



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72235

Entry Year 2020

Acreage: 1,892

County Crawford

Management Area: Kirtland's Warbler

Revision Date: 2018-03-21

Stand Examiner: Sarah Itchue

Legal Description:

T26NR3W, Sections 2, 11, 14 and 15

Identified Planning Goals:

Soil and topography:

Topography within this compartment is flat to gently rolling. Some steeper hills exist in the southern reaches of the compartment, however this is limited to a few localized areas. In terms of land forms present, this compartment consists mainly of upland flats throughout with stream terraces along the AuSable River. The major soil complex present in this area is Grayling sand with small inclusions of other types present. This association is found primarily on upland flats and low knolls which are dominated by Kirtland's Warbler plantations in this area. This soil complex is characterized as being excessively drained with major management concerns including equipment limitation, seedling mortality and erosion from wind and water. Windthrow is also a concern throughout this soil type complex. The bottomlands of this compartment, mainly along the AuSable River are made up mainly of Tawas-Lupton Muck and Leafriver Muck associations. These soil complexes are characterized as being poorly drained and are most often associated with a water course or water body. Major management concerns in these areas include equipment limitation, windthrow and seedling mortality.

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

The majority of this compartment is contiguous state land with blocks of private ownership mainly concentrated along the AuSable River. Recreation is quite popular in this area with fishing, canoeing and camping being quite common. With large areas dedicated to Kirtland's Warbler habitat management, wildlife viewing is also a major form of recreation in this region. Restrictions regulate activity within the particular stands designated as Kirtland's Warbler habitat at different times of the year.

Unique Natural Features:

The mainstream of the AuSable River runs in an east/west direction through this compartment. The river is approximately 30-50' wide through this stretch and is considered an excellent trout fishery. Wildlife abound within the river corridor and the surrounding areas.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations:

This compartment is part of the Staley Lake Kirtland's Warbler Management Unit, a High Conservation Value Area (HCVA). The AuSable River is also an HCVA. There is potential for dry prairie plants in grassy openings to include pine barren's species of Hill's thistle, rough fescue, Alleghany plum and pale agoseris. There also is potential for pine barren's species including dusted skipper, grizzled skipper and red-legged spittlebug to be present in these openings. Warbler species will be found in the young jack pine stands that abound in this region. There is also the potential for eastern massasauga rattler, wood turtle and loon to exist within the riparian zones of this compartment. Bald Eagle have been documented in this area.

Watershed and Fisheries Considerations:

The main branch of the AuSable River. This watercourse supports healthy populations of trout and is managed and designated as a Natural River.

Wildlife Habitat Considerations:

A great deal of wildlife utilize all areas of this compartment. The major consideration is for Kirtland's Warbler management and extensive fisheries management however numerous species of wildlife were observed while conducting field work and should be considered in all aspects of management of this compartment.

Mineral Resource and Development Concerns and/or Restrictions

Vehicle Access:

: Access to this compartment is quite adequate. M-72 runs through the center of the compartment with numerous county roads traveling north and south. On the northern side of the river, North Down River road travels in an east/west direction and again has numerous county roads heading north and south which provide access to many areas of state land. There is also a campground within this compartment at Burtons Landing along with quite a few public access points to the AuSable River.

Survey Needs:

Survey information available for this compartment is good. Many key corners have been established by the State of Michigan.

Recreational Facilities and Opportunities:

The AuSable River provides the majority of recreational opportunities within this area. Burtons Landing State Forest Campground is located within this compartment and is on the southern bank of the river. There is also a public canoe launch at this location. Keystone Campground directly to the east of the compartment and AuSable River Canoe Camp State Forest Campground on the northern side of the river are very nearby making this area popular to canoe and outdoor enthusiasts throughout the year. Snowmobile trails, while not within the compartment boundary, are nearby and therefore this area receives quite heavy traffic associated with winter sports as well.

Fire Protection:

Jack pine is the dominant tree species within this compartment and therefore fire activity is a concern.

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**

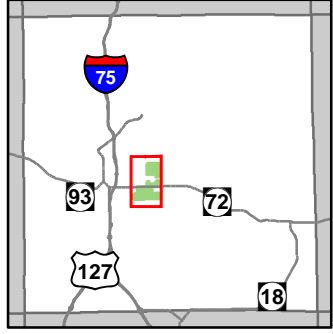
The following information is displayed, where pertinent, on the attached compartment maps:

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

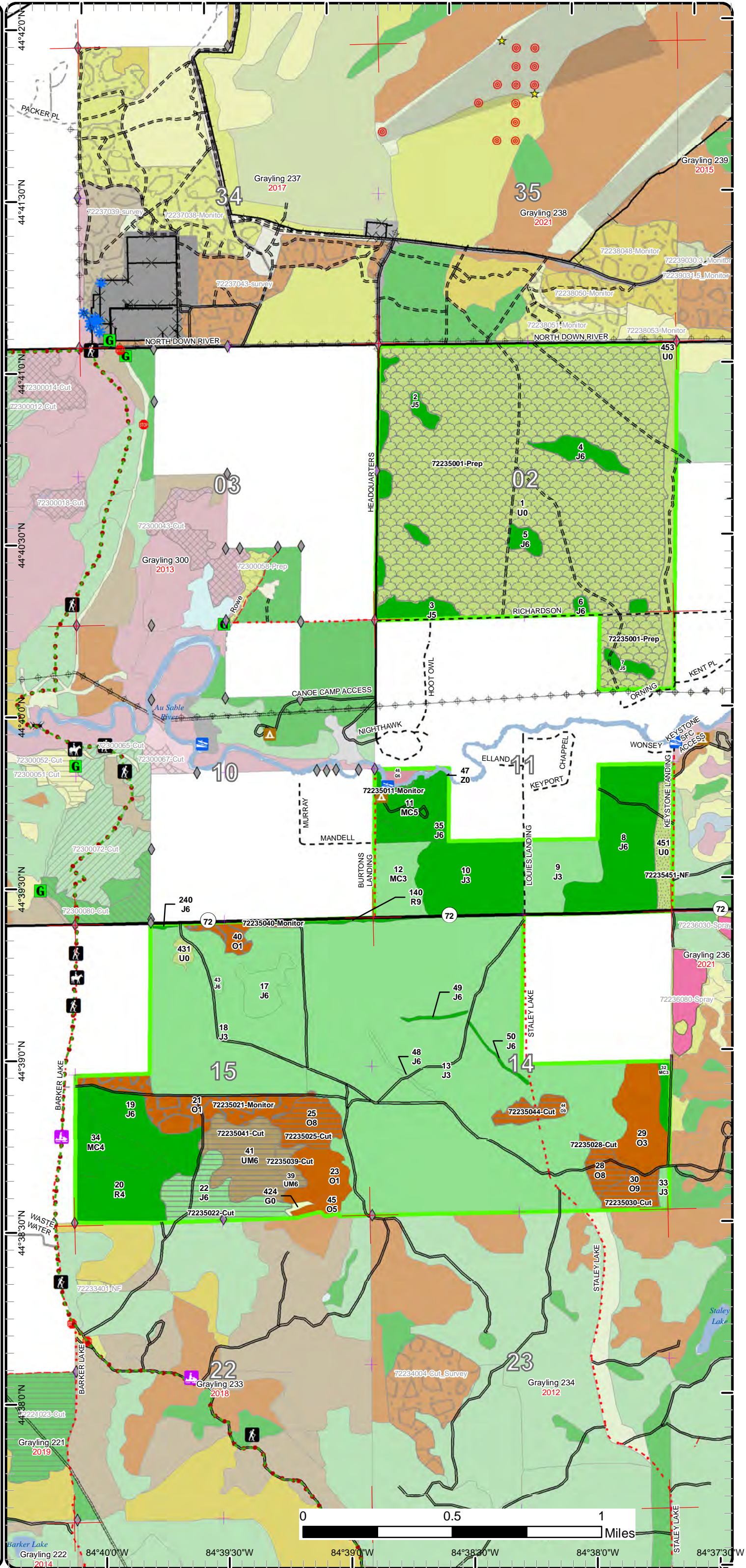
Cover Type & Treatments Map

Compartment: 235
T26N, R03W, Sec. 2, 11, 14, 15

County: Crawford
Unit: Grayling
Mgmt Area: Kirtland's Warbler
YOE: 2020
Acres: 1,892 GIS Calculated
Examiner: Sarah Itchue
Map Revised: 2/5/2019
Map Phase: Post-Review



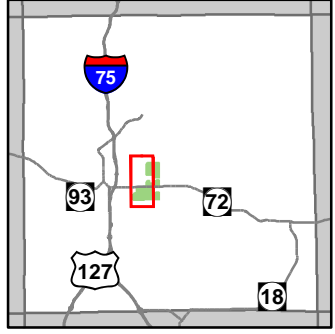
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- Remonumented Section Corners
- Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State Highway
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
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- Bridges
- Campground
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- Powerline
- Compartment Boundary
- Clearcut (w/Reserves)
- Regeneration Survey
- Mowing
- Monitoring
- Site Prep
- 412 - Oak Types
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 500 - Water
- Lakes
- Camp Grayling Monitoring Wells
- Camp Grayling Gates
- Camp Grayling Fence
- Camp Grayling Tank Trail



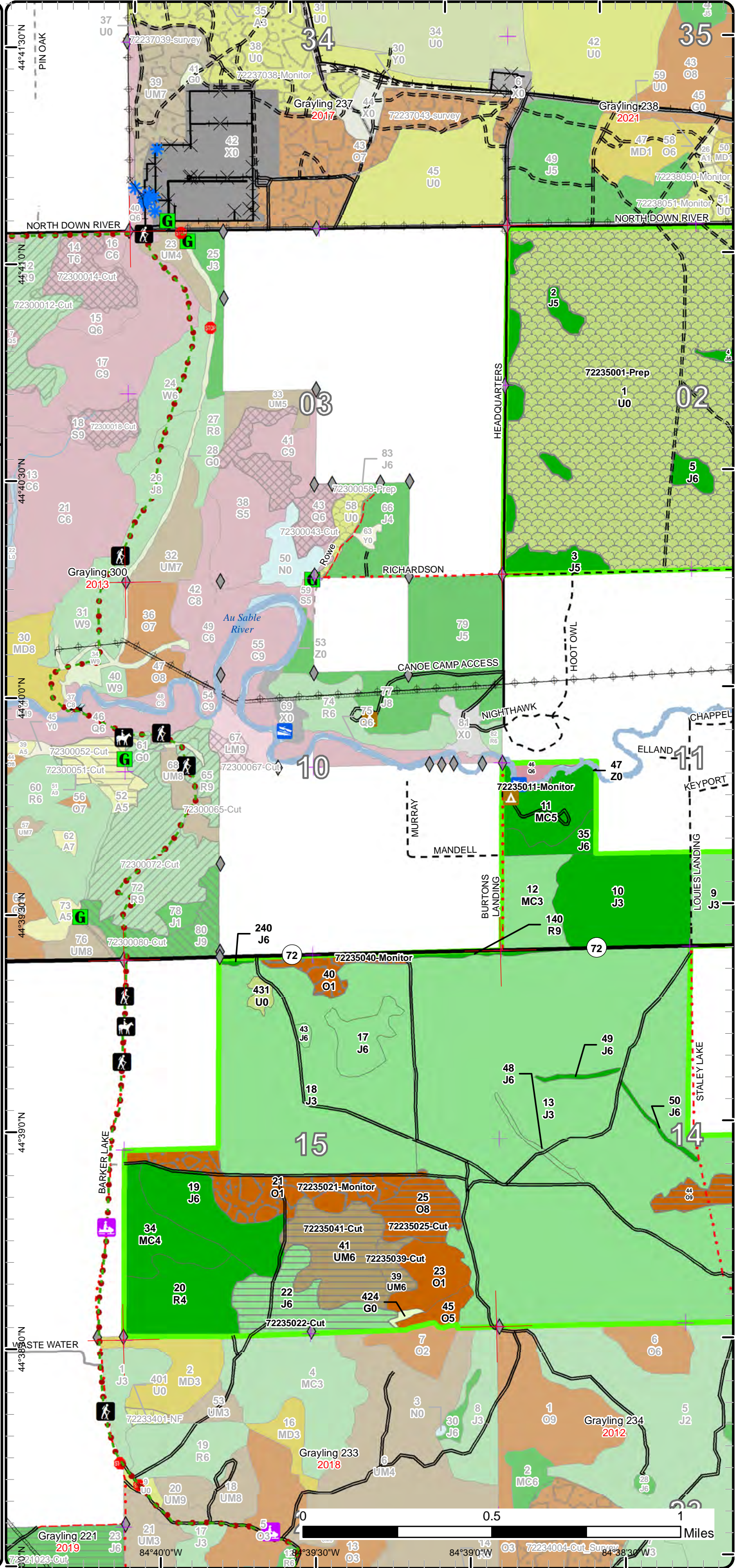
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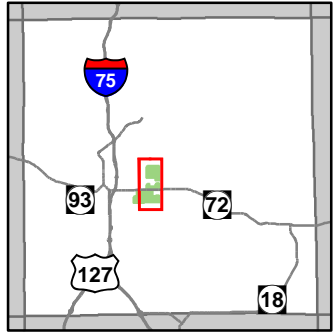
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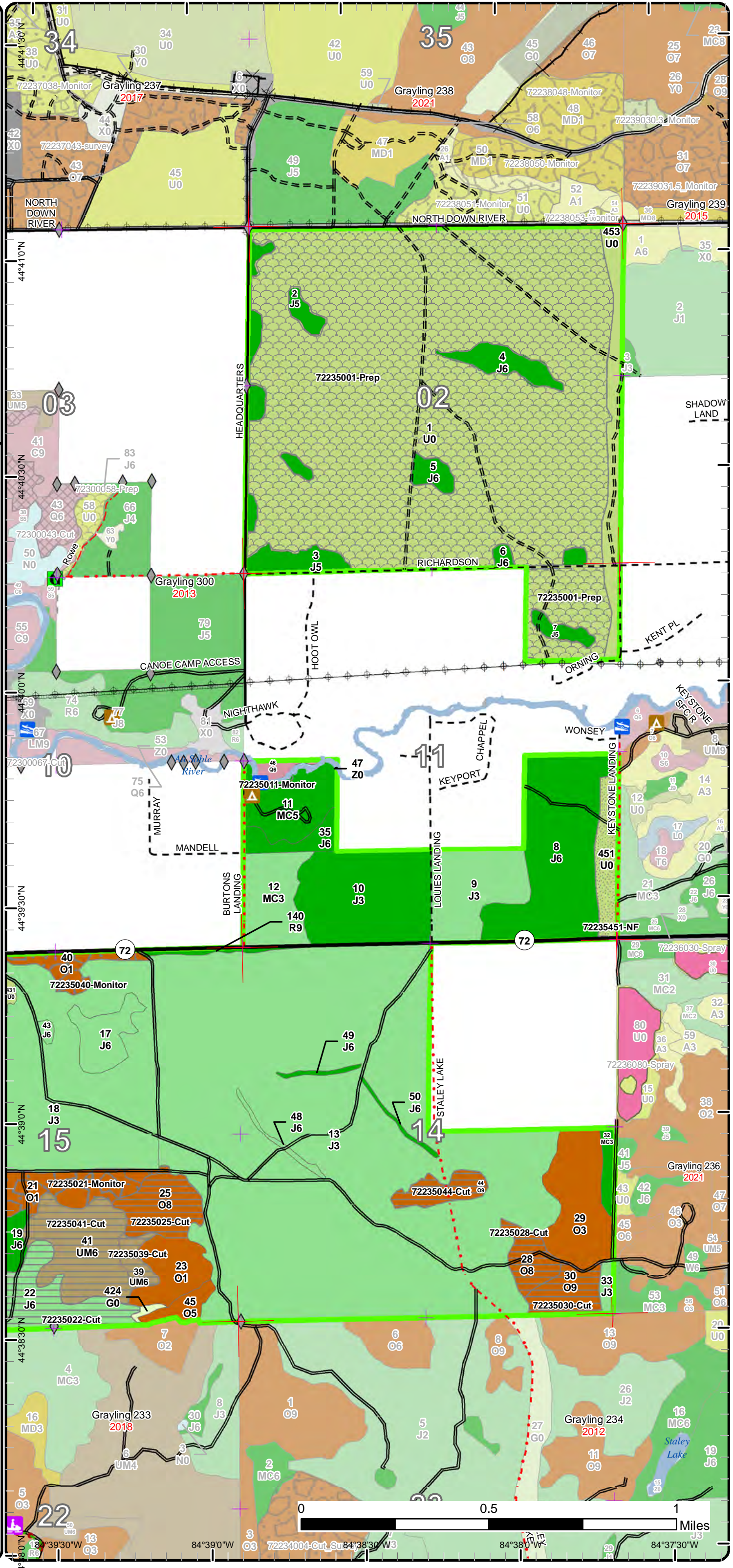
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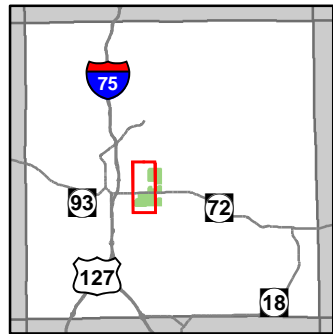
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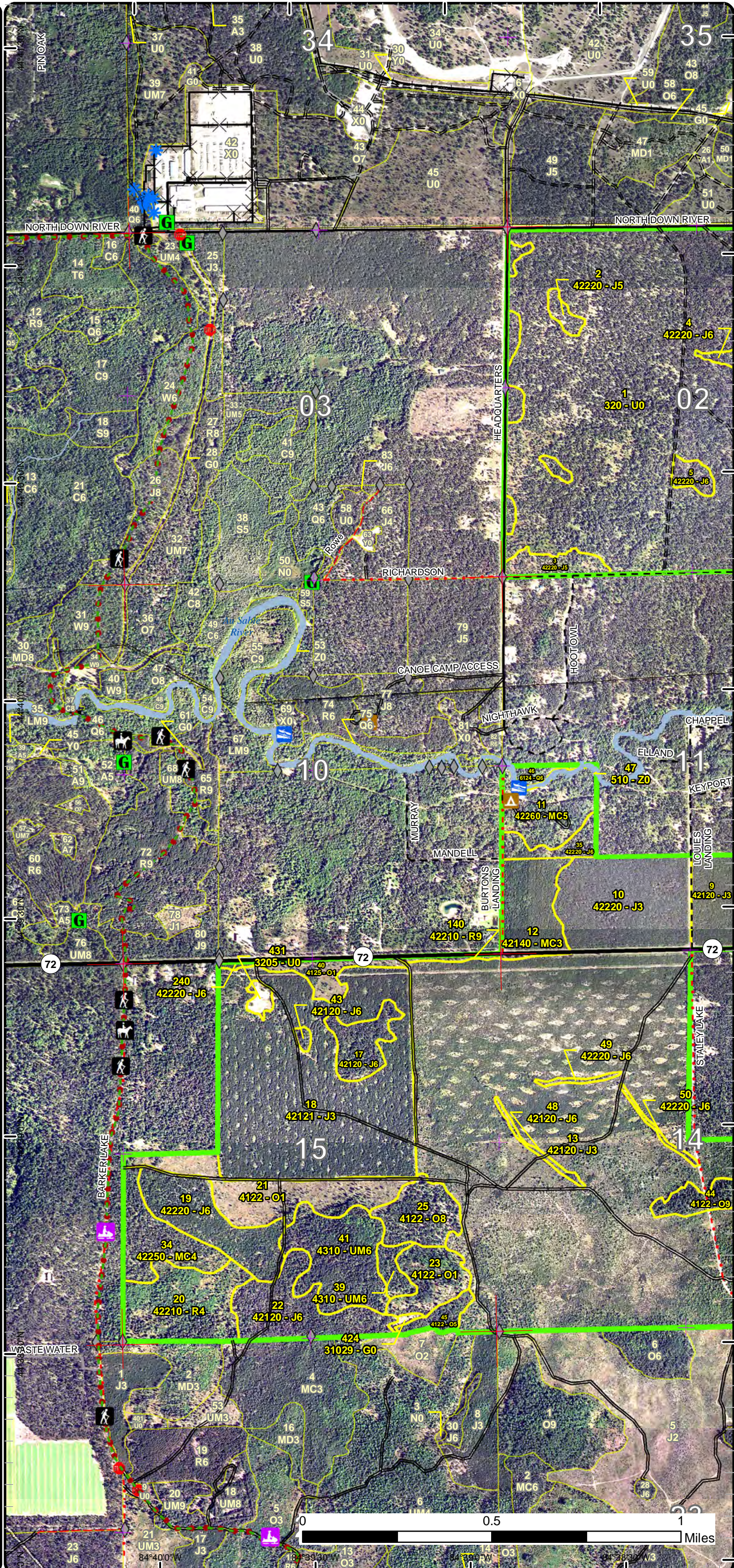
Stand Boundary Map

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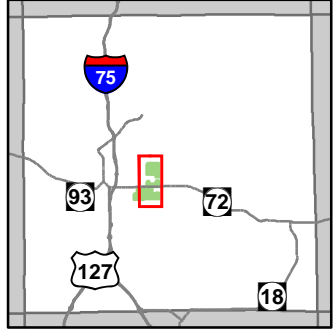
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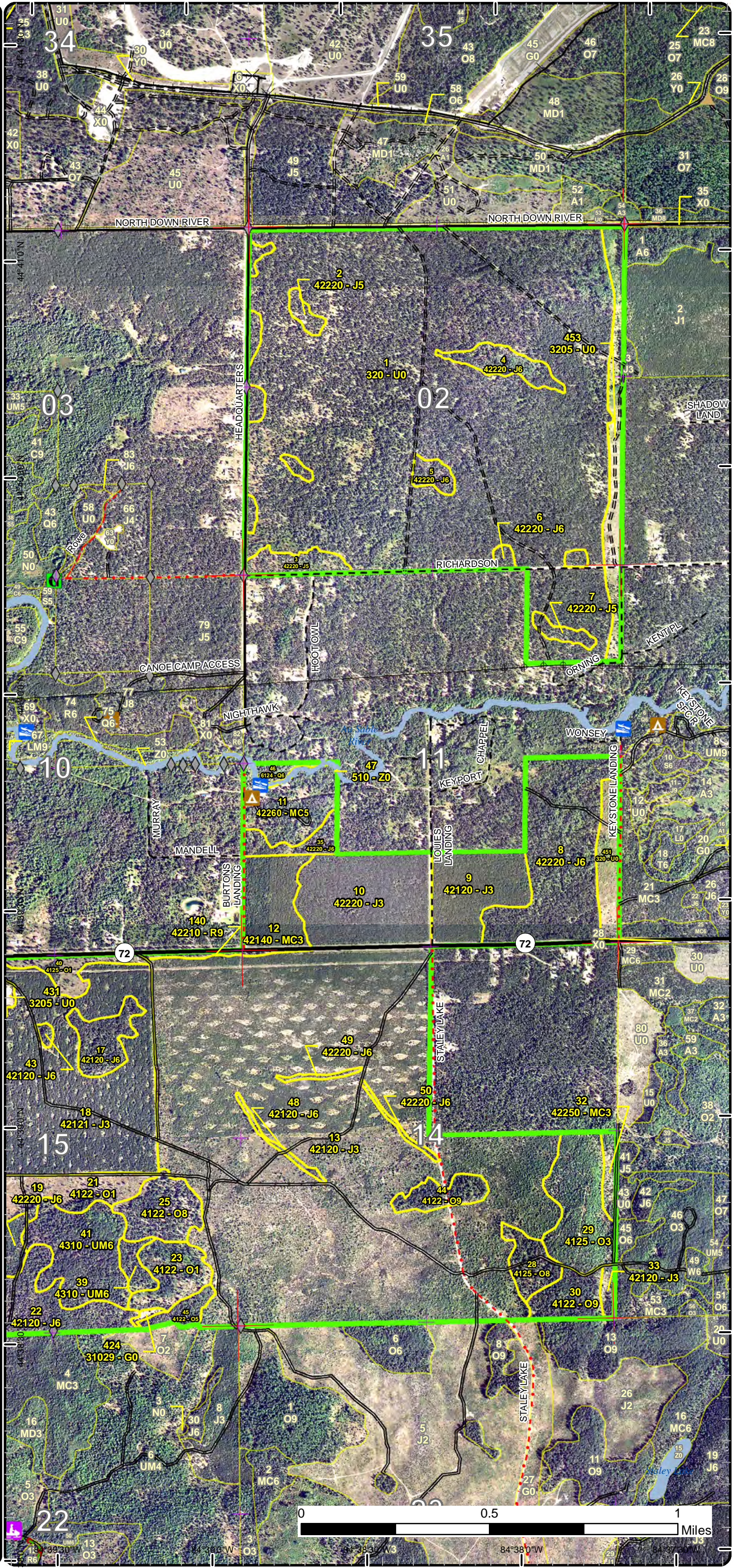
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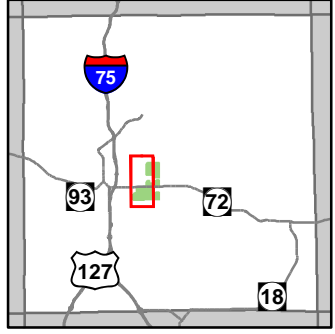
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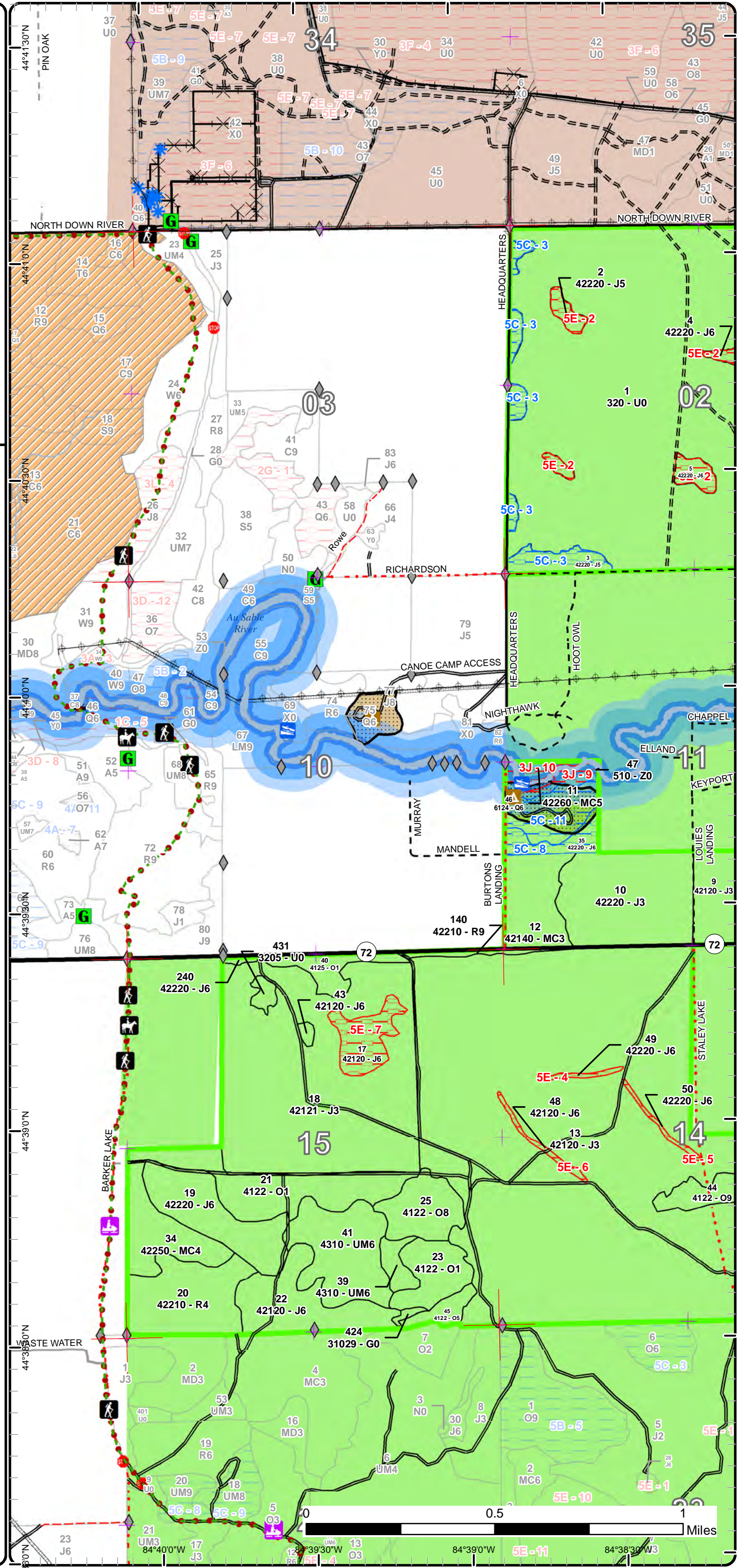
Special Conservation Areas & Site Conditions Map

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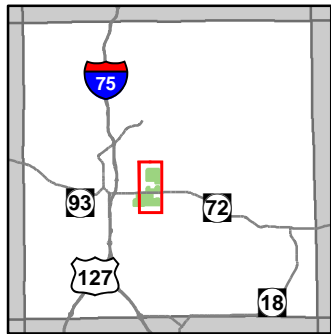
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- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Eastern Massasauga Managed Land
- Kirtland Warbler Habitat
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
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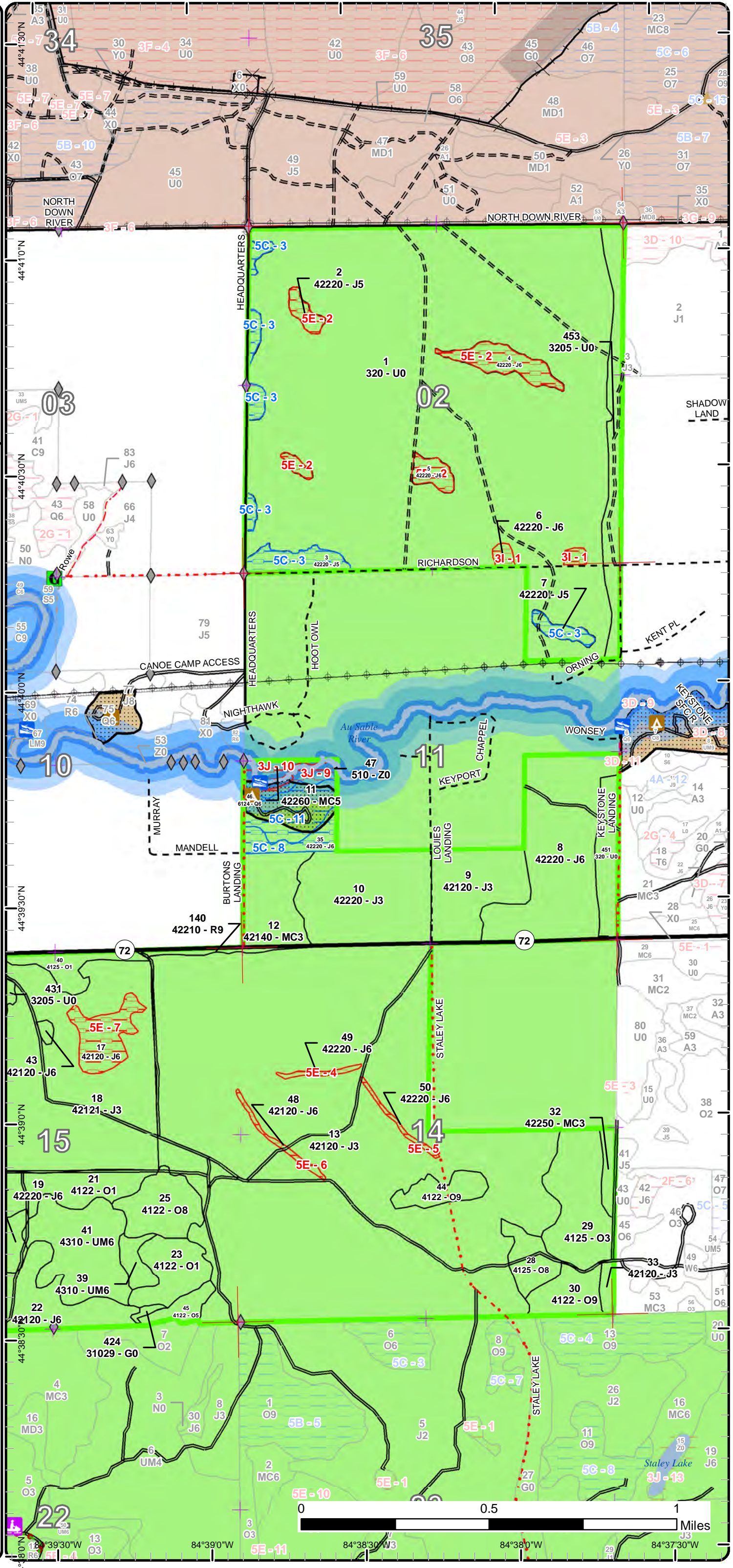
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Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Jack Pine	0	0	508	65	216	71	4	73	36	0	0	0	0	0	0	0	0	0	973
Lowland Conifers	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
Natural Mixed Pines	0	0	5	0	0	0	0	24	25	0	0	0	0	0	0	0	0	0	54
Oak	0	66	34	0	0	0	0	0	6	0	35	20	0	0	0	0	0	0	161
Planted Mixed Pines	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Red Pine	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	40
Upland Mixed Forest	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	43
Upland Shrub	592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	592
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	595	66	547	90	216	71	4	138	110	3	35	20	0	0	0	0	0	0	1894



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2020

Acres of Harvest

Compartment 235

Total Compartment Acres: 1,892

Commercial Harvest - 129
 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
Jack Pine	32	0	0	0	0	0	0	0	0	32
Oak	54	0	0	0	0	0	0	0	0	54
Upland Mixed Forest	43	0	0	0	0	0	0	0	0	43
Total	129	0	0	0	0	0	0	0	0	129

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	129	537	0	0	0	50	0	15		731
Next Step	0	0	537	0	15	0	1204	0	15	1771
Total	129	537	537	0	15	0	1253	0	30	2502



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	72235001- Prep	537.1	320 - Upland Shrub	Nonstocked		Unspec ified	SitePrep	Trenching	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Trench to opposing wave pattern for KW habitat.

Specs:

Next Step ; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable A fully stocked stand of planted Jack Pine for kw

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 5 /24/2017

11	72235011- Monitor	0.8	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	70	81-110	Monitoring	Other - Specify	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Monitor effectiveness of stream bank restoration/sod log fish cover structure, and access control. See FTP F72-789 for details.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 7 /29/2016

21	72235021- Monitor	38.2	4122 - Oak, Pine	Sapling Poor	7	Immatur re	Monitoring	Natural Regen (Intermediate)	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Check in spring/summer of 2021.

Specs:

Next Step

Treatments:

Acceptable Stand should regenerate to a mix of oak and red pine.

Regen:

Other Stand is regenerating well to jack pine, with some oak. Check again in 2021 to determine if stand has regenerated to red pine and oak, or

Comment: different course of action needed.

Proposed Start Date: 10/1 /2021

22	72235022-Cut	32.2	42120 - Planted Jack Pine	Poletimber Well	73	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clearcut with standard retention guidelines.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of oak and pine species.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
25	72235025-Cut	19.5	4122 - Oak, Pine	Sawtimber Medium	101	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Clearcut using standard retention guidelines.
Specs:

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

Acceptable A mix of oak species, jack pine, and red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

28	72235028-Cut	11.2	4125 - Black, N. Pin Oak	Sawtimber Medium	96	51-80	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Clear cut following standard retention guidelines.
Specs:

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

Acceptable Mixed oak species with pine components.
Regen:

Other If some stands need to be held, consider holding until next entry.
Comment:

Proposed Start Date: 10/1 /2019

30	72235030-Cut	13.5	4122 - Oak, Pine	Sawtimber Well	96	51-80	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Clear cut following standard retention guidelines.
Specs:

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

Acceptable Oak with mixed pine.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

39	72235039-Cut	5.9	4310 - Pine, Oak Mix	Poletimber Well	71	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Clear cut following standard retention guidelines.
Specs:

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

Acceptable A mix of oak species, jack pine, and red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
40	72235040-Monitor	10.7	4125 - Black, N. Pin Oak	Sapling Poor	6	Immature	Monitoring	Natural Regen (Re-Inventory)	4122 - Oak, Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Natural regeneration check

Specs:

Next Step

Treatments:

Acceptable Stand should regenerate to a mix of oak and red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

41	72235041-Cut	36.8	4310 - Pine, Oak Mix	Poletimber Well	78	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clearcut following standard retention guidelines.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable A mix of oak species, jack pine, and red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

44	72235044-Cut	10.2	4122 - Oak, Pine	Sawtimber Well	99	51-80	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clear cut following standard retention guidelines.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mixed oak species with scattered pine.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

451	72235451-NF	15.0	320 - Upland Shrub	Nonstocked		Unspecified	NonForestMgt	Mowing	3102 - Grass		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow to maintain fuel break.

Specs:

Next Step NonForestMgt, Brush Cutting; Burn, Fuel Break

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

Total Treatment Acreage Proposed: 731.1

Report 4 – Site Conditions

Grayling Mgt. Unit
Sarah Itchue : Examiner

Compartment: 235
Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions						
		With Condition	Not Available		5B	5C	3D	3I	3J	5E	
1	1	0	0	Herbaceous Openland							
977	901	31	45	Jack Pine	0	31	0	4			41
3	0	0	3	Lowland Conifers					3		
54	30	18	6	Natural Mixed Pines		18			6		
160	160	0	0	Oak		0					
25	25	0	0	Planted Mixed Pines							
40	40	0	0	Red Pine							
43	43	0	0	Upland Mixed Forest							
592	591	0	0	Upland Shrub		0					0
2	2	0	0	Water							
1,897	1,792	50	54	Total Forested Acres	0	50	0	4	9		41
	94%	3%	3%	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	3I: Historical / archeological (add locked comments)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	5E: Long-Term Retention	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments: For 2017 harvest #033-14.							
3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Visual alleviation pockets that can be treated in the future upon the Grayling Unit Managers request.							

Report 4 – Site Conditions

Grayling Mgt. Unit
Sarah Itchue : Examiner

Compartment: 235
Year of Entry: 2020

4	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	5E: Long-Term Retention	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold until next rotation and treat with stand to the north containing Burton's Landing Campground.							
9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Ausable River, Natural River buffer.							
10	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Ausable River, Natural River buffer.							

Report 4 – Site Conditions

Grayling Mgt. Unit
Sarah Itchue : Examiner

Compartment: 235
Year of Entry: 2020

11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	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.



S t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42220 - Natural Jack Pine	Poletimber Medium	12.6	61	51-80	Islands left when #033-14 was cut in 2017; some were left for visual management while the harvest area regenerates, others are designated long-term retention (see Site Condition layer for type). Previous comments: Part of Staley Lake KW management unit, HCVA. Many openings scattered throughout stand. If sampled intensely the density of the stand may be reduced to a J5 stand. Jack pine is dense in some areas with BA reaching the low 100's and overall is of fair quality. Poor quality oak is again scattered throughout concentrated in northern areas of stand however it continues to be a component in the southern areas of stand however with smaller diameters more common. Balsam fir are present in low numbers, concentrated to the southern areas of the stand stretching to stands 37 and 38, where the bulk of this species was left following the Headquarters Jack timber sale. Stand is to be final harvested as a portion of KW management block #40 in 2014 then trenched in 2016 and planted in 2017. Appropriate leave strips should be left to address visual impact from the sale while also maintaining some vertical structure within the sale area and allowing for adequate retention requirements. Leave islands/retention strips should be left along or near Headquarters rd. and North Down River rd. (old comment) KW MGT UNIT 4 1988: USED OLD SITE INDEX. STAND IS PART OF THE STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 4.
3	42220 - Natural Jack Pine	Poletimber Medium	12.0	61	51-80	Islands left for visual management in KW harvest (#033-14), which may be treated in the future (not designated long-term retention). Previous comments: Part of Staley Lake KW management unit, HCVA. Many openings scattered throughout stand. If sampled intensely the density of the stand may be reduced to a J5 stand. Jack pine is dense in some areas with BA reaching the low 100's and overall is of fair quality. Poor quality oak is again scattered throughout concentrated in northern areas of stand however it continues to be a component in the southern areas of stand however with smaller diameters more common. Balsam fir are present in low numbers, concentrated to the southern areas of the stand stretching to stands 37 and 38, where the bulk of this species was left following the Headquarters Jack timber sale. Stand is to be final harvested as a portion of KW management block #40 in 2014 then trenched in 2016 and planted in 2017. Appropriate leave strips should be left to address visual impact from the sale while also maintaining some vertical structure within the sale area and allowing for adequate retention requirements. Leave islands/retention strips should be left along or near Headquarters rd. and North Down River rd. (old comment) KW MGT UNIT 4 1988: USED OLD SITE INDEX. STAND IS PART OF THE STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 4.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4	42220 - Natural Jack Pine	Poletimber Well	11.4	69	51-80	<p>Retention island left in 2017 harvest (#033-14). Previous comments: Part of Staley Lake KW management unit, HCVA. Large jack pine mixed in with smaller 4-8" DBH jack pine. Some pockets of small, poor quality aspen are interspersed throughout which add to diversity. A few red pine are also scattered throughout the stand and are growing well, in some cases somewhat limby. Jack pine is of descent quality with some highquality stems present. Understory is characterized by u-type species with some areas of light jack pine as well as oak regen. A very small amount of white pine regen is present as well. This stand is part of KW management block #40 and is scheduled to be final harvested in 2014 and then trenched in 2016/planted in 2017. Final harvest with appropriate retention and leave strips. Retention should be irregular, taking into account visual and wind direction. Leave islands could be strategically left to help with visual while also maintaining diversity of vertical structure in the area. Some red pine pockets could be left as they are growing well and would provide added diversity within the large surrounding areas of JP. Leave standing snags where safety is not an issue. These snags will continue to provide cavity nesting cover and will hopefully develop into coarse DWD in the near future following the harvest. (old comment) TRY TO LEAVE SMALL PATCH OF R3 IN NORTH PORTION OF STAND KW MGT UNIT 5 1998: STAND AS JUST REACHED J5 STATUS WITH SCATTERED POCKETS OF RED PINE, J3 AND U1. STAND IS PART OF THE STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 5. USED OLD SITE INDEX.</p>
5	42220 - Natural Jack Pine	Poletimber Well	5.0	69	51-80	<p>Retention island left in 2017 harvest (#033-14). Previous comments: Part of Staley Lake KW management unit, HCVA. Large jack pine mixed in with smaller 4-8" DBH jack pine. Some pockets of small, poor quality aspen are interspersed throughout which add to diversity. A few red pine are also scattered throughout the stand and are growing well, in some cases somewhat limby. Jack pine is of descent quality with some highquality stems present. Understory is characterized by u-type species with some areas of light jack pine as well as oak regen. A very small amount of white pine regen is present as well. This stand is part of KW management block #40 and is scheduled to be final harvested in 2014 and then trenched in 2016/planted in 2017. Final harvest with appropriate retention and leave strips. Retention should be irregular, taking into account visual and wind direction. Leave islands could be strategically left to help with visual while also maintaining diversity of vertical structure in the area. Some red pine pockets could be left as they are growing well and would provide added diversity within the large surrounding areas of JP. Leave standing snags where safety is not an issue. These snags will continue to provide cavity nesting cover and will hopefully develop into coarse DWD in the near future following the harvest. (old comment) TRY TO LEAVE SMALL PATCH OF R3 IN NORTH PORTION OF STAND KW MGT UNIT 5 1998: STAND AS JUST REACHED J5 STATUS WITH SCATTERED POCKETS OF RED PINE, J3 AND U1. STAND IS PART OF THE STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 5. USED OLD SITE INDEX.</p>



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
6	42220 - Natural Jack Pine	Poletimber Well	3.6	69	51-80	<p>Islands left in 2017 harvest (#033-14), see locked comments. Previous comments: Part of Staley Lake KW management unit, HCVA. Large jack pine mixed in with smaller 4-8" DBH jack pine. Some pockets of small, poor quality aspen are interspersed throughout which add to diversity. A few red pine are also scattered throughout the stand and are growing well, in some cases somewhat limby. Jack pine is of descent quality with some highquality stems present. Understory is characterized by u-type species with some areas of light jack pine as well as oak regen. A very small amount of white pine regen is present as well. This stand is part of KW management block #40 and is scheduled to be final harvested in 2014 and then trenched in 2016/planted in 2017. Final harvest with appropriate retention and leave strips. Retention should be irregular, taking into account visual and wind direction. Leave islands could be strategically left to help with visual while also maintaining diversity of vertical structure in the area. Some red pine pockets could be left as they are growing well and would provide added diversity within the large surrounding areas of JP. Leave standing snags where safety is not an issue. These snags will continue to provide cavity nesting cover and will hopefully develop into coarse DWD in the near future following the harvest. (old comment) TRY TO LEAVE SMALL PATCH OF R3 IN NORTH PORTION OF STAND KW MGT UNIT 5 1998: STAND AS JUST REACHED J5 STATUS WITH SCATTERED POCKETS OF RED PINE, J3 AND U1. STAND IS PART OF THE STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 5. USED OLD SITE INDEX.</p>
7	42220 - Natural Jack Pine	Poletimber Medium	4.2	52	51-80	<p>Island left for visual in 2017 harvest (#033-14), which may be cut in the future (not designated long-term retention). Previous comments: Part of Staley Lake KW management unit, HCVA. Previously typed as a J3 stand and still could be typed as this in many areas, however sample revealed stand to be J5 with some areas remaining J3. Growing fairly well with oak scattered throughout. Fair amount of oak regen naturally and by stump sprouts however this regen is of very poor quality. Lots of wildlife use throughout stand. Some 2-tracks are being utilized by private landowners to access property to the south. This stand is to be final harvested as part of KW management block #40 in 2014 and then trenched in 2016/planted in 2017. Appropriate leave islands and retention strips should be left to address visual impact as well as vertical structure diversity. Focus a couple of leave islands along southern edge of stand near private border. Standing snags should be left where they do not create a safety issue, mainly along edge of stand. There will likely be a small amount of dead standing material as this stand is small diameter/young and only light mortality has occurred in places. (old comment) 1998: USED OLD SITE INDEX. PRIVATE INDIVIDUALS ARE USING TWO TRACK IN THE STAND TO ACCESS THEIR PROPERTY.</p>
8	42220 - Natural Jack Pine	Poletimber Well	71.1	48	81-110	<p>OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Variable J6 stand with aspen, oak and and some areas of cherry throughout. Understory is made up mainly of sedge species however areas of thick blueberry exist along with a few areas of light bracken fern. Adjacent to Keystone fuelbreak and surrounded by J3 plantations. Jack pine have short height and many stems contain only 1 merchantable stick per tree. Leave until next year of entry then remove jack pine and replant. Jack pine should be fine holding one more rotation. Includes previous aspen stand 7 that is variable in terms of makeup and stocking. When stand is treated, this aspen should be addressed differently or at least monitored at time of treatment. (old comment)SOUTH PART OF STAND BORDERS M-72 (1998)</p>



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
9	42120 - Planted Jack Pine	Sapling Well	33.0	27	Immature	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. J3 stand growing well, very dense. 10' tall on average, areas where density varies and these areas are being occupied by cherry and oak brush. Additional species are of poor quality. Stand abuts M-72 and is providing good variation within large tracts of warbler cuts in the area. (old comment) PLANT IMMEDIATELY - TRAVEL INFLUENCE 1998: CLEAR CUT IN 1992. USED OLD SITE INDEX. SOUTH END OF STAND BORDERS M-72.
10	42220 - Natural Jack Pine	Sapling Well	55.1	35	Unspecified	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. J3 stand growing quite well, currently trees are approximately 12' tall on average. Balsam fir is present throughout the stand at low numbers. Some areas seem to be slightly wet, mainly on the interior of the stand. Possibly a seep heading towards the ausable. Stand is adjacent to private and has a small access 2-track entering the stand in the northeast corner. Looks to be used by hunters, birders, etc. (old comment) SEEDED 1984 - LOOKS FINE. 1998: USED OLD SITE INDEX. SOUTH END OF STAND BORDERS M-72.
11	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	25.4	70	81-110	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Stand encompasses burtons state forest campground and some inaccessible state land on the northern side of the ausable river, mainly swamp type with a slight rise when you get towards the private line to the north. (old comment) INCLUDES TWO-AGED ASPEN AND JACK PINES AND SWP ON BOTH SIDES OF RIV. PLANT RED PINE IN SOME OPENINGS FOR FUTURE STAND 1998: BURTON'S LANDING STATE CAMPGROUND. HAS POCKETS OF JACK PINE ASPEN WHITE AND HARDWOODS THROUGHOUT STAND. USED OLD SITE INDEX. STAND HAS SOME BASAL AREA.
12	42140 - Planted Mixed Pine	Sapling Well	25.0	27	Immature	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Previously typed as a J3 stand, however looks to have been planted to red pine then seeded either naturally or artificially, or a combination of both. Overall, red pine is the dominant species and is growing in plantaion form. Jack pine is dense in places and there are areas of the stand that may type as J3, however overall this should be considered a red pine stand. Some aspen pockets along with areas of M1/2 mixed throughout. Stand averages approximately 6-10' in height. (old comment) HEAVY TRAVEL INFLUENCE - PLANT RED PINE FOR ESTHETICS AND LONG ROTAT 1998: USED OLD SITE INDEX. PLANT RED PINE ALONG SOUTH END OF STAND FOR ESTHETICS.
13	42120 - Planted Jack Pine	Sapling Well	504.4	17	Immature	Planted jack pine that is growing very well. Singing warblers were heard during the summer 2017 surveys. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. J3 stand, large area of KW management unit. Cherry and oak sprouts common throughout stand. There is a J6 buffer along Staley Lake rd that was included in stand. This buffer is approximately 3 rows wide and is providing excellent visual management and a descent windbreak for the private ands to the east. Southern portion of stand is much younger, planted more recently. From old comments, it looks as though this area was to be seeded and the seeding failed. It was then planted in 2004. This planting really took a beating during the past summer. Lot's of mortality throughout. May need to look at and think about replanting or reseedling in the future. (old comment) KW MGT UNIT 3 1998: FINAL HARVEST AND REPLANT TO JACK PINE SEP, 11 2002: STAND WAS seeded TO JP IN JUNE 2002 FTP W72-466. Under the same FTP in 2004, the failed seeding was planted to JP.

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Grayling Mgt. Unit

Report 7 – Forested Stands

Compartment: 235

Year of Entry: 2020



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42120 - Planted Jack Pine	Poletimber Well	14.3	63	81-110	Planted jack pine retention for stand 18. There is oak regen throughout the stand, with small pockets of jack pine retention scattered throughout. Hold long term. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Pure JP stand with some nice oak regen throughout. Pockets of young jack pine. Stand provides nice breakup for surrounding plantations. Lots of wildlife activity throughout. Deer tracks as well as squirrel sign are common within this stand. Scattered individual oak are present and again are of very poor quality. (old comment) RESIDUAL FROM 1985 CUT - CUTIN 10 YRS - KW MGT UNIT 1 1998: STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 1 HOLD AS LONG AS POSSIBLE UNTIL SCHEDULED TO BE CUT ACCORDING TO THE KW MGT PLAN.
18	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	160.7	31	Immature	Planted jack pine, with a portion of oak throughout the stand. Oak is concentrated along edges. Bracken fern and blueberry present. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. J3 stand with significant oak component throughout. Oak very thick in places especially along the edges. Blueberry, lichen and bracken fern throughout as groundcover. Jack pine is growing well, as is oak. (old comment) SHOULD BE PLANTED SPRING 1988 - KW MGT UNIT 1 1998: PART OF STALEY LAKE KW MGT UNIT1 CUTTING BLOCK 1
19	42220 - Natural Jack Pine	Poletimber Well	31.8	27	Immature	Natural jack pine stand with mixed oak components becoming common. The regen is dominated by oak, but the overstory is still mostly jack pine. Thick snow made it difficult to see anything other than the oak and jack pine regeneration. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. J3 stand with oak beginning to become more of a significant component. Oak is of rather poor quality but very numerous providing additional wildlife habitat. Areas where oak is dominant however overall jack pine dominates the stand and outnumbers oak species. Fair amount of balsam fir throughout as some areas seem to have a higher water table. (old comment) PLANT AREAS TO JACK PINE WHERE NO REGEN EXISTS 1998: STAND CLEAR CUT IN 1992 . 10 BASAL AREA OF JACK PINE RESIDUAL SCATTERED THROUGHOUT THE STAND.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	42210 - Natural Red Pine	Poletimber Poor	36.5	60	1-50	Open grown red pine stand with components of oak, jack pine, and red maple. Along the southern edge of the stand the red maple can be found, while the oak and jack pine are found in the northern areas of the stand. Oak regent found throughout. No evidence that the stand is still used as a dumpsite. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Red pine growing fairly well with variable quality throughout stand. Density is also quite variable with pockets hitting 50-80 BA however with most of the stand area hovering in the 10-20 BA range. Some pockets of O3 exists along with a fair amount of aspen regen in some places. Spruce and fir species are present in low numbers. Terrain is rolling with some larger hills present. As far as density is concerned, the southern portion of the stand is generally more dense with higher BA's present while the northern areas of the stand are a bit more sparse in stocking. Lot's of DWD from past harvest and a great deal of wildlife activity. (old comment) RP SI=60. 1998: STAND IS A MIX OF SPECIES DIVERSITY. THE TOP OF RIDGE IS PRIMARILY OAK WITH THE SIDE SLOPES BEING ASPEN RED MAPLE AND PINE. USE 5 - SPOT SHELTERWOOD CUT. PRESCRIPTION CHANGED TO FINAL HARVEST. 2004 timber sale prep comments: approval was given to alter the prescription by leaving all red pine. The red pine averaged a little over 10 BA overall, with pockets hitting 40-60 BA. It's generally not economically mature, ranging in size from poles to small sawtimber, with scattered large sawtimber & super-canopy trees. Sale closure update (JC): All oak, aspen and jack pine were cut in 2006 under 720610401 (Barker Lake Road Removal) by Bob Near for ADJ.
21	4122 - Oak, Pine	Sapling Poor	38.2	7	Immature	Regen check: summer 2018. There is a good mix of oak and jack pine, with a component of red pine. Suggesting to change the management objective to oak/pine mix. OPIC - FMD: Treated as part of Timber Sale 72-012-10-01 "Staley/Barker Mix. No FTP needed. Scattered red pine left equalling approximately 10 ft ² /acre. Stand should regenerate to a mix of oak and red pine.
22	42120 - Planted Jack Pine	Poletimber Well	32.2	73	51-80	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Jack pine stand, leave one more YOE to harvest. Growing fairly well with descent size and quality. Some oak and red pine throughout. 1998: JACK PINE STAND CUT IN 10 YEARS
23	4122 - Oak, Pine	Sapling Poor	17.5	7	Immature	OPIC - FMD: Treated as part of Timber Sale 72-012-10-01 "Staley/Barker Mix. No FTP needed. All white oak greater than 8" DBH and all red and white pine were left. Pine was in the understory. Stand should regenerate to a mix of oak and pine.
25	4122 - Oak, Pine	Sawtimber Medium	19.5	101	51-80	Variable stand dominated by hybrid oak and jack pine, with scatterings of red pine, white oak, and white pine. Regeneration is decent throughout open areas of stand, recommend for harvest. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Variable stand with jack pine, oak species and red pine with the occasional white pine present. Fair amount of regen throughout as many areas are relatively open. Oak is of very poor quality. More white oak exists further west in the stand and is of fair quality, although not great. Red pine is of descent quality and is scattered throughout the stand in somewhat low numbers. J1/J2 represents understory in some of the more open areas of stand. (old comment) RED PINE SHOWS GOOD GROWTH HERE. NO TREATMENT- USE AS SORT OF FUEL BREAK.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	4125 - Black, N. Pin Oak	Sawtimber Medium	11.2	96	51-80	<p>Oak regent is extremely prevalent, recommend to harvest. Adjacent oak stand that was cut is regenerating very well. Protect regent during sale.</p> <p>OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Low stocking throughout. Oak understory is heavy and is growing quite well however. White pine are mixed in throughout the stand providing nice aesthetics while also providing some additional wildlife cover. Leave stand until next year of entry because of it being surrounded by KW management units and recent harvests to the east. At this time think about a possible final harvest or a seed tree harvest to continue to provide cover for oak regent while also providing additional seed source. (old comment) POORLY STOCKED OAK STAND - LEAVE AS IS FOR WILDLIFE-LEAVE FOR VISUAL MANAGEMENT</p>
29	4125 - Black, N. Pin Oak	Sapling Well	33.5	17	Immature	<p>Oak regent is dominant, with small components of aspen and jack pine. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. O3 stand with areas of M3/A3 component throughout. Areas where each are dominant, however oak is the stand type after overall OI field work. Stand has poor site index as is evidenced by adjacent oak stands and past data. POSSIBLE WILDLIFE CUT? 1998: FINAL HARVEST STAND. 80 YEAR OLD STAND IN NEED OF TREATMENT FOR FUTURE OAK PRODUCTION. POOR SITE INDEX.</p>
30	4122 - Oak, Pine	Sawtimber Well	13.5	96	51-80	<p>Poor quality oak and jack pine mix with thick oak regen in the understory. Stand compares to 29, which was harvested in 1998 with good regeneration. Recommending for final harvest. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Thick oak understory. Poor quality stand with mixture of oak, aspen and jack pine, typical of this area of compartment 235. Lots of wildlife activity and fair amount of DWD. Looks to get a lot of hunting activity. (old comment) UNDERPLANT AND MANAGE FOR RED PINE. 1998: WAIT 10 YEARS AND THIN</p>
32	42250 - Pine, Oak	Sapling Well	5.2	18	Immature	<p>Natural stand comprised of mixed oak, white oak, and jack pine. Appears that stand 29 regen is effecting the regen in this stand. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Stand was harvested and has regen of different species throughout. Does not look as though it was planted. Regen is growing well and looks good. Lots of wildlife activity throughout stand and surrounding area. (old comment) 1998: CUT AND REPLANT TO JACK PINE Ftp filled out</p>
33	42120 - Planted Jack Pine	Sapling Well	3.2	12	Immature	<p>Planted jack pine with scattering of hybrid oak mixed in. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Stand replanted in 2007. Stand is a pretty steep valley in corner of compartment. Lots of wildlife activity, well secluded in this area because of geography. (old comment) 1998: FINAL HARVEST AND REPLANT TO JACK PINE Ftp filled out (Stand was replanted to jack pine under FTP C72-484 in spring of 2007.)</p>



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
34	42250 - Pine, Oak	Poletimber Poor	23.5	65	1-50	Open grown jack pine with some hybrid oak. Hybrid oak regent in low to medium densities. Dumping still occurring throughout the stand, focused mainly around loop road into stand. Open grown natural jack pine landing closer to 50 BA. Recommend for harvest and restart, may get decent oak and jack pine regen through scarification. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Small stand, just off of Barker Lake road. Jack pine is of fair quality, somewhat busy and open. Oak is of poor quality. Lots of dumping has occurred in the area as there is a circle 2-track that turns around within the stand. (old comment) 1998: STAND IS BEING USED AS A GARBAGE DUMP. TWO AGED STAND OF JACK PINE AND OAK
35	42220 - Natural Jack Pine	Poletimber Well	9.0	66	81-110	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Nice jack pine stand south of Burtons Landing. Areas of aspen and oak are present and mixed evenly throughout stand making for a nice diversity in the area. Jack pine is fairly well formed. Old stand boundaries do not match up with what is on the ground. Stand has a variable southern edge, not a straight east/west line. (old comment) 1998: STAND IS FOUND JUST SOUTH OF BURTON'S LANDING FOREST CAMPGROUND. HOLD AS LONG AS POSSIBLE
39	4310 - Pine, Oak Mix	Poletimber Well	5.9	71	81-110	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Mixed stand of jack pine and oak. White oak is of fair quality, jack pine is descent although not great. Miscellaneous oak species are very poor quality and are declining. Next YOE this stand could be final harvested while protecting oak regen and red pine of all sizes. Reevaluate at that time. (old comment) 1998: HEAVY FIREWOOD CUTTING OR WOOD THEFT HAS OCCURRED.
40	4125 - Black, N. Pin Oak	Sapling Poor	10.7	6	Immature	OPIC - FMD: Treated as part of Timber Sale 72-012-10-01 "Staley/Barker Mix. No FTP needed. Red pine along M-72 had a third of its volume marked for removal and all jack pine and oak were taken except a few jack pine marked for retention. Stand should regenerate to a mix of oak and red pine.
41	4310 - Pine, Oak Mix	Poletimber Well	36.8	78	51-80	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Stand runs along a ridge, dominated by oak with red pine and jack pine present. Jack pine and oak are of very poor quality. Lots of decline and mortality with many snags and DWD. Ground cover varies between bracken and sedge. Oak regen is very thick, majority is white oak with some red/pin present, heavily browsed. (old comment) 1998: STAND HAS A LOT OF RED PINE IN IT, MIGHT THINK ABOUT RED PINE MANAGEMENT IN FUTURE FOUND ON RIDGES AND SLOPES OAK S.I. IS 35
43	42120 - Planted Jack Pine	Poletimber Well	1.3	69	81-110	Mature jack pine surrounded by KW plantation. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. This stand was a leave island during the harvest of stand 18. Stand is growing fairly well and similarly to stands 17 and 40 provides a nice break-up to the many plantations within this area/compartments. Lots of wildlife in the area with a fair amount of cover throughout the stand. Leave stand until next YOE and then final harvest and replant. The 2-track accesses the stand directly and should provide a trucking route to remove timber. At this point in time, this harvest will not be seen from M-72 as stand 18 is beginning to develop into a pole-sized stand quite rapidly. (old comment) 1998: FOUND WITHIN KW MGT CUTTING BLOCK 1 STALEY LAKE KW MGT UNIT 1



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
44	4122 - Oak, Pine	Sawtimber Well	10.2	99	51-80	Poor quality hybrid oak mixed with jack pine. There is a significant oak regent component, mixed and white oak. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Mixed stand with significant components of JP, aspen and red/black/pin oak. Majority of regen is white oak, poor quality. Bracken fern, sweetfern and blueberry throughout however sedge species dominates groundcover. 1998: FOUND ON RIDGE TOP. STALEY LAKE ROAD RUNS NORTH-SOUTH THROUGH STAND. ALSO FOUND IN THE STALEY LAKE KW MGT UNIT 1 CUTTING BLOCK 2.
45	4122 - Oak, Pine	Poletimber Medium	6.1	73	51-80	Mixed oak/pine stand with poor quality hybrid oak, jack pine, and red pine. There is significant oak regen, including poor quality white oak as well as hybrid oak. Oak appears to be declining rapidly, as well as the jack pine. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Jack pine stand with oak mixed throughout. Lots of oak regen throughout stand. Jack pine and oak are both declining somewhat rapidly in recent years. Lots of DWD with numerous standing snags throughout stand. Oak is of very poor quality, jack pine of fair quality. There is a descent amount of jack pine regen in the 2-4" range. Final harvest all oak regardless of size and remove all jack pine greater than 6". Protect oak regen during harvest. Stand blends into stand 23, however use 2-track as stand boundary and treat with stand 23. (old comment) 1998: USED SAME SITE INDEX AS STAND 22 STAND IS SAME AS STAND 22 WHICH IS ONLY DIVIDED BY GRASSY OPENING ON COMPARTMENT MAP BUT IS CONNECTED IN COMPARTMENT TO THE SOUTH.
46	6124 - Lowland Spruce- Fir	Poletimber Well	3.3	87	111-140	,OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Small stand, inaccessible on north side of ausable river across from burtons landing. (old comment) 1998: LOWLAND ALONG THE NORTH SIDE OF AU SABLE RIVER NORTH OF CAMPGROUNDS (BURTON'S LANDING) IN ACCESSIBLE
48	42120 - Planted Jack Pine	Poletimber Well	2.5	64	81-110	Retention island designed to look like fire vortex. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Vortices containing jack pine with areas of red pine as vortex passes through what was previously stand 15, an R6 stand. Stand creates nice visual affect while providing wildlife cover and a fair amount of DWD for area. Also adds to diversity and provides an additional seed source for future. (old comment) KW - CUTTING BLOCK 3 - 1998: SIMULATED FIRE VORTEX
49	42220 - Natural Jack Pine	Poletimber Well	1.7	70	51-80	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Stand creates nice visual for KW cuts, simulating a fire vortices. Jack pine is dominant with oak regen and cherry brush common throughout. Also adds to diversity and provides ample DWD and wildlife habitat within large KW cut areas. (old comment) KW MGT UNIT 3 1998: SIMULATED FIRE VORTEX.
50	42220 - Natural Jack Pine	Poletimber Well	1.9	70	51-80	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Stand creates nice visual for KW cuts, simulating a fire vortices. Jack pine is dominant with oak regen and cherry brush common throughout. Also adds to diversity and provides ample DWD and wildlife habitat within large KW cut areas. (old comment) KW MGT UNIT 3 1998: SIMULATED FIRE VORTEX.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
140	42210 - Natural Red Pine	Sawtimber Well	3.7	69	111-140	Buffer still in decent condition. The jack pine in stand 13 is growing quite well behind it, but the red pine can hold for several rotations. Salt damage is evident in tree suppression, but the overall health will sustain. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. This stand encompasses a small strip of red pine that was left following KW cuts of stand 13. Red pine is the dominant species with some oak in the understory. Red pine is growing well, some decline is present near road possibly resulting from salt spray/damage. Some areas of stand are open with breaks in stand from grassy areas or areas that were lightly stocked and were planted with stand 13. There are also scattered red pine along M-72 to the east of this stand that were not included within this stand area. This decline is most prevalent in co-dominants/suppressed individuals. Maintain buffer for as long as possible. (new stand, no old comment)
240	42220 - Natural Jack Pine	Poletimber Well	0.9	69	111-140	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. This stand encompasses border along M-72, west of the break between the two buffer stands along M-72, north of stand 18. The stand to the east of the break is numbered stand 40. Jack pine is declining and in some cases has reached a quite large diameter. Red pine is also present in high numbers and is mainly concentrated immediately adjacent to M-72. The red pine is very crowded with many stems/acre. In many areas of this small stand, red pine is the dominant species with jack pine scattered throughout. (old comment) 1998: CUT AND REGENERATE AS SOON AS POSSIBLE. STAND BORDERS M-72 EAST



Stand	Cover Type	Acres	Managed Site	General Comments:
1	320 - Upland Shrub	545.7		Was final harvested by May 2017 (#033-14), cutting stems 2"+ DBH except visual and retention islands and green-marked trees (survey corner witness trees and a few RP). FTP W72-819 submitted for planting JP. Previous comments: Part of Staley Lake KW management unit, HCVA.
47	510- Water (OI)	1.7	No	OPIC - FMD: Mainstream ausable river. (old comment) 1998: AU SABLE RIVER
424	31029 - Grass (OI)	1.1	No	Some jack pine and oak growing in opening. Very open gown and brushy. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Grassy opening that is beginning to become forested lightly by jack pine. Some scrub cherry species are also present along with white oak regen around the perimeter. (old comment) 1998: JACK PINE ENCROACHMENT INTO STAND. THINK ABOUT DOING MAINTENANCE TO MAINTAIN GRASSY OPENING.
431	3205 - Mixed Upland Shrub	3.0	No	OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Opening in the center of jack pine stand. Previously inventoried as a Y-stand however during current inventory, it looked as though this was a grassy opening with some open sand areas along the edges. These seem to be eroding possibly from atv use within the opening. (inventory was done during the winter so immediate ground cover was not able to be seen because of snow cover) A few open grown jack pine within the opening along with scattered aspen pockets near southern edge. Some tall grasses throughout along with a fair amount of sweetfern. (old comment) RESTORE SITE - MANAGE AS GRASSY OPENING 1998: RECOMMEND LEAVE AS SAND DUNE
451	320 - Upland Shrub	15.0	Yes	Managed fuel break. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Fuelbreak. Cherry, jack pine and scattered oak beginning to establish in light numbers. Prescribed burn for opening maintenance would be desirable. (old comment) 1998: FINAL HARVEST 3-5 CHAIN STRIP AND LEAVE AS A FUELBREAK. HEADQUARTERS JACK 28-00-01
453	3205 - Mixed Upland Shrub	27.9	Yes	Maintained opening to be used as a fuel break between Jack Pine stands. OPIC - FMD: Part of Staley Lake KW management unit, HCVA. Similar to stand 452, this stand is to the north of the road. Road is the reason these two portions of fuel break were separated into different stands. (old comment) 1998: FINAL HARVEST 3-5 CHAIN STRIP AND LEAVE AS A FUELBREAK. HEADQUARTERS JACK 28-00-01