



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61112

Entry Year 2025

Acreage: 1,752

County Kalkaska

Management Area: High Sand Plains

Stand Examiner: Thomas Peterson III

Legal Description:

T27N R5W, Sections 12, 13 and E half of 24

Identified Planning Goals:

This compartment is part of the Kirtland's Warbler Management Area, which is primarily managed to sustain or develop nesting habitat for the federally endangered Kirtland's warbler (KW). Kirtland's warblers require large, relatively homogenous stands of jack pine with scattered openings. They build ground nests among grasses and low shrubs under jack pine trees about 5-7 feet tall (or 5-8 years old). Historically wildfire and other natural disturbances would have maintained stands of suitable habitat, but manipulation is necessary to do so today. The KW Management Plan identifies a matrix of jack pine stands to be regenerated every decade over a 40-70 year rotation such that suitable nesting habitat will always be available across the landscape. Management of cover types other than jack pine will emphasize stand health, diversity and timber productivity, where appropriate. Wet areas will be excluded or buffered according to best management practices. Upcoming management challenges include regeneration of oak stands, many of which are most likely too old to sprout vigorously, and heavy deer browse levels.

Soil and topography:

Nearly all of the compartment lies on well-drained Grayling sand with a limited areas of Rubicon and Au Gres sands. The northeast corner of the compartment has some wetland areas with Tawas-Leafriver and Kinross mucks around Goose Creek. Linqvist and Island Lake sands lie upon the rolling hills and ridges of the western part of the compartment. There is at least one kettle-like depression but it does not appear to support standing water.

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

The entire compartment is State land and is surrounded by State land. Section 24 is leased to the Department of Military and Veterans Affairs as part of the Camp Grayling training area. A natural gas pipeline with a relatively wide right-of-way runs north-south through the eastern part of the compartment.

Unique Natural Features:

The compartment contains no known element occurrences but it has potential for Kirtland's warbler and eastern Massasauga rattlesnake.

Archeological, Historical, and Cultural Features:

There are no known archaeological sites within this compartment.

Special Management Designations or Considerations:

Goose Creek, which flows through the northeastern corner of this compartment, is a designated Wild-Scenic River according to the Upper Manistee Natural Rivers Plan. This includes a native vegetation buffer of 75 feet.

Watershed and Fisheries Considerations:

Goose Creek, which is a high quality tributary of the Manistee River, is a designated Trout Stream and supports self-sustaining populations of brook and brown trout.

Wildlife Habitat Considerations:

Much of the compartment is designated Critical Habitat for the Kirtland's warbler. Other Featured Wildlife Species for this MA include: pileated woodpecker, ruffed grouse, snowshoe hare, wild turkey, and white-tailed deer. [Additional text to be added by WLD.]

The majority of this compartment lies on a glacial outwash plain and channel consisting of dry sandy soils. Historically, fires were a natural part of this ecosystem and perpetuated various early successional and fire dependant communities. Consistent with the historical vegetation records, this area is currently designated as Kirtland Warbler habitat and is part of the Manistee River Kirtland Warbler Management Area. Two upland shrub stands have been scheduled for brush management and eventual controlled fire to encourage the abundant native herbaceous vegetation found there. Leave trees and/or islands should be incorporated into sales to provide cover and mast for wildlife. Other species benefiting from management of this community type include the red-eyed vireo, four-toed salamander, gray fox, and broad-winged hawk.

A third type of outwash formation is found in the NE corner of the compartment and consists of poorly drained soils. Goose Creek flows through this part of the compartment and drains several lowland conifer stands.

The SW portion of the compartment begins to ascend into a series of ice contact ridges characterized by steep slopes and well drained sandy soils. Northern hardwood and oak treatments among these hills should be designed to retain and expand species diversity. Eastern hemlock should be left to provide a conifer component to upland deciduous stands. Northern hardwoods with scattered den and mast producing trees and conifers provide habitat for a variety of wildlife species including pileated woodpeckers, broad-winged hawks, gray fox, four toed salamanders, white-tail deer, and wild turkeys.

Mineral Resource and Development Concerns and/or Restrictions

Sections 12-13 & 24, T27N–R5W, Kalkaska County

There is no known metallic mineral potential in this part of the state. No active sand/gravel pits are known to exist in the area. There may be potential for sand & gravel within the compartment, but the compartment might be too far from populated areas (markets) to have much economic potential beyond use by the county road commission or DNR for local road maintenance. Oil & gas drilling has been sparse in this area. The compartment is south of the Silurian reef trend and some distance from any known past or current production. Some testing and minor production from the Collingwood Formation occurred several miles west, but the Collingwood has not been proven to be economical to produce. Nevertheless, all State-owned mineral rights in and around the compartment were recently nominated for oil & gas leasing by Lambda Energy. Lambda's intentions in the area are unknown. The state does not own all the mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

The existing road and trail system is adequate. Berms have been breached in a couple spots so those roads should be re-closed. There is a Director's Order to prohibit use of wheeled vehicles on the pipeline.

Survey Needs:

There are no additional survey needs at this time.

Recreational Facilities and Opportunities:

The Michigan Shore-to-Shore equestrian and hiking trail runs east/west, bisecting the northern portion of the compartment. The Kalkaska ORV trail runs through a small portion of sections 12 and 13. Heavy snowmobile traffic utilizes the pipeline corridor. Proposed timber management activities should include trail protection specifications to reduce impacts, as well as serve as an example of how silviculturally sound timber harvesting practices can co-exist, and often improve recreation and hunting experiences for future generations. Treatments proposed directly adjacent to the ORV trail tread should include either a "flush cut" specification or be stumped high enough (3 feet) to avoid being hidden by perennial flora (ferns). Access to Upper Manistee River State Forest Campground is through the northeastern part of this compartment. There are numerous unofficial trails, most likely used by equestrians, between the campground and the area around Goose Creek Flooding. (Submitted by Todd Neiss)

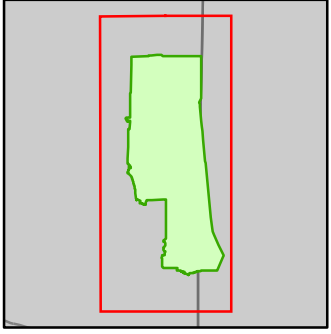
Fire Protection:

Most of this compartment – and that part of Crawford County between it and the Manistee River – is dominated by large, continuous stands of jack pine. This creates a relatively high risk of wildfire. This risk is somewhat mitigated by the proximity of nearby water sources and good access from M-72. This compartment is within the Forest Resources Division's zone dispatch area, meaning fire crews will likely be stationed nearby during periods of elevated fire danger. Faster response times will help prevent fires that start in this area from developing into large crown fires that would threaten numerous dwellings along the Manistee River. Fire is only of moderate concern in the oak and hardwood areas.

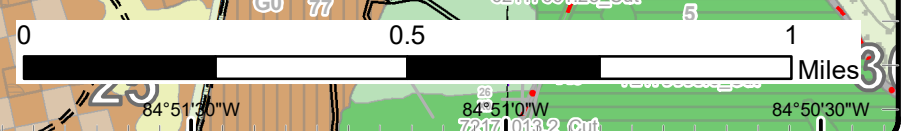
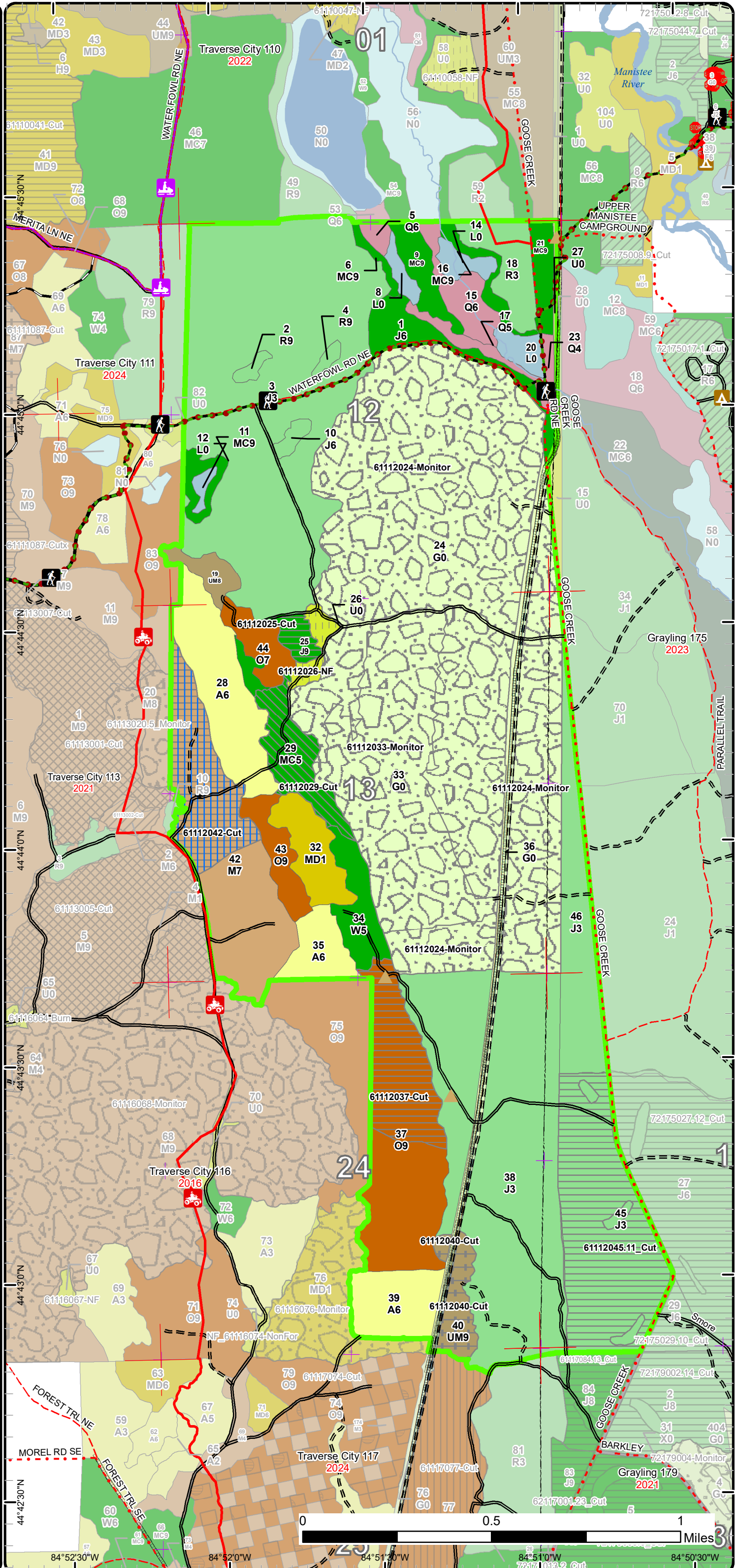
Additional Compartment Information:

Cover Type & Treatments Map

Compartment: 112
 T27N, R05W, Sec. 12, 13, 24
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: High Sand Plains
 YOE: 2025
 Acres: 1752.1 GIS Calculated
 Examiner: Thomas Peterson III
 Map Revised: 5/2/2023
 Map Phase: Web-Post

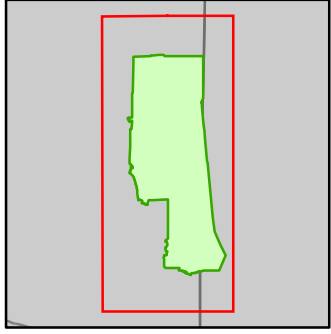


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Primary Forest Road
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Hiking Trails
- Horse Trails
- ORV Trails
- Snowmobile Trails
- Designated Hiking Trails
- Designated Equestrian Trails
- Designated Multi-Use Trails
- Designated ATV
- Designated ORV Route
- Designated Snowmobile Trails
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Berms
- Campground
- Sign
- Pipeline
- Compartment Boundary
- Other Harvest - See Comments
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Seed Tree (w/Reserves)
- Regeneration Survey
- Opening Maintenance
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 622 - Lowland Shrub

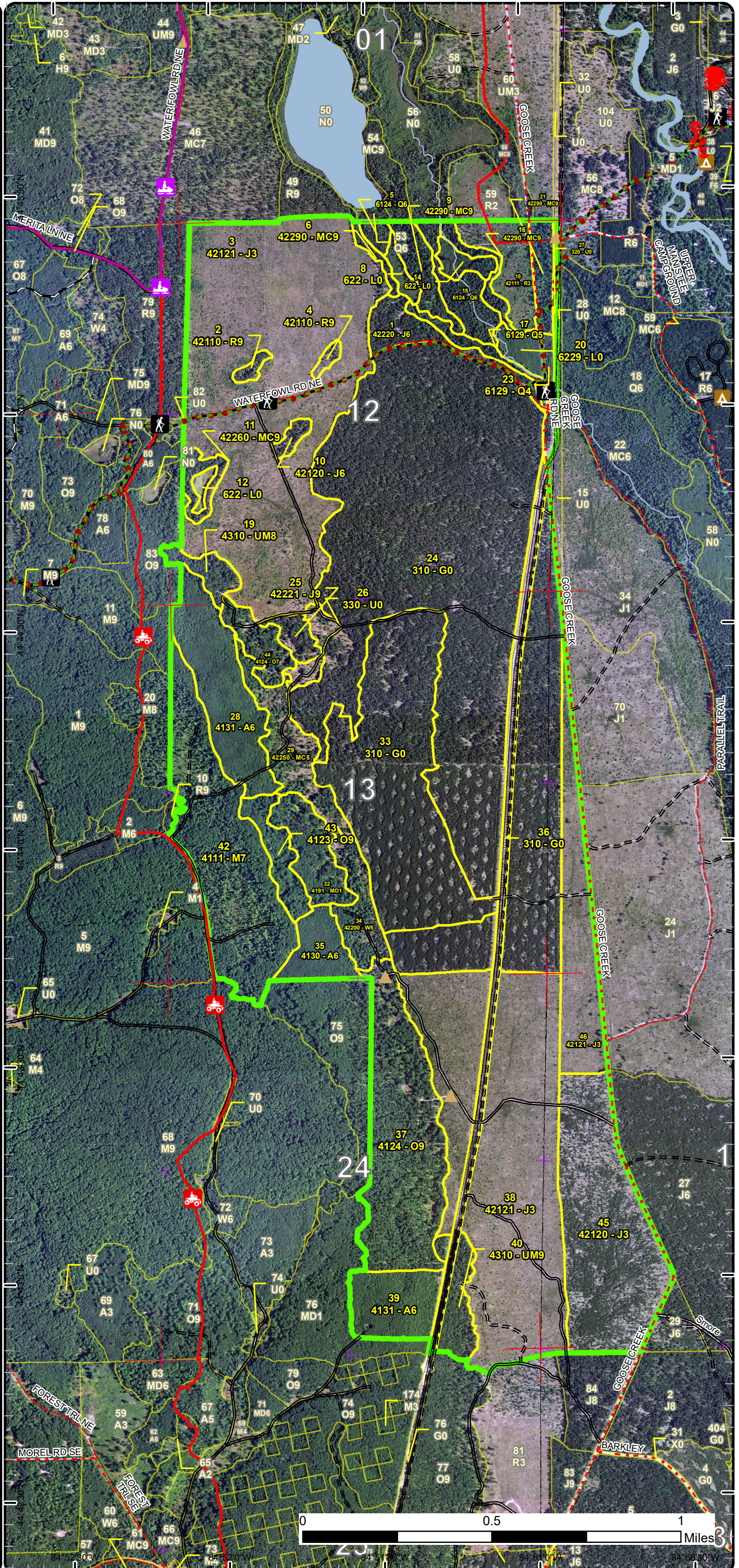


Stand Boundary Map

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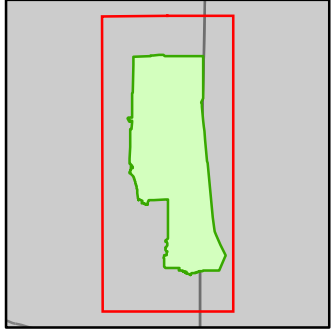


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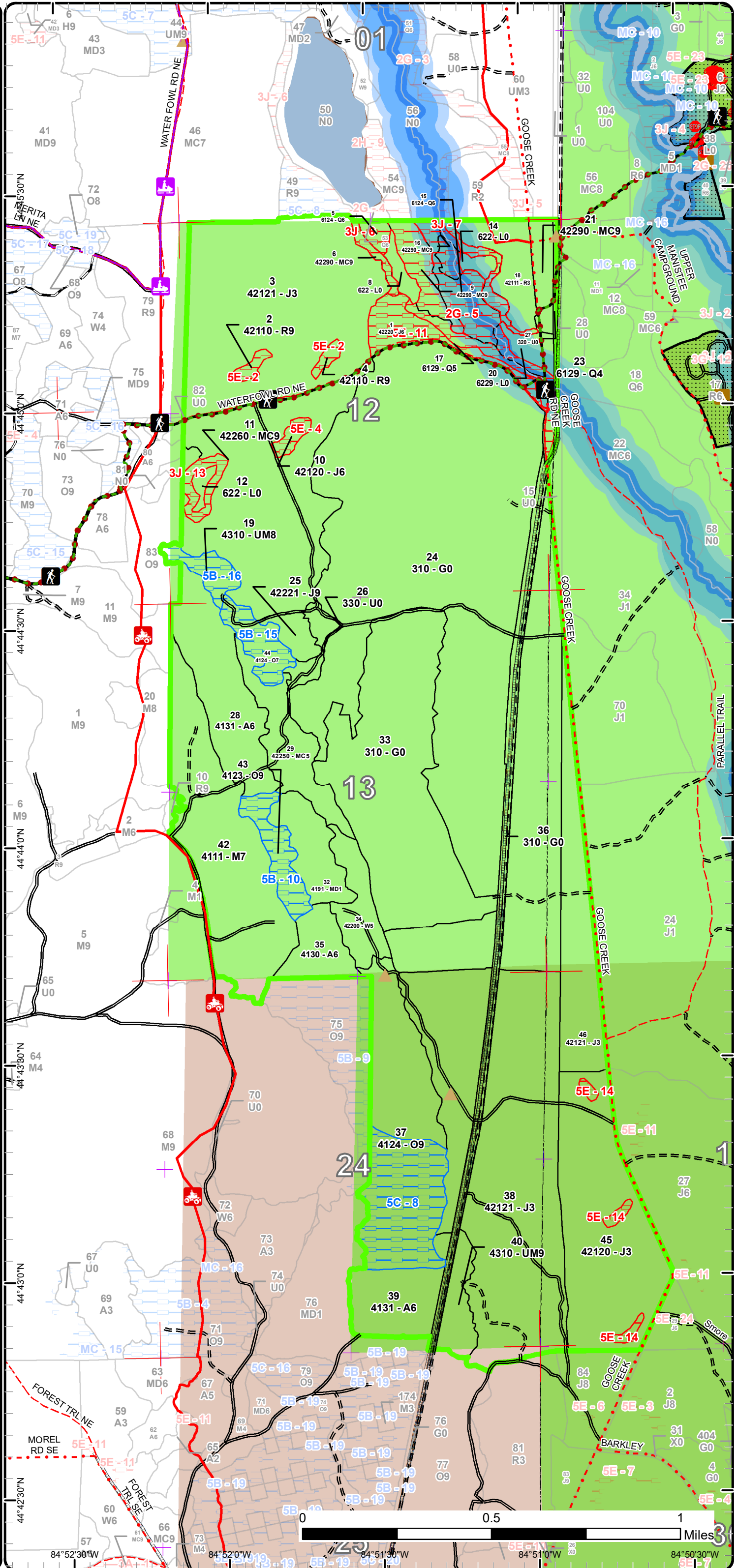


Special Conservation Areas

Compartment: 112
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- Lake/Pond
- Perennial River
- Lakes and Rivers
- ▲ Berms
- ▲ Campground
- ⬮ Sign
- Pipeline
- Compartment Boundary
- Available w/ Constraints
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Wildlife Management Areas
- Research, Development, and Military Lands
- State Forest Campground



The following reports from the Inventory are attached:

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

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

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

Report 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit

Compartment 112 Year of Entry 2025

Thomas Peterson III : Examiner



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	92
Herbaceous Openland	615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	615
Jack Pine	0	0	495	97	0	0	19	0	11	0	0	0	0	0	0	0	0	0	621
Low-Density Trees	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Lowland Conifers	0	0	0	0	0	0	0	0	0	3	25	0	0	0	0	0	0	0	28
Lowland Shrub	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Mixed Upland Deciduous	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Natural Mixed Pines	0	0	0	0	27	0	0	0	0	28	0	13	0	0	0	0	0	0	67
Northern Hardwood	0	0	0	0	0	0	0	0	0	93	0	0	0	0	0	0	0	0	93
Oak	0	0	0	0	0	0	0	0	0	13	86	0	15	0	0	0	0	0	114
Red Pine	0	0	21	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	26
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	9	15	0	0	0	0	0	0	0	24
Upland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
White Pine	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	19
Total	646	21	516	97	119	0	19	0	16	165	126	13	15	0	0	0	0	0	1751



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2025

Acres of Harvest

Compartment 112
Total Compartment Acres: 1,752

Commercial Harvest - 224
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	98	0	0	0	0	0	0	0	0	98
Natural Mixed Pines	0	0	0	0	0	0	0	0	24	24
Northern Hardwood	0	0	0	46	0	0	0	0	0	46
Oak	41	0	0	0	0	0	0	0	0	41
Upland Mixed Forest	0	0	0	0	0	0	15	0	0	15
Total	139	0	0	46	0	0	15	0	24	224

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	224	0	0	0	0	0	582	0	8	814
Next Step	0	228	91	0	31	91	337	0	24	802
Total	224	228	91	0	31	91	919	0	31	1615



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

Proposed Treatments:

25	61112025-Cut	7.1	42221 - Natural Jack Pine, Mixed Deciduous	Sawtimber Well	71	51-80	Harvest	Clearcut	42221 - Natural Jack Pine, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Clearcut with no retention due to small size of stand. Leave tops of trees as seed source. Cut when ground is not frozen to promote scarification of soil during harvest.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Fully Stocked Stand with any mixture of Jack Pine, Aspen or Oak is acceptable.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>											
26	61112026-NF	7.5	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	3205 - Mixed Upland Shrub		No
<p><u>Prescription</u> Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Burn, Opening</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u></p> <p><u>Other Comment:</u> Should eventually apply controlled burn.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>											
29	61112029-Cut	23.8	42250 - Pine, Oak	Poletimber Medium	30	1-50	Harvest	Other - Specify	3303 - Mixed Low Density Trees		No
<p><u>Prescription</u> Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Burn, Opening; NonForestMgt, Brush Cutting</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u></p> <p><u>Other Comment:</u> Ideally should eventually apply controlled burn. Ask FRD about harvesting some trees commercially.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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37 61112037-Cut	41.2	4124 - Red with White Oak	Sawtimber Well	99	51-80	Harvest	Clearcut with Retention	42250 - Pine, Oak	Even-Aged	No
<p><u>Prescription</u> Clearcut stand and leave standard area retention. Do not cut any pine during harvest. Do not cut any oak under 4 inches during harvest. Cut all other trees down to 2 inches. Mark to leave a few scattered white oaks during harvest. Do not mark any red oak due to oak wilt. Use oak wilt spec no exemptions.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Fully to moderately stocked stand of Pine, Oak, Aspen and Red Maple.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>										

40 61112040-Cut	15.1	4310 - Pine, Oak Mix	Sawtimber Well	99	51-80	Harvest	Overstory Removal	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Mark to leave less than 2 trees per acre. Focus leave tree marking on white oak or white pine. Use oak wilt spec during timber sale. In addition to leave tree marking, leave all pine 6 inches or less in DBH to use as a nurse crop for any oak that comes in after harvest.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Fully Stocked stand of White Pine, with any mix of oak, red maple or aspen will be acceptable</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>										

42 61112042-Cut	45.7	4111 - S.Maple, Hard Mast Association	Sawtimber Poor	88	51-80	Harvest	Seed Tree with Retention	411 - Northern Hardwood	Even-Aged	No
<p><u>Prescription</u> Stand treatment is a seed tree harvest with retention. Cut beech down to 1 inch. Leave all oak in stand as seed source. In addition to all oak mark to leave desirable species such as Sugar Maple and Black Cherry. Use oak wilt Spec no exemption to protect oak component in stand. If not, enough scarification can be achieved during harvest than follow up treatments are recommended. Any of the following treatment can be performed: scarification, spray, trench, plant, roller chop or any means necessary to achieve desirable regeneration back.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Scarification; Monitoring, Other - Specify; Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Fully Stocked Stand of Maple, Oak, Black Cherry and Basswood.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>										

Approved Treatments:

24 61112024-Monitor	450.5	310 - Herbaceous Openland	Nonstocked	2022	Unspecified	Monitoring	Artificial Regen(3yr)	4212 - Planted Jack Pine	Even-Aged	No
<p><u>Prescription</u></p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Jack Pine suitable for KW Habitat</p> <p><u>Regen:</u></p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Other Percent to Treat = 100%
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

33	61112033-Monitor	131.7	310 - Herbaceous Openland	Nonstocked	2022	Unspecified	Monitoring	Artificial Regen(3yr)	4212 - Planted Jack Pine	Even-Aged	No
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Prescription
Specs:

Next Step
Treatments:

Acceptable Jack Pine Regeneration suitable for KW Habitat.
Regen:

Other Percent to Treat = 100%
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

45	61112045.11_Cut	91.0	42120 - Planted Jack Pine	Sapling Well	29	Immature	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	No
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Prescription Harvest all stems greater than 2" DBH. Put retention in vortex strips. Add low stump specs.
Specs:

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Aerial - Site Prep; Planting, KW Initial Plant; Monitoring, Artificial
Treatments: Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Jack pine at KW density.
Regen:

Other Harvesting stand with mostly sub-merchantable stems outside of YOE is meant to create a larger and easier managed KW block. Merge
Comment: stands into Comp 179 following harvest.

Site Condition

Proposed Start Date: 10/1 /2020

Total Treatment Acreage Proposed: 813.6

Report 4 – Site Conditions

Traverse City Mgt. Unit
Thomas Peterson III : Examiner

Compartment: 112
Year of Entry: 2025

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5B	5C	2G	3J	5E
		With Condition	Not Available						
92	92	0	0	Aspen					
615	615	0	0	Herbaceous Openland					0
622	597	0	25	Jack Pine			0	0	25
7	7	0	0	Low-Density Trees					
28	4	0	25	Lowland Conifers			25	0	0
20	14	0	6	Lowland Shrub			6	0	0
21	21	0	0	Mixed Upland Deciduous					
67	39	0	28	Natural Mixed Pines			13	15	
93	93	0	0	Northern Hardwood					
114	41	73	0	Oak	28	45			
25	21	0	5	Red Pine				0	5
24	15	9	0	Upland Mixed Forest	9				
3	3	0	0	Upland Shrub			0		
19	19	0	0	White Pine					
1,752	1,580	82	90	Total Forested Acres	37	45	44	15	30
	90%	5%	5%	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
2	Unavailable	5E: Long-Term Retention	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Small pocket saved for retention.							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Thomas Peterson III : Examiner

Compartment: 112
Year of Entry: 2025

5	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	44	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Large adjacent stand was cut in 2009 and planted in 2011. Leave this stand for cover til adjacent stand is a little older.							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: Parts of 2 stands. Stand 16 is a narrow stand between wet areas along Goose Creek and planted red pine stand to east. Stand 15 is too wet to manage here. Both stands serve as good buffer for Goose Creek.							
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	45	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Available	5B: Maintain for regeneration purposes	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	5E: Long-Term Retention	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
 Thomas Peterson III : Examiner

Compartment: 112
 Year of Entry: 2025

13	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
15	Available	5B: Maintain for regeneration purposes	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5B: Maintain for regeneration purposes	9	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
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																			
1	42220 - Natural Jack Pine	Poletimber Well	18.9	51	51-80	N/A	2023 - Stand was left for retention for stand 24. Stand 24 is Kirtland Warbler Habitat. Some Jack Pine is dying off at this time. 2013 - This was part of Stand 24 but left as retention/stream buffer when that was cut for KW habitat. Mostly natural jack pine with some white pine and the occasional aspen, large red oak, and scattered oak and red maple saplings in the understory. Horse trail runs adjacent to stand on Waterfowl Road and horse trail spur leads from road to Goose Creek in northeast corner of stand. Stand contains small scattered openings.																																			
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2	42110 - Planted Red Pine	Sawtimber Well	2.5	70	51-80	N/A	2023 - Retention from Sale 61-019-05-01, completed March 2009. 2013- Part of stand was burned with surrounding stand during prescribed burn in 2011. Original stand was a mixture of red pine and jack pine planted in the early 1950s.																																			
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3	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	250.7	11	Immature	N/A	2023 - Planted Jack Pine is 10-12 foot tall at this time, with a decent mix of oak scattered throughout it. 2012 - Horse trail runs through stand along Waterfowl Road. Significant advanced oak regeneration along western edge of stand. Numerous snags. 2012 - Stand was planted to Jack Pine (jack pine at 1,763 TPA). FTP C62-716. 2011 - Stand was trenched 2011 - North part of stand was burned in 2011. 2009 - Stand was clearcut as part of sale Waterfowl and Road Warbler (Sale #61-019-05-01).																																			
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4	42110 - Planted Red Pine	Sawtimber Well	2.2	70	51-80	N/A	2023 - Retention from Sale 61-019-05-01, completed March 2009. 2013- Part of stand was burned with surrounding stand during prescribed burn in 2011. Southwestern part of stand suffered significant mortality from fire. Original stand was a mixture of red pine and jack pine planted in the early 1950s.																																			
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5	6124 - Lowland Spruce-Fir	Poletimber Well	3.2	97	51-80	N/A	2023 - Very wet stand with small diameter trees and tag alder throughout stand. Stand cannot be harvested due to water level in stand.																																			
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
6	42290 - Natural Mixed Pine	Sawtimber Well	3.1	81	111-140	N/A	2023 - Transitional stand between upland and lowland, West part of stand is wet. Small slope down to wetland.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Tamarack	2	Pole	6		
		Red Maple	6	Pole	6		
		White Pine	20	Log/XLog	16		
		Balsam Fir	2	Pole/Sapling	5		
		Jack Pine	20	Pole/Log	8		
		White Spruce	20	Pole	6		
		Red Pine	30	Log/XLog	14	81	
		Sub-Canopy Species	Density	Avg. Height	Size		
		White Pine	Medium	Variable	Sapling		
		White Spruce	Medium	Variable	Sapling		
8	622 - Lowland Shrub	Nonstocked	4.2		Immature	No	2023 - Stream runs through stand. A few scattered tamarack trees.
		Sub-Canopy Species	Density	Avg. Height	Size		
		Tamarack	Low	Variable	Pole		
		Tag Alder	Full	5 - 10 feet	Tall Shrub		
9	42290 - Natural Mixed Pine	Sawtimber Well	12.5	103	51-80	N/A	2023 - Stand is between Goose Creek and Tribute to Goose Creek Some of stand is upland but there are lowland areas that are wet in stand. Stand has more Jack Pine in south side of stand than north side. Due to small size of stand and the fact it is in-between two streams this stand will never be harvested. 2013 - Stand is mostly upland but transitions into wetter types along edges. Only slight (5-6') elevation increase makes this stand drier than adjacent spruce. Good variability among red pine diameters including some large 20"+ trees. Evidence of past fire.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Red Maple	10	Pole	6		
		White Pine	30	Log/XLog	16		
		Jack Pine	3	Pole/Log	8		
		Red Pine	45	Log/Pole/XLog	18	103	
		Paper Birch	2	Pole	8		
		White Spruce	10	Pole	8		
		Sub-Canopy Species	Density	Avg. Height	Size		
		White Spruce	Medium	10 - 20 feet	Sapling		
		White Pine	Low	Variable	Sapling		
		Red Pine	Low	Variable	Sapling		
		Balsam Fir	Low	5 - 10 feet	Sapling		
		Red Maple	Low	Variable	Sapling		
		Oak (spp.)	Low	Variable	Sapling		
10	42120 - Planted Jack Pine	Poletimber Well	3.4	70	111-140	N/A	2023 - Retention from Sale 61-019-05-01, completed March 2009. 2013- Original stand was a mixture of red pine and jack pine planted in the early 1950s.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Jack Pine	70	Pole/Log	8	70	
		Red Pine	30	Log	12		
		Sub-Canopy Species	Density	Avg. Height	Size		
		Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling		
		Red Pine	Low	< 5 feet	Sapling		
		Black Cherry	Low	5 - 10 feet	Sapling		
		Jack Pine	Low	< 5 feet	Sapling		
11	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	7.6	87	81-110	N/A	2023 - Stand is left to follow BMP guidelines for stand 12. 2013 - Stand was left to serve as a buffer for wet area in middle. Stand is flat along edges but slopes down toward interior depression. Variable stand, mostly pine with some scattered, large oaks. Younger aspen has filled in canopy gaps and along open edges.
		Canopy Species	% Cover	Size Class	DBH	Age	
		Red Pine	40	Log	14	87	
		Jack Pine	3	Pole	8		
		White Oak	5	Log	18		
		Red Maple	2	Sapling/Pole	4		
		Quaking Aspen	10	Log/Pole	10		
		White Pine	25	Pole/Log	10		
		Red Oak	15	Log/XLog	20		
		Sub-Canopy Species	Density	Avg. Height	Size		
		Quaking Aspen	Medium	Variable	Sapling		
		White Pine	Low	Variable	Sapling		
		Black Cherry	Low	5 - 10 feet	Sapling		
		Oak (spp.)	Low	Variable	Sapling		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
12	622 - Lowland Shrub	Nonstocked	2.3		Unspecified	No	2023 - Could be frost pocket, deep depression. Stand has some indicators such as tag alder that stand could be wet. 2013 - Unusual bowl-shaped depression. No visible standing water in winter but looks like it could hold water at certain times of the year. Little woody vegetation other than scattered jack pine saplings and alder and another unknown shrub. Ground is covered with clumps of matted grass/reed/sedge.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Jack Pine	Trace		Sapling	
								Tag Alder	Low		Tall Shrub	
14	622 - Lowland Shrub	Nonstocked	6.0			No	Mostly dense tag alder with scattered overstory trees. Tamarack is denser in eastern part of stand. Goose Creek runs through stand. Some evidence of beaver dams in aerial photo.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Tamarack	Low	Variable	Pole	
								Black Spruce	Low	Variable	Sapling	
Tag Alder	High	5 - 10 feet	Tall Shrub									
15	6124 - Lowland Spruce-Fir	Poletimber Well	15.1	98	81-110	N/A	2023 - Goose Creek Runs through stand. 2013 - Goose Creek runs through middle of stand and is wet on either side. Fades into another wet stand containing tributary of Goose Creek. Some log-sized white pine and red pine along edges.					
								Canopy Species	% Cover	Size Class	DBH	Age
								White Spruce	70	Pole/Sapling	6	98
								Northern White Cedar	15	Pole/Log	8	
								Red Maple	10	Pole	6	
								Paper Birch	5	Pole/Sapling	5	
								Sub-Canopy Species	Density	Avg. Height	Size	
								Balsam Fir	Low	5 - 10 feet	Sapling	
								White Spruce	Low	5 - 10 feet	Sapling	
								Tag Alder	High	5 - 10 feet	Tall Shrub	
16	42290 - Natural Mixed Pine	Sawtimber Well	6.8	82	141-170	N/A	2023 - Stand transitions between upland to lowland. Stand has tributary of goose creek running through it, With BMP this stand cannot be harvest. I would assume by how narrow stand is it was left as retention for stand 18 when it was finally harvested and replanted. 2013 - Transition zone between planted red pine to the east and wet stands along Goose Creek to the west. Mostly dry but contains some wet areas (labrador tea). Stand is narrow and should be left untouched as buffer for wet areas.					
								Canopy Species	% Cover	Size Class	DBH	Age
								White Pine	30	Log/XLog	17	
								Red Maple	2	Pole	6	
								Red Pine	35	Log/XLog	17	82
								Tamarack	3	Pole	6	
								Balsam Fir	2	Pole	6	
								White Spruce	18	Pole	6	
								Black Spruce	10	Pole/Sapling	5	
								Sub-Canopy Species	Density	Avg. Height	Size	
Paper Birch	Low	>20 feet	Sapling									
Balsam Fir	Low	5 - 10 feet	Sapling									
White Spruce	Medium	Variable	Sapling									
17	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	7.0	98	51-80	N/A	2023 - Tributary of Goose Creek runs through stand. Stand cannot be harvested to BMP guidelines. 2013 - Stream corridor for tributary of Goose Creek. Canopy trees are denser in southeastern part of stand. Northwestern part has only scattered canopy trees with denser alder understory. Pocket of larger red pine and white pine where stand meets Goose Creek Road. Horse trail spur from road to Goose Creek runs through eastern part of stand.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Jack Pine	10	Pole/Log	8	
								White Pine	15	Log/XLog	13	
								Balsam Fir	20	Pole/Sapling	6	
								Paper Birch	5	Pole/Sapling	6	
								White Spruce	25	Pole	6	98
								Red Maple	10	Sapling/Pole	4	
Red Pine	15	Log/XLog	13									
Sub-Canopy Species	Density	Avg. Height	Size									
Tag Alder	High	5 - 10 feet	Tall Shrub									



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																								
18	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	20.8	14	Immature	N/A	2022 - Red Pine stand does have competition, not 80% free to grow. Mechanical release cannot be prescribed do DBH of competition being greater than what contract makes cut. Allow stand to go and be mixed stand. Consider removing other species during first harvest in 35 years. 2009 - Stand was planted as Part of FTP C62-717. 2008 Stand was trenched as part of FTP C62-717 2007 - Stand was clearcut as part of Sale Goose Creek Red Pine (Sale #61-023-05-01)																																																																								
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19	4310 - Pine, Oak Mix	Sawtimber Medium	8.9	87	1-50	N/A	2022 - It appears all smaller pine was protected during last harvest. Top could be removed at this time but will be left due to small size of stand. 2016 - Stand was shelter wood harvested as part of Sale Transition Oak (Sale # 61-164-15-01) 2012 - Good diversity in this stand. Contains broad range of pine diameters as well as some large mast-producing oaks. Good balance for all of the jack pine warbler habitat in this compartment. Shelterwood cut fall/winter 2016.																																																																								
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20	6229 - Mixed lowland shrub	Nonstocked	7.3		Immature	No	2023 -Lowland shrub area just north of Goose Creek. Mostly dense alder with a few scattered trees tamarack and black spruce trees.																																																																								
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21	42290 - Natural Mixed Pine	Sawtimber Well	10.3	84	81-110	N/A	2022 - Stand has some open areas from species removal in 1996. Stand does have some dense areas of red pine that could be thinned at this time. Basal area ranges from 0-140 throughout stand. As you go south in stand it goes from upland to lowland. 2012 - Variable stand. All jack pine and hardwood were removed in 1996. Some dense pockets of red pine might benefit from thinning but there would not be enough volume to justify a sale. Dense white pine understory in some places. Horse trail and campground access road run through this stand. 2007 - Stand was thinned as part of sale Goose Creek Big Red Pine (Sale #61-022-05-01)																																																																								
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23	6129 - Mixed Coniferous Lowland Forest	Poletimber Poor	3.1	84	51-80	N/A	2023 - Goose Creek Runs through stand. Stand cannot be harvested due to BMP guidelines. 2013 - Wet, variable stand. Dense alder understory with only scattered trees. Goose Creek runs through stand. Part of stand south of Goose Creek is more upland and open.																																																																								
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24	310 - Herbaceous Openland	Nonstocked	450.6	2022	Unspecified	4212 - Planted Jack Pine	<p>2023 - Seedlings are under 1 foot tall at this time, Scattered cherry, red maple and oak due to stump sprouts scattered throughout stand.</p> <p>2022 Fall - First Year Regen Check Completed. Stand has an estimated 1298 trees per acre. Stand is currently free to grow with scattered cherry across stand.</p> <p>2022 Spring - Stand was Planted to 6 X 6 spacing for KW Habitat.</p> <p>2020 - 2022 Stand Was Trenched</p> <p>2021 - Rest of was chipped</p> <p>2019 - 2020 - Stand Clearcut 2019-2020 to maintain habitat for Kirtland's Warbler.</p> <p>Sale Name: Sops Sops KW Jack Pine</p> <p>Sale # 61-115-17</p> <p>2015 - Previous stand was jack pine with broad range of diameters, ~2-12". More red pine in southern end, which appears to have been planted. Fair amount of jack pine mixed in.</p> <p>Horse trail runs adjacent to stand on Waterfowl Road. Two-part stand split by pipeline.</p>																																				
25	42221 - Natural Jack Pine, Mixed Deciduous	Sawtimber Well	7.1	71	51-80	N/A	<p>2023 - Saw log jack pine stand.</p> <p>2013 - Transition zone between flat, pine stands to the east and hillier hardwoods to the west. Moderate hill. Mostly jack pine with a pocket of oak and aspen in the middle.</p>																																				
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26	330 - Low-Density Trees	Nonstocked	7.5		Unspecified	Managed Opening	<p>2023 - Stand has some scattered cherry and jack pine scattered throughout it. Slowly starting to seed in.</p> <p>2012 - Flat terrain. Mostly scattered trees except for one clump of jack pine on eastern side.</p>																																				
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27	320 - Upland Shrub	Nonstocked	3.0		Unspecified		2023 - TransCanada natural gas pipeline.																																				
28	4131 - Aspen, Oak	Poletimber Well	48.4	39	51-80	N/A	<p>2023 - Stand has transitioned to pole size stand the year of entry. There are still a few pockets of sapling size aspen in stand. .</p> <p>2013 - Stand was clearcut in 1984. Mixture of multi-stemmed red maple and oak and aspen. Higher conifer component at north and south ends of stand, including pocket of hemlock on north-facing slope at southern end. Slight slope with east-northeast aspect.</p>																																				
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29	42250 - Pine, Oak	Poletimber Medium	27.1	30	1-50	N/A	2023. Stand has some scattered log sized oak and pole size jack pine in overstory. Lot of poor-quality black cherry in understory that is currently sapling size. Let cherry get to merchantable size and consider clearcutting to restart stand.																																													
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32	4191 - Mixed Upland Deciduous with Conifer	Sapling Poor	21.4	6	1-50	N/A	2023 - Stand is poorly stocked at this time. Lots of deer browse throughout stand. 2017 - Stand was decent quality oak but there were 2 oak wilt pockets found in 2015. They were trenched in 2016 and the stand was clearcut and chipped in the winter of 2017. 'Deadlock Victim Oak' 61-117-16-01. There was some advanced red maple and aspen present that is about 15' feet tall. There are also some scattered large oak trees that were left for mast.																																													
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33	310 - Herbaceous Openland	Nonstocked	131.7	2022	Unspecified	4212 - Planted Jack Pine	2023 - Seedlings are under 1 foot tall at this time, Scattered cherry, red maple and oak due to stump sprouts scattered throughout stand. 2022 Fall - First Year Regen Survey Completed - Stand Currently is as 1336 Trees Per Acre and is free to grow at this time. 2022 Spring - Stand was Planted to 5 X 6 spacing for KW Habitat. 2020 - 2022 Stand Was Trenched 2021 - Stand Was Chipped 2019 - 2020 - Stand Clearcut 2019-2020 to maintain habitat for Kirtland's Warbler. Sale Name: Sops Sops KW Jack Pine Sale # 61-115-17 2015 - Previously clearcut in 1988 and planted for Kirtland's warbler habitat in 1991. Two-part stand split by pipeline.																																													
34	42200 - Natural White Pine	Poletimber Medium	19.0	80	1-50	N/A	Variable, poor quality stand. Mostly short, limby white pine in overstory. White pine was left as residual when the stand was cut in 1997. Lots of regeneration including some advanced oak. Shrubby red maple. Canopy aspen is at edge of regen gaps.																																													
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35	4130 - Aspen	Poletimber Well	17.0	38	51-80	N/A	2023 - Stand has transitioned to pole size stand this year of entry. 2013 - Stand was clearcut in 1985. Good regeneration. Mostly aspen with red maple and a few oaks just reaching pole size. White pine is denser at north end of stand. Moderate slope from east to west.																																													
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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36 310 - Herbaceous Openland Nonstocked 33.0 No 2022 - TransCanada natural gas pipeline. Mostly herbaceous with some scattered trees.

37 4124 - Red with White Oak Sawtimber Well 86.4 99 51-80 N/A 2022 - Northern part of stand has a lot of white pine in understory. As you head south in stand the white pine starts to disappear and the understory turns to red maple. There is some white oak regeneration scattered throughout entire stand.
2012 - Good quality oak. Red maple understory mostly 5-10' tall. Occasional larger oak in understory. Oak seedlings high density in places but less than 3' tall. Occasional canopy gaps. Some aspen regeneration at north end. Steep slope from east to west in parts along with rolling hills. Top of ridge is just west of stand in adjacent compartment. Bottom of slope, next to planted jack pine stand, was left unthinned and contains slightly more red pine in the overstory. Stumps left as road closures have been inadequate and should be reblocked at the north end and midpoint of east side of stand.
2009 - Stand was thinned as part of sale Section 24 Oak sale, 61-003-06-01, Oak was thinned, and all red maple and aspen were removed. Treatment continues into adjacent compartment. Good regeneration despite lots of evidence of deer browse and deer activity. 1997 - Aspen and red maple also removed in 1997 as part of sale compartment 12 aspen (Sale #61-010-95-01)

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	3	Log	14	
Red Oak	75	Log/Pole	10	99
White Oak	20	Pole/Log	8	
White Pine	2	Pole	6	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	High	Variable	Sapling
White Oak	Medium	Variable	Sapling
White Pine	High	>20 feet	Sapling
Beech	Medium	Variable	Sapling
Red Oak	Low	Variable	Sapling

38 42121 - Planted Jack Pine, Mixed Deciduous Sapling Well 195.0 12 Immature N/A 2023 - Jack Pine is about 8-10 foot tall this year of entry.
2011 - Trenched and planted to jack pine in May 2011. FTP C62-715. Extends into compartments to south and east. Contains numerous snags. Two-part stand split by pipeline.
2009 - Stand was clear cut as part of Stand Eagles & Warblers sale, 61-091-08-01.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	80	Sapling	2	12
Black/Red (Hybrid) Oak	10	Sapling	2	
Black Cherry	5	Sapling	2	

39 4131 - Aspen, Oak Poletimber Well 26.4 37 1-50 N/A 2023 - Stand has reached Pole size at this time. Stand has Rolling hills with significant slope down to pipeline on east end. Contains scattered pockets of conifers, mostly on steeper slopes. Overgrown 2-track runs through middle of stand.
Stand was Clearcut 1986

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	5	Pole/Sapling	5	
Red Pine	5	Pole/Sapling	5	
White Oak	10	Pole/Sapling	5	
Red Maple	20	Pole/Sapling	5	
Bigtooth Aspen	40	Pole/Sapling	5	37
Red Oak	20	Pole/Sapling	5	37

40 4310 - Pine, Oak Mix Sawtimber Well 15.1 99 51-80 N/A 2023 - Mixed oak/pine stand with very heavy white pine understory. White pine in understory ranges from 3-30' in height. No advanced oak regeneration. Red pine is very scattered. The part of the stand west of the pipeline has less pine in the canopy but the oak overstory and white pine understory are similar.

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	35	Log/XLog	14	99
Red Pine	20	Log/XLog	14	
White Pine	20	Log/XLog/Pole	14	
White Oak	20	Log/Pole	10	
Jack Pine	5	Pole/Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	High	Variable	Sapling
Red Pine	Trace	Variable	Sapling



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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42	4111 - S.Maple, Hard Mast Association	Sawtimber Poor	92.6	88	51-80	N/A	2023 - Stand has a wall of beech in understory in most of stand. The areas where the stand was opened up due to past salvage cut there is blackberry brush with a few scattered sugar maple seedlings in it at this time. The stand varies in basal area 40-120, some areas were not thinned hard during past salvage cut. 2014 - Stand was salvaged cut as part of sale Section 13sih Salvage (Sale #61-066-12-01), sold but not yet cut. Will remove maple and oak with more than 40% crown mortality. Red maple and cherry were not as affected by stress factors. Large beech seems to be more common at edges of stand but is present in the understory throughout. ORV trail runs through stand. 2012 - Good quality sugar maple stand. Thinned in May 2007 as Sale 61-046-05-01, Hilltop Hardwood. Previously thinned in 1984. Suffered significant maple and oak mortality after last thinning likely due to a number of factors including stress from drought and forest tent caterpillar after opening canopy. Very dense blackberry in subcanopy. Good sugar maple regeneration, however, especially in large canopy gaps, perhaps sheltered from deer by blackberry.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Beech	8	Log/Pole/XLog	13			Beech	Full	Variable	Sapling	
Red Oak	10	Log/Pole/XLog	15			Black Raspberry	Full	5 - 10 feet	Tall Shrub	
Red Maple	10	Log/Pole/XLog	14			Red Maple	Low	Variable	Sapling	
Sugar Maple	65	Log/Pole/XLog	13	88		Sugar Maple	Low	10 - 20 feet	Sapling	
Yellow Birch	2	Log/Pole	10			Black Cherry	Low	Variable	Sapling	
Black Cherry	5	Log	12							

43	4123 - Red Oak	Sawtimber Well	14.7	113	81-110	N/A	2023 - Entire stand is on a steep slope going from hardwoods to pine. This stand has two unique Hemlock ridges that run through stand. The large oak would destroy all advanced Regeneration if overstory was removed. Allow understory to become merchantable and then consider clearcutting to start stand over. 2013 - Good quality red oak stand with heavy white pine understory, variable in height but mostly 20-30' tall. Contains occasional overstory white pine. Aspen and red maple were removed in 1997. Scattered canopy gaps contain dense red maple regeneration and a few advanced oak saplings. Some patches of aspen regeneration along edges. Pockets of hemlock and other conifers on isolated north-facing slopes of ridge. Treatment was delayed for age/size class diversity at last inventory. Evidence of significant deer population. Moderate slope from east to west. Top of ridge is in stand to the west.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
White Oak	5	Log	12			White Pine	Low	Variable	Sapling	
Hemlock	5	Log/Pole	10			Witch Hazel	Low	5 - 10 feet	Tall Shrub	
Red Oak	87	Log/Pole/XLog	16	113		Red Maple	High	Variable	Sapling	
White Pine	3	Pole	8			Beech	High	10 - 20 feet	Sapling	

44	4124 - Red with White Oak	Sawtimber Poor	13.1	87	1-50	N/A	2022 - Heavy deer browse, very little to no regen at this time. Past shelterwood harvest was way to small to compete with deer browse. 2016 - Stand was shelter wood harvested as part of Sale Transition Oak (Sale # 61-164-15-01) 2012 - Mostly scattered large oak with multiple canopy gaps. Oak is mostly open grown yielding fair to poor quality. Seed tree cut fall/winter 2016.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
White Pine	10	Pole	6			White Pine	Low	Variable	Sapling	
Red Pine	10	Pole	6			Jack Pine	Low	5 - 10 feet	Sapling	
White Oak	20	Log	12			Red Oak	Low	Variable	Sapling	
Red Oak	60	XLog/Log	20	87		Red Maple	Low	Variable	Sapling	
						White Oak	Low	Variable	Sapling	
						Black Cherry	Low	Variable	Sapling	

45	42120 - Planted Jack Pine	Sapling Well	97.4	29	Immature	N/A	2023 - Stand already has treatment on it as part of Kirtland warbler Habitat Management. Harvesting stand outside of YOE to create a larger and easier managed KW block.			
Canopy Species		% Cover	Size Class	DBH	Age					
Jack Pine	95	Sapling	3	29						
Pin Cherry	5	Sapling	2							



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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46 42121 - Planted Jack Pine, Mixed Deciduous Sapling Well 49.5 12 Immature N/A

2023 - Stand has a few open areas due to sawfly mortality a few years after it was planted. Stand has larger standing jack pine and red pine scattered throughout it.
2013 - KW management area. Was final harvested in 2009 (#004-09), cutting stems 2"+ DBH. Was then trenched in 2009 and planted to JP in 2010 (W72-618). Early warm-up that May. Year 1 regen survey found almost complete failure. Entire site was then re-planted in 2011. Good survivorship and full stocking in JP found at the following Year 1 regen survey (1576 JP, 28 BC/NPO per acre). Re-survey in 2013 found adequate stocking.

Canopy Species	% Cover	Size Class	DBH	Age
Black Cherry	10	Sapling	1	14
Northern Pin Oak	10	Sapling	1	14
Red Pine	5	Log	12	
Jack Pine	75	Sapling	1	12