



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72278

Entry Year 2024

Acreage: 1,062

County Crawford

Management Area: Kirtland's Warbler

Stand Examiner: Trevor Kubitskey

Legal Description:

T27N, R01W, Sections 29 & 30. Lovells Township.

Identified Planning Goals:

To maintain a healthy habitat for the endangered species *Dendroica kirtlandii* (Kirtland's Warbler) as well as taking into account structural diversity, species diversity and visual management. Another goal within this compartment is to maintain the Crawford Red Pine Natural Area. The entire compartment falls within long-term leased land that is leased to the National Guard and any management that occurs needs to be considerate of any National Guard operations.

Soil and topography:

Soils within the compartment consist of large areas of Grayling sands and small areas of Croswell and Graycalms sands in the uplands. In the lowlands within the compartment, soils mostly consist of Dawson-Loxley peats and Tawas-Leafriver mucks. The overall topography is fairly flat with some gentle rolling hills.

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

The compartment covers two full sections and is entirely under state ownership with a few scattered small parcels of private ownership around the south and east boundary. Both sections within the compartment are long-term leased lands by the National Guard (I.e L-1479 Act 154 P.A. 1935) and may need special considerations to fit military training needs. The lease allows for various military use but it does not allow any permanent buildings or encampments to be erected.

Unique Natural Features:

Kirtland Warbler habitat is a key natural feature of this compartment. With the varying ages of Jack Pine present, it provides important habitat. Another unique feature is the Crawford Red Pines Natural Area which is composed of stands 13, 14, 16 & 17 which are found in the southern edge of the compartment. This natural area falls under the designation of an ERA.

Archeological, Historical, and Cultural Features:

The Crawford Red Pine Natural Area is considered a historical feature. The Crawford Red Pine Natural Area is also known as Dyer Red Pines.

Special Management Designations or Considerations:

A large portion of the compartment is designated to Kirtland's Warbler habitat and is apart of the North Down Kirtland's Warbler Management Unit. The Crawford Red Pine Natural Area contains it's own management plan. This management plan outlines guidelines to maintain the Old-Growth characteristic of the area. No motorized vehicles or camping are allowed within the natural pine area per a Director's order. Military activity is discouraged within this area to help maintain a natural ecosystem.

Watershed and Fisheries Considerations:

The headwaters of Barker Creek fall into the SW portion of the compartment which is a tributary of the Au Sable.

Wildlife Habitat Considerations:

The primary objective in the compartment is to continue managing Jack Pine cover types that are suitable for the Kirtland's Warbler. With varying cover types within the compartment it also provides good cover and food sources for other wildlife such as Deer, Rabbits, Grouse, Woodcock, and other various game and non-game species.

Mineral Resource and Development Concerns and/or Restrictions

No known potential exists for commercial metallic mineral production in this part of the state. The nearest known active sand/gravel pit is the State-owned Bald Hill Clay Pit, which is about three miles north and is currently leased to the Crawford County Road Commission. There appears to be some potential for sand & gravel within the compartment, but sand & gravel rights in Sec 29 could only be leased to the DMVA, and surface use in Sec 30 may require permission from the DMVA. The compartment is just west of the Conners Marsh gas field. All the wells in the field have been plugged or temporarily abandoned. Potential for additional wells in the area is considered low at this time. There has been no recent

well permitting activity in the area. Most of the compartment is within the Camp Grayling reservation area and lands are leased to the DMVA. The mineral rights in Sec 29 are currently classified as Non-Leasable.

Vehicle Access:

Vehicle access is very good in and around the compartment with the exception of the designated natural area which prohibits the use of motorized vehicles.

Survey Needs:

None.

Recreational Facilities and Opportunities:

There are no designated recreational facilities or trails in the compartment. Recreational opportunities include hunting, hiking, site seeing and bird watching.

Fire Protection:

The compartment lies within a highly volatile cover type that has the potential for high intensity wildfires. Well established roads and good access would help fire response if need be.

Additional Compartment Information:

A large portion of this compartment has experienced past wildfire activity. Two fires have previously burned through the area: the 1990 Stephan Bridge Fire and the Bald Hill Fire.

The following reports from the Inventory are attached:

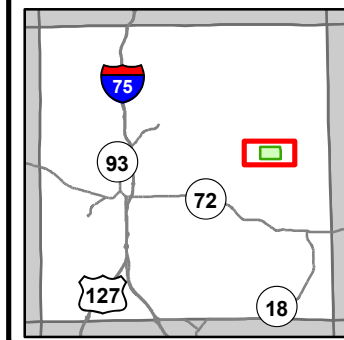
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

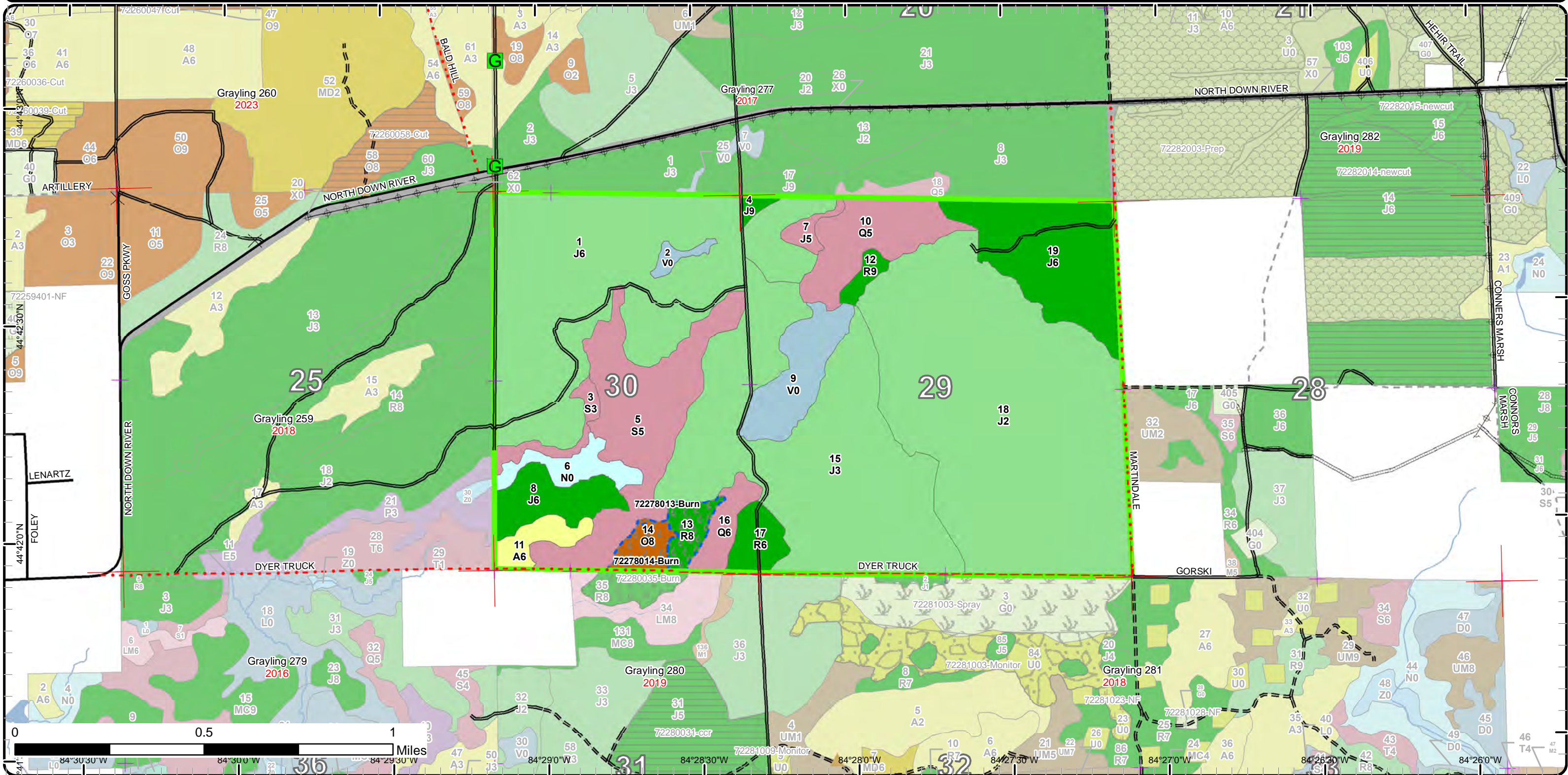
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 278
 T27N, R01W, Sec. 29-30
 County: Crawford
 Unit: Grayling
 Mgmt Area: Kirtland's Warbler
 YOE: 2024
 Acres: 1062 GIS Calculated
 Examiner: Trevor Kubitskey
 Map Revised: 12/28/2022
 Map Phase: Post-Review

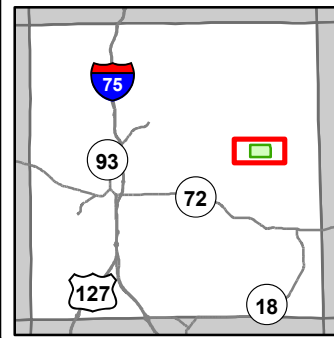


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- ▲ Berms
- G Gate
- ⋯ Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- ⊕ Powerline
- Compartment Boundary
- Treatments with Site Conditions
- Prescribed Burn
- 412 - Oak Types
- 413 - Aspen
- 421 - Planted Pines
- 422 - Natural Pines
- 612 - Lowland Coniferous Forest
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- X Camp Grayling Gates

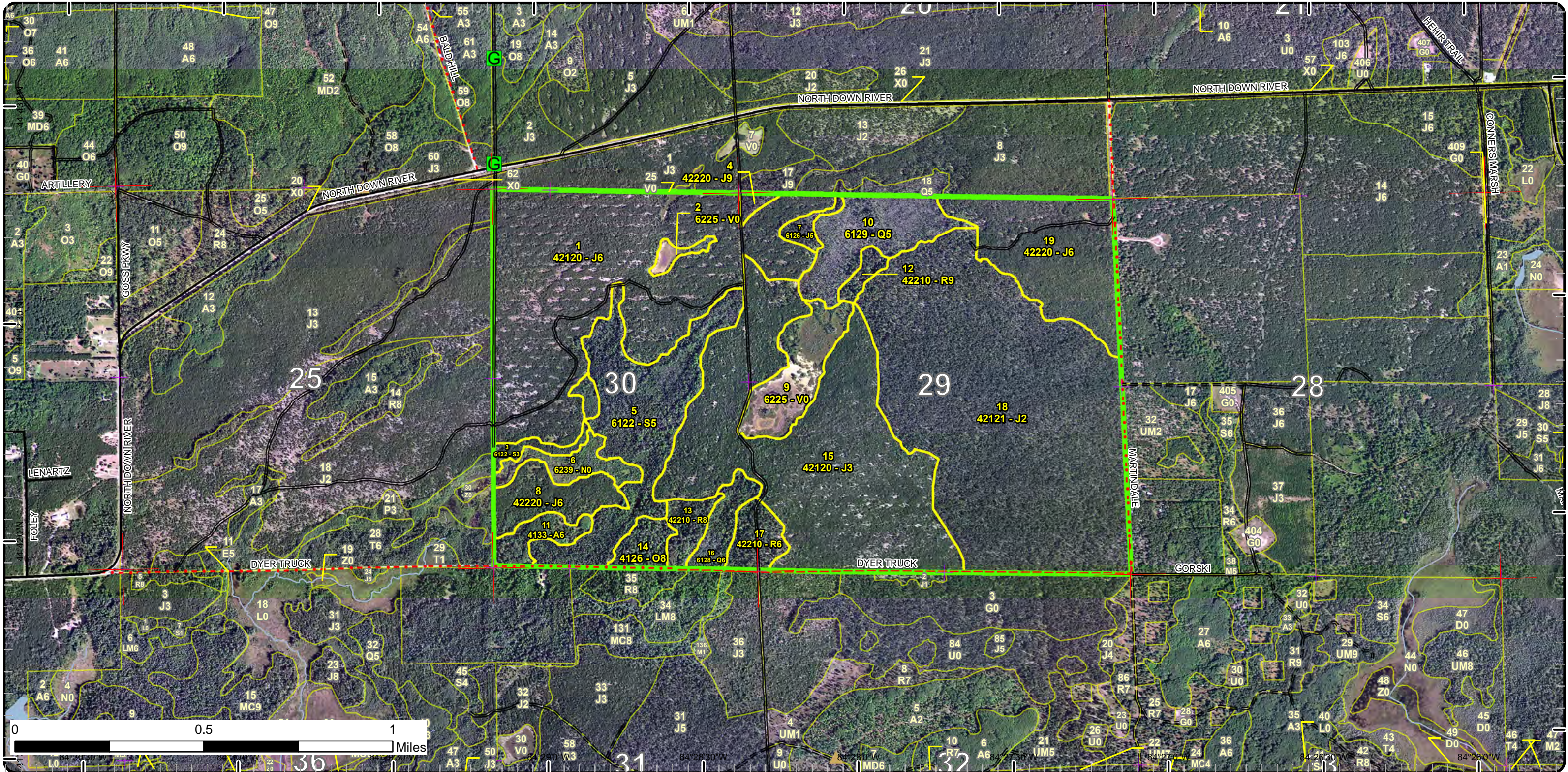


Stand Boundary Map

Compartment: 278
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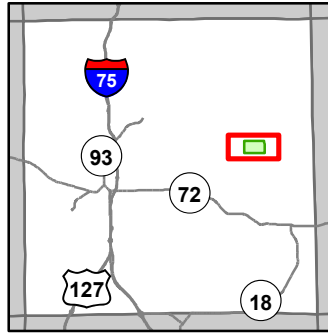


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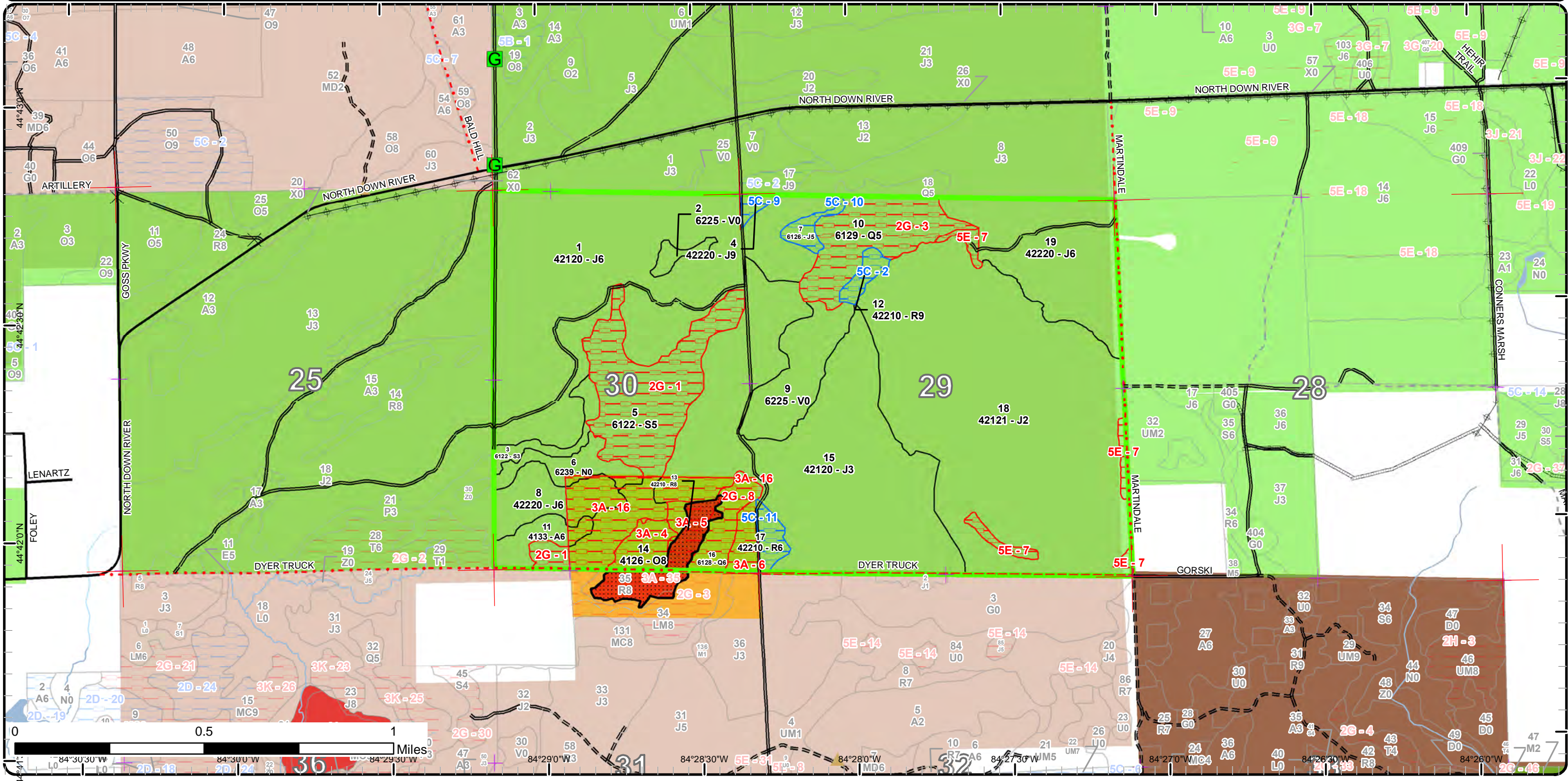


Special Conservation Areas

Compartment: 278
 T27N, R01W, Sec. 29-30
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- Gate
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2G: Too wet (sensitive soils, does not include access issues)
- 3A: Conservation Values incompatible with harvest at this time
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Ecological Reference Areas
- Kirtland Warbler Habitat
- Cold Water Streams
- Cold Water Lakes
- Non-Dedicated Natural Areas and National Natural Landmarks
- Type 1 and Type 2 Old Growth
- Wildlife Management Areas
- Research, Development, and Military Lands
- Camp Grayling Gates



Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit

Compartment 278 Year of Entry 2024

Trevor Kubitskey : Examiner



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	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Bog	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Jack Pine	0	289	0	204	240	72	0	5	3	0	0	0	0	0	0	0	0	0	813
Lowland Conifers	0	0	0	0	0	0	0	0	40	13	0	0	0	0	0	0	0	0	53
Lowland Spruce/Fir	0	0	0	0	0	9	0	0	0	0	83	0	0	0	0	0	0	0	92
Marsh	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Oak	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	11
Red Pine	0	0	0	0	0	0	0	0	0	14	5	0	0	0	0	0	0	11	30
Total	51	289	0	216	240	81	0	5	43	38	88	0	0	0	0	0	0	11	1062



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2024

Acres of Harvest

Compartment 278

Total Compartment Acres: 1,062

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

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	0	0	0	0	21	0	0	0	0	21
Next Step	0	0	0	0	0	21	21	0	0	43
Total	0	0	0	0	21	21	21	0	0	64



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	Habitat Cut
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Approved Treatments:

13	72278013-Burn	10.8	42210 - Natural Red Pine	Sawtimber Medium	158	111-140	Burn	Understory	42210 - Natural Red Pine	Uneven-Aged	No
<p><u>Prescription</u> Rx burn to help maintain a natural pine community and to assist in maintaining the Dyer Red Pine ERA.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Prescribed Burn</p> <p><u>Treatments:</u> ; Pesticide, Hand Application</p> <p><u>Acceptable Regen:</u> Cutting and herbicide may also be used to control the RM & fir understory competition if burning alone cannot meet that objective. Herbicide may also be used to control invasive plants within the Dyer Red Pine ERA.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition:</u> Conservation Values</p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>											
14	72278014-Burn	10.6	4126 - White, Black, N. Pin Oak	Sawtimber Medium	83	81-110	Burn	Understory	4310 - Pine, Oak Mix	Two-Aged	No
<p><u>Prescription</u> An extension of the Rx burn to the east. Utilize a low, to moderate intensity burn to help maintain and enhance the Natural Pine/Oak community within the Dyer Road Red Pines Natural Area. Heavy aspen/red maple encroachment in area.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Prescribed Burn</p> <p><u>Treatments:</u> ; Pesticide, Hand Application</p> <p><u>Acceptable Regen:</u> Cutting and herbicide may also be used to control the RM & fir understory competition if burning alone cannot meet that objective. Herbicide may also be used to control invasive plants within the Dyer Red Pine ERA.</p> <p><u>Other Comment:</u> Rx burn falls within the management guidelines for Non-dedicated Natural Areas.</p> <p><u>Site Condition:</u> Conservation Values</p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>											

Total Treatment Acreage Proposed: 21.4

Report 4 – Site Conditions

Grayling Mgt. Unit

Trevor Kubitskey : Examiner

Compartment: 278

Year of Entry: 2024

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	2G	3A	5E
		With Condition	Not Available					
12	10	0	2	Aspen			2	
36	36	0	0	Bog				
812	778	8	26	Jack Pine	8		16	9
53	0	0	53	Lowland Conifers		53		
92	9	0	83	Lowland Spruce/Fir		66	17	
15	13	0	2	Marsh			2	
11	0	0	11	Oak			11	
30	0	12	18	Red Pine	12	0	18	
1,062	847	20	195	Total Forested Acres	20	119	66	9
	80%	2%	18%	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	Dominant Site Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable		2G: Too wet (sensitive soils, does not include access issues)	66	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Very wet in majority of the stand.</p>								
2	Available		5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Site has large diameter red pine provides nice vertical and stand structure to the compartment. Many of these large diameter trees could be candidates for legacy trees.</p>								

Report 4 – Site Conditions

Grayling Mgt. Unit

Compartment: 278

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Year of Entry: 2024

3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	40	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
Comments: Provides good wildlife habitat and adds to the compartments species diversity. The super canopy white pine provide vertical diversity as well as structural diversity to the stand and compartment.							
4	Unavailable	3A: Conservation Values incompatible with harvest at this time	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Non-Dedicated Natural Area							
5	Unavailable	3A: Conservation Values incompatible with harvest at this time	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Part of the Dyer Red Pine Area.							
6	Unavailable	3A: Conservation Values incompatible with harvest at this time	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Non-Dedicated Natural Area - Crawford Red Pines Natural Area.							
7	Unavailable	5E: Long-Term Retention	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	14	3A: Conservation Values incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
Comments: Stand is within Dyer Red Natural Area. Majority of stand is very wet especially in the southern portions.							

Report 4 – Site Conditions

Grayling Mgt. Unit

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9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold and treat until the surrounding management block is ready for harvest. Stand provides good diversity among a large area of planted Jack Pine.							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold and treat with the surrounding management block.							
11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: West half of stand falls into the Dyer Road Natural Area. This portion is outside the Natural Area boundary and should be managed with the adjacent J3 stand.							
16	Unavailable	3A: Conservation Values incompatible with harvest at this time	38	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Crawford Red Pines Non-dedicated Natural Area.							

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	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																				
1	42120 - Planted Jack Pine	Poletimber Well	215.3	32	1-50	N/A	Jack Pine planted in 1989. Is within the Down River Road Kirtland's Warbler Management Block 68. Southwestern parts were burned in the 1990 Stephan Bridge Fire. Does have a small bog inclusion in the north as well as some transitional ground near the lowland types especially around stand 5.																																																				
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2	6225 - Bog	Nonstocked	4.0		Unspecified	No	Field inventory done with snow on conditions. Appears to hold water or at one point held water. Sedge mats consistent throughout with the eastern half containing the shrubs and trees.																																																				
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3	6122 - Black Spruce	Sapling Well	9.0	44	Unspecified	N/A	Transitional stand from a dry upland jack pine plantation to a lowland. Appears to have had portions burned by a fire. Very thick. Some tag alder inclusions. Areas to the west are less stocked with spruce but contain a lowland type Jack Pine with leatherleaf dominating most of the ground cover. Cores from the spruce indicate the age is roughly 40-45 y.o																																																				
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4	42220 - Natural Jack Pine	Sawtimber Well	2.8	74	111-140	N/A	Natural Mixed Pine stand. Canopy gaps starting to form due to decline in the Jack Pine. Stand BA averaged out a 140 sq ft. Cores from multiple trees indicate some stagnation present especially in the intermediate red pine poles. Overstory oak is almost completely dead with the majority of the oak saps along the two track road. 4.2" DBH Red Pine was aged at 42 years old.																																																				
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments			
5	6122 - Black Spruce	Poletimber Medium	83.2	92	51-80	N/A	Large variable lowland stand that currently still has an open timber sale contract; 72-646-14 Dyer Rd Low Land. Areas of higher stocking as well as areas of blowdown. Water table fluctuates throughout.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Paper Birch		6	Pole	8		Balsam Fir		Medium	Variable	Sapling
Balsam Fir		10	Pole/Log	9		Tamarack		Medium	Variable	Sapling
White Pine		5	Log/Pole	12		Tag Alder		High	Variable	Tall Shrub
Black Spruce		65	Pole/Log	8	92	Black Spruce		Medium	Variable	Sapling
Northern White Cedar		8	Log/Pole	12						
Tamarack		6	Pole/Log	7						
6	6239 - Mixed Emergent Wetland	Nonstocked	14.8		Unspecified	No	Mixed shrub lowland, low density trees and open water. Vegetation is mostly black spruce, tamarack, tag alder and sedges. Lots of snags present throughout. There is moving water within the stand that moved between this stand and stand 5. Did notice some beaver activity. Small island in the east.			
Sub-Canopy Species		Density	Avg. Height	Size						
Tag Alder		Medium	5 - 10 feet	Tall Shrub						
Black Spruce		Low	Variable	Sapling						
Tamarack		Low	Variable	Sapling						
7	6126 - Lowland Jack Pine	Poletimber Medium	5.3	65	81-110	N/A	Appears to be a transitional stand between upland jack pine to lowland conifers. Overall lower ground but has upland portions. Very slight topo changes throughout but noticeable indicator species change from drier ground to wetter.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Black Spruce		30	Pole	7		Black Spruce		Medium	Variable	Sapling
Jack Pine		60	Pole/Log	9	65	Red Pine		Low	Variable	Sapling
Northern Pin Oak		5	Pole/Log	8		Jack Pine		Low	Variable	Sapling
Red Pine		5	Log/Pole/XLog	10		Northern Pin Oak		Low	10 - 20 feet	Sapling
						Black Cherry		Low	Variable	Sapling
						Leatherwood		Medium	< 5 feet	Tall Shrub
						White Pine	Trace	< 5 feet	Seeding	
8	42220 - Natural Jack Pine	Poletimber Well	24.8	30	51-80	N/A	Natural jack pine stand that regenerated from the Stephan Bridge Fire in 1990. Density, size and composition variable. Scattered aspen clones present throughout with intermixed pin oak. Some lower areas that almost appear to be drainages have the subcanopy of black spruce. Areas with less canopy cover have more of an upland brush appearance with scattered cherry shrubs and oak. Stand falls within the Down River KW Management Block 68.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Northern Pin Oak		5	Pole/Sapling	6		Northern Pin Oak		Low	5 - 10 feet	Sapling
Jack Pine		88	Pole/Sapling	5	30	Black Cherry		Low	5 - 10 feet	Tall Shrub
Quaking Aspen		7	Pole	6		Black Spruce	Low	Variable	Sapling	
9	6225 - Bog	Nonstocked	32.4		Unspecified	No	Bog/Marsh with clumps of trees mostly present in the north. The extent of the trees is mostly scattered jack pine and black spruce with intermixed tamarack and even some red pine saplings on the 'drier' mounds. Almost appears wetter in the southern portion due to lesser densities of trees. Inventory was done with snow on the ground. Mosses and lowland vegetation such as leatherleaf, labrador tea and some blueberry. Was originally documented as an ERA, but has further been identified as a Natural Community.			
Sub-Canopy Species		Density	Avg. Height	Size						
Leatherleaf		High	< 5 feet	Tall Shrub						
Red Pine		Trace	Variable	Sapling						
Jack Pine		Low	>20 feet	Pole						
Black Spruce		Low	>20 feet	Pole						
White Pine		Trace	>20 feet	Log						
Jack Pine		Low	5 - 10 feet	Sapling						
Tamarack		Medium	5 - 10 feet	Sapling						
Black Spruce		Low	5 - 10 feet	Sapling						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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10	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	39.9	76	51-80	N/A	Age on subcanopy is an estimate. Stand has a well established young cohort of trees. There is some decline in the overstory trees so there may be a very good chance that the sub canopy will be the featured stand next entry. There are some pockets within the stand that are dominated with Tag Alder.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Tamarack		40	Pole	8	76	Gray Dogwood		Low	5 - 10 feet	Tall Shrub	
Paper Birch		5	Pole	5		Nannyberry		Low	5 - 10 feet	Tall Shrub	
Red Pine		5	Log	15		Tag Alder		Low	5 - 10 feet	Tall Shrub	
Black Spruce		40	Pole	7		Black Spruce		High	Variable	Sapling	
White Pine		10	XLog	18		Tamarack		High	Variable	Sapling	
						White Pine		Low	5 - 10 feet	Sapling	
						Leatherleaf		High	< 5 feet	Tall Shrub	

11	4133 - Aspen, Mixed Pine	Poletimber Well	12.3	27	81-110	N/A	Harvested in 94 (72-055-94-01). Fairly good pine/conifer component throughout this stand. Small drainage runs through central portion and along the northern edge. Aspen is doing well. SW portion of stand contains super canopy/ legacy red pine. Eastern portion contains openings with scrubby cherry brush, jack pine and pin oak. Majority of the oak is in the eastern half.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Northern Pin Oak		2	Pole/Sapling	7		Tag Alder		Low	Variable	Tall Shrub	
Jack Pine		10	Pole/Sapling	7		Black Cherry		Low	5 - 10 feet	Tall Shrub	
Red Pine		10	XLog/Log	18	96	Black Spruce		Low	5 - 10 feet	Sapling	
Red Maple		1	Log	14		Tamarack		Trace	10 - 20 feet	Sapling	
White Pine		3	Pole	8		Red Pine		Medium	5 - 10 feet	Sapling	
Quaking Aspen		64	Pole/Sapling	6	27	Jack Pine		Low	5 - 10 feet	Sapling	
Balsam Fir		5	Pole	6		Balsam Fir		Low	Variable	Sapling	
Black Cherry		5	Pole/Sapling	5							

12	42210 - Natural Red Pine	Sawtimber Well	5.3	91	111-140	N/A	Nice natural stand of Red Pine. Appears that is growing on a 'upland' island on some lower ground. Overall canopy cover appears to be decreasing with some dieback of larger pines on the edges possibly due to water table fluctuations. Lots of subcanopy development of mixed pine and black spruce. Stand appears to have once extended into the middle of stand 10. Multi aged stand with the overall age of the red pine around 91, some of the larger white and red pine averaged 113 y.o. Legacy trees present with White Pine topping out at 33" DBH.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		3	Pole	8		Northern Pin Oak		Low	10 - 20 feet	Sapling	
Black Spruce		2	Pole	7		Nannyberry		Low	5 - 10 feet	Tall Shrub	
Red Pine		65	Log/XLog	16	91	Balsam Fir		Low	5 - 10 feet	Sapling	
Jack Pine		10	Log	10	79	Paper Birch		Low	10 - 20 feet	Sapling	
White Pine		20	XLog/Log/Pole	18	113	Black Spruce		Medium	Variable	Sapling	
						Tamarack		Low	10 - 20 feet	Sapling	
						White Pine		Medium	Variable	Sapling	
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						Black Cherry		Low	5 - 10 feet	Tall Shrub	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																										
13	42210 - Natural Red Pine	Sawtimber Medium	10.8	158	111-140	N/A	Stand is within the Crawford Red Pines Natural Area or also know as the Dyer Natural Area. Very large, supercanopy Red Pine with diameters varying from 22" DBH all the way up to 30" DBH. Heavier canopy cover of featured Red Pine in the south with more canopy gaps moving north. Very minor decline within the pine. History of prescribed burning to aid in the regeneration of the younger cohort of pine seemed to work very well. The stand has a very dense subcanopy of mixed pine varying from saps to poles. Based on cores from the smaller diameter RP (pole size class) there is some stagnation occurring due to the density of the subcanopy.																																																																										
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14	4126 - White, Black, N. Pin Oak	Sawtimber Medium	10.7	83	81-110	N/A	Stand falls within the Crawford Red Pines Natural Area or Dyer Natural Area. Stand was salvaged in 1994 removing all dead oak. The overall health of the Oak is declining significantly. White Oak is healthy, Pin Oak is in rough shape. Variable regeneration throughout consisting mostly of maple and red pine. Old records also indicate that there has been history of prescribed burns in this stand. Overall canopy cover is decreasing due to mortality within the canopy. O8,R7, UM3																																																																										
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15	42120 - Planted Jack Pine	Sapling Well	203.6	26	1-50	N/A	Jack pine planted in 1996. Down River Kirtland's Warbler Management Area block 69. Records indicate that two warblers were counted in this stand in 2004. Overall is still a sapling sized stand. Areas around stand 9 are very dense and contain smaller diameters. Scattered pockets of red and white pine poles.																																																																										
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16	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	13.4	82	81-110	N/A	Stand falls into the Dyer Natural Area. Canopy is sparse in the south with tamarack dominating in the canopy and red maple, tag alder in the understory. Moving north, stand transitions into a mixed black spruce, northern white cedar stand with intermixed birch and red maple. White pines present mostly towards the edges. Standing water in some interior pockets. Blowdown and coarse woody debris found throughout. Cedar saplings were found along edges of canopy gaps, but did note that some smaller poles of cedar have been stunted out (dead tops, yellowing needles, etc.). Good wildlife stand.																																																																										
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																											
17	42210 - Natural Red Pine	Poletimber Well	14.1	83	81-110	N/A	Natural Mixed Pine/Oak stand. The natural area has it's own management plan. Stand has a variety of size classes ranging from poles to supercanopy XLog Red Pine with some measuring over 30" DBH. Oak is declining within the stand. Canopy gaps are yielding a good variety of natural pine regeneration.																																																											
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18	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	288.8	4	Immature	N/A	Overall height of the planted pine is ~ 2 ft. Eastern portions have taller stems but also more competition of Pin Oak. Half the planted jack pine reaches the 3 feet artificial regen minimum for forested stand but there are still portions of the stand that are under the minimum. Areas in the north where the terrain drops down into lower ground doesn't appear as well stocked as the rest of the stand. Trenches look good, not filling in.																																																											
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19	42220 - Natural Jack Pine	Poletimber Well	71.7	45	51-80	N/A	Natural Jack Pine stand regenerated after the Bald Hill Fire in 1975. Part of KW block 70. Overall seems small for 45 y.o. Overall pole size with just reaching merchantability but still contains many areas of saps. Some patches of jack pine logs.																																																											
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Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72278

Entry Year 2024

Acreage: 1,062

County Crawford

Management Area: Kirtland's Warbler

Stand Examiner: Trevor Kubitskey

Legal Description:

T27N, R01W, Sections 29 & 30. Lovells Township.

Identified Planning Goals:

To maintain a healthy habitat for the endangered species *Dendroica kirtlandii* (Kirtland's Warbler) as well as taking into account structural diversity, species diversity and visual management. Another goal within this compartment is to maintain the Crawford Red Pine Natural Area. The entire compartment falls within long-term leased land that is leased to the National Guard and any management that occurs needs to be considerate of any National Guard operations.

Soil and topography:

Soils within the compartment consist of large areas of Grayling sands and small areas of Croswell and Graycalms sands in the uplands. In the lowlands within the compartment, soils mostly consist of Dawson-Loxley peats and Tawas-Leafriver mucks. The overall topography is fairly flat with some gentle rolling hills.

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

The compartment covers two full sections and is entirely under state ownership with a few scattered small parcels of private ownership around the south and east boundary. Both sections within the compartment are long-term leased lands by the National Guard (I.e L-1479 Act 154 P.A. 1935) and may need special considerations to fit military training needs. The lease allows for various military use but it does not allow any permanent buildings or encampments to be erected.

Unique Natural Features:

Kirtland Warbler habitat is a key natural feature of this compartment. With the varying ages of Jack Pine present, it provides important habitat. Another unique feature is the Crawford Red Pines Natural Area which is composed of stands 13, 14, 16 & 17 which are found in the southern edge of the compartment. This natural area falls under the designation of an ERA.

Archeological, Historical, and Cultural Features:

The Crawford Red Pine Natural Area is considered a historical feature. The Crawford Red Pine Natural Area is also known as Dyer Red Pines.

Special Management Designations or Considerations:

A large portion of the compartment is designated to Kirtland's Warbler habitat and is apart of the North Down Kirtland's Warbler Management Unit. The Crawford Red Pine Natural Area contains its own management plan. This management plan outlines guidelines to maintain the Old-Growth characteristic of the area. No motorized vehicles or camping are allowed within the natural pine area per a Director's order. Military activity is discouraged within this area to help maintain a natural ecosystem.

Watershed and Fisheries Considerations:

The headwaters of Barker Creek fall into the SW portion of the compartment which is a tributary of the Au Sable.

Wildlife Habitat Considerations:

The primary objective in the compartment is to continue managing Jack Pine cover types that are suitable for the Kirtland's Warbler. With varying cover types within the compartment it also provides good cover and food sources for other wildlife such as Deer, Rabbits, Grouse, Woodcock, and other various game and non-game species.

Mineral Resource and Development Concerns and/or Restrictions

No known potential exists for commercial metallic mineral production in this part of the state. The nearest known active sand/gravel pit is the State-owned Bald Hill Clay Pit, which is about three miles north and is currently leased to the Crawford County Road Commission. There appears to be some potential for sand & gravel within the compartment, but sand & gravel rights in Sec 29 could only be leased to the DMVA, and surface use in Sec 30 may require permission from the DMVA. The compartment is just west of the Conners Marsh gas field. All the wells in the field have been plugged or temporarily abandoned. Potential for additional wells in the area is considered low at this time. There has been no recent

well permitting activity in the area. Most of the compartment is within the Camp Grayling reservation area and lands are leased to the DMVA. The mineral rights in Sec 29 are currently classified as Non-Leasable.

Vehicle Access:

Vehicle access is very good in and around the compartment with the exception of the designated natural area which prohibits the use of motorized vehicles.

Survey Needs:

None.

Recreational Facilities and Opportunities:

There are no designated recreational facilities or trails in the compartment. Recreational opportunities include hunting, hiking, site seeing and bird watching.

Fire Protection:

The compartment lies within a highly volatile cover type that has the potential for high intensity wildfires. Well established roads and good access would help fire response if need be.

Additional Compartment Information:

A large portion of this compartment has experienced past wildfire activity. Two fires have previously burned through the area: the 1990 Stephan Bridge Fire and the Bald Hill Fire.

The following reports from the Inventory are attached:

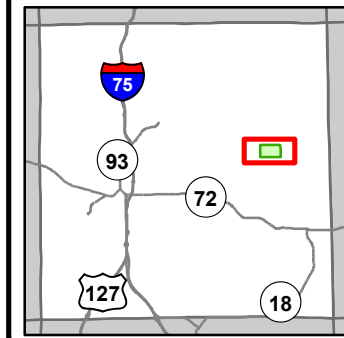
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

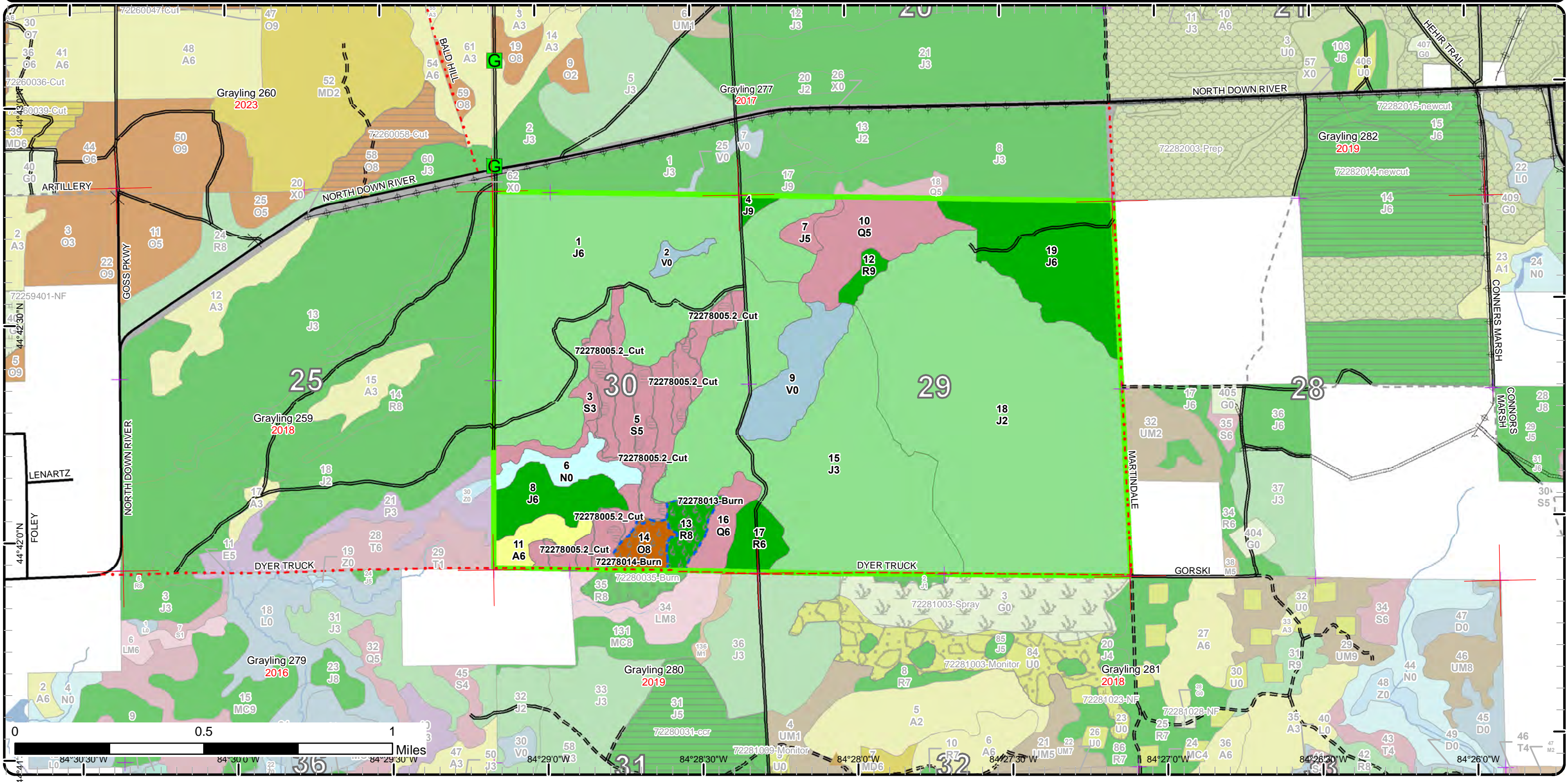
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 278
 T27N, R01W, Sec. 29-30
 County: Crawford
 Unit: Grayling
 Mgmt Area: Kirtland's Warbler
 YOE: 2024
 Acres: 1062 GIS Calculated
 Examiner: Trevor Kubitskey
 Map Revised: 12/27/2022
 Map Phase: Post-Review

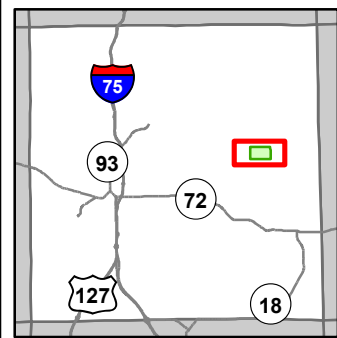


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- G Gate
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Treatments with Site Conditions
- Patch/Strip Cut (Femelschlag)
- Prescribed Burn
- 412 - Oak Types
- 413 - Aspen
- 421 - Planted Pines
- 422 - Natural Pines
- 612 - Lowland Coniferous Forest
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- X Camp Grayling Gates

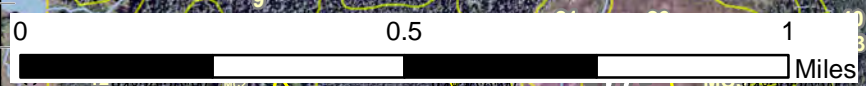
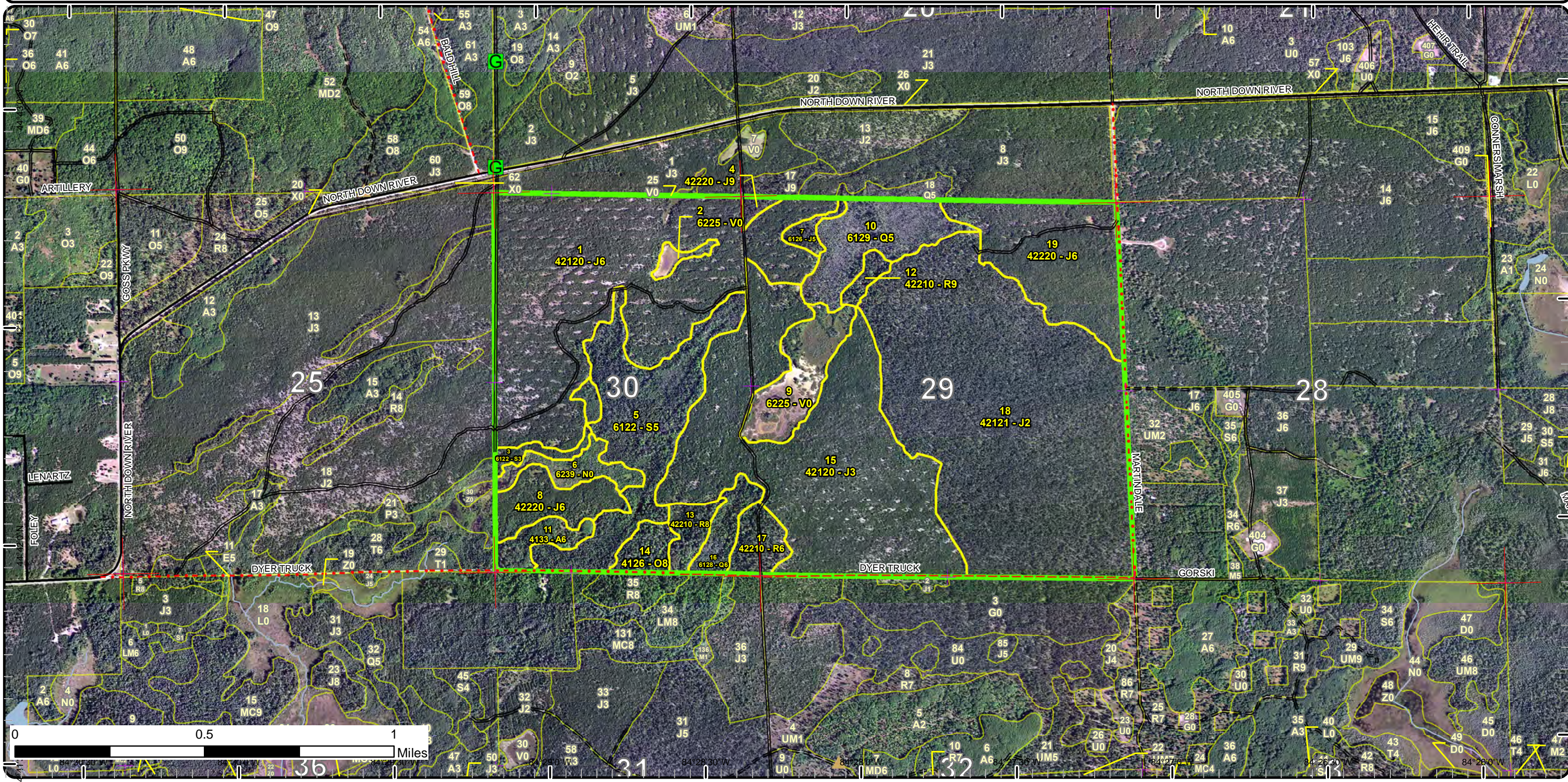


Stand Boundary Map

Compartment: 278
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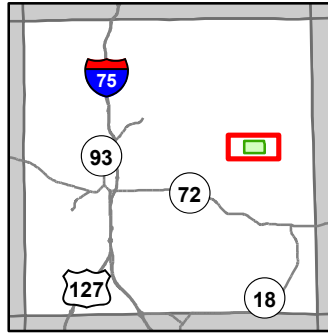


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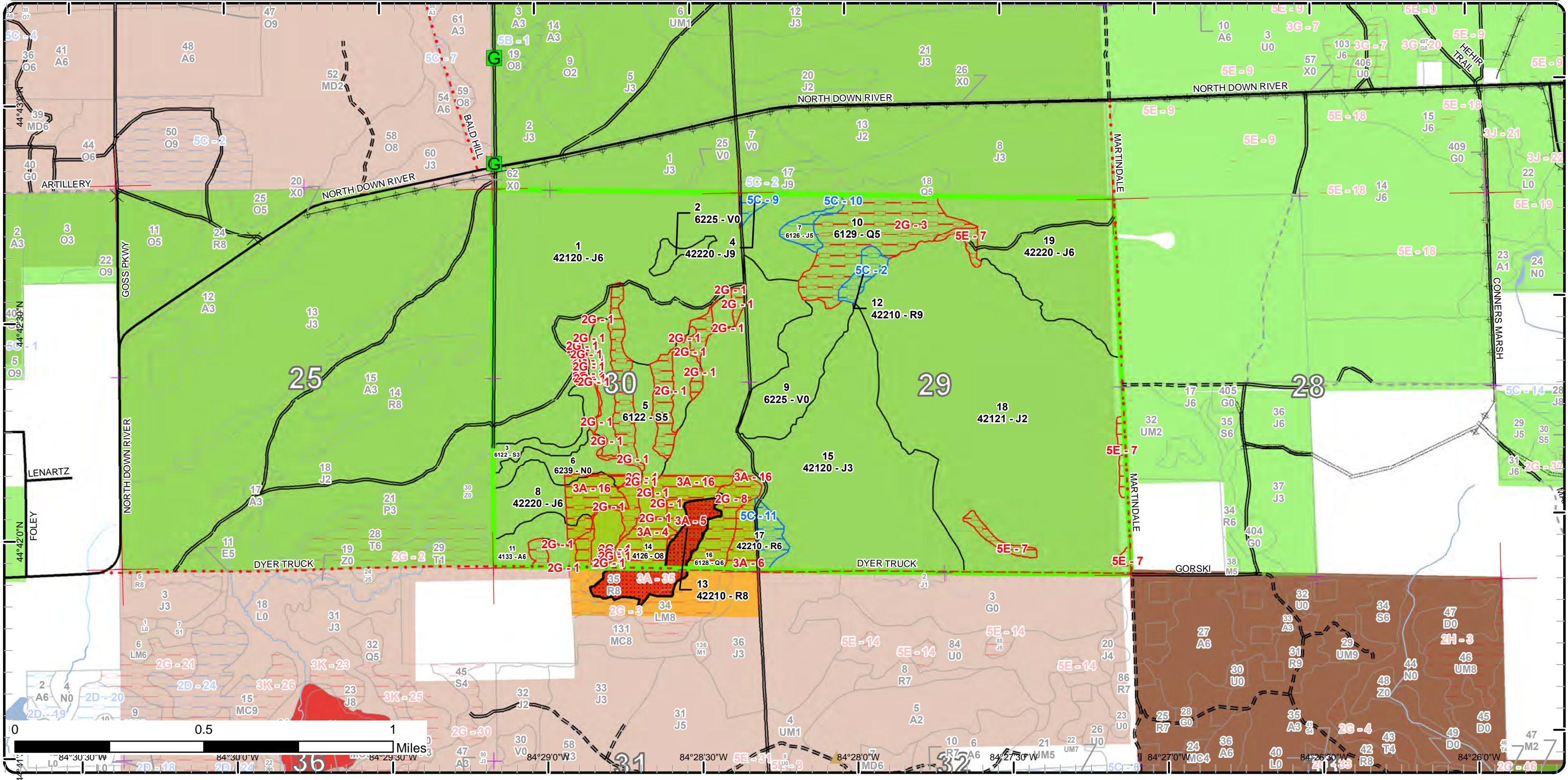


Special Conservation Areas

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- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Available w/ Constraints
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable
- 2G: Too wet (sensitive soils, does not include access issues)
- 3A: Conservation Values incompatible with harvest at this time
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Ecological Reference Areas
- Kirtland Warbler Habitat
- Cold Water Streams
- Cold Water Lakes
- Non-Dedicated Natural Areas and National Natural Landmarks
- Type 1 and Type 2 Old Growth
- Wildlife Management Areas
- Research, Development, and Military Lands
- X Camp Grayling Gates



Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit

Compartment 278 Year of Entry 2024

Trevor Kubitskey : Examiner



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	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Bog	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Jack Pine	0	289	0	204	240	72	0	5	3	0	0	0	0	0	0	0	0	0	813
Lowland Conifers	0	0	0	0	0	0	0	0	40	13	0	0	0	0	0	0	0	0	53
Lowland Spruce/Fir	0	0	0	0	0	9	0	0	0	0	83	0	0	0	0	0	0	0	92
Marsh	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Oak	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	11
Red Pine	0	0	0	0	0	0	0	0	0	14	5	0	0	0	0	0	0	11	30
Total	51	289	0	216	240	81	0	5	43	38	88	0	0	0	0	0	0	11	1062



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2024

Acres of Harvest

Compartment 278

Total Compartment Acres: 1,062

Commercial Harvest - 46
 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	0	0	46	0	0	0	0	0	0	46
Total	0	0	46	0	0	0	0	0	0	46

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	46	0	0	0	21	0	0	0	0	67
Next Step	0	0	0	0	0	21	67	0	0	89
Total	46	0	0	0	21	21	67	0	0	156



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

Approved Treatments:

5	72278005.2_C ut	46.0	6122 - Black Spruce	Poetimber Medium	92	51-80	Harvest	Strip/Patch/Gap Cut (Femelschlag)	6122 - Black Spruce	Even-Aged	No
<p><u>Prescription</u> Strip clearcut without retention. Alternated treatment/untreatment area will be 4 chains wide. Include regen protection spec and rabbitat spec in contract. Top will be left.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Moderate to well stocked black spruce with a mixture of lowland conifer and deciduous species.</p> <p><u>Regen:</u></p> <p><u>Other</u> Winter time harvest, which will provide a need for an extended contract length of at least 3 years. There will also be a need for an extended window for determining regen success.</p> <p><u>Comment:</u></p> <p><u>Site Condition:</u></p> <p>Proposed Start Date: 10/1 /2013</p>											
13	72278013- Burn	10.8	42210 - Natural Red Pine	Sawtimber Medium	158	111- 140	Burn	Understory	42210 - Natural Red Pine	Uneven- Aged	No
<p><u>Prescription</u> Rx burn to help maintain a natural pine community and to assist in maintaining the Dyer Red Pine ERA.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Prescribed Burn</p> <p><u>Treatments:</u> ; Pesticide, Hand Application</p> <p><u>Acceptable</u> Cutting and herbicide may also be used to control the RM & fir understory competition if burning alone cannot meet that objective. Herbicide</p> <p><u>Regen:</u> may also be used to control invasive plants within the Dyer Red Pine ERA.</p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition:</u> Conservation Values</p> <p>Proposed Start Date: 10/1 /2023</p>											
14	72278014- Burn	10.6	4126 - White, Black, N. Pin Oak	Sawtimber Medium	83	81-110	Burn	Understory	4310 - Pine, Oak Mix	Two-Aged	No
<p><u>Prescription</u> An extension of the Rx burn to the east. Utilize a low, to moderate intensity burn to help maintain and enhance the Natural Pine/Oak community within the Dyer Road Red Pines Natural Area. Heavy aspen/red maple encroachment in area.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Prescribed Burn</p> <p><u>Treatments:</u> ; Pesticide, Hand Application</p> <p><u>Acceptable</u> Cutting and herbicide may also be used to control the RM & fir understory competition if burning alone cannot meet that objective. Herbicide</p> <p><u>Regen:</u> may also be used to control invasive plants within the Dyer Red Pine ERA.</p> <p><u>Other</u> Rx burn falls within the management guidelines for Non-dedicated Natural Areas.</p> <p><u>Comment:</u></p> <p><u>Site Condition:</u> Conservation Values</p> <p>Proposed Start Date: 10/1 /2023</p>											

Total Treatment Acreage Proposed: 67.4

Report 4 – Site Conditions

Grayling Mgt. Unit

Compartment: 278

Trevor Kubitskey : Examiner

Year of Entry: 2024

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	2G	3A	5E
		With Condition	Not Available					
12	10	0	2	Aspen			2	
36	36	0	0	Bog				
812	778	8	26	Jack Pine	8		16	9
53	0	0	53	Lowland Conifers		53		
92	54	0	38	Lowland Spruce/Fir		38		
15	13	0	2	Marsh			2	
11	0	0	11	Oak		0	11	
30	0	12	18	Red Pine	12	0	18	
1,062	892	20	150	Total Forested Acres	20	92	49	9
	84%	2%	14%	Relative Percent				

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	38	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Very wet in majority of the stand.							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Site has large diameter red pine provides nice vertical and stand structure to the compartment. Many of these large diameter trees could be candidates for legacy trees.							

Report 4 – Site Conditions

Grayling Mgt. Unit

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Trevor Kubitskey : Examiner

Year of Entry: 2024

3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	40	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
Comments: Provides good wildlife habitat and adds to the compartments species diversity. The super canopy white pine provide vertical diversity as well as structural diversity to the stand and compartment.							
4	Unavailable	3A: Conservation Values incompatible with harvest at this time	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Non-Dedicated Natural Area							
5	Unavailable	3A: Conservation Values incompatible with harvest at this time	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Part of the Dyer Red Pine Area.							
6	Unavailable	3A: Conservation Values incompatible with harvest at this time	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Non-Dedicated Natural Area - Crawford Red Pines Natural Area.							
7	Unavailable	5E: Long-Term Retention	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	14	3A: Conservation Values incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
Comments: Stand is within Dyer Red Natural Area. Majority of stand is very wet especially in the southern portions.							

Report 4 – Site Conditions

Grayling Mgt. Unit

Compartment: 278

Trevor Kubitskey : Examiner

Year of Entry: 2024

9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	3	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Hold and treat until the surrounding management block is ready for harvest. Stand provides good diversity among a large area of planted Jack Pine.</p>							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Hold and treat with the surrounding management block.</p>							
11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: West half of stand falls into the Dyer Road Natural Area. This portion is outside the Natural Area boundary and should be managed with the adjacent J3 stand.</p>							
16	Unavailable	3A: Conservation Values incompatible with harvest at this time	20	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Crawford Red Pines Non-dedicated Natural Area.</p>							

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	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																				
1	42120 - Planted Jack Pine	Poletimber Well	215.3	32	1-50	N/A	Jack Pine planted in 1989. Is within the Down River Road Kirtland's Warbler Management Block 68. Southwestern parts were burned in the 1990 Stephan Bridge Fire. Does have a small bog inclusion in the north as well as some transitional ground near the lowland types especially around stand 5.																																																				
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2	6225 - Bog	Nonstocked	4.0		Unspecified	No	Field inventory done with snow on conditions. Appears to hold water or at one point held water. Sedge mats consistent throughout with the eastern half containing the shrubs and trees.																																																				
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3	6122 - Black Spruce	Sapling Well	9.0	44	Unspecified	N/A	Transitional stand from a dry upland jack pine plantation to a lowland. Appears to have had portions burned by a fire. Very thick. Some tag alder inclusions. Areas to the west are less stocked with spruce but contain a lowland type Jack Pine with leatherleaf dominating most of the ground cover. Cores from the spruce indicate the age is roughly 40-45 y.o																																																				
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4	42220 - Natural Jack Pine	Sawtimber Well	2.8	74	111-140	N/A	Natural Mixed Pine stand. Canopy gaps starting to form due to decline in the Jack Pine. Stand BA averaged out a 140 sq ft. Cores from multiple trees indicate some stagnation present especially in the intermediate red pine poles. Overstory oak is almost completely dead with the majority of the oak saps along the two track road. 4.2" DBH Red Pine was aged at 42 years old.																																																				
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5	6122 - Black Spruce	Poletimber Medium	83.2	92	51-80	N/A	Large variable lowland stand that currently still has an open timber sale contract; 72-646-14 Dyer Rd Low Land. Areas of higher stocking as well as areas of blowdown. Water table fluctuates throughout.																																																					
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6	6239 - Mixed Emergent Wetland	Nonstocked	14.8		Unspecified	No	Mixed shrub lowland, low density trees and open water. Vegetation is mostly black spruce, tamarack, tag alder and sedges. Lots of snags present throughout. There is moving water within the stand that moved between this stand and stand 5. Did notice some beaver activity. Small island in the east.																																																					
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7	6126 - Lowland Jack Pine	Poletimber Medium	5.3	65	81-110	N/A	Appears to be a transitional stand between upland jack pine to lowland conifers. Overall lower ground but has upland portions. Very slight topo changes throughout but noticeable indicator species change from drier ground to wetter.																																																					
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8	42220 - Natural Jack Pine	Poletimber Well	24.8	30	51-80	N/A	Natural jack pine stand that regenerated from the Stephan Bridge Fire in 1990. Density, size and composition variable. Scattered aspen clones present throughout with intermixed pin oak. Some lower areas that almost appear to be drainages have the subcanopy of black spruce. Areas with less canopy cover have more of an upland brush appearance with scattered cherry shrubs and oak. Stand falls within the Down River KW Management Block 68.																																																					
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9	6225 - Bog	Nonstocked	32.4		Unspecified	No	Bog/Marsh with clumps of trees mostly present in the north. The extent of the trees is mostly scattered jack pine and black spruce with intermixed tamarack and even some red pine saplings on the 'drier' mounds. Almost appears wetter in the southern portion due to lesser densities of trees. Inventory was done with snow on the ground. Mosses and lowland vegetation such as leatherleaf, labrador tea and some blueberry. Was originally documented as an ERA, but has further been identified as a Natural Community.																																																					
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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10	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	39.9	76	51-80	N/A	Age on subcanopy is an estimate. Stand has a well established young cohort of trees. There is some decline in the overstory trees so there may be a very good chance that the sub canopy will be the featured stand next entry. There are some pockets within the stand that are dominated with Tag Alder.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Tamarack		40	Pole	8	76	Leatherleaf		High	< 5 feet	Tall Shrub	
Paper Birch		5	Pole	5		Tag Alder		Low	5 - 10 feet	Tall Shrub	
Red Pine		5	Log	15		Tamarack		High	Variable	Sapling	
White Pine		10	XLog	18		Black Spruce		High	Variable	Sapling	
Black Spruce		40	Pole	7		Nannyberry		Low	5 - 10 feet	Tall Shrub	
						White Pine		Low	5 - 10 feet	Sapling	
						Gray Dogwood		Low	5 - 10 feet	Tall Shrub	

11	4133 - Aspen, Mixed Pine	Poletimber Well	12.3	27	81-110	N/A	Harvested in 94 (72-055-94-01). Fairly good pine/conifer component throughout this stand. Small drainage runs through central portion and along the northern edge. Aspen is doing well. SW portion of stand contains super canopy/ legacy red pine. Eastern portion contains openings with scrubby cherry brush, jack pine and pin oak. Majority of the oak is in the eastern half.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		1	Log	14		Balsam Fir		Low	Variable	Sapling	
Black Cherry		5	Pole/Sapling	5		Black Spruce		Low	5 - 10 feet	Sapling	
Balsam Fir		5	Pole	6		Tamarack		Trace	10 - 20 feet	Sapling	
Quaking Aspen		64	Pole/Sapling	6	27	Black Cherry		Low	5 - 10 feet	Tall Shrub	
Northern Pin Oak		2	Pole/Sapling	7		Red Pine		Medium	5 - 10 feet	Sapling	
Red Pine		10	XLog/Log	18	96	Tag Alder		Low	Variable	Tall Shrub	
Jack Pine		10	Pole/Sapling	7		Jack Pine		Low	5 - 10 feet	Sapling	
White Pine		3	Pole	8							

12	42210 - Natural Red Pine	Sawtimber Well	5.3	91	111-140	N/A	Nice natural stand of Red Pine. Appears that is growing on a 'upland' island on some lower ground. Overall canopy cover appears to be decreasing with some dieback of larger pines on the edges possibly due to water table fluctuations. Lots of subcanopy development of mixed pine and black spruce. Stand appears to have once extended into the middle of stand 10. Multi aged stand with the overall age of the red pine around 91, some of the larger white and red pine averaged 113 y.o. Legacy trees present with White Pine topping out at 33" DBH.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Jack Pine		10	Log	10	79	Tamarack		Low	10 - 20 feet	Sapling	
Black Spruce		2	Pole	7		Red Pine		Medium	Variable	Sapling	
Red Maple		3	Pole	8		White Pine		Medium	Variable	Sapling	
White Pine		20	XLog/Log/Pole	18	113	Black Cherry		Low	5 - 10 feet	Tall Shrub	
Red Pine		65	Log/XLog	16	91	Nannyberry		Low	5 - 10 feet	Tall Shrub	
						Black Spruce		Medium	Variable	Sapling	
						Northern Pin Oak		Low	10 - 20 feet	Sapling	
						Balsam Fir		Low	5 - 10 feet	Sapling	
						Paper Birch		Low	10 - 20 feet	Sapling	



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13	42210 - Natural Red Pine	Sawtimber Medium	10.8	158	111-140	N/A	Stand is within the Crawford Red Pines Natural Area or also know as the Dyer Natural Area. Very large, supercanopy Red Pine with diameters varying from 22" DBH all the way up to 30" DBH. Heavier canopy cover of featured Red Pine in the south with more canopy gaps moving north. Very minor decline within the pine. History of prescribed burning to aid in the regeneration of the younger cohort of pine seemed to work very well. The stand has a very dense subcanopy of mixed pine varying from saps to poles. Based on cores from the smaller diameter RP (pole size class) there is some stagnation occurring due to the density of the subcanopy.																																																																										
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14	4126 - White, Black, N. Pin Oak	Sawtimber Medium	10.7	83	81-110	N/A	Stand falls within the Crawford Red Pines Natural Area or Dyer Natural Area. Stand was salvaged in 1994 removing all dead oak. The overall health of the Oak is declining significantly. White Oak is healthy, Pin Oak is in rough shape. Variable regeneration throughout consisting mostly of maple and red pine. Old records also indicate that there has been history of prescribed burns in this stand. Overall canopy cover is decreasing due to mortality within the canopy. O8,R7, UM3																																																																										
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15	42120 - Planted Jack Pine	Sapling Well	203.6	26	1-50	N/A	Jack pine planted in 1996. Down River Kirtland's Warbler Management Area block 69. Records indicate that two warblers were counted in this stand in 2004. Overall is still a sapling sized stand. Areas around stand 9 are very dense and contain smaller diameters. Scattered pockets of red and white pine poles.																																																																										
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16	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	13.4	82	81-110	N/A	Stand falls into the Dyer Natural Area. Canopy is sparse in the south with tamarack dominating in the canopy and red maple, tag alder in the understory. Moving north, stand transitions into a mixed black spruce, northern white cedar stand with intermixed birch and red maple. White pines present mostly towards the edges. Standing water in some interior pockets. Blowdown and coarse woody debris found throughout. Cedar saplings were found along edges of canopy gaps, but did note that some smaller poles of cedar have been stunted out (dead tops, yellowing needles, etc.). Good wildlife stand.																																																																										
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17	42210 - Natural Red Pine	Poletimber Well	14.1	83	81-110	N/A	Natural Mixed Pine/Oak stand. The natural area has it's own management plan. Stand has a variety of size classes ranging from poles to supercanopy XLog Red Pine with some measuring over 30" DBH. Oak is declining within the stand. Canopy gaps are yielding a good variety of natural pine regeneration.																																																											
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18	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	288.8	4	Immature	N/A	Overall height of the planted pine is ~ 2 ft. Eastern portions have taller stems but also more competition of Pin Oak. Half the planted jack pine reaches the 3 feet artificial regen minimum for forested stand but there are still portions of the stand that are under the minimum. Areas in the north where the terrain drops down into lower ground doesn't appear as well stocked as the rest of the stand. Trenches look good, not filling in.																																																											
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19	42220 - Natural Jack Pine	Poletimber Well	71.7	45	51-80	N/A	Natural Jack Pine stand regenerated after the Bald Hill Fire in 1975. Part of KW block 70. Overall seems small for 45 y.o. Overall pole size with just reaching merchantability but still contains many areas of saps. Some patches of jack pine logs.																																																											
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