



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61114

Entry Year 2020

Acreage: 2,034

County Kalkaska

Management Area: Grayling Outwash

Revision Date: 2018-03-21

Stand Examiner: Thomas Peterson III

Legal Description:

T27N-R06W-Sections 13, 14, 15. T27N-R05W-Section 18

Identified Planning Goals:

Management in the Grayling Outwash management area (MA) will emphasize continuing balancing the age class of aspen on suitable sites and thinning the northern hardwoods, balancing age classes of red pine and jack pine and regenerating the aging swamp hardwood and conifer resource where possible. Management will strive to sustainably produce various timber products, enhance game and non-game wildlife habitat, protect areas of unique character, and follow Best Management Practices around Baker Creek and North Branch of the Manistee River.

Soil and topography:

Kalkaska, Emmet, Roselawn Sands with some Lupton Muck.

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

Large block of state ownership with scattered private in holdings. Private lands are developed with seasonal and permanent homes. Recreationists heavily use this area – snowmobile trail, hiking riding trail, orv trail and hunting and fishing make up main uses.

Unique Natural Features:

No unique natural features

Archeological, Historical, and Cultural Features:

No historical features listed

Special Management Designations or Considerations:

Baker Creek and North Branch of the Manistee River.

Watershed and Fisheries Considerations:

Baker Creek and the North Branch of the Manistee River flow through Compartment 114. Both are Designated Trout Streams. Baker Creek is a tributary to the North Branch of the Manistee River. The North Branch of the Manistee River supports a naturally reproducing population of brook trout, and it is likely that Baker Creek does as well. For the aspen clearcuts planned for Stands 48 and 33, a reasonable buffer should be left along the stream. This buffer should be sufficient so that beavers do not colonize the stream after the clearcut area begins to regenerate. Beavers can have major negative impacts on small trout streams such as these.

Wildlife Habitat Considerations:

This compartment is within the Grayling Outwash Management Area (MA) of the Northern Lower Peninsula Regional State Forest Management Plan. Featured wildlife species of this MA include Eastern massasauga rattlesnake, pileated woodpecker, ruffed grouse, snowshoe hare, turkey, and deer. The North Branch of the Manistee River and Baker Creek transect this compartment north to south and provide important habitat diversity in an otherwise dry landscape. The soils here are typically poorly drained peat and muck. Habitat types found along these riparian corridors include mixed lowland conifers, lowland hardwoods, and lowland brush. Care should be taken to maintain the integrity of existing winter thermal cover.

Where two dissimilar habitat types, or successional stages meet, is called “edge”. Species from the two habitats meet along this edge and are joined by a third suite of species specifically adapted to live along the transition zone of the two neighboring communities. Common examples of edge communities are forested/field edges and upland/lowland edges. Stand 54, and areas of low tree density supporting shrubs, grasses, and forbs in stand 38, create a large amount of edge. This area is highly beneficial for hare, deer, grouse, and turkey.

The west end is generally level with dry sandy soils. Aspen and non-forested communities cover much of this area with

scattered hardwood and pines. Maintaining a diversity of age classes among aspen stands will increase habitat suitability for white-tailed deer, ruffed grouse, woodcock, and a variety of other game and non-game species. Harvest operations should be utilized to create some (approximately 1-2 trees per acre) coarse woody debris (CWD), preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better and cut approximately at breast height (4.5 feet). The log should be left within 3 feet of its stump.

Non-forested upland openings dominated by grasses, forbs, shrubs, and poorly stocked trees are distributed across the compartment. These non-forested stands are important ecosystems for many species of wildlife. Habitat maintenance projects for this entry period include selectively removing woody encroachment, grass planting, and some tractor work. Wildlife species benefiting from maintaining openings in this compartment include white-tailed deer, meadow vole, wild turkey, Eastern meadowlark, and garter snake. Based on the natural disturbance history of the land type associations within the Grayling Outwash MA, the MA plan calls for managing the amount of open/semi-open lands at or above the current level to provide habitat for species which use openings.

The east end of the compartment consists of excessively drained sandy soils forming large irregular ice contact ridges. Hardwoods, pine, and oak tend to dominate here. In hardwood stands care should be taken to maintain age and tree species diversity within the stand and over this landscape. Treatments should retain a component of mature mast producing trees and protect/create snags, den, cavity, and downed trees. Forest interior species utilize large tracts of hardwoods with relatively few and/or small canopy gaps. When treating such tracts care should be taken in designing the treatment to prevent fragmentation and too much access by edge predators to the forest interior.

Mineral Resource and Development Concerns and/or Restrictions

Sand/gravel pits are not located in the area, but there is good sand & gravel potential within the compartment. This area is located just southeast of the Niagaran reef trend, and potential for hydrocarbons from this interval is considered low. There has been some minor Antrim Shale gas production in the area, but Antrim potential is also considered low in this area. This area has been tested for hydrocarbons from the Utica-Collingwood zone, and there has been production from one well within the compartment and three wells to the south (Excelsior Field). Leases associated with these drilling units are still active. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

Good network of county roads and state forest two tracks make this compartment easily accessed.

Survey Needs:

Clearwater Beach Subdivision – Stands # 5, 40, 41, 80, 86 When subdivision was established it was plotted into 100 x 100 foot lots. The majority of the lots have been purchased by the state but there are still private lots scattered throughout the subdivision. No good survey information is available and without extensive survey or purchase of the remaining lots management will be extremely difficult.

Recreational Facilities and Opportunities:

Designated Recreation trails within this compartment include: Blue Bear Snowmobile Trail #76 and #79 which is also designated ORV Route, a separate 50" ORV and non-motorized Shore to Shore Michigan Trail Riders Equestrian Trail. These trails are frequently used due to the large motorized trail head on M-72 just south of this compartment and proximity to equestrian campgrounds. The area is also frequented by dispersed recreation users for hunting, fishing, trapping and dispersed camping.

Fire Protection:

DNR Fire Protection is from the Kalkaska Field Office. This compartment is relatively close to the office, and travel time is good. VFD Protection is from the Kalkaska Fire Dept. for sections 13, 14, and 15 of T 27N R 6W, and from Bear Lake Fire Dept. for section 18 T 27N R 5W. Access is acceptable with a good network of county and state forest roads.

Additional Compartment Information:

The following reports from the Inventory are attached:

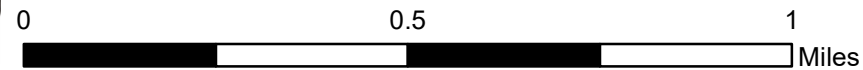
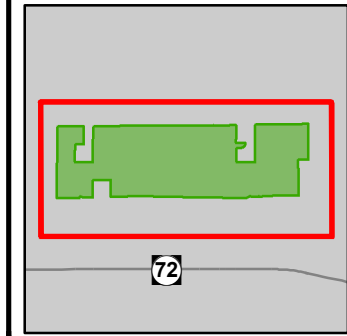
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

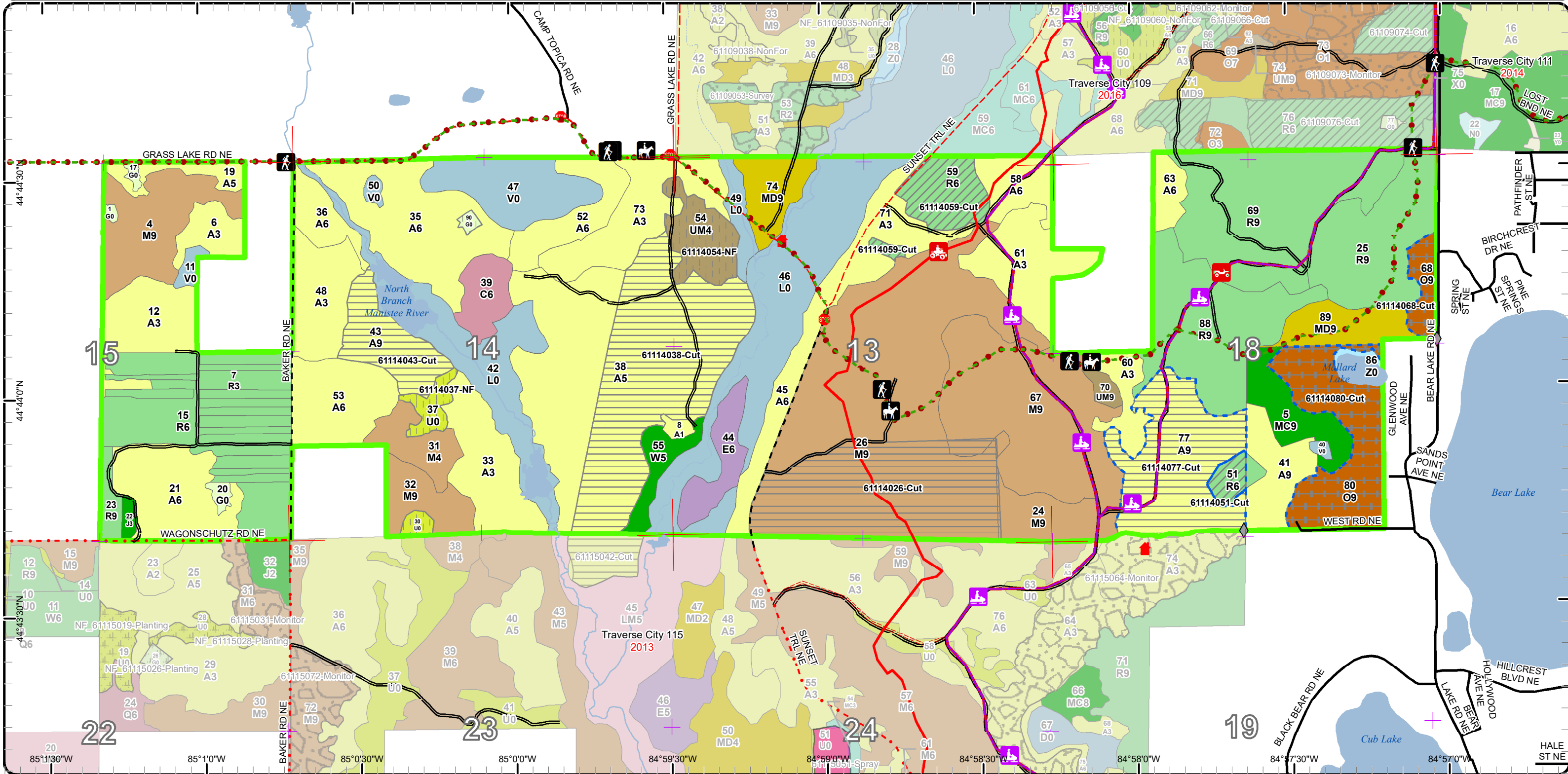
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 114
 T27N - R06W Sec. 13-15
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Grayling Outwash
 YOE: 2020
 Acres: 2,034 GIS Calculated
 Examiner: Thomas Peterson III
 Map Revised: 10/11/2018
 Map Phase: Post - Maps

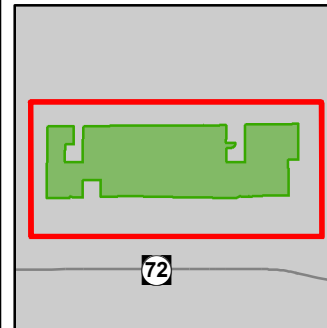
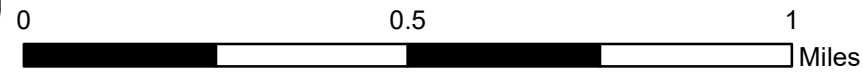


- Miris Corners
- Remonumented Section Corners
- Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Hiking Trails
- Horse Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Designated Hiking Trails
- Designated Equestrian Trails
- Designated ATV Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Sign
- Structures
- Intermittent Pond
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Treatments with Site Conditions
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Thinning (Crown, Low, Systematic)
- Opening Maintenance
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- Lakes

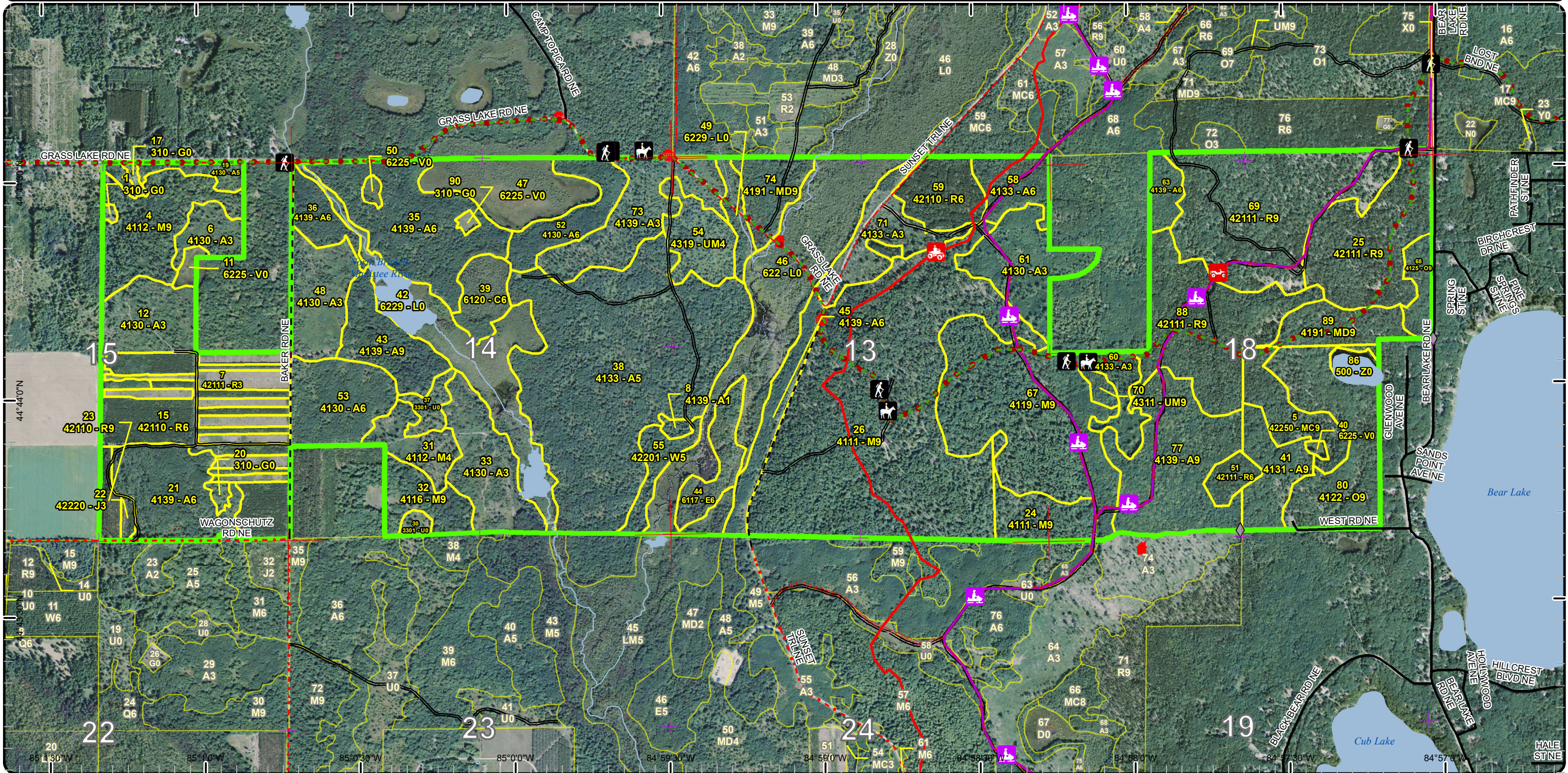


Stand Boundary Map

Compartment: 114
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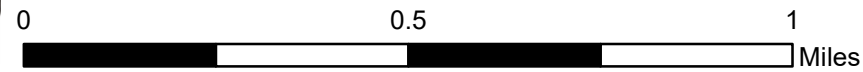


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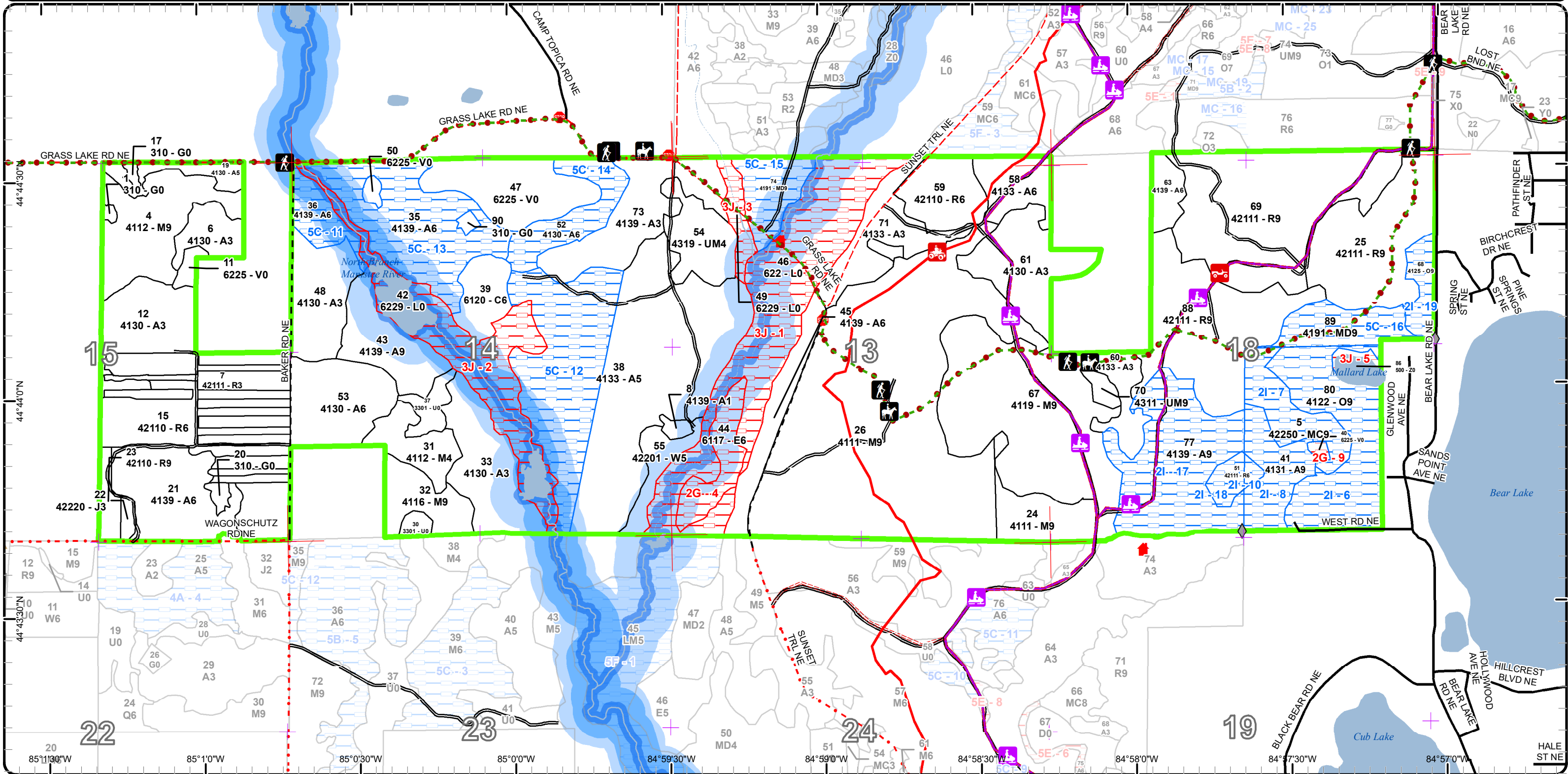


Special Conservation Areas & Site Conditions Map

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 T27N - R06W Sec. 13-15
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Grayling Outwash
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- Designated Snowmobile Trails
- 🛑 Sign
- 🏠 Structures
- Intermittent Pond
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2I: Survey needed
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes



Report 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit

Compartment 114 Year of Entry 2020

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	187	51	0	67	71	318	92	0	0	0	0	0	0	0	0	0	0	784
Bog	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Cedar	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	16
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Jack Pine	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Low-Density Trees	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	18
Lowland Shrub	171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	171
Mixed Upland Deciduous	0	0	0	0	0	0	20	0	0	21	0	0	0	0	0	0	0	0	41
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	23
Northern Hardwood	0	0	0	0	0	0	0	0	248	105	0	0	0	0	0	0	0	81	434
Oak	0	0	0	0	0	0	0	0	0	11	56	0	0	0	0	0	0	0	67
Red Pine	0	38	0	64	8	0	0	122	137	0	0	0	0	0	0	0	0	0	369
Upland Mixed Forest	0	0	0	23	0	0	0	4	0	0	0	0	0	0	0	0	0	0	26
Water	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
White Pine	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	12
Total	238	225	51	90	75	71	351	218	385	137	95	18	0	0	0	0	0	81	2031



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2020

Acres of Harvest

Compartment 114
Total Compartment Acres: 2,034

Commercial Harvest - 268
Harvests with Site Condition - 141
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	212	0	0	0	0	0	0	0	0	212
Northern Hardwood	99	0	0	0	0	0	0	0	0	99
Oak	0	0	0	0	0	67	0	0	0	67
Red Pine	0	0	0	0	31	0	0	0	0	31
Total	311	0	0	0	31	67	0	0	0	409

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	409	0	0	0	0	0	0	35	0	444
Next Step	0	197	99	0	0	197	420	0	0	913
Total	409	197	99	0	0	197	420	0	35	1357



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
26	61114026-Cut	98.5	4111 - S.Maple, Hard Mast Association	Sawtimber Well	78	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Clearcut stand and leave retention on the edge of stand to facilitate future planting operations. Look for oak / sugar maple pocket to leave for retention pocket to keep seed source in the area. Cut all trees 2 inches or greater, Protect Recreational Trail spec should also be used for timber sale.

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

Acceptable Fully stocked red pine stand.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

30	61114030-NF	3.1	3301 - Low Density Deciduous Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.

Next Step
Treatments:

Acceptable
Regen:

Other This stand is a small part of a bigger upland brush stand in the compartment to the south
Comment:

Proposed Start Date: 10/1 /2019

37	61114037-NF	7.8	3301 - Low Density Deciduous Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.

Next Step
Treatments:

Acceptable
Regen:

Other Occasional depression so possibly could brush hog. Might be able to include the u type with the adjacent aspen cut. Will need another site visit to determine spec to use on this stand.
Comment:

Proposed Start Date: 10/1 /2019

38	61114038-Cut	115.8	4133 - Aspen, Mixed Pine	Poletimber Medium	50	1-50	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Clear cut with retention. Leave a 175 foot buffer along the North Manistee River and /or leave a chain from the top of the slope inland from the floodplain which ever one is greater. This buffer can be used as the retention needed for the stand.

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

Acceptable A moderately to fully stocked stand of aspen, mixed with any amount of white pine or hardwood species.
Regen:

Other After talking to a wildlife biologist, there is interest in using the landing of this timber sale to maintain a food plot in this area. Talk to wildlife biologist during timber harvest to take appropriate steps to accomplish this goal.
Comment:

Proposed Start Date: 10/1 /2019



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
43	61114043-Cut	28.4	4139 - Aspen, Mixed Deciduous	Sawtimber Well	53	81-110	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Clearcut with retention. Cut all trees 2 inch or more at DBH. Leave a 175 foot buffer along the Barker Creek and /or leave a chain from the top of the slope inland from the floodplain which ever one is greater. This buffer can be used as the retention needed for the stand. .
Specs:

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

Acceptable Fully Stocked aspen stand with any hardwood component.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

51	61114051-Cut	6.2	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	37	171-200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition: Survey Needed

Prescription Stand is currently at 180 basal area thin stand down to 120 basal area. Remove poor quality trees and release the crop trees.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Only a portion of the stand is being treated at this time. This is due to a survey that needs to be done on the Clearwater Plat to determine state ownership verses private ownership.
Comment:

Proposed Start Date: 10/1 /2019

54	61114054-NF	22.5	4319 - Mixed Upland Forest	Poletimber Poor	25	1-50	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Might be able to include the u type with the adjacent aspen cut. Will need another site visit to determine spec to use on this stand.
Comment:

Proposed Start Date: 10/1 /2019

59	61114059-Cut	24.9	42110 - Planted Red Pine	Poletimber Well	61	171-200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Stand average Basal area is currently 175. Thin stand down to an average basal area of 120. Remove poor quality trees first, then work on spacing giving the high quality crop trees in this stand room to grow
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Snowmobile trail runs near southeast corner of stand and needs to be protected during harvest.
Comment:

Proposed Start Date: 10/1 /2019



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
68	61114068-Cut	11.0	4125 - Black, N. Pin Oak	Sawtimber Well	84	81-110	Harvest	Overstory Removal	4319 - Mixed Upland Forest	Even-Aged	Approved Proposal

Habitat Cut: No **Site Condition:** Survey Needed

Prescription Overstory removal. Cut all trees 4 inches at DBH and greater. Protect all advanced pine regeneration in stand.
Specs:

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

Acceptable Mixed pine stand with any component of oak, or other deciduous trees.
Regen:

Other Use pine as a nurse crop for oak, to see if an oak component can be left in this stand.
Comment:

Proposed Start Date: 10/1 /2019

77	61114077-Cut	68.0	4139 - Aspen, Mixed Deciduous	Sawtimber Well	64	111-140	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No **Site Condition:** Survey Needed

Prescription Clear cut the stand, leave retention along snowmobile trail to help with visual impacts. Cut all trees 2 inches or greater at DBH. Doing this will allow aspen clones to expand and out compete the beech that currently makes up the understory, and give other species such as red maple an even start against the beech.
Specs:

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

Acceptable Full stocked aspen stand with and mixed deciduous component.
Regen:

Other Protect snowmobile trail spec needs to be used for this sale.
Comment:

Proposed Start Date: 10/1 /2019

80	61114080-Cut	56.1	4122 - Oak, Pine	Sawtimber Well	94	111-140	Harvest	Overstory Removal	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No **Site Condition:** Survey Needed

Prescription Remove overstory of stand. Cut all trees 4 inches at DBH or greater. Protect advanced pine regeneration. Leave 300 foot buffer from high water table for mallard lake.
Specs:

Next Step
Treatments:

Acceptable Mixed white, red, and jack pine with any mixed deciduous component.
Regen:

Other Stand is currently in the Clearwater Plat with private ownership mixed within the land owned by the state. An extensive survey or land consolidation is needed before this stand can be cut. Oak is starting to die back in this stand.
Comment:

Proposed Start Date: 10/1 /2019

90	61114090-NF	1.5	310 - Herbaceous Openland	Nonstocked	Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland			Approved Proposal
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Habitat Cut: No **Site Condition:**

Prescription Nice spot to plant herbaceous species for wildlife forage needs. Consider an appropriate native species, but don't rule out pasture mix (i.e. alfalfa/clover) or rye. Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Could also seed the access road for a short hunter walking trail. Possible install a gate in place of the old berm at Grass Lake Road.
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
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Total Treatment Acreage Proposed: 443.8

Report 4 – Site Conditions

Traverse City Mgt. Unit
Thomas Peterson III : Examiner

Compartment: 114
Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		2I	5C	2G	3J
786	520	266	0	Aspen	92	174		
44	43	0	1	Bog			1	
16	16	0	0	Cedar				
6	6	0	0	Herbaceous Openland				
3	3	0	0	Jack Pine				
11	11	0	0	Low-Density Trees				
18	0	0	18	Lowland Deciduous			18	
171	0	0	171	Lowland Shrub				171
41	0	41	0	Mixed Upland Deciduous		41		
23	0	23	0	Natural Mixed Pines	23			
433	433	0	0	Northern Hardwood				
67	0	67	0	Oak	67			
369	361	8	0	Red Pine	8			
26	26	0	0	Upland Mixed Forest				
6	0	0	6	Water				6
13	13	0	0	White Pine				
2,034	1,432	405	197	Total Forested Acres	190	216	20	178
	70%	20%	10%	Relative Percent				

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	100	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: North Branch of Manistee River Runs through this stand.							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Thomas Peterson III : Examiner

Compartment: 114
Year of Entry: 2020

2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	62	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	9	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	18	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Stand is adjacent to North Manistee river, timber quality is poor at best.							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments: This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.							
6	Available	2I: Survey needed	56	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.							
7	Available	2I: Survey needed	23	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.							

Report 4 – Site Conditions

Traverse City Mgt. Unit
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Compartment: 114
Year of Entry: 2020

8	Available	2I: Survey needed	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.							
9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments: This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.							
10	Available	2I: Survey needed	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.							
11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	74	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Cut half the stand this year of entry and cut the other half the stand in 10 years.							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	63	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
 Thomas Peterson III : Examiner

Compartment: 114
 Year of Entry: 2020

14	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
15	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	2I: Survey needed	68	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Available	2I: Survey needed	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Available	2I: Survey needed	11	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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	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	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4	4112 - Maple, Beech, Cherry Association	Sawtimber Well	42.8	80	51-80	Stand currently has a basal area of 77.5 BA. There are several open areas that have regenerated nicely to aspen. Were there are thicker hardwoods there are a lot of beech and ironwood in the understory. Consider clearcutting the stand in 10 years during next inventory cycle. Stand thinned July 2012 Blue Bog mix. Aspen removed as well as orange marked trees.
5	42250 - Pine, Oak	Sawtimber Well	22.8	94	111-140	This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.
6	4130 - Aspen	Sapling Well	13.1	6	Immature	Stand has super canopy of scattered sugar and red maple along with a few white pine here and there. Were there is no super canopy above the aspen stand there is a high abundance of regeneration of aspen and red maple.
7	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	38.1	7	Immature	The red pine are about 3-4 foot tall at this time. There is a mixture of aspen, cherry and beech competing with the pine at this time. Stand was final harvested in 2011. FTP C62-806 has been completed. 3rd year regen survey was done in 2016. 843 planted TPA. TMS deemed successfully
8	4139 - Aspen, Mixed Deciduous	Sapling Poor	2.3	4	Immature	FTP Number W62-840 was completed in this stand in 2013. Trees were hand fell and are still full length with all there limbs still attached, this is in order to produce a young densely stocked deciduous stand.
12	4130 - Aspen	Sapling Well	31.4	5	Immature	Stand has regenerated nicely. There were some sugar and red maple left in super canopy along with a few scattered white pine. Stand cut July 2012.
15	42110 - Planted Red Pine	Poletimber Well	64.3	24	51-80	Stand is between Pole and Sapling Stage with over 60% reaching the pole size class. There are some mixed pockets were aspen were the aspen has out-competed the red pine. There are also a few parts of the stand that have a heavy jack pine component. There are also a few parts of the stand that have been out competed by aspen but did not met current mapping policy. Stand Final Harvested in '92 and replanted to red pine in '94.
19	4130 - Aspen	Poletimber Medium	10.4	38	51-80	Stand has some open areas in it and also has some dense pockets of aspen scattered throughout it.
21	4139 - Aspen, Mixed Deciduous	Poletimber Well	42.3	45	81-110	Stand has a hardwood component at southern part of stand mostly along county road.
22	42220 - Natural Jack Pine	Sapling Well	2.7	26	Immature	Stand is fully stocked natural Jack pine stand with a good mix of other upland species. Jack pine is in between sapling and pole size at this time with over 70% being in the sapling size.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	42110 - Planted Red Pine	Sawtimber Well	7.1	70	141-170	Stand Average Basal Area is 145. Hold until stand Average Basal area is greater then 170 before thinning for final time. Stand was thinned in 2011, under contract #0111001.
24	4111 - S.Maple, Hard Mast Association	Sawtimber Well	21.9	78	51-80	Stand has an average Basal Area of 70. It has a high concentration of beech brush in the understory. Sale was cut as part of Career Hardwoods sale number 61-045-10-01. Additional beech volume throughout sale was harvested per salvage guidelines..
25	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	59.0	70	111-140	Red pine appears to be planted no planting records found. Stand has a mixed bag of other species found in it.
26	4111 - S.Maple, Hard Mast Association	Sawtimber Well	225.9	78	51-80	Stand has an average Basal Area of 70. It has a high concentration of beech brush in the understory. Sale was cut as part of Career Hardwoods sale number 61-045-10-01. Additional beech volume throughout sale was harvested per salvage guidelines..
31	4112 - Maple, Beech, Cherry Association	Poletimber Poor	17.5	90	1-50	Were stand was opened up from harvest there is significant regeneration. were stand was left at 50 BA there is little to regen present lots of raspberry bush at this time. Trees marked to leave. Stand cut April 2012. 0-50 BA marked to leave with green, more of a shelterwood feel.
32	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	19.9	90	81-110	
33	4130 - Aspen	Sapling Well	37.7	6	Immature	2018 - Stand was fully stocked A3 stand and appears to be in good shape. Stand final harvested in 2012. Some advanced regen pockets left. Aspen clone areas should regenerate nicely and advanced pockets will continue to develop. Birch and conifers saved.
35	4139 - Aspen, Mixed Deciduous	Poletimber Well	62.8	50	51-80	Stand has a poor quality hardwood component at southern edge of stand mixed in within the aspen. Stand has a Super Canopy of White pine scattered throughout it. Aspen in stand is in good shape, hold for anther 10 years and clearcut entire stand, hardwood component is not worth marking.
36	4139 - Aspen, Mixed Deciduous	Poletimber Well	14.1	50	51-80	Stand has small hardwood component in it. Stand should hold 10 years consider clearcutting stand in 10 years.
38	4133 - Aspen, Mixed Pine	Poletimber Medium	188.9	50	1-50	Stand has several open areas in it. The stand has scattered white pine pockets and single trees throughout it. Stand is mostly aspen pockets and clones with a mix of scattered trees scattered with in the aspen. Cut half this stand this year of entry and cut the other half of the stand in 10 years to expand the aspen clones and to create different age classes of aspen.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
39	6120 - Lowland Cedar	Poletimber Well	16.1	93	51-80	Stand edge consisted of a mixed bag of species such as aspen, red maple, paper birch and balsam fir. The interior of the stand consisted of cedar and a few tamarack with a tag alder understory. Consider cutting edge of this stand when nearby stands are harvested. leave heavy Cedar / tag alder part of stand alone.
41	4131 - Aspen, Oak	Sawtimber Well	23.8	60	111-140	This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map. Stand is a picture perfect stand, most of the timber is log size there is little to no understory at this time in this stand. Once the ownership is figured out this stand can be clearcut allowing natural regeneration to come back.
43	4139 - Aspen, Mixed Deciduous	Sawtimber Well	28.4	53	81-110	Stand is an aspen stand with a component of poor quality multi stem hardwoods. Aspen is smaller and is not as old as hardwood component. I am thinking there was an aspen removal in the past.
44	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	18.3	106	51-80	White pine in stand are starting to show die back. Stand appears to be very wet. Stand is an island surrounded by tag alder and the North Manistee River to its west. Overall timber is poor quality in this stand.
45	4139 - Aspen, Mixed Deciduous	Poletimber Well	21.5	38	1-50	Stand is a long thin stand between Sunset Road and a branch from the north Manistee River.
48	4130 - Aspen	Sapling Well	30.4	6	Immature	Stand has regenerated good. Stand has scattered red and white pine in it. Stand has groups of pine left by baker road. Sale cut April 2012. .
51	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	8.1	37	171-200	This stand has never been third row thinned. Part of this stand is in the Clearwater plat which need a survey before it can be treated.
52	4130 - Aspen	Poletimber Well	23.7	50	51-80	Stand should hold another 10 years consider clear cutting stand in 10 years.
53	4130 - Aspen	Poletimber Well	35.8	38	51-80	Nice aspen stand at this time.
54	4319 - Mixed Upland Forest	Poletimber Poor	22.5	25	1-50	Scattered cherry and white pine scattered throughout stand. Trees are poor quality open grown trees.
55	42201 - Natural White Pine, Mixed Deciduous	Poletimber Medium	12.5	58	1-50	Stand is poor quality open grown white pine, with some black cherry and red maple seeding in. Part of the stand is within the 300 foot buffer of a Natural Trout Stream.
58	4133 - Aspen, Mixed Pine	Poletimber Well	18.5	40	51-80	Stand is in very good shape, aspen is all big tooth aspen and is well formed.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	42110 - Planted Red Pine	Poletimber Well	24.9	61	171-200	Stand does have a couple open areas that have seeded into a jack pine / oak mix. Stands average basal area is currently 175. Stand is in between log and pole size probably could go either way at this point. Trees are of good quality throughout stand with an occasional forked or suppressed tree scattered throughout.
60	4133 - Aspen, Mixed Pine	Sapling Well	14.1	18	Immature	Stand has a super canopy of scattered pine and some oak in it.
61	4130 - Aspen	Sapling Well	36.4	13	Immature	Stand has regenerated nicely. Stand was cut in 2005 as part of sale #058-00-1, Blue Bear Hills Aspen.
63	4139 - Aspen, Mixed Deciduous	Poletimber Well	9.7	40	81-110	Small mixed aspen stand. Clearcut next time an adjacent stand is cut.
67	4119 - Mixed Northern Hardwoods	Sawtimber Well	105.1	80	51-80	Stand has a wall of beech under it. It has thick ironwood is spots also. 3/31/14 thinned as part of Career Hardwoods, 61-045-10-01.
68	4125 - Black, N. Pin Oak	Sawtimber Well	11.0	84	81-110	Stand is a dominated oak stand with a nice layer of pine in the understory at this time. Stand has some noticeable die back at this time.
69	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	96.8	65	81-110	Stand has little to no understory at this time. Hold for 10 years and considered clearcutting and replanting to red pine at this time.
70	4311 - Pine, Aspen Mix	Sawtimber Well	4.0	68	81-110	
71	4133 - Aspen, Mixed Pine	Sapling Well	29.6	6	Immature	Stand has a super canopy of red and white pine over the aspen regeneration. Some Balsam can be left for visual mgt KJS stand cut 6/2012.
73	4139 - Aspen, Mixed Deciduous	Sapling Well	42.9	5	Immature	Some of this stand has a Super Canopy of white pine. The aspen has been regenerated successfully. Stand could go either way by calling it a W7 or an A3. Aspen was removed from stand on 6/2012. Along with all the aspen being removed there was also a mix of hardwood, birch and forked white pine.
74	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	20.1	58	111-140	Stand has a hemlock component and a super canopy of red pine on the edges near the north Manistee river corridor. Stand has a good balsam fir understory scattered throughout the stand. Current BA of stand is 113.3
77	4139 - Aspen, Mixed Deciduous	Sawtimber Well	68.0	64	111-140	Stand has a hardwood component running though it more so on the south side of the stand then the north side of the stand. The hardwood component is poor quality. There is a lot of beech in the hardwood component at this time. The aspen is scattered throughout the stand with high concentrations of aspen, on the edge of the poor quality hardwoods and there is also aspen mixed within the hardwoods.

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Traverse City Mgt. Unit

Report 7 – Forested Stands

Compartment: 114
Year of Entry: 2020

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
80	4122 - Oak, Pine	Sawtimber Well	56.1	94	111-140	This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map. The oak in this stand is showing a lot of die back. The state needs to get in this stand and remove all the oak. An overstory removal should be done as soon as the survey is done to determine private owned pieces. There is a wall of pine under the oak so the pine should be protected during harvest.
88	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	70.7	71	141-170	Stand has some nice aspen clones scattered throughout the stand. Stand appears to be planted, but no planting records can be found. Stand has a decent amount of beech brush in understory. Sale #71-00. Complete in 1/02.
89	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	21.4	84	51-80	There is some die back of the oak in this stand at this time.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	310 - Herbaceous Openland	1.0	Yes	Stand is an open grassland. It does have some smaller cherry and aspen trees starting to seed into stand.
11	6225 - Bog	3.5	Yes	Stand looks like a marsh. It is snow covered during time of inventory. There are grasses present on edge of stand and would assume there would be some water in it. There were moderately to steep slopes going down into the stand from adjacent stands.
17	310 - Herbaceous Openland	1.4	Yes	Stand is grassland with some slight topography. There are some scattered Cherry and aspen scattered throughout the stand.
20	310 - Herbaceous Openland	2.3	Yes	Stand is a grassland with some scattered cherry and aspen scattered throughout it.
30	3301 - Low Density Deciduous Tree	3.1	Yes	Stand is not forested. It has a few scattered black cherry trees scattered throughout it.
37	3301 - Low Density Deciduous Tree	7.8	No	Stand is open grown with scattered black cherry's scattered throughout it.
40	6225 - Bog	1.3	No	This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map. This stand was snow covered. Stand is some type of kettle hole with steep slopes going down to it.
42	6229 - Mixed lowland shrub	62.0	No	Baker creek runs though out this stand. This stand has areas with dense tag Alder, scattered cedar and balsam fire along stand edge. There are also some dense areas of cedar along the stream.
46	622 - Lowland Shrub	100.2	No	North Branch of the Manistee River runs through stand - pockets of tag alder scattered within stand. There are also pockets of dense Northern White Cedar and a super canopy of white pine.
47	6225 - Bog	37.2	No	Looks like a bog, has some scattered, white pine tamarack and black spruce and various lowland scrubs.
49	6229 - Mixed lowland shrub	9.1	No	Stand is very wet, appears to have a seasonal run off into the North Branch of the Manistee River. Lowland brush - willow and tag alder with scattered white pine
50	6225 - Bog	2.0	No	Stand was a bog with a few scattered trees in it.
86	500 - Water	6.3	No	Mallard Lake This stand is part of the Clearwater plat. This stand need a survey before any timber can be sold. There are several small .02-3 ac lots that are private owned mixed within state ownership. See compartment file for map.
90	310 - Herbaceous Openland	1.5	Yes	Access is bermed near Grass Lake Road.