



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72238

Entry Year 2021

Acreage: 1,798

County Crawford

Management Area: Camp Grayling

Revision Date: 2019-07-09

Stand Examiner: Joan Charlebois

Legal Description:

T27N R3W Sections 23, 26, 35

Identified Planning Goals:

To provide an area that allows for National Guard training while maintaining forest health, productivity, sustainability, species diversification and structural diversity throughout the compartment.

Soil and topography:

The terrain is primarily outwash plains on Grayling sand, with one steep ridge paralleling the south side of Jones Lake Road. Graycalm-Grayling sands occur on some of the rolling terrain, and AuSable-Bowstring mucks underlay the East Branch of the AuSable River's floodplain.

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

State land within the compartment is either owned by the Military Board or is under the long-term lease agreement L-1479 (P.A. 154,1935) with the Michigan National Guard, DMVA for purposes of military training. On these lands, military needs take precedence over resource management activities. The DNR will coordinate all prescribed activities with the National Guard to ensure that they are compatible with military training needs. Private ownership along the river and Jones Lake Road in Section 23 consists of small tracts with a mix of seasonal and year-round residences, in addition to an RV campground. Hartwick Pines State Park lands are located to the north in Section 14.

Unique Natural Features:

The East Branch of the AuSable River cuts through a corner of the compartment. There is the potential for rare species to be associated with the AuSable River, upland openings, and areas of young jack pine.

Archeological, Historical, and Cultural Features:

None known.

Special Management Designations or Considerations:

The compartment is a Special Conservation Area (SCA), falling within the Research, Development and Military Lands category. Approximately 1,100 acres of the compartment are within the Military's fenced Range 30 Complex. The East Branch of the AuSable River is also a designated High Conservation Value Area (HCVA).

Watershed and Fisheries Considerations:

The East Branch of the AuSable River, a high priority cold water trout stream and Natural River, crosses through a corner of the compartment.

Wildlife Habitat Considerations:

Specific wildlife habitat management activities are limited by access and military training, however, a broad range of species utilize the available grasslands, upland shrub, jack pine, oak and aspen cover types.

Mineral Resource and Development Concerns and/or Restrictions

Two active, state-owned sand/gravel pits are located one mile to the east, and there is good potential for sand & gravel within the compartment. There is no current or past oil & gas production in the area, no wells have been drilled within three miles of the compartment, and there is no history of mineral leasing within the compartment. Oil & gas potential within the compartment is considered low at this time. There is no known metallic mineral potential in this part of the state. The state does not own all mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

The north and south ends of the compartment are accessible by county roads, including Jones Lake, Karen Lake, Peters and North Down River Roads. The Range 30 Complex is fenced, with access limited to Military vehicles.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

The compartment does not contain any designated recreational trails or facilities. The compartment is adjacent to Hartwick Pines State Park.

Fire Protection:

A cleared fuelbreak is maintained outside of the Range fence. The Range is periodically burned to reduce fuel loads. Water sources for fire suppression include nearby river crossings on Bobcat Trail, Wilcox Bridge Road and the Tank Access Trail.

Additional Compartment Information:**The following reports from the Inventory are attached:**

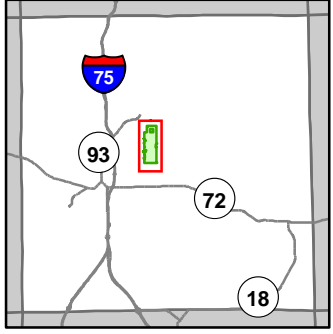
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

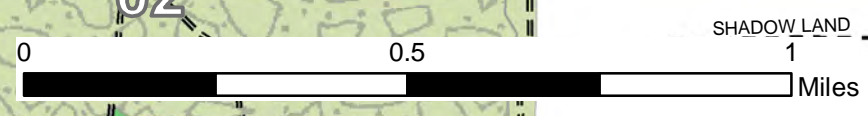
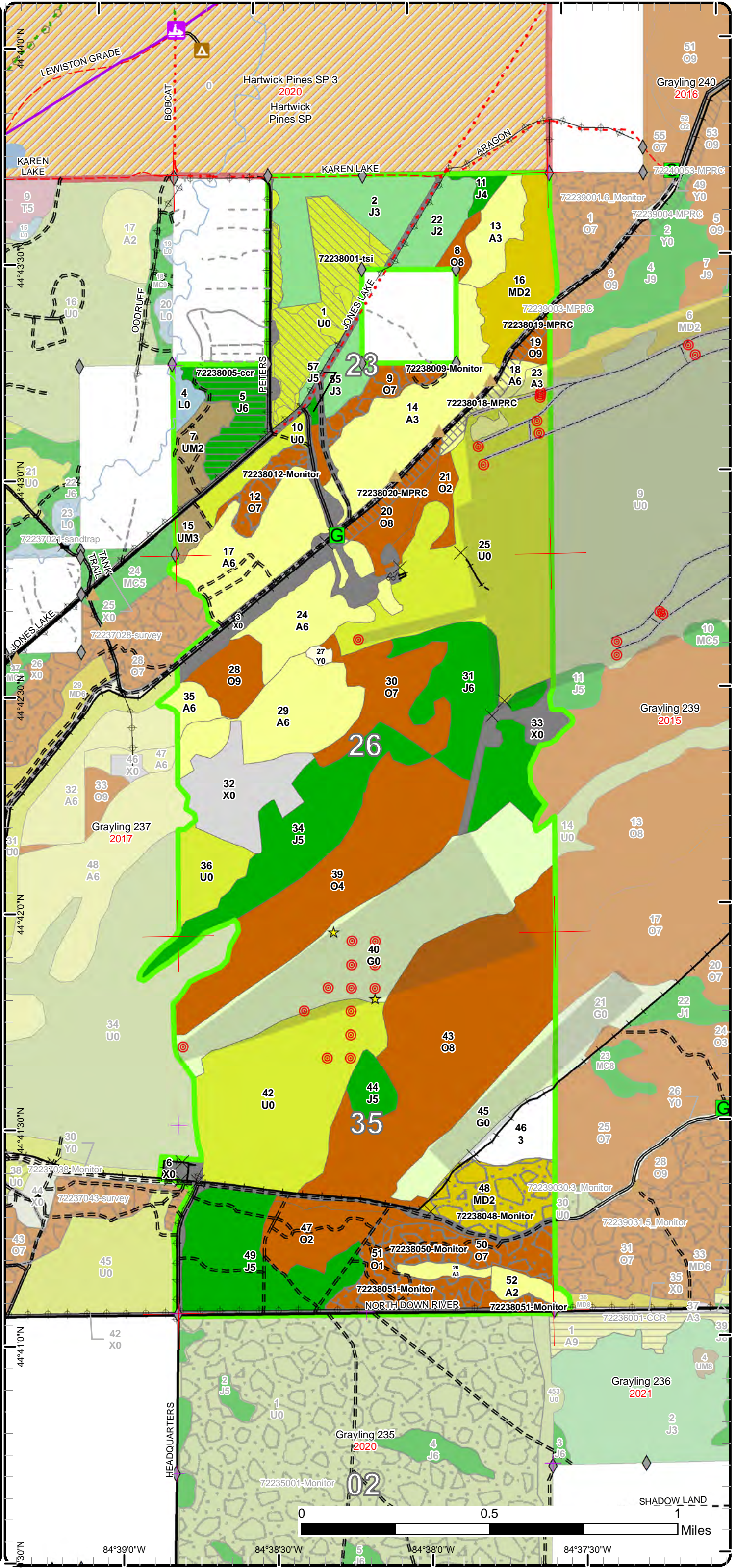
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 238
 T27N, R03W, Sec. 23, 26, 35
 County: Crawford
 Unit: Grayling
 Mgmt Area: Camp Grayling
 YOE: 2021
 Acres: 1,798 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 12/10/2019
 Map Phase: Post-Review



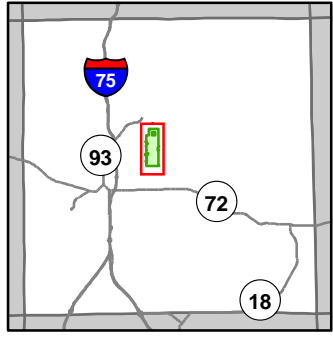
- Miris Corners
- Remonumented Section Corners
- Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Snowmobile Trails
- Designated Hiking Trails
- Designated Ski Trails
- Designated Snowshoe Trails
- Designated Snowmobile Trails
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Berms
- Gate
- Bridges
- Campground
- Pipeline
- Powerline
- Compartment Boundary
- 8, 2
- Other Harvest - See Comments
- Clearcut (w/Reserves)
- Regeneration Survey
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 710 - Sand/Soil



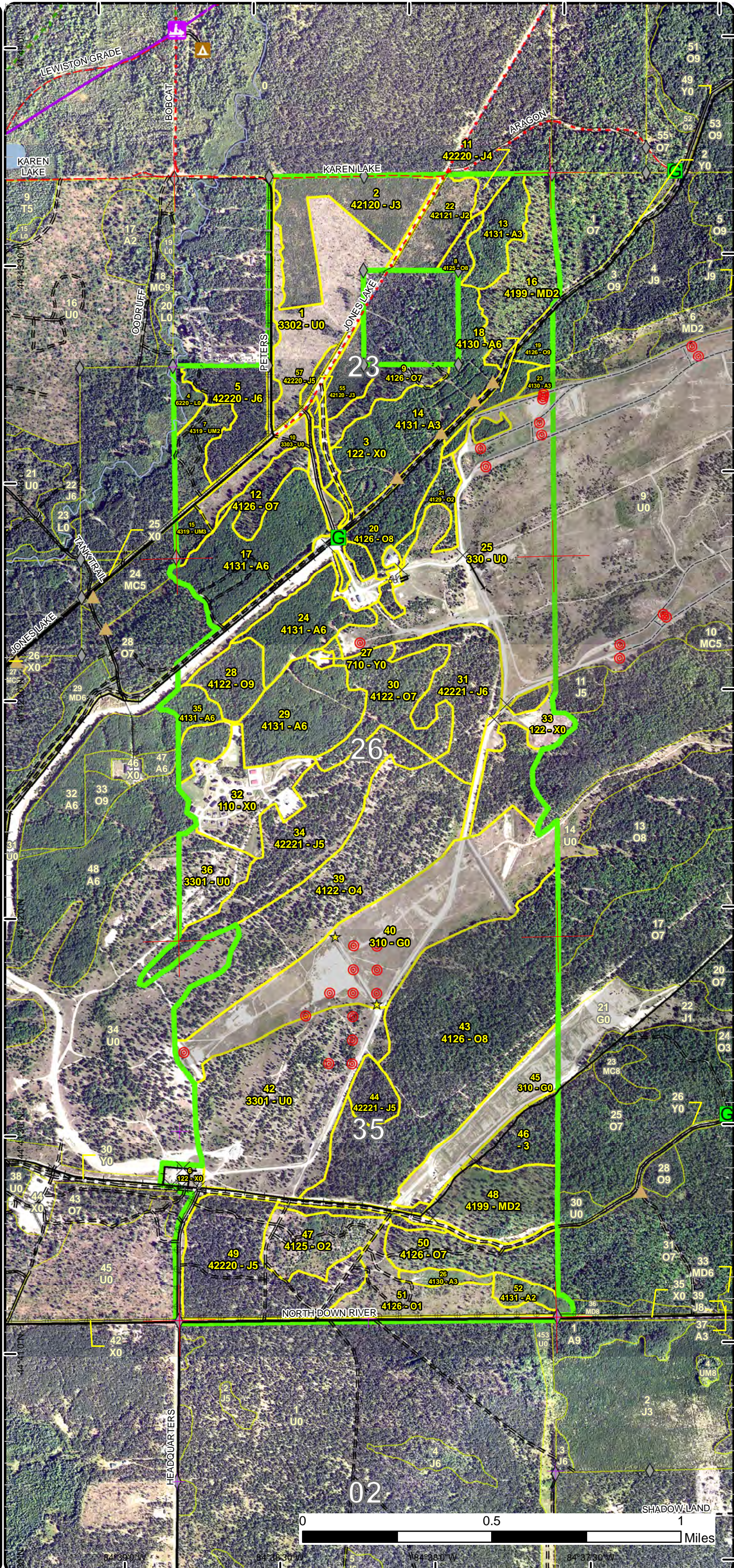
44°40'30"N 84°39'0"W 84°38'30"W 84°38'0"W 84°37'30"W

Stand Boundary Map

Compartment: 238
 T27N, R03W, Sec. 23, 26, 35
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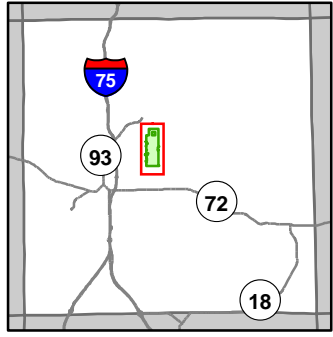
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- ◆ Field Grade Corners
- Counties
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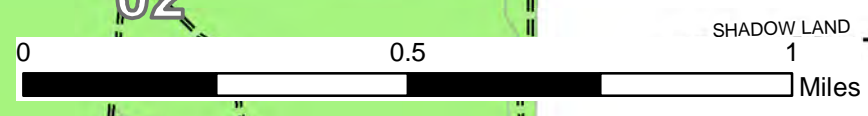
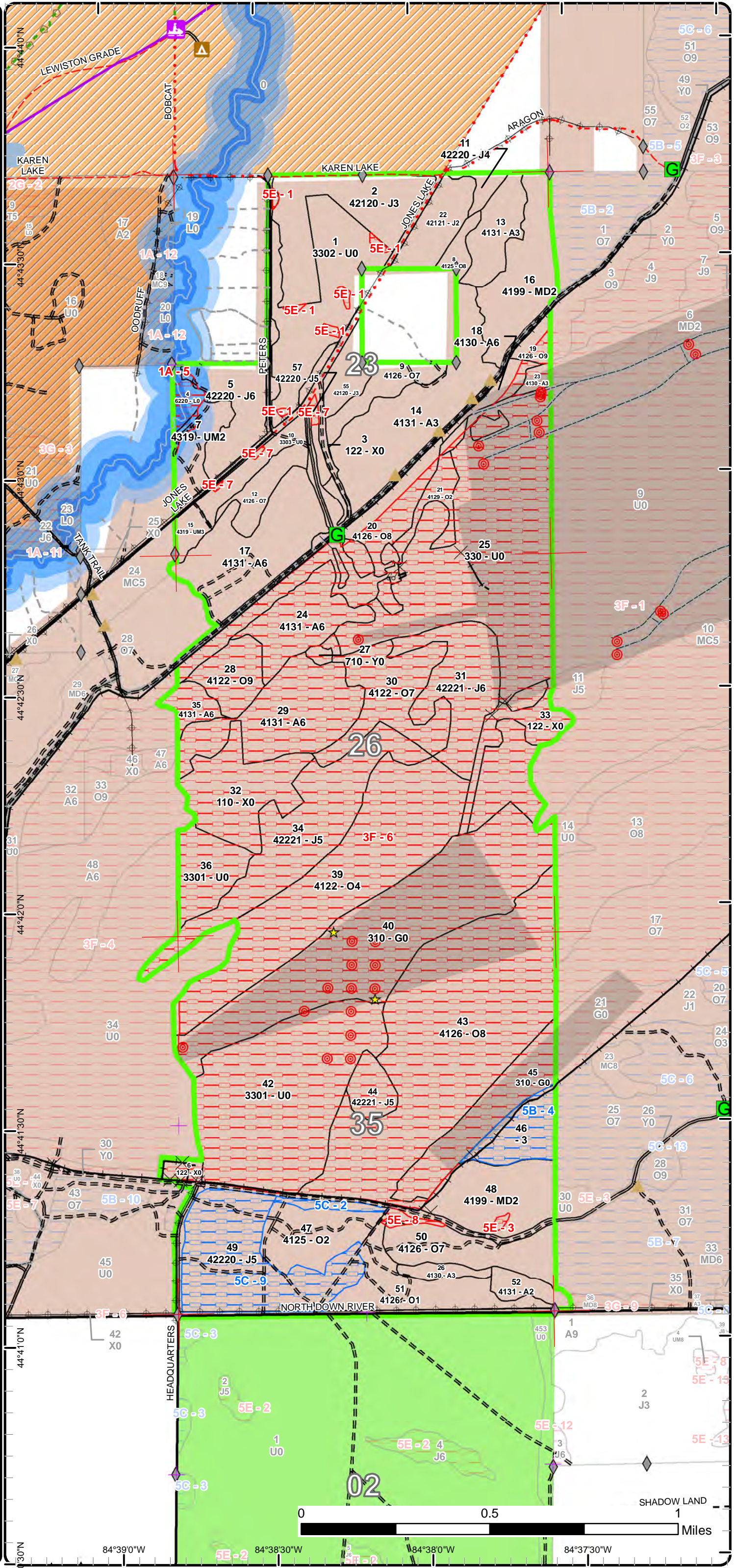
44°41'30"N 84°39'0"W 84°38'30"W 84°38'0"W 84°37'30"W

Special Conservation Areas

Compartment: 238
 T27N, R03W, Sec. 23, 26, 35
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- Designated Snowmobile Trails
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Berms
- Gate
- Bridges
- Campground
- Pipeline
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 1A: Federal/State/Local Law
- 3F: Military easement / lease
- 5E: Long-Term Retention
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Eastern Massasauga Managed Land
- Kirtland Warbler Habitat
- Cold Water Streams
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands



44°40'30"N 84°39'0"W 84°38'30"W 84°38'0"W 84°37'30"W

Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit

Compartment 238 Year of Entry 2021

Joan Charlebois : 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
	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	19
Aspen	0	5	8	65	110	50	8	0	0	0	0	0	0	0	0	0	0	0	246
Herbaceous Openland	157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	157
Jack Pine	0	0	76	0	0	4	126	26	75	0	0	0	0	0	0	0	0	0	307
Low-Density Trees	342	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	342
Lowland Shrub	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Mixed Upland Deciduous	0	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
Oak	0	31	26	10	0	0	105	5	0	87	23	199	0	0	0	0	0	0	485
Sand, Soil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Upland Mixed Forest	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Urban	141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141
Total	648	108	110	97	110	73	239	31	75	87	23	199	0	0	0	0	0	0	1799



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 238

Total Compartment Acres: 1,798

Commercial Harvest - 40
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	0	0	0	0	0	0	0	5	5	5
Jack Pine	24	0	0	0	0	0	0	0	0	24
Oak	0	0	0	0	0	0	0	0	11	11
Total	24	0	0	0	0	0	0	0	16	40

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Pruning	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	40	0	0	0	0	0	112	45	0	197
Next Step	0	24	24	0	0	0	24	24	0	94
Total	40	24	24	0	0	0	135	69	0	291



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:

1	72238001-tsi	45.2	3302 - Low Density Conifer Trees	Nonstocked		Unspec ified	Other	Other	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> remove competition from around planted RP</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> free-to-grow planted RP meeting stocking standards</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2020</p>											
5	72238005-ccr	23.6	42220 - Natural Jack Pine	Poletimber Well	68	51-80	Harvest	Clearcut with Retention	4122 - Oak, Pine	Even-Aged	No
<p><u>Prescription</u> Cut 1"+ DBH. Exclude the Natural Rivers restricted cutting zone and the pocket of WP on transition ground in the NW. Treatment boundary</p> <p><u>Specs:</u> has been edited to approximate those exclusions.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Initial Plant; Other, Pre-Commercial Thinning - Hand</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> A moderately stocked mix of oak, JP & WP. If natural regen fails, supplemental plant RP.</p> <p><u>Regen:</u></p> <p><u>Other</u> Pursue road closure on hot-lap track originating from the River Park Campground. Close through the harvest contract if approval gained by</p> <p><u>Comment:</u> time of timbersale prep.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2020</p>											
9	72238009- Monitor	12.8	4126 - White, Black, N. Pin Oak	Sawtimber Poor	89	1-50	Monitoring	Natural Regen (Re-Inventory)	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	No
<p><u>Prescription</u> check regen</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> A moderately stocked mix of O-RM-A-pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> The stump sprouts did not meet the new 6' min height standard during 2019 inventory. 2019 Pre-Review decision was to check the regen</p> <p><u>Comment:</u> again at reinventory.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2028</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
12 72238012-Monitor	11.6	4126 - White, Black, N. Pin Oak	Sawtimber Poor	89	1-50	Monitoring	Natural Regen (Re-Inventory)	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	No
<p><u>Prescription</u> check regen <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> A moderately stocked mix of O-RM-A-pine. <u>Regen:</u> <u>Other</u> Did not meet new 6' min height standard during 2019 inventory. Deer browse also a concern. 2019 Pre-Review decision was to check again <u>Comment:</u> at reinventory. <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2028</p>										
18 72238018-MPRC	5.4	4130 - Aspen	Poletimber Well	34	81-110	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping. <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> <u>Regen:</u> <u>Other</u> <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2019</p>										
19 72238019-MPRC	3.1	4126 - White, Black, N. Pin Oak	Sawtimber Well	91	81-110	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping. <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> <u>Regen:</u> <u>Other</u> <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2019</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
20 72238020-MPRC	7.8	4126 - White, Black, N. Pin Oak	Sawtimber Medium	87	51-80	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2019</p>										
48 72238048-Monitor	33.6	4199 - Other Mixed Upland Deciduous	Sapling Medium	5	1-50	Monitoring	Natural Regen (Re-Inventory)	4191 - Mixed Upland Deciduous with Conifer	Two-Aged	No
<p><u>Prescription</u> check regen</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Natural regen goal of mixed upland deciduous with pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> Did not pass 2019 regen survey to the new 6' height standard. 2019 Pre-Review decision was to check again at re-inventory.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2028</p>										
50 72238050-Monitor	26.9	4126 - White, Black, N. Pin Oak	Sawtimber Poor	107	1-50	Monitoring	Natural Regen (Re-Inventory)	4122 - Oak, Pine	Two-Aged	No
<p><u>Prescription</u> check regen</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mixed upland deciduous and pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> Did not pass 2019 regen survey to the new 6' height standard. 2019 Pre-Review decision was to check again at re-inventory.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2028</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
51 72238051-Monitor	26.7	4126 - White, Black, N. Pin Oak	Sapling Poor	5	Immature	Monitoring	Natural Regen (Re-Inventory)	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	No
<p><u>Prescription</u> check regen <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> A moderately stocked mix of O-A-RM-pine, with sparser cover in the stand's south half. <u>Regen:</u> <u>Other</u> The regen from the cut was not tall enough in 2019 to meet the new 6' min height. 2019 Pre-Review decision was to check regen again at re <u>Comment:</u> inventory. <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2028</p>										
3 72239003-MPRC	7.8	4126 - White, Black, N. Pin Oak	Sawtimber Well	105	Unspecified	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping. <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> <u>Regen:</u> <u>Other</u> <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2019</p>										
4 72239004-MPRC	3.6	42221 - Natural Jack Pine, Mixed Deciduous	Sawtimber Well	85	Unspecified	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping. <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> <u>Regen:</u> <u>Other</u> <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2019</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
48 72240048-MPRC	3.4	4130 - Aspen	Poletimber Well	42	Unspecified	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2019</p>										
53 72240053-MPRC	21.4	4124 - Red with White Oak	Sawtimber Well	98	Unspecified	Harvest	Other - Specify	3105 - Mixed Upland Herbaceous		No
<p><u>Prescription</u> Cut 1"+ DBH to create a fuelbreak along the range fence. Require chipping.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2109</p>										

Total Treatment 232.9
Acreage Proposed:

Report 4 – Site Conditions

Grayling Mgt. Unit
Joan Charlebois : Examiner

Compartment: 238
Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	Acres Avail		Acres Not Available	Dominant Site Conditions						
		With Condition			5B	5C	1A	3F	3G	5E	
246	145	0		101	Aspen	0			101	0	
157	0	0		157	Herbaceous Openland	0			157		
307	106	62		139	Jack Pine		62	1	138		1
342	63	0		279	Low-Density Trees				275		4
6	0	0		6	Lowland Shrub			6			
71	70	0		1	Mixed Upland Deciduous				0		1
485	131	4		350	Oak	0	4		348		2
2	0	0		2	Sand, Soil				2		
21	20	0		2	Upland Mixed Forest			2			
141	61	0		80	Urban	0			80		0
1,779	596	66		1,117	Total Forested Acres	0	66	8	1,101	0	8
	34%	4%		63%	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	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Islands left when stand 1 was cut in 2014.							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Island left along tank trail when stand 47 was cut in 2003. Pre-dates Forest Certification and the long-term retention designation, so applied 5C. Has a series of firebreak berms within it.							
3	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention island left when stand 48 was cut in 2014.							

Report 4 – Site Conditions

Grayling Mgt. Unit
Joan Charlebois : Examiner

Compartment: 238
Year of Entry: 2021

4	Available	5B: Maintain for regeneration purposes	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	1A: Federal/State/Local Law	8	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Natural River 150' restricted cutting zone and lowland floodplain.							
6	Unavailable	3F: Military easement / lease	1,100	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Fenced M.P.R.C Range 30 Complex. No access for inventory or management except at the request of the Military to facilitate range construction & maintenance projects.							
7	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Islands left when stand 10 was cut in 2014.							
8	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Island left along tank trail when stand 50 was cut in 2014.							
9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	62	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Leave this YOE; large KW cut not yet planted on south side of highway and adjacent stands to west & east still in process of regenerating also.							

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	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.
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.
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	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
1	3302 - Low Density Conifer Trees	Nonstocked	53.8		Unspecified	4211 - Planted Red Pine	Was final harvested in 2014 (#607-11), cutting stems 2"+ DBH except retention islands. M.O. was changed by variance in 2015 from JP to RP. C72-740 trenched 2015, planted to RP 2016. Yr 1 regen survey in 2017 found 1,087 RP & 551 C-O tpa. Yr 3 survey in Oct 2018 found 24.6% mortality & 78.7% FTG. Herbicide was not approved in the variance. BC was the primary competitor. 15% of dead planted RP had terminal leader mortality. Drought stress also appeared to be a factor. Yr 4 regen survey scheduled due to concern for significant additional mortality next growing season. Oct 2019 survey found very little additional mortality (989 initial - 25% mortality = 742 TPA) and 56% FTG (JP primary competitor, BC secondary). Most of the seedlings with terminal leader mortality had laterals successfully take over. Scheduled manual removal of competition.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Red Pine	Low	< 5 feet	Seeding	
								Jack Pine	Low	< 5 feet	Seeding	
								White Pine	Trace	5 - 10 feet	Sapling	
								White Oak	Trace	5 - 10 feet	Sapling	
								Jack Pine	Low	>20 feet	Pole	
								Black Cherry	Medium	5 - 10 feet	Tall Shrub	
								Northern Pin Oak	Trace	10 - 20 feet	Pole	
								White Pine	Trace	10 - 20 feet	Pole	
Jack Pine	Trace	5 - 10 feet	Sapling									
2	42120 - Planted Jack Pine	Sapling Well	44.1	16	Immature	N/A	JP stand was final harvested in 2002 (#020-01), cutting stems 2"+ DBH. Was furrow-seeded to JP in fall 2002 (C72-470), then re-planted by hand in spring 2003. Most of the planted stock was JP, with an unspecified amount of overflow RP & WP mixed in. Overstocked where the initial seeding took; ave diam still 2". Planted RP encountered in west half are overtopped by the JP. Scattered BC & NPO stump sprouts from cut.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Jack Pine	85	Sapling	2	16
Black Cherry	10	Sapling	1	16								
3	122 - Road/Parking Lot	Nonstocked	61.0			No	Cleared county road corridors, Range access and facilities.					
4	6220 - Alder/willow	Nonstocked	5.8		Unspecified	No	E. Branch of the AuSable River and floodplain. Tag alder and willow over marsh grass.					
5	42220 - Natural Jack Pine	Poletimber Well	24.9	68	51-80	N/A	Primarily JP poles with scattered older log-sized stems. Variable stocking in oak & WP saps (5-20' tall). Pocket of WP saw with survey corner witness tree along river in NW of stand. Aspen along the floodplain edge. Increasing mortality in the mature JP.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Jack Pine	95	Pole/Log	8	68
								Sub-Canopy Species	Density	Avg. Height	Size	
								Jack Pine	Low	10 - 20 feet	Sapling	
								Northern Pin Oak	Low	Variable	Sapling	
White Oak	Low	Variable	Sapling									
White Pine	Low	Variable	Sapling									
Black Cherry	Low	Variable	Tall Shrub									
6	122 - Road/Parking Lot	Nonstocked	26.3	0		No	Cleared county road corridor, Range access and facilities.					
7	4319 - Mixed Upland Forest	Sapling Medium	15.5	27	Immature	N/A	JP stand with O-A was final harvested for a fuelbreak in 1992 (#045-91), cutting stems 2"+ DBH. Regenerated to variable distribution in BC-JP-A-NPO-WP. Beaver reduces the aspen component near the river floodplain. Hotlap track loops through.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Quaking Aspen	15	Sapling	3	27
								Northern Pin Oak	10	Pole/Sapling	5	27
								Jack Pine	40	Sapling/Pole	4	27
								Black Cherry	25	Sapling	3	
White Pine	10	Pole/Sap/Log	6									
Sub-Canopy Species	Density	Avg. Height	Size									
Prairie Willow	Trace	< 5 feet	Tall Shrub									



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																															
8	4125 - Black, N. Pin Oak	Sawtimber Medium	5.4	61	51-80	N/A	Variable mixed stand, canopy closure drifts off either end of 50-75%, sparser on the flats & denser on the hillside. Greater proportion in poles on the hill too. Two different age classes in the NPO; did not average them together, but allowed the younger age to represent the species and reflect the stand's two-aged condition.																																															
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9	4126 - White, Black, N. Pin Oak	Sawtimber Poor	13.6	89	1-50	N/A	Mixed O-A-JP stand on hillside was seed-tree harvested by early 2014 (#607-11) cutting stems 2"+ DBH except RP-WP & green-marked O-JP (30 BA cruised residual). Regen M.O. of mixed upland deciduous with conifer. Oak regen mostly <3' tall. Very open below along driveway south of cabin. Deer browse pressure. Some winthrow & breakage from wind event a few years ago. The stump sprouts did not meet the new 6' min height standard during 2019 inventory, so it didn't pass the regen survey.																																															
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10	3303 - Mixed Low Density Trees	Nonstocked	12.0		Unspecified	4211 - Planted Red Pine	Mature JP stand was final harvested 2014 (#607-11), cutting stems 2"+ DBH except RP-WP & a few green-marked oak, and retention islands. JP was prescribed for planting, but the M.O. was changed to RP by variance in 2015. Site was trenched in 2015 (C72-740, planted to RP 2016. Yr 1 regen survey in 2017 found 1,087 RP & 551 C-O tpa. Yr 3 survey in Oct 2018 found 23% mortality & 55% FTG, with most of that competition from oak. Herbicide was not approved by the variance. Yr 4 regen survey scheduled due to concern for significant additional mortality next growing season. Oct 2019 survey found very little additional mortality (989 initial - 19% mortality = 801 TPA) and 34% FTG (NPO primary competitor, JP-BC secondary). Most of the seedlings with terminal leader mortality had laterals successfully take over. Will accept mixed pine-oak stand. FTP complete. Check stand during next inventory cycle.																																															
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11	42220 - Natural Jack Pine	Poletimber Poor	4.4	48	51-80	N/A	Patches of JP separated by upland shrub cover. Open-grown form common. Traces of canopy NPO, WO, WP & RP. A few surviving JP saw "orchard" trees that started the colonizing.																																															
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12	4126 - White, Black, N. Pin Oak	Sawtimber Poor	14.9	89	1-50	N/A	Mature oak stand on hillside was seed-tree harvested by early 2014 (#607-11) cutting stems 2"+ DBH except RP-WP, green-marked O-JP, and the east poly (2 ac) that was isolated by roads. 30 BA cruised residual. Regen M.O. of mixed upland deciduous with conifer. Does not pass at this time due to new 6' height requirement. Browse not as heavy as stand 9. Used stand 9's current age.																																						
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13	4131 - Aspen, Oak	Sapling Well	18.4	34	1-50	N/A	A-O stand on hillside was final harvested by 1985 (#278-83), spec'd to cut merch stems. Regenerated well to BTA with good oak stump sprouts & RM. Scattered saw-sized RP-WP-A-O residual from the cut. Aspen on the hillside is still in the sapling class; better growth on the flat ground not enough to shift it into the poke-overall class.																																						
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14	4131 - Aspen, Oak	Sapling Well	57.3	26	Immature	N/A	O-A stand was final harvested in early 1993 (#044-91), cutting stems 2"+ DBH. Regenerated to BTA with O-RM & traces of JP. Scattered residual WP. Strip of pole-sized aspen along the tank trail berm.																																						
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15	4319 - Mixed Upland Forest	Sapling Well	5.6	27	Immature	N/A	JP stand with O-A was final harvested for a fuelbreak in 1992 (#045-91), cutting stems 2"+ DBH. Regenerated to variable distribution in JP-A-NPO-BC.																																						
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16	4199 - Other Mixed Upland Deciduous	Sapling Medium	36.4	6	1-50	N/A	Mature oak stand was seed-tree harvested by early 2013 (#623-11), cutting stems 2"+ DBH except pine & green-marked oak (30 BA cruised residual). Mortality, snap & some windthrow. Regen is the featured canopy. Enough above 6' tall to pass overall to MUD M.O. Secondary layer of oak seedlings above the snowline seeing some browse but with potential to recruit.																																						
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17	4131 - Aspen, Oak	Poletimber Well	49.6	37	81-110	N/A	O-A stand was final harvested by 1982 (#055-81A), cutting merch stems. Regenerated well to aspen with good quality oak stump sprouts & RM, occasional JP saps. Scattered residual WP & RP. Stand 24 within the fence was part of the same harvest.																																						
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18	4130 - Aspen	Poletimber Well	6.5	34	81-110	N/A	Within fenced MPRC 30 Complex. A-O stand was final harvested by 1985 (#278-83), spec'd to cut merch stems. Regenerated well to BTA with good oak stump sprouts & RM.																																																		
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19	4126 - White, Black, N. Pin Oak	Sawtimber Well	5.6	91	81-110	N/A	Within fenced MPRC 30 Complex. Mature oak stand. Estimated age based on oak cored outside of the fence.																																																		
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20	4126 - White, Black, N. Pin Oak	Sawtimber Medium	19.8	87	51-80	N/A	Within fenced MPRC 30 Complex. Mature mixed oak stand with dense A-O regen in canopy gaps. NPO breaking up. Stand age from the 1981 YOE inventory.																																																		
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21	4129 - Mixed Oak	Sapling Medium	9.7	23	Immature	N/A	Within fenced MPRC 30 Complex. Merch stems were cut in 1996 (#044-96-02) to facilitate expansion of the tank range.																																																		
22	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	18.4	16	Immature	N/A	JP stand was final harvested in 2002 (#020-01), cutting stems 2" + DBH. Was furrow-seeded to JP in fall 2002 (C72-470), then re-planted by hand in spring 2003. Most of the planted stock was JP, with an unspecified amount of overflow RP & WP mixed in. JP cover varies from over- to under-stocked. Most of the planted RP is overtopped by the JP; the traces of WP are on the east side. Scattered BC & NPO stump sprouts from cut.																																																		
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23	4130 - Aspen	Sapling Well	7.6	23	Immature	N/A	Within fenced MPRC 30 Complex. Merch stems were cut in 1996 (#044-96-02) to facilitate expansion of the tank range.																																																		
24	4131 - Aspen, Oak	Poletimber Well	35.5	37	81-110	N/A	Within fenced MPRC 30 Complex. O-A stand was final harvested by 1982 (#055-81A), cutting merch stems. Is likely to have similar composition to stand 17 (part of the same harvest).																																																		
25	330 - Low-Density Trees	Nonstocked	143.9			No	Within fenced MPRC 30 Complex. Stand is a large actively-used, regularly burned opening with a mosaic of non-forest covertypes: sand/soil, upland herbaceous, upland shrub & low density tree. Merch stems were cut across most of the stand in 1996 (044-96-02),																																																		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments											
26	4130 - Aspen	Sapling Well			5.2	5	Immature	N/A	Strip of aspen formerly part of stand 50 was final harvested in 2014 (#622-11), cutting merch stems except RP-WP-O-RM (<5 BA cruised residual). Regenerated well to aspen with some oak. Passes regen survey.									
										Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
										Bigtooth Aspen	85	Sapling	1	5	White Oak	Low	< 5 feet	Seeding
										Northern Pin Oak	10	Sapling	1	5	Northern Pin Oak	Low	< 5 feet	Seeding
27	710 - Sand, Soil	Nonstocked			1.7		Unspecified	No	Within fenced MPRC 30 Complex. Opening with disturbed soil.									
28	4122 - Oak, Pine	Sawtimber Well			17.2	93	111-140	N/A	Within fenced MPRC 30 Complex. Part of a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. This stand was only partially cut (as seen on the 1963 air photos), leaving a significant amount of residual canopy. Is likely two-aged, between the residual and regen from the cut. The 1981 YOE inventory typed it as a JP-A-O pole stand, with a 1940 year of origin on the JP. Now appears to be more oak than JP, with RP & aspen components. Dominant Age from oak cored outside of the fence..									
29	4131 - Aspen, Oak	Poletimber Well			49.8	44	81-110	N/A	Within fenced MPRC 30 Complex. Part of a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. Residual trees were left scattered across this stand, visible above regen on the 1963 air photos. The regen was set-back significantly (likely by fire) and appears to have re-sprouted a few years before the 1978 air photos were taken. Most of the surviving residual was likely oak, with primarily aspen in the regenerated cohort. Stand age is from the 1981 YOE inventory.									
30	4122 - Oak, Pine	Sawtimber Poor			37.9	89	51-80	N/A	Within fenced MPRC 30 Complex. Part of a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. This stand was only partially cut (as seen on the 1963 air photos), leaving a significant amount of residual canopy. Is likely two-aged, between the residual and regen from the cut. Appears to have a relatively open canopy of oak and jack pine over aspen and oak regen. Dominant Age is from the 1981 YOE inventory, Second Age from the harvest. Given the periodic fire influence, there are likely younger age classes present also.									
31	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well			63.6	79	51-80	N/A	Within fenced MPRC 30 Complex. Likely JP with oak. Stand age is from the 1981 YOE inventory. Given the periodic fire influence, there are likely to be younger age-classes within the stand also. The south polygon was burned in the May 1975 North Down River Road fire.									
32	110 - Low Intensity Urban	Nonstocked			38.9	0		No	Within fenced MPRC 30 Complex. CACTF facility.									
33	122 - Road/Parking Lot	Nonstocked			15.2			No	Cleared corridor between Range 37 & MPRC.									



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
34	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Medium	64.2	58	51-80	N/A	Within fenced MPRC 30 Complex. Part of a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. The harvest was 850+ acres, with regen and widely-scattered residual trees visible on the 1963 air photos. This stand appears to have a mix of JP and oak, with some aspen by the CACTF. Estimated stand age based on assumed post-harvest natural regen establishment, although younger age classes are likely to be present given the range's periodic fire influence.
35	4131 - Aspen, Oak	Poletimber Well	8.3	58	81-110	N/A	Within fenced MPRC 30 Complex. Part of a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. This stand was only partially cut (as seen on the 1963 air photos), leaving a significant amount of residual canopy. Is likely two-aged, between the residual and regen from the cut. The 1981 YOE inventory typed it as an O3-A1 stand, with a 1960 year of origin on the oak, and 30 BA in pole-sized A-O residual. Second age estimate is from an oak cored outside of the fence.
36	3301 - Low Density Deciduous Trees	Nonstocked	21.6			No	Within fenced MPRC Range 30 area. Likely to have oak, aspen, JP and cherry encroaching across a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. Was 850+ acres, with regen and widely-scattered residual trees visible on the 1963 air photos. Periodic range fires noted in past inventories.
39	4122 - Oak, Pine	Poletimber Poor	105.1	58	1-50	N/A	Within fenced MPRC 30 Complex. Part of a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. The harvest was 850+ acres, with regen and widely-scattered residual trees visible on the 1963 air photos. This stand appears to have a mix of oak & JP. Estimated stand age based on assumed post-harvest natural regen establishment, although younger age classes are likely to be present given the range's periodic fire influence. The stand's north end was burned in the May 1975 North Down River Road fire.
40	310 - Herbaceous Openland	Nonstocked	124.3			No	Within fenced MPRC 30 Complex. Range 37. Tree cover was initially removed in the late 1950's (#91-57A, National Guard Clearing) and it has been maintained open since.
42	3301 - Low Density Deciduous Trees	Nonstocked	110.3			Managed Opening	Within fenced MPRC 30 Complex. Likely to have oak, aspen, JP and cherry encroaching across a large area that had tree cover removed in the late 1950's (#91-57A, National Guard Clearing). Info on #91-57A is from the Ownership Cards only; couldn't locate the old timbersale file. The harvest was 850+ acres, with regen and widely-scattered residual trees visible on the 1963 air photos. Periodic range fires noted in past inventories.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																											
43	4126 - White, Black, N. Pin Oak	Sawtimber Medium	169.8	100	51-80	N/A	Except for a narrow strip with firebreak berms south of the tank trail, the stand is within the fenced MPRC 30 Complex. Dry oak-pine type occupying a ridge between cleared ranges. Cover appears to thin out on the lower slopes, with more JP than oak. Heavy understory of advanced O-JP saplings. Periodic fire influence. North half of the stand was burned in the May 1975 North Down River Road fire. Age is from NPO south of the tank trail.																																											
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44	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Medium	10.6	79	51-80	N/A	Within fenced MPRC 30 Complex. JP with NPO. Age is from the 1981 YOE inventory.																																											
45	310 - Herbaceous Openland	Nonstocked	32.8			No	Within fenced MPRC 30 Complex. Range 35. Observation tower & small buildings at south end.																																											
46		Sapling Well	19.1	44	1-50	N/A	Well-developed O-JP regen 10-20 feet tall is the featured canopy, with mature oak & pine scattered above. Minor RM-A components. Open-grown form & fire scarring common on the saw-sized stems; mature component increases further from the Range. Periodic fire influence resulted in regen that is variable in distribution, age, density & species mix. Was burned in the May 1975 North Down River Road fire. Set the stand's first age to that disturbance event, although there are likely younger age bands present also.																																											
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47	4125 - Black, N. Pin Oak	Sapling Medium	26.0	16	Immature	N/A	Was final harvested January 2003 (#035-01), cutting stems 2"+ DBH. Mosaic of regen from cut: NPO stump sprouts, scattered aspen clones, cherry brush, & JP. Has poorly-stocked areas on the lower slopes and along roads.																																											
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48	4199 - Other Mixed Upland Deciduous	Sapling Medium	35.1	5	1-50	N/A	Mature mixed oak stand was seed tree harvested in 2014 (#622-11), cutting stems 2"+ DBH except RP-WP, green-marked (10-20 BA cruised residual), & a retention island along the tank trail. Regenerating well to a mix of O-A-RM. Cicada egg-laying damage on the BTA. Residual is primarily WO, with RP in the east & NPO on the NW edge. Can't reflect that the mature WO size range is Log/Pole/xLog due to a MiFI error; JP would be called 8" ave and Pole/Log. Does not pass regen survey to the new 6' height standard, but stem densities are good, deer browse is light & the oak is recruiting. On its current trajectory, the regen should pass in a few more years.																																											
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49	42220 - Natural Jack Pine	Poletimber Medium	62.2	53	51-80	N/A	Merch JP-A were cut in 1963 (#48-62A, Comp 237 sale file). Regenerated to a patchy distribution of JP running 5-8" DBH, with low density saw-sized JP, NPO & RP residual from the cut. The oak is mostly in the north half. Open-grown form where stand was slower to fill in. Advanced NPO & JP saplings at low densities. The scattered overmature JP are dying out, but the majority younger poles are relatively healthy. Aged that majority small pole cover, not the residual saw.																																											
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50	4126 - White, Black, N. Pin Oak	Sawtimber Poor	28.7	107	1-50	N/A	Mature mixed oak stand was seed tree harvested in 2014 (#622-11), cutting stems 2"+ DBH except RP-WP & green-marked (20 BA cruised residual) and an island along the tank trail (merged into stand 58). Relatively short WO small saw on hillside, with enough residual to feature as the canopy. Does not pass regen survey to the new 6' height standard, but stem densities are good, deer browse is light & the oak is recruiting. On its current trajectory, the regen should pass in a few more years.																																																	
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51	4126 - White, Black, N. Pin Oak	Sapling Poor	31.3	5	Immature	N/A	JP stand was final harvested in 2014 (#622-11), cutting merch stems except RP-WP-O-RM (<5 BA cruised residual). Stand boundary picks up an inclusion (1.5 ac) in the east end from stand 52's 2003 harvest. High wind event after the harvest root-tipped NPO residual in the stand's south half. Canopy closure drifts off either end of the 25-50% category, sparsest along the highway and heavier in the north half. The sapling canopy is made up of regen from the cut and older advanced stems. Second age estimate on the residual oak is from stand 50. The regen from the cut was not tall enough in 2019 to meet the new 6' min height, so it did not pass the regen check. Browse is light, so there is good potential for that oak to recruit with more time. The pre-harvest WO saplings are already secure. Cover is expected to remain sparse along the highway.																																																	
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52	4131 - Aspen, Oak	Sapling Medium	8.1	16	Immature	N/A	Was final harvested January 2003 (#035-01), cutting stems 2"+ DBH. Dense patches of aspen regen with upland shrub cover in between. BTA in the west, QA in the east. NPO & WO saplings scattered throughout. See field notes.																																																	
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55	42120 - Planted Jack Pine	Sapling Well	13.7	16	Immature	N/A	JP stand was final harvested in 2002 (#020-01), cutting stems 2"+ DBH. Was furrow-seeded to JP in fall 2002 (C72-470), then re-planted by hand in spring 2003. Most of the planted stock was JP, with an unspecified amount of overflow RP & WP mixed in. Excessive stocking where the initial seeding took. The planted RP recruited best in the stand's south edge. Scattered BC, NPO stump sprouts from cut.																																																	
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