



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61131

Entry Year 2020

Acreage: 1,927

County Kalkaska

Management Area: Camp Grayling

Revision Date: 2018-04-06

Stand Examiner: Kelly Standerfer

Legal Description:

T26N R5W Sections 34, 35, and 36

Identified Planning Goals:

The Camp Grayling management area is the Michigan National Guard training grounds used primarily for military exercises while allowing varying degrees of Department of Natural Resources (DNR) management on certain portions depending on classification of ownership. On these lands military training has precedence over resource management activities. The DNR will coordinate all prescribed treatments with Camp Grayling to ensure they are compatible with military training needs.

Management in the Camp Grayling management area will emphasize balancing the age class of aspen on suitable sites and regenerating the aging oak resource. Management will strive to sustainably produce various forest products, enhance game and non-game wildlife habitat and protect areas of unique character while accommodating military training.

Expected trends within this 10-year planning period are introduced pests and diseases and the difficulty in regenerating oak. Conditions that existed around the turn of the last century – including large clearcuts that minimized frost pockets, intense fires that minimized competition, and a smaller deer population – created the extensive oak stands we see today but are unlikely to be replicated. Therefore, the oak stands in this management area are extremely skewed towards the older age classes due to a minimal amount of regeneration for the last 70+ years. The oak in the 90+ age classes is approaching the end of the normal lifespan on outwash plains and is becoming increasingly susceptible to insects and diseases such as oak wilt and oak decline. Older oak also does not sprout as vigorously from stump sprouts.

Indeed, significant areas of oak decline were identified in this compartment since the last review. Several hundred acres were sold in 2016 to salvage the dying oak and attempt to regenerate it while there is still some stump-sprouting potential. As such, treatment options may be limited in this compartment this year of entry. Due to the advanced age of the oak and the challenges to regenerating oak, management should concentrate on maintaining oak in mixed stands. The current understory of white pine and red maple below oak will be released through partial oak harvests. Where oak is in the understory, such as under jack pine or other pine types, treatments to reduce the pine overstory will release oak. Considerations should also be given to planting pine in oak stands, which can help to shelter young oak from late spring freezes. Oak can be a component of other cover types, but will require management techniques to ensure regeneration.

Soil and topography:

This management area, which lies in the central part of the Large Grayling Outwash Plain sub-region, is made up of ice contact-formed end moraine ridges, separated by outwash areas. Topography consists of hills with long valleys.

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

This compartment is all Military Board Land, owned by the Department of Military and Veterans Affairs. Its primary use is training ground for troops at Camp Grayling but the DNR manages timber under an agreement with Camp Grayling.

Unique Natural Features:

None known.

Archeological, Historical, and Cultural Features:

There is an archeological concern in Section 35.

Special Management Designations or Considerations:

Part of Range 21 extends into Section 36. Some of this compartment sees heavy training use.

Watershed and Fisheries Considerations:

There are no water bodies within the compartment.

Wildlife Habitat Considerations:

Most of the compartment consists of an ice contact ridge. Topography is generally steep and irregular with soils of excessively drained loamy sand. Oak is the major component on these ridges, with some aspen and hardwoods present. The western edge of the compartment tapers off into a broad, flat outwash plain. Soils here are typically excessively drained sands. Jack pine and some aspen are the dominate cover types on this portion of outwash plain.

Acorns are an important food source for many different wildlife species. Wildlife considerations for timber treatments on this landscape include leaving mature mast-producing trees, protection of den/nest trees, regenerating oak in mature stands, increasing the aspen component in oak stands, promoting age diversity in aspen stands, and maintaining openings. Oaks and other mast producing species, and aspen stands of varying ages, provide high quality food and cover for white-tailed deer, black bear, tree squirrels, raccoon, wild turkey, ruffed grouse, and a variety of song birds and small mammals.

This compartment is Military Board Land so the creation dead and downed logs will be subject to the Military's approval.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact glacial outwash sand and gravel and post-glacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Marshall Sandstone. The Marshall was previously used as a building stone. A gravel pit is located one mile to the south and there is good potential. This area is located ten miles southeast of the Niagaran reef trend. There are currently no leases in the compartment, but there are active leases half a mile southwest.

Vehicle Access:

There is sufficient vehicular access throughout the compartment.

Survey Needs:

None.

Recreational Facilities and Opportunities:

No designated recreation facilities exist within the compartment boundaries. However, the area is used by the military for infantry training. Numerous roads provide ample access to state land for dispersed hunting, camping, mushroom hunting or berry picking.

Fire Protection:

The DNR Kalkaska Field Office would provide initial response with VFD protection from the Bear Lake Fire Department. This compartment is in the Zone 5 dispatch area. If requested, additional units would respond from Grayling, Houghton Lake and Manton, with shifts by units in Traverse City, Platte River, and Evart. Other than some jack pine stands on the west end of the compartment, most of the oak and aspen cover types pose little threat of catastrophic wild fire.

Additional Compartment Information:

The following reports from the Inventory are attached:

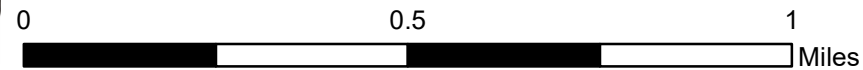
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

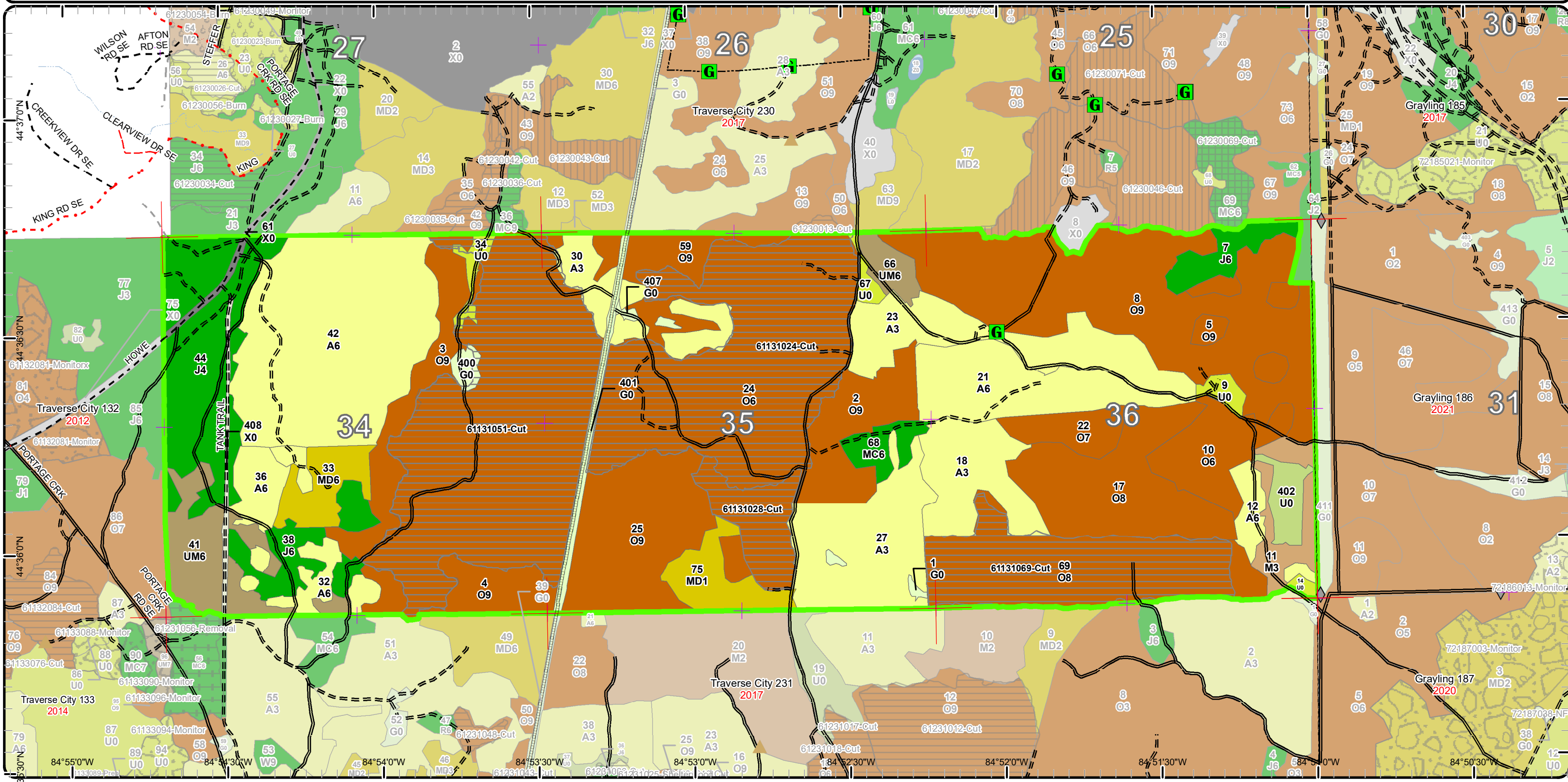
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 131
 T26N - R05W Sec. 34-36
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Camp Grayling
 YOE: 2020
 Acres: 1,928 GIS Calculated
 Examiner: Kelly Standerfer
 Map Revised: 10/11/2018
 Map Phase: Post - Maps

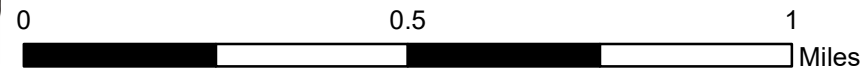


- Miris Corners
- + Remonumented Section Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Berms
- G Gate
- Intermittent Stream
- Lake/Pond
- Lakes and Rivers All
- Pipeline
- Fence
- Compartment Boundary
- Clearcut (w/Reserves)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 790 - Other Bare/Sparingly Vegetated
- Lakes

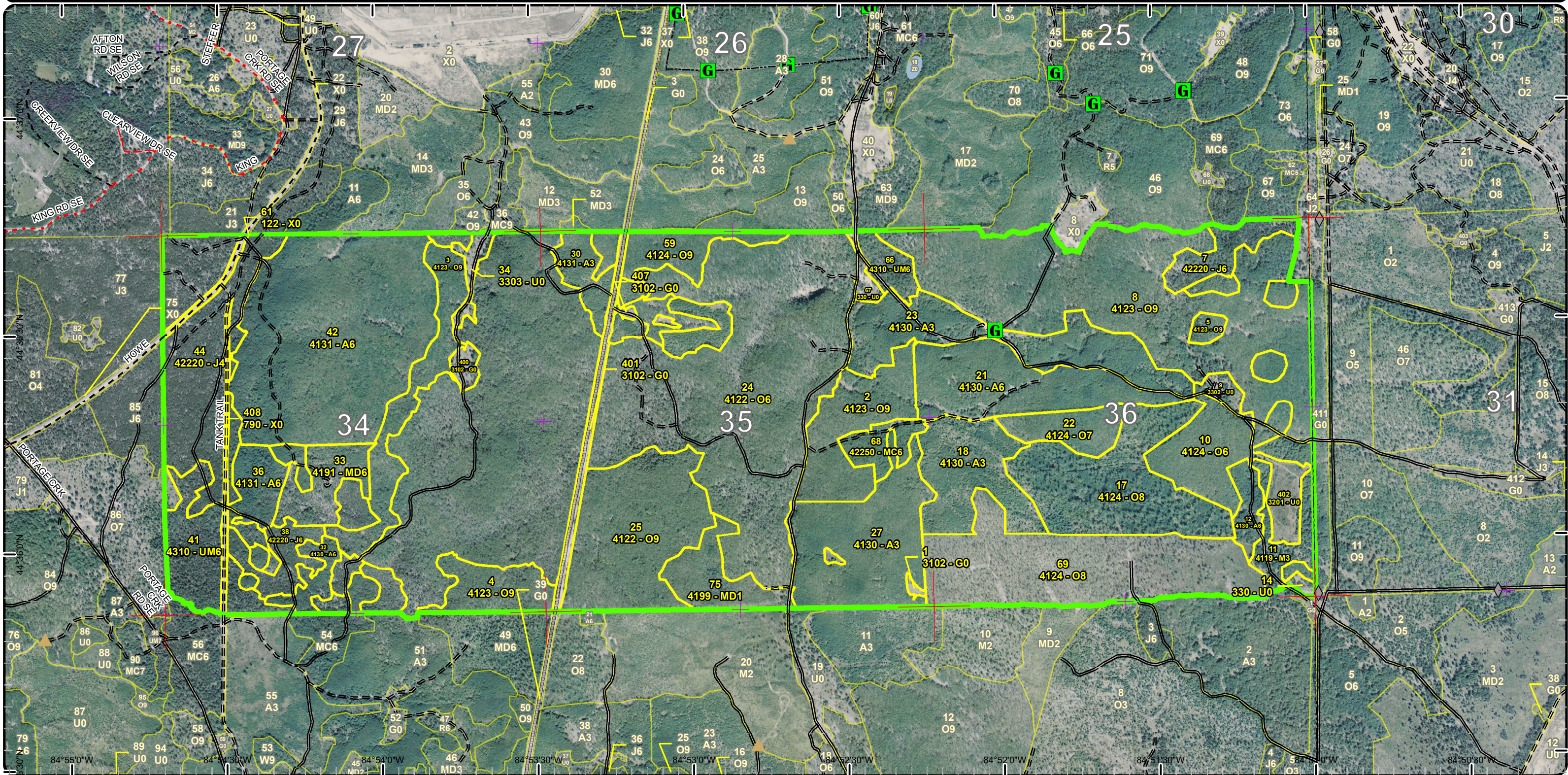


Stand Boundary Map

Compartment: 131
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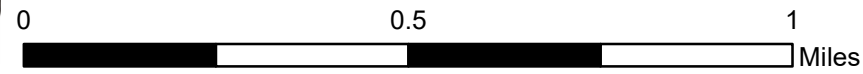


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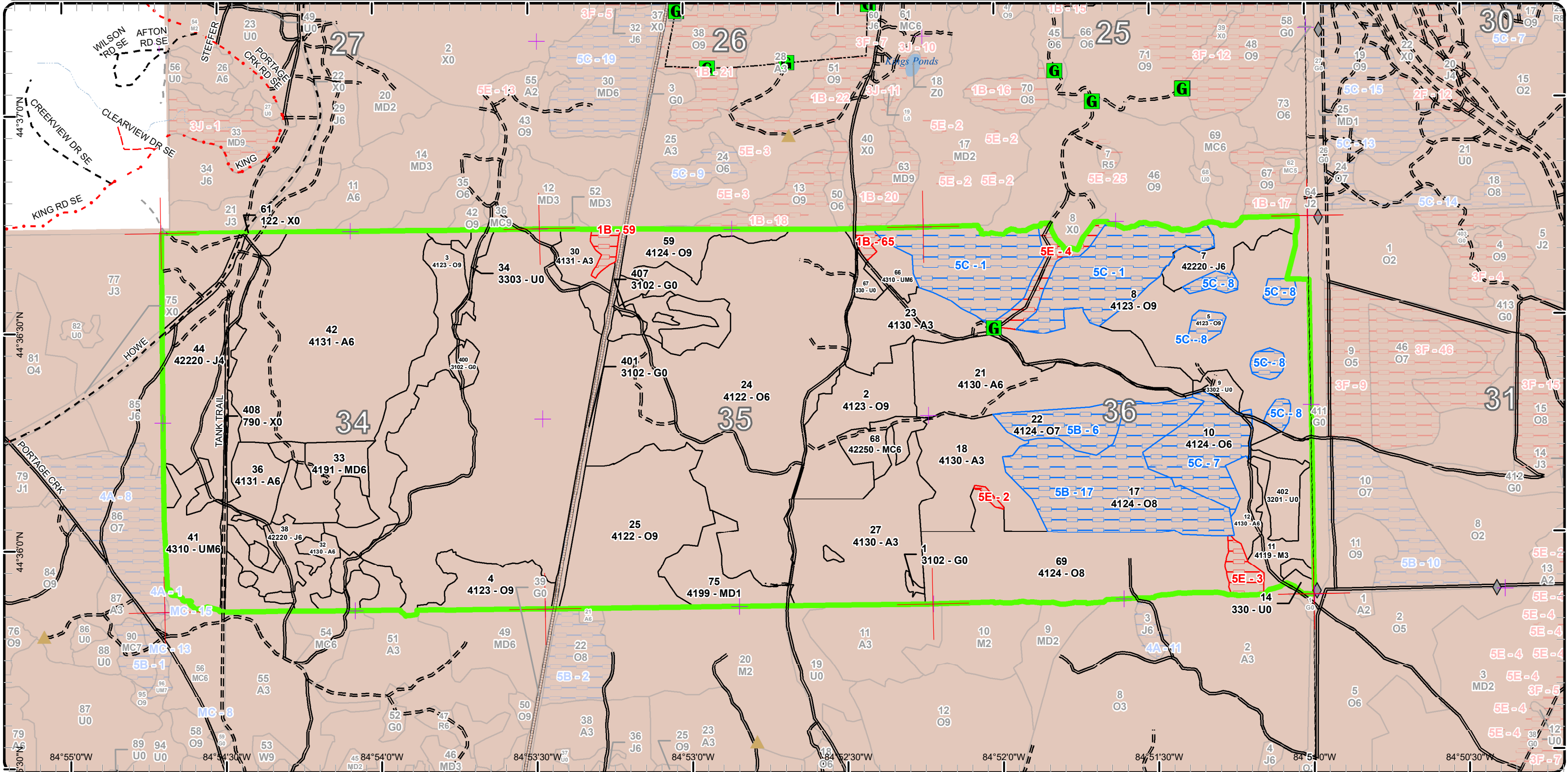


Special Conservation Areas & Site Conditions Map

Compartment: 131
 T26N - R05W Sec. 34-36
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- ▲ Berms
- G Gate
- Intermittent Stream
- Lake/Pond
- Lakes and Rivers All
- Pipeline
- Fence
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 1B: Non-DNR agency concerns (e.g. USFS)
- 5E: Long-Term Retention
- Stand Boundaries
- Research, Development, and Military Lands



Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	77	62	152	190	0	0	0	0	0	0	0	0	0	0	0	0	481
Bare/Sparsely Vegetated	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Herbaceous Openland	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Jack Pine	0	0	0	0	0	113	0	17	0	0	0	0	0	0	0	0	0	0	130
Low-Density Trees	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Mixed Upland Deciduous	0	25	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	47
Natural Mixed Pines	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	12
Northern Hardwood	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	22
Oak	0	0	0	0	0	0	0	0	0	1090	0	31	0	0	0	0	0	0	1121
Upland Mixed Forest	0	0	0	0	0	0	0	0	54	0	0	0	0	0	0	0	0	0	54
Upland Shrub	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Urban	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	60	25	77	62	174	325	0	29	54	1090	0	31	0	0	0	0	0	0	1927



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2020

Acres of Harvest

Compartment 131
Total Compartment Acres: 1,927

Commercial Harvest - 793
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	90	0	0	0	0	0	0	0	0	90
Jack Pine	0	0	0	17	0	0	0	0	0	17
Oak	643	0	0	0	0	0	0	0	0	643
Upland Mixed Forest	0	0	0	0	43	0	0	0	0	43
Total	733	0	0	17	43	0	0	0	0	793

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	793	0	0	0	0	0	0	0	0	793
Next Step	0	189	95	0	0	95	888	0	0	1266
Total	793	189	95	0	0	95	888	0	0	2059



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
7	61131007-Cut	17.1	42220 - Natural Jack Pine	Poletimber Well	60	81-110	Harvest	Seed Tree	4222 - Natural Jack Pine	Even-Aged	Proposal

Habitat Cut: No **Site Condition:**

Prescription Cut all jack pine. green tree mark red pine and oak to seedtree density, approximately 10-20 sf/acre.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable jack pine, mixed pine mixed oak and mixed deciduous ok post harvest.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

8	61131008-Cut	85.6	4123 - Red Oak	Sawtimber Well	88	111-140	Harvest	Clearcut	412 - Oak Types	Even-Aged	Proposal
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Habitat Cut: No **Site Condition:**

Prescription mark some 2-5 acre areas to leave uncut... clearcut areas between residual islands. save about 20 acres and final harvest about 80 acres. OK

Specs: to save some red n white pine but don't save oak between islands so that cutting may be doable during oak wilt season if boundary is cut around leave islands and sale perimeter prior to april 15th.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable mixed oak, aspen, red maple and mixed conifer OK post harvest.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

24	61131024-Cut	196.2	4122 - Oak, Pine	Poletimber Well	86	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Clear cut areas of highest oak mortality. Retention will be from remainder of stand. Leave red and white pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable oak, aspen, red maple and pine.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2009

24	61131028-Cut	30.7	4122 - Oak, Pine	Poletimber Well	86	81-110	Harvest	Clearcut	4319 - Mixed Upland Forest	Even-Aged	Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Clear cut areas of highest oak mortality. Retention will be from remainder of stand. Leave red and white pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Oak, aspen, red maple and mixed pine.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2009



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
36	61131036-Cut	15.8	4131 - Aspen, Oak	Poletimber Well	40	111-140	Harvest	Clearcut	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription final harvest but ok to save some pockets of oak or pine or paint some of the stand right out of the sale.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable expect mostly aspen, mixed oak, red maple and mixed conifer.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

41	61131041-Cut	43.3	4310 - Pine, Oak Mix	Poletimber Well	78	111-140	Harvest	Shelterwood	4319 - Mixed Upland Forest	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription green tree stand leavign mix bag of species. remove most or all short lived speceis, red maple, jack pine and aspen and green tree the rest down

Specs: to 20-50BA? leave enough to shelter along regen and enough to come back for overstry removal in ~20 years.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable any mix of overstory species, expect this area to push to mixed conifer except aspen and jack pine areas will likely come back to those mix's.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

42	61131042-Cut	36.8	4131 - Aspen, Oak	Poletimber Well	45	111-140	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription final harvest all species but ok to save some oak and pine in pockets... final harvested stands in this area seem to have better species diversity

Specs: within the regeneration post harvest as compared to those that only have certain species removed.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, maple oak and mixed conifer OK post harvest,,, expect the bulk to go to aspen.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

42	61131042-Cutx	36.9	4131 - Aspen, Oak	Poletimber Well	45	111-140	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription final harvest all species but ok to save some oak and pine in pockets... final harvested stands in this area seem to have better species diversity

Specs: within the regeneration post harvest as compared to those that only have certain species removed.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspe, oak, maple and mixed conifer Ok post harvest

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
24 61131051-Cut	236.2	4122 - Oak, Pine	Poletimber Well	86	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Field Boundary

Habitat Cut: No

Site Condition:

Prescription Clear cut areas of highest oak mortality. Retention will be from remainder of stand. Leave red and white pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable oak, aspen, red maple and pine.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2009

69 61131069-Cut	94.5	4124 - Red with White Oak	Sawtimber Medium	88	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clear cut areas of highest oak mortality. Retention will be from remainder of stand.

Specs:

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr);

Treatments: Pesticide, Aerial

Acceptable Fully stocked stand of planted red pine

Regen:

Other

Comment:

Proposed Start Date: 9 /13/2016

**Total Treatment
Acreage Proposed: 793.1**

Report 4 – Site Conditions

Traverse City Mgt. Unit
Kelly Standerfer : Examiner

Compartment: 131
Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5B	5C	1B	5E
		With Condition	Not Available					
481	481	0	0	Aspen				
6	6	0	0	Bare/Sparsely Vegetated				
21	21	0	0	Herbaceous Openland				
130	130	0	0	Jack Pine		0		
17	17	0	0	Low-Density Trees				
47	47	0	0	Mixed Upland Deciduous				
12	12	0	0	Natural Mixed Pines				
22	22	0	0	Northern Hardwood				
1121	862	233	26	Oak	95	138	4	21
54	43	0	11	Upland Mixed Forest			11	
12	12	0	0	Upland Shrub				
3	3	0	0	Urban				
1,927	1,658	233	37	Total Forested Acres	95	138	15	21
	86%	12%	2%	Relative Percent				

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	89	Unspecified	Unspecified	Unspecified	Unspecified
Comments: hold due to amount of cutting in this compartment for salvage, and cover needed for training purposes for military							
2	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	5E: Long-Term Retention	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Kelly Standerfer : Examiner

Compartment: 131
Year of Entry: 2020

4	Unavailable	5E: Long-Term Retention	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5B: Maintain for regeneration purposes	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	32	Unspecified	Unspecified	Unspecified	Unspecified
Comments: thinned last YOY, will hold good 10 years easy and have had to do alot of salvage in this area.							
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments: left these big enough to manage in the future...will likely save one of them for long term retention though its not needed here as its board land...							
17	Available	5B: Maintain for regeneration purposes	77	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
59	Unavailable	1B: Non-DNR agency concerns (e.g. USFS)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Kelly Standerfer : Examiner

Compartment: 131
Year of Entry: 2020

65	Unavailable	1B: Non-DNR agency concerns (e.g. USFS)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: hold to keep cover for military training area.							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4123 - Red Oak	Sawtimber Well	43.1	86	111-140	Oak looks to be pretty healthy for the most part. originally in the same stand as the large salvage are to the west. this has some pine mixed in but less than original stand and oak is in pretty good shape. should hold 10 years pretty good.
3	4123 - Red Oak	Sawtimber Well	44.5	86	111-140	Oak looks to be pretty healthy for the most part. originally in the same stand as the large salvage are to the west. this has some pine mixed in but less than original stand and oak is in pretty good shape. should hold 10 years pretty good.
4	4123 - Red Oak	Sawtimber Well	23.3	86	111-140	Oak looks to be pretty healthy for the most part. originally in the same stand as the large salvage are to the west. this has some heavy pine areas mixed in but less than original stand and oak is in pretty good shape. should hold 10 years pretty good. No the best quality oak.
5	4123 - Red Oak	Sawtimber Well	17.3	88	111-140	Heavily used by military. area SE of range has trenches and looks to be heavily used for training. work with camp grayling staff to see if they would like to treat some of this stand... looks to be holding together pretty good and should hold good 10 years. Hold stand due to amount of salvage that has already been prescribed in this unit. OPIC - FMD: 2008 - Hagan - The majority of the oak is black oak. Comments 1/25/2000: Rouston - This stand was prescribed for a timber sale but, during reconisance of the stand, it was found that this area is heavily used by the military for infantry training. Timber sale activity will not be approved by Camp Grayling nor would it be practical due to the training obstacles that are in place within the stand. Some large pits are dug into the ground and signs are posted to warn against entry by motorized vehicles. (Grieve 1/22/99) At Compartment Review it was decided to plant or seed up to 1/3 of this stand to white pine. 5/13/98 (Grieve) This needs to be treated. Is old White Pine lands, should grow white pine best. Grows only poor oak. Shelterwood, consider having logger pick leave trees. Must be total tree harvested.
7	42220 - Natural Jack Pine	Poletimber Well	17.1	60	81-110	Work with military to see if desirable to treat this stand. OPIC - FMD: 2008 - Hagan - This area is heavily used by the military for infantry training. Timber sale activity will not be approved by Camp Grayling nor would it be practical due to the training obstacles that are in place within the stand. Some large pits are dug into the ground and signs are posted to warn against entry by motorized vehicles. A lot of oak regeneration in this stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
8	4123 - Red Oak	Sawtimber Well	186.7	88	111-140	Heavily used by military. area SE of range has trenches and looks to be heavily used for training. work with camp grayling staff to see if they would like to treat some of this stand... looks to be holding together pretty good and should hold good 10 years. Hold stand due to amount of salvage that has already been prescribed in this unit. OPIC - FMD: 2008 - Hagan - The majority of the oak is black oak. Comments 1/25/2000: Rouston - This stand was prescribed for a timber sale but, during reconisance of the stand, it was found that this area is heavily used by the military for infantry training. Timber sale activity will not be approved by Camp Grayling nor would it be practical due to the training obstacles that are in place within the stand. Some large pits are dug into the ground and signs are posted to warn against entry by motorized vehicles. (Grieve 1/22/99) At Compartment Review it was decided to plant or seed up to 1/3 of this stand to white pine. 5/13/98 (Grieve) This needs to be treated. Is old White Pine lands, should grow white pine best. Grows only poor oak. Shelterwood, consider having logger pick leave trees. Must be total tree harvested.
10	4124 - Red with White Oak	Poletimber Well	31.8	88	81-110	All oak and pine left post harvest... some areas very thick... looks like most of the aspen will get shaded out... OPIC - FMD: 2008 - Hagan - Leave oak and any pine. 5/13/98- Grieve - Aspen seems small but not in a pure stand.
11	4119 - Mixed Northern Hardwoods	Sapling Well	21.7	40	1-50	some larger oak scattered but mostly younger stuff. OPIC - FMD: 2008 - Hagan - Hodgepodge of densitys and species. Scattering of larger oak with a mixture of O2,M2 & M2,O1 throughout. 5/13/98 - Grieve - O-2, A-3, All M-3 scattered A3 clones. sweetfern Braken and grass. about 20 years old.
12	4130 - Aspen	Poletimber Well	12.1	40	81-110	north end smaller diameter, some areas bigger stuff but overall should hold good 10 years. OPIC - FMD: 5/1/98-Grieve - Clone pockets of aspen with some oak repro and some oak wolftrees. Coming alone fine.
17	4124 - Red with White Oak	Sawtimber Medium	77.0	88	1-50	Larger oak and red pine over 15' mixed deciduous, mostly red maple. stand in pretty good shape... might want to take the top off in 10 or 20 but doing good in the mean time. OPIC - FMD: 2008 - Hagan - Faulk Hill Sale #24-00. This stand was shelterwooded. This was originally stand 47. Only 1/3 of stand was treated. (Grieve 1/22/99) The compartment review only called for only 1/3 of the original stand to be cut. (Stands # 18 & 47) Created a new stand # 47 from the south 2/3 of 18. Will still treat # 18 & not treat # 47. 5/1/98 (Grieve) This needs to be treated. Is old White Pine lands, should grow white pine best. Grows only poor oak. Shelterwood, consider having logger pick leave trees. Must be total tree harvested. (Grieve)



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	4130 - Aspen	Sapling Well	45.2	15	Immature	<p>Most looks to be aspen, but quite a bit of maple and oak as well... calling aspen</p> <p>OPIC - FMD: 2008 - Hagan - Part of Faulk Hill Sale #024-00. Stand 18 was clearcut. UPDATE after treatment 2003: Rouston - This treatment was completed on 123 acres in 3/2003. Part was clearcut and part was shelterwood. Part of the treatment was within the stand and part was outside the stand into other stands. Re-inventory it, since it makes no sense to me. OI showed adequate regeneration/no conversion yet codes were inserted for planting with a Management Objective of Oak. (Grieve 1/22/90) At the Compartment review this stand was split and the northern 1/3 was to be cut while the southern 2/3 was to be made into a new stand (#47) and not treated. May under plant up to 1/3 to white pine. 5/1/98 (Grieve) This needs to be treated. Is old White Pine lands, should grow white pine best. Grows only poor oak. Shelterwood, consider having logger pick leave trees. Must be total tree harvested.</p>
21	4130 - Aspen	Poletimber Well	58.6	36	51-80	OPIC - FMD: 2008 - Hagan - Sale #49-80A. 5/1/98 Grieve nice stand
22	4124 - Red with White Oak	Sawtimber Poor	18.4	88	1-50	stand shelterwooded last YO. left mixed white and red oak at about 50-75' tree spacing. stand has regenerated nicely to mixed red maple, aspen and oak. heavy deer browse but should push threw it next year.
23	4130 - Aspen	Sapling Well	62.3	27	Immature	OPIC - FMD: 2008 - Hagan - Lamb Hill Sale #12-90. 5/1/98 Grieve nice looking stand, stand at west. Poor at east.
24	4122 - Oak, Pine	Poletimber Well	464.1	86	81-110	Large salvage area where alot of oak has died. Most red pine and white pine being saved. Should turn out very good some open and some will be thick with pine... likely push to mixed aspen, oak, and pine. OPIC - FMD: 9/22/88 (Byers) Locate and cut up to 60 acres of aspen if possible.
25	4122 - Oak, Pine	Sawtimber Well	80.1	86	111-140	Oak looks to be pretty healthy for the most part. originally in the same stand as the large salvage are to the west. this has some pine mixed in but less than original stand and oak is in pretty good shape. should hold 10 years pretty good.
27	4130 - Aspen	Sapling Well	71.4	35	51-80	A3 converting to A5/A6. Nice stand! to early to cut yet.. lots of sub merchantable stems. in the self thinning stage. OPIC - FMD: 2008 - Hagan - Sale #41-80A
30	4131 - Aspen, Oak	Sapling Well	31.7	16	Immature	<p>merged the small clearcut aspen/mixed deciduous pockets into one stand as they will be managed together. nice looking regeneration.</p> <p>OPIC - FMD: 2002 update comments: (Rouston) Poor inventory information necessitated modifications in the sale. Clearcut in winter of 2002. "Lindquist Hill" sale, #003-00-1, 16.5 acres in this unit of the sale. Some very hilly areas in the stand along the pipeline. 5/1/98 - Grieve - Better Aspen than oak. Thin to 70 ft. make aspen clear cuts when possible.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4130 - Aspen	Poletimber Well	21.5	38	81-110	this aspen not quite as big as stand 36, had difficult time delineating this area. these are the scattered aspen, oak, maple and jack areas that are heavy to aspen and will likely be managed for aspen regen. will hold 10 years good. OPIC - FMD: 5/1/98 - Grieve - nice stand
33	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	22.4	35	51-80	Some jack, some oak, some maple and some aspen, overall most is oak... quite a bit of oak mortality, must have been hit very hard with gypse moth. OPIC - FMD: 2008 - Hagan - Sale #50-80A. Scattered oak left O4,O2,A2,J1.
36	4131 - Aspen, Oak	Poletimber Well	15.8	40	111-140	North block has some older looking clones of really nice bigtooth. southern pockets seem like the more 40 yr old stuff with good stem density. some has oak and jack mixed in, had a hard time delineating this 1/4 section. OPIC - FMD: 2008 - Hagan - A2 in understory also. 5/1/98 spreading the bark, nice growth
38	42220 - Natural Jack Pine	Poletimber Well	27.2	40	1-50	mixed jack stands in this area have some residual older stuff but the bulk is smaller diameter in the 4-5" range, some thick and some not as thick and some has quite a bit of oak mixed in. likely manage it all together. should hold 10 years good. OPIC - FMD: 2008 - Hagan - Small .5 acre inclusion of A3 in center of stand. 5/1/98 dog hair
41	4310 - Pine, Oak Mix	Poletimber Well	43.3	78	111-140	Some oak ridges, some mixed pine, some aspen... mixed bag stand.
42	4131 - Aspen, Oak	Poletimber Well	162.0	45	111-140	Some very nice and some not as nice. Try to find 1\3 to 1\2 of the nicer aspen to restart. Most would hold good 10 years. South end looks to have some younger areas. Some oak ridges throughout. try for a 40 acre block at NW end of stand and a 40 acre block at SW? final harvest all species but ok to save some oak and pine... final harvested stands in this area seem to have better species diversity within the regeneration post harvest as compared to those that only have certain species removed. OPIC - FMD: 5/1/98 nice aspen/ scattered pine and oak, many times in clumps
44	42220 - Natural Jack Pine	Poletimber Poor	85.9	45	51-80	Some larger diameter trees but most is smaller thick stem density. most looks to be a fire originated stand. OPIC - FMD: 5/1/98 dog hair. 9/20/88 (Byers) Possible Kirtlands Warbler habitat.
59	4124 - Red with White Oak	Sawtimber Well	30.7	108	141-170	some oak mortality but generally looks to be pretty healthy, should hold 10 years ok. Hold for now with all the salvage cutting to the south.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
66	4310 - Pine, Oak Mix	Poletimber Well	11.1	70	51-80	scrubby oak mixed with red n white pine... More aspen mixed in to the north, wolfy oak in the middle and more red pine to the south OPIC - FMD: 2008 - Hagan - Take out jack pine and let convert to oak.
68	42250 - Pine, Oak	Poletimber Well	12.2	60	81-110	mixed red pine, white pine and oak with younger pine and oak under it.
69	4124 - Red with White Oak	Sawtimber Medium	103.9	88	1-50	most of residual died. chapter 7 done to allow final harvest of oak and planting back to red pine. western 3/4 of the stand or so will go back to red pine, eastern area has quite a bit of maple and oak regen already started so will be left to mixed deciduous. OPIC - FMD: 2013 - 131 Oak South #670-10. 2008 - Hagan - Old stand 47 is now stand 69. (Grieve 1/22/99) The compartment review only called for only 1/3 of the original stand to be cut. (Stands # 18 & 47) Created a new stand # 47 from the south 2/3 of 18. Will still treat # 18 & not treat # 47. 5/1/98 This needs to be treated. Is old White Pine lands, should grow white pine best. Grows only poor oak. Shelterwood, consider having logger pick leave trees. Must be total tree harvested. (Grieve)
75	4199 - Other Mixed Upland Deciduous	Sapling Poor	24.9	2	Immature	Stand cut with 131 oak, good clean cut, hoping to have it come back to a good mix of aspen, oak and maple. looks to be off to a good regen start and can OPIC - FMD: Hagan - 2008 - Stands 74 & 75 are the same stand. 74 is not to be treated. 75 will be clearcuts in the area of 20 - 30 acres which has a high or higher aspen component. 9/22/88 (Byers) Locate and cut up to 60 acres of aspen if possible.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	3102 - Grass	1.7	No	A3 converting to A5/A6. Nice stand! to early to cut yet.. lots of sub merchantable stems. in the self thinning stage. OPIC - FMD: 2008 - Hagan - Sale #41-80A
9	3302 - Low Density Conifer Trees	5.2	No	OPIC - FMD: 2008 - Hagan - Some blow out areas of sand.
14	330 - Low-Density Trees	2.0	No	OPIC - FMD: 5/1/98 - Grieve - The corner in this stand has been run over by a tracked vehicle. It is now underground. Placed a blue carsinite sign over corner.
34	3303 - Mixed Low Density Trees	6.1	No	OPIC - FMD: 2008 - Hagan - Choke cherry present.
61	122 - Road/Parking Lot	3.5	No	OPIC - FMD: 2008 - Hagan - Howe Road.
67	330 - Low-Density Trees	4.1	No	OPIC - FMD: 2008 - Blow out sand.
400	3102 - Grass	4.5	No	OPIC - FMD: OI Stand Year Origin was
401	3102 - Grass	13.1	No	OPIC - FMD: 5/1/98 Great Lakes Pipeline. 9/28/88 (Byers) ORV damage.
402	3201 - Sweet Fern	12.3	No	OPIC - FMD: 5/1/98-Grieve - Grass (sweetfern) scattered white oak repro about 6' high
407	3102 - Grass	1.8	No	
408	790 - Other Bare/Sparsely Vegetate	5.8	No	OPIC - FMD: 2008 - Hagan - Tank trail.