
		Hazelnut (Beaked)	Medium	< 5 feet	Tall Shrub		
57	6121 - Tamarack	Poletimber Well	15.4	113	111-140	N/A	Stand of pole sized tamarack. Stand consists of very low ground and serves as a good buffer to the Middle Branch of the Escanaba River. Do not harvest due to wet ground and BMP concerns.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Balsam Fir	5	Pole/Sapling	6		
		Black Spruce	45	Pole	8	118	
		Tamarack	50	Pole/Log	8	113	
		Sub-Canopy Species	Density	Avg. Height	Size		
		Balsam Fir	Low	< 5 feet	Sapling		
		Black Spruce	Low	< 5 feet	Sapling		
		Tag Alder	Low	< 5 feet	Tall Shrub		
58	42210 - Natural Red Pine	Sawtimber Medium	1.2	84	111-140	N/A	Unique island of natural red and white pine. Rocky knob, exposed bedrock. Remnant red & white pine with poor quality hardwood.
		Canopy Species	% Cover	Size Class	DBH	Age	
		White Pine	15	Log	16		
		Red Pine	85	Log	17	84	
		Sub-Canopy Species	Density	Avg. Height	Size		
		Balsam Fir	Medium	Variable	Sapling		
60	6220 - Alder/willow	Nonstocked	28.1			No	West Branch of the Black River. Numerous beaver dams throughout. Tag alder and willow exist along the edges.
201	4130 - Aspen	Sapling Well	27.6	36	51-80	N/A	Stand consists of a mix of deciduous and conifer. Fir is in very poor condition due to the budworm outbreak.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Quaking Aspen	80	Pole/Sapling	5	36	
		Red Maple	20	Sapling	4		
		Sub-Canopy Species	Density	Avg. Height	Size		
		Balsam Fir	Low	Variable	Sapling		
203	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Poor	12.4	74	51-80	N/A	Mixed lowland, mostly conifer with some balm, black ash and WB. Tag alder openings dispersed throughout the stand.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																		
204	42220 - Natural Jack Pine	Sapling Medium	6.1	34	1-50	N/A																			
205	6124 - Lowland Spruce-Fir	Poletimber Poor	9.4	79	51-80	N/A	BS & Tam with advanced regen of BS & BF underneath.																		
207	6120 - Lowland Cedar	Poletimber Medium	8.8	79	141-170	N/A	Mostly Cedar. Stocking is high between the patches of lowland brush. Patches of blown down timber filled in with tag alder, BS, Tam and cedar																		
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209	42330 - Upland Fir	Sapling Medium	12.7	34	1-50	N/A	Scattered openings in stand where regen has been poor due to shallow, sandy soils.																		
210	6121 - Tamarack	Sapling Well	16.8	39	1-50	N/A	Lowland BS & Tam. Mostly saplings with small poles (4-5") scattered.																		
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Tamarack	60	Pole/Sapling	6	39																					
Black Spruce	40	Pole/Sapling	6																						
211	4134 - Aspen, Spruce/Fir	Sapling Medium	9.1	24	Unspecified	N/A	Aspen regen with fir understory																		
212	4130 - Aspen	Sapling Well	21.8	34	1-50	N/A	St. John acquisition. Aspen regen with a few scattered WP & RP sawtimber super canopy trees.																		
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213	4130 - Aspen	Sapling Medium	5.1	24	Unspecified	N/A	Aspen with fir understory																		
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217	6122 - Black Spruce	Sapling Poor	3.3	79	1-50	N/A	Variable stand. Tag alder thickets and mixed conifers, some cedar.																		
218	6124 - Lowland Spruce-Fir	Sapling Medium	20.8	24	Unspecified	N/A	Mixed stand of BS, JP, Tam, BF. Stick nest observed on broken snag 20 ft high. No BA swings taken.																		
219	4130 - Aspen	Poletimber Well	10.2	24	1-50	N/A	Well stocked aspen stand. Some fir within the understory.																		
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																														
221	42290 - Natural Mixed Pine	Sapling Well	90.2	31	1-50	N/A	Stand consists of variable levels of mature pine with a heavy understory of fir, jack pine, and aspen. Mature pine is not dense enough to consider for a final harvest. Allow regeneration to become the dominant stand.																																														
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222	6229 - Mixed lowland shrub	Nonstocked	2.3			No																																															