



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61246

Entry Year 2020

Acreage: 2,041

County Kalkaska

Management Area: Manistee River Valley

Revision Date: 2018-05-22

Stand Examiner: Katie Armstrong

Legal Description:

T25N R8W Sections 25, 26, 35, and 36

Identified Planning Goals:

Vegetation management in the Manistee River Valley management area will provide timber products, maintain or enhance wildlife habitat, protect areas of unique character including the Manistee River and its tributaries, preserve rare species, and provide for forest-based recreational uses. Timber management goals for this 10-year planning period include continuing aspen management to maintain early successional habitat for hunting and other wildlife-related recreational opportunities, increasing regeneration of oak, balancing the red pine age class structure through final harvests and re-planting, and improving red pine quality through partial harvests. Expected challenges include increased recreational pressure, especially on the established trails and along the Manistee River and its tributaries; an increased wildland/urban interface; a need to restore barrens communities through prescribed fire; and invasive plant control.

Soil and topography:

There are some steep and rolling hills in the northeast part of the compartment but the rest is relatively flat.

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

There are several small private inholdings along the Manistee River. There is also private land along the north edge of the compartment but the other sides join State land. Consumers' Power retains timber rights on several red pine stands and actively manages them. An overhead transmission line crosses the northwest corner of the compartment.

Unique Natural Features:

The compartment south of the Manistee River is known locally as Big Low Flats.

Archeological, Historical, and Cultural Features:

There are multiple known sites of archaeological significance. Treatments have been adjusted accordingly. Foresters should be on the lookout for additional sites during fieldwork.

Special Management Designations or Considerations:

The Manistee River is protected by the Natural Rivers Act.

Watershed and Fisheries Considerations:

The Manistee River is a Designated Trout Stream and Natural River. The Manistee River is cooperatively stocked with brown trout by the Walton Junction Sportsman's Club. In addition to hosting good fishing for brown trout, this stretch of the river also has good naturally reproducing populations of rainbow trout, walleye, northernpike, and smallmouth bass.

Wildlife Habitat Considerations:

Compartment 246 encompasses several expanses of poorly drained sandy outwash plain, which includes the Manistee River. However, this glacial landform does include pockets of excessively drained sandy soils, usually situated on low rises or hummocks in the landscape. The northeastern corner of compartment gains some relief due to sandy moraine ridges. South of the Manistee River, which is an important riparian travel corridor, is a dry outwash plain dominated by planted red pine. Long-term management of the lowland segments of this landscape should emphasize mature mixed conifers as much as possible, as this area is important for yarding deer. Future natural blowdowns may add to the diversity of this landscape and should be left un-salvaged if they occur. This compartment and its underlying glacial landforms are part of the Manistee River Valley Management Area (MA) of the Regional State Forest Management Plan. Featured wildlife species for this MA include bear, golden-winged warbler, pileated woodpecker, ruffed grouse, snowshoe hare, and deer.

Aspen communities and red pine plantations are the dominant communities in this compartment. However, northern hardwoods can be found in the north where the moraine ridges extend into this area. This compartment has a history of aspen cutting, with additional aspen harvests scheduled this inventory cycle to increase age class diversity. The incorporation of snags, leave trees (particularly balsam fir and mast producing species), and downed logs in these cuts will

help to replicate a wildfire-altered forest and increase wildlife use by species like grouse, woodcock, golden-winged warbler, snowshoe hare, and deer. 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. Tops should be left unchipped if possible for horizontal cover. Islands of longer lived tree species should be left for structural diversity and to provide habitat components like den and cavity trees, hard and soft mast, future horizontal cover, and areas of lower stem density with a closed canopy. Species taking advantage of some of these older islands might include eastern box turtles, little brown and northern myotis bats, rat snakes, and gray foxes.

Future management of the several pine stands here should consider incorporating small (2-5 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Deciduous species should be encouraged within conifer plantations for diversity.

Non-forested stands are an important habitat component of dry and sandy outwash plains like the ones found in this compartment. Currently few openings exist here. Opportunities to create openings, such as areas of poor stocking in regenerating stands should be utilized to add habitat for opening and edge species. Maintaining openings scattered through this landscape adds to the diversity of the area and benefits many wildlife species including deer, woodcock, tree swallows, fox sparrows, snowshoe hares, silver-haired bats, and smooth green snakes.

Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pit is located nearly three miles to the west and a former pit was located within Section 26. There is good sand and gravel potential on the uplands in Sections 25 and 26. There has been some minor past production from the Traverse Group in this area. Marathon currently holds active mineral leases to the southeast related to their recent interest in the Richfield. They are in the process of releasing their remaining leases in the state. The state does not own any of the mineral rights within the compartment. However, oil and gas potential is considered low at this time. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

There is sufficient vehicular access to this compartment.

Survey Needs:

There are no survey needs at this time.

Recreational Facilities and Opportunities:

An ORV trail runs through the southeastern corner of the compartment. Springfield Township manages the Eagle View overlook on the north side of the Manistee River. Springfield Township also operates a small park adjacent to State land, off of Lund Road.

Fire Protection:

Fire protection is provided by the DNR Kalkaska Field Office and the Garfield Township Fire Department. Pine plantations would be the area of greatest concern. Heavy recreational use, especially along the Manistee River, may mean more accidental starts than usual.

Additional Compartment Information:

The following reports from the Inventory are attached:

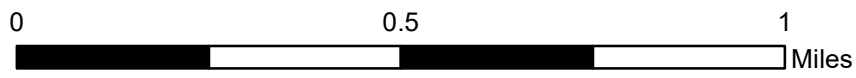
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

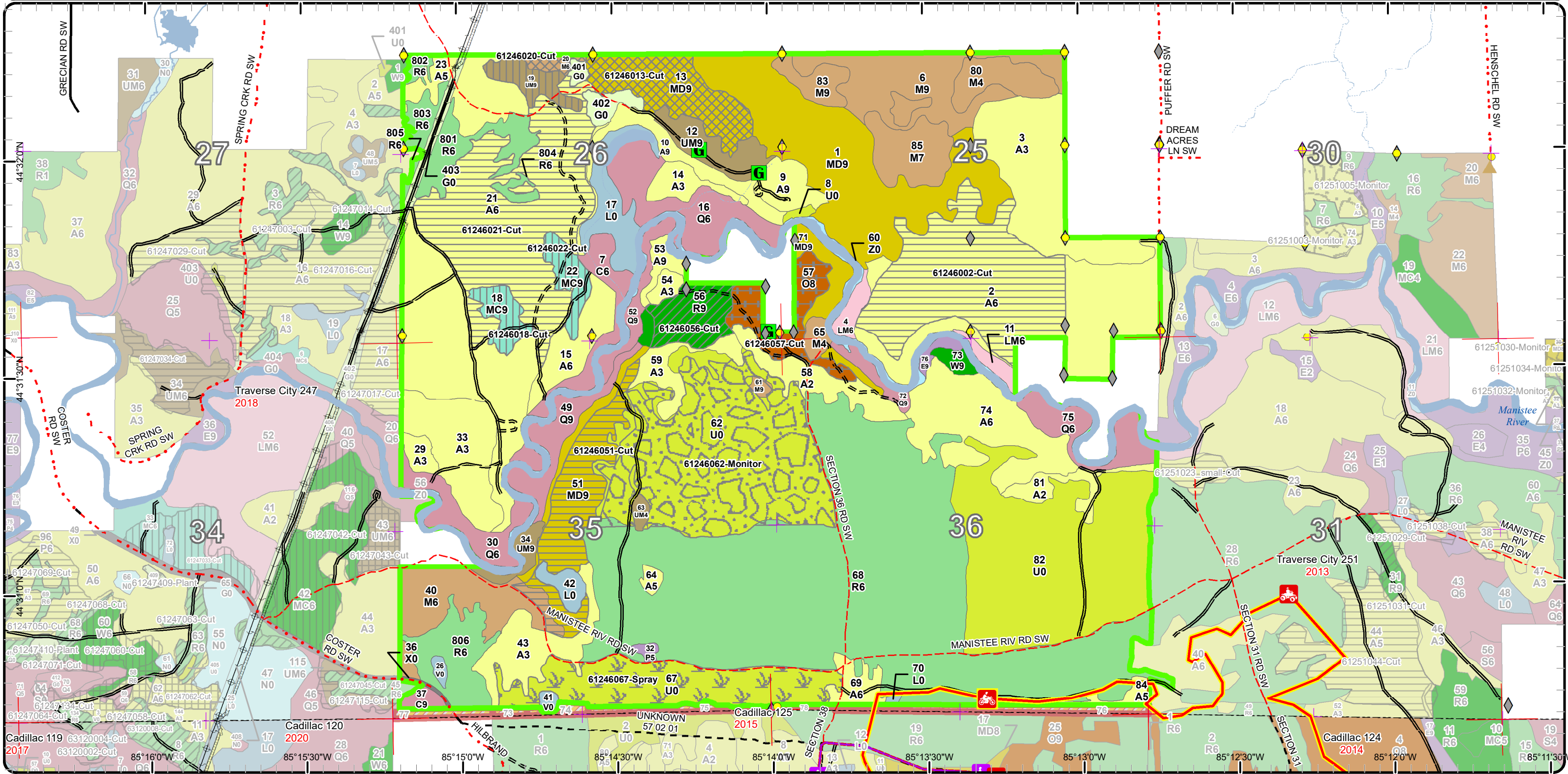
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 246
 T25N, R08W, Sec. 25, 26, 35, 36
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Manistee River Valley
 YOE: 2020
 Acres: 2,041 GIS Calculated
 Examiner: Katie Armstrong
 Map Revised: 10/11/2018
 Map Phase: Post - Maps

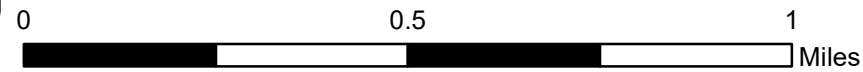


- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- ORV Trails
- Designated ATV Trails
- - - Designated ORV Route
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- ▲ Berms
- G Gate
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary
- 6, 7
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Thinning (Crown, Low, Systematic)
- Regeneration Survey
- Shelter Wood (w/Reserves)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- Lakes

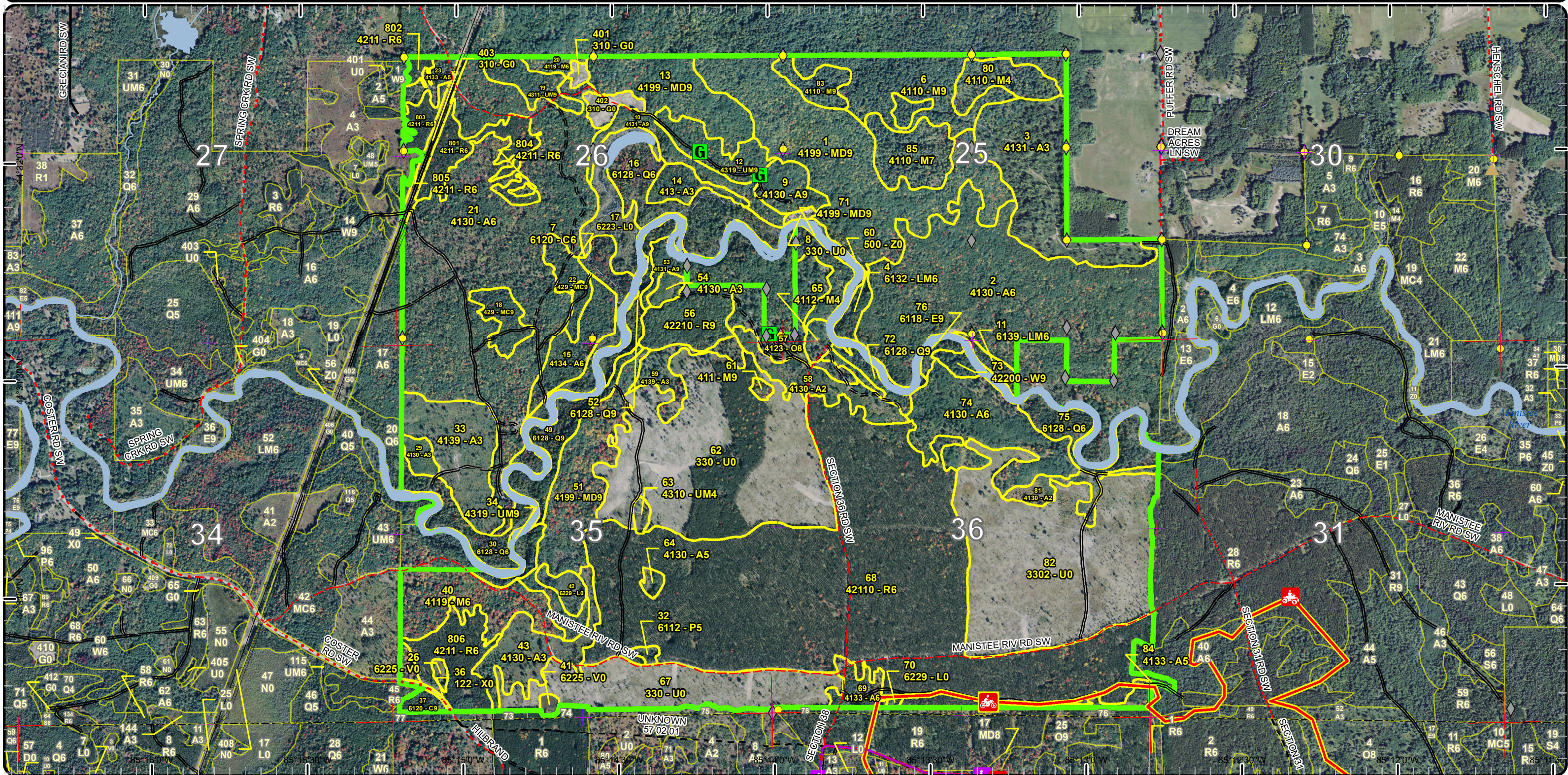


Stand Boundary Map

Compartment: 246
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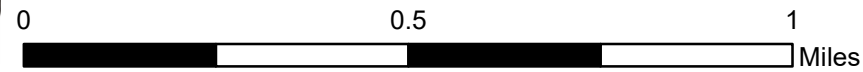


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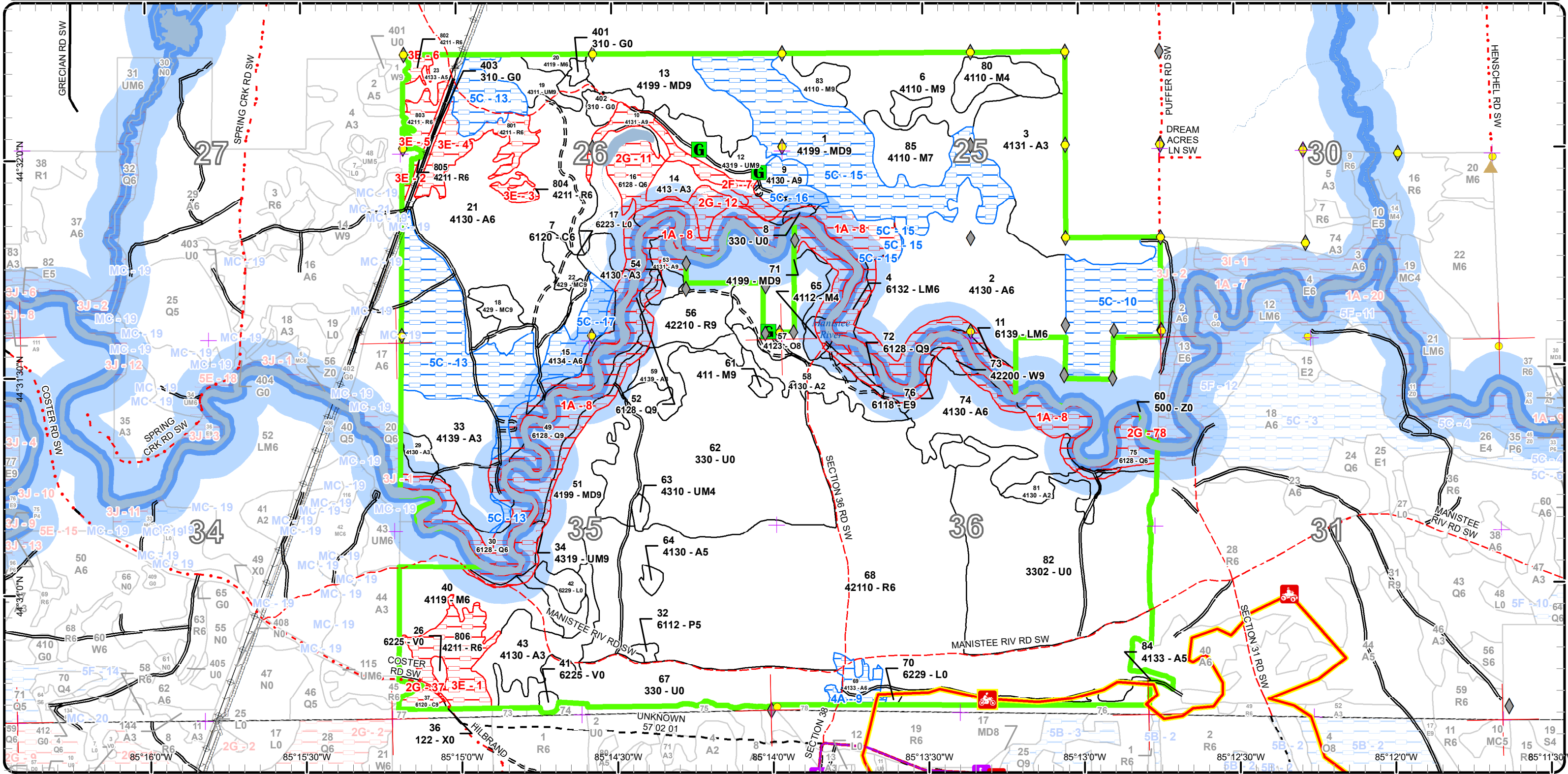
Special Conservation Areas & Site Conditions Map

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 T25N, R08W, Sec. 25, 26, 35, 36
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- Lakes and Rivers All
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- Powerline

- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 4A: No Markets Available for these Forest Products
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 1A: Federal/State/Local Law
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)
- 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



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	130	46	49	8	207	179	9	5	16	0	0	0	0	0	0	0	0	648
Bog	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Cedar	0	0	0	0	0	0	0	0	0	0	4	0	14	0	0	0	0	0	18
Herbaceous Openland	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Low-Density Trees	334	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	334
Lowland Aspen/Balsam Poplar	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Conifers	0	0	0	0	0	0	0	0	0	23	0	0	59	0	0	0	0	20	102
Lowland Deciduous	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
Lowland Mixed Forest	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9
Lowland Shrub	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Mixed Upland Deciduous	0	0	0	0	0	46	0	0	0	113	35	0	0	0	0	0	0	0	194
Northern Hardwood	0	0	0	0	4	0	0	55	0	34	0	0	0	0	0	0	0	45	138
Oak	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	22
Red Pine	0	0	0	0	0	0	408	0	0	0	0	0	0	0	0	0	21	0	429
Upland Conifers	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	20
Upland Mixed Forest	0	0	0	0	0	0	2	11	0	6	16	0	0	0	0	0	0	0	35
Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Water	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
White Pine	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
Total	421	130	46	49	14	253	589	75	34	199	77	0	73	0	0	0	21	65	2045



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2020

Acres of Harvest

Compartment 246
Total Compartment Acres: 2,041

Commercial Harvest - 348
Harvests with Site Condition - 0
Next Step Harvest - 0
Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	205	0	0	0	0	0	0	0	0	205
Mixed Upland Deciduous	43	35	0	0	0	0	0	0	0	77
Northern Hardwood	0	4	0	0	0	0	0	0	0	4
Oak	0	0	0	0	0	0	22	0	0	22
Red Pine	0	0	0	0	19	0	0	0	0	19
Upland Conifers	0	0	0	10	0	0	0	0	0	10
Upland Mixed Forest	0	0	0	11	0	0	0	0	0	11
Total	247	39	0	0	21	19	22	0	0	348

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	348	0	0	0	0	58	131	0	0	537
Next Step	0	0	0	0	0	131	559	0	0	690
Total	348	0	0	0	0	189	690	0	0	1227



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
2	61246002-Cut	93.7	4130 - Aspen	Poletimber Well	56	111-140	Harvest	Clearcut with Retention	4136 - Aspen, Mixed Conifer	Even-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Final harvest. Retention along river and sensitive site has been removed from treatment but should be verified. This is ~ 2/3 of stand but east edge is arbitrary and can be changed.
Specs:

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

Acceptable Aspen, white pine, oak.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

13	61246013-Cut	34.8	4199 - Other Mixed Upland Deciduous	Sawtimber Well	90	111-140	Harvest	Group Selection	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Cut all aspen and most oak and maple. Mark to leave those species for diversity and seed. Exclude steepest slopes where inoperable.
Specs:

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

Acceptable Aspen, oak, maple, white pine.
Regen:

Other Survey needs not known at this time. If road or skid trail access through Stand 12 is necessary, there may be a sensitive site that needs to be avoided. There may be concerns about using Stand 402 as a landing.
Comment:

Proposed Start Date: 10/1 /2019

18	61246018-Cut	9.9	429 - Mixed Upland Conifers	Sawtimber Well	76	141-170	Harvest	Shelterwood	4133 - Aspen, Mixed Pine	Two-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Remove all aspen and maple, and thin/shelterwood pine to maintain some diversity and try to encourage pine regeneration. Residual BA will be variable, 0-40 sf/acre. Probably mark to leave, but consider excluding whole (but small) pockets of pine to maintain some denser areas.
Specs:

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

Acceptable Aspen, white pine, red pine, maple, birch, fir.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

19	61246019-Cut	10.6	4311 - Pine, Aspen Mix	Sawtimber Well	60	141-170	Harvest	Shelterwood	4133 - Aspen, Mixed Pine	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Final harvest leaving some red pine, white pine, and oak for diversity and seed. Mark to leave, keeping some denser pine. Try to encourage pine and oak as much as possible. Residual BA will be variable but generally 0-40 sf/acre.
Specs:

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

Acceptable Aspen, red pine, white pine, oak, maple.
Regen:

Other Treat with Stand 20.
Comment:

Proposed Start Date: 10/1 /2019



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Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
20	61246020-Cut	3.8	4119 - Mixed Northern Hardwoods	Poletimber Well	60	141-170	Harvest	Group Selection	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription The treatment method might have the wrong name but generally remove all beech and all aspen and mark other species to leave. Remove most of older oak to encourage stump sprouts and high risk maple. Residual BA will be variable but range from 0 to 30 sf/acre.

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

Acceptable Aspen, maple, white pine, oak.
Regen:

Other Treat with Stand 19.
Comment:

Proposed Start Date: 10/1 /2019

21	61246021-Cut	111.0	4130 - Aspen	Poletimber Well	49	111-140	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Two-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Final harvest, removing all aspen and maple. Leave most pine and try to promote white pine recruitment. Ok to thin some of the denser pockets though. Leave some oak for mast but remove some to encourage stump sprouts. Cut about half of this stand now. The part included in the treatment is kind of arbitrary and may be adjusted based on operations or higher risk trees.

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

Acceptable Aspen, white pine, red maple, red pine, oak.
Regen:

Other There may be concerns about using Stand 402 as a landing.
Comment:

Proposed Start Date: 10/1 /2019

22	61246022-Cut	9.9	429 - Mixed Upland Conifers	Sawtimber Well	76	141-170	Harvest	Shelterwood	42141 - Planted Mixed Pine, Mixed Deciduous	Uneven-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Remove all aspen and maple, and thin/shelterwood pine to maintain some diversity and try to encourage pine regeneration. Residual BA will be variable, 0-40 sf/acre. Probably mark to cut(?).

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

Acceptable White pine, red pine, oak, aspen, maple, birch, fir,
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

51	61246051-Cut	42.6	4199 - Other Mixed Upland Deciduous	Sawtimber Well	48	81-110	Harvest	Clearcut	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Clearcut leaving white pine and oak < 6" dbh. Retention along river has already been removed from treatment shape but distances should be verified in field. May need additional retention at southern end if there are wet areas.

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

Acceptable Aspen, red maple, white pine, oak, red pine. Hope to push more towards white pine.
Regen:

Other Include sliver of Stand 40 along road for operability.
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
56	61246056-Cut	19.4	42210 - Natural Red Pine	Sawtimber Well	150	171-200	Harvest	Low Thinning	42260 - Natural Pine, Mixed Deciduous	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Thin pine to approximately 120 sf/acre. Ok to leave BA higher in places. Remove all aspen and maple. Leave some oak for mast but remove most to encourage sprouting. River buffer has been removed but should confirm in field that it is 50' from top of river bluff.

Specs:

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

Acceptable White pine, red pine, red oak, aspen, maple.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

57	61246057-Cut	22.3	4123 - Red Oak	Sawtimber Medium	95	51-80	Harvest	Overstory Removal	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Last treatment did not yield enough regeneration and oak is either aging out or dying of disease. (oak wilt in adjacent stand.) Encourage white pine recruitment from understory and oak from stump sprouts. Cut all oak except for ~tree/acre. Protect advanced regeneration.

Specs:

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

Acceptable Oak, white pine, aspen, red maple.
Regen:

Other Will need to find corners but I think they are in. Re-route road to stand 56 to avoid crossing private property.
Comment:

Proposed Start Date: 10/1 /2019

62	61246062-Monitor	130.9	330 - Low-Density Trees	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription final harvested, replanted to red pine to break up the red pine age class'. need 3 year regen check

Specs:

Next Step Pesticide, Skidder/Mechanical; Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable mainly red pine but some mixed deciduous is ok as well... mainly want red pine free to grow.
Regen:

Other Percent to Treat = 100%
Comment:

Proposed Start Date: 10/1 /2017

67	61246067-Spray	57.9	330 - Low-Density Trees	Nonstocked	0	Unspecified	Pesticide	ERROR	4211 - Planted Red Pine	Even-Aged	Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Release spray. Probably too much residual overstory for aerial but should confirm.

Specs:

Next Step Monitoring, Herbicide Use
Treatments:

Acceptable Fully stocked red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2018

Total Treatment Acreage Proposed: 546.8

Report 4 – Site Conditions

Traverse City Mgt. Unit
Katie Armstrong : Examiner

Compartment: 246
Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available
647	436	156	55

Dominant Site Conditions

	Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Condition	Dominant Site Conditions					
						4A	5C	1A	2F	2G	3E
647	436	156	55		Aspen	9	147	35	14		6
3	3	0	0		Bog						
18	6	0	11		Cedar			8		3	
14	14	0	0		Herbaceous Openland						
334	332	0	2		Low-Density Trees			2			
2	2	0	0		Lowland Aspen/Balsam Poplar						
102	4	0	98		Lowland Conifers			79	0	19	
3	0	0	3		Lowland Deciduous			3			
9	0	0	9		Lowland Mixed Forest			9			
25	22	0	3		Lowland Shrub			3	0		
194	77	87	29		Mixed Upland Deciduous		87	29			
138	135	0	3		Northern Hardwood			3			
22	22	0	0		Oak			0			
429	372	0	57		Red Pine			2			55
20	20	0	0		Upland Conifers						
34	29	0	6		Upland Mixed Forest			6			
1	1	0	0		Urban						
43	43	0	0		Water			0			
4	2	0	2		White Pine			2			
2,041	1,521	243	277		Total Forested Acres	9	234	180	14	22	61
	75%	12%	14%		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	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consumers Power reserve.							

Report 4 – Site Conditions

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2	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consumers Power reserve.							
3	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consumers Power reserve.							
4	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consumers Power reserve.							
5	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consumers Power reserve.							
6	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consumers timber lease							
7	Unavailable	2F: Too steep	14	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							

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8	Unavailable	1A: Federal/State/Local Law	180	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments: Natural Rivers Act, native vegetation buffer, 175 feet.							
9	Available	4A: No Markets Available for these Forest Products	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand is too small/poorly stocked to sell on its own.							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	42	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Part of stand outside the river buffer is too wet.							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Part of stand outside the river buffer is too wet.							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	80	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Treating part of stand in 2020 and hold the rest 10 years.							

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15	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	87	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
37	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	3	4A: No Markets Available for these Forest Products	Unspecified	Unspecified	Unspecified
Comments:							
78	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	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.
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:
1	4199 - Other Mixed Upland Deciduous	Sawtimber Well	100.4	84	81-110	Stand is on rolling terrain at the north end that gets steeper near the south and west end (ridges and valleys). Oak and aspen is looking pretty mature. Beech has BBD in spots. Old fire scarred pine stumps scattered through out. Not that great quality of maple. This stand doesn't appear to have been treated in the past. BAs: 120, 110, 90, 90, 170.
2	4130 - Aspen	Poletimber Well	149.1	56	111-140	Nice stand...some areas look younger than 56...hold east end if decide to hold any. some thicker pine areas but mostly scattered. most is bigtooth but some quaking areas as well. DO save all oak and pine if cut...stand to north had too much left and is hindering aspen regen. likely cut the western 2/3. sensitive site in stand but will fall in river butter/ retention. OPIC - FMD: 12/11/2007 Look at in ten years to break up stand & cut in two different years of entry. Part of this old stand is now stand # 3. (Grieve) 12/98 (Grieve) Nice looking aspen stand. Residual red maple was left from last cut. Break stand up into two or three cutting blocks 10 years apart. . 10/88 (Bakker) A3 south of road. Mixed with much overstory of assorted species; red maple, oak, white pine. Some Red Maple, red oak, birch in understory as well.
3	4131 - Aspen, Oak	Sapling Well	56.6	7	Immature	Puffer Popple, 61-028-10-01. Cut fall 2011 by Mid Michigan Logging. Cut all trees except oak, beech, white pine and red pine. north end is pretty thick with beech 9saved per wildlife request) and oak... what regen was here look sot be fizzling out... manage for understory aspen... bulk of the stand has started pretty good to understory of mixed aspen and red maple. north 1/2 of stand could have top take off however there isnt much aspen regen... oak here is smaller diameter than south end so let it ride as is. Turned out very good, north end has a ton of oak and beech left in clumps. There were two small pockets of dead/dying oak that we had them take out just in case it was the result of oak wilt. Will regenerate nicely.
4	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	5.0	75	51-80	Along the Manistee River. Mix of hardwoods and conifer.
6	4110 - Sugar Maple Association	Sawtimber Well	44.7	84	81-110	Nice quality hardwoods, getting some scattered top dieback. Heavy beech and ironwood understory. BAs 110, 100, 120. This part of stand was thinned in summer 2002 as Holstein Hardwood, 61-022-01-01.
7	6120 - Lowland Cedar	Poletimber Well	14.1	118	111-140	split stand from last YOE.. this is the really wet cedar tag fir and spruce area that is unmaneagable... western portion is mostly upland fir, aspen, birch and red maple. north end has 12' creek threw it from old oxbow... old loggin road shooting out on the island area.
9	4130 - Aspen	Sawtimber Well	11.6	51	111-140	Small stand with decent slop and gradual transition to stand 1. Maybe more concentrated aspen here. Average BA 135 sf/acre. Southeast corner contains more conifer including hemlock around the Eagle View platform.
10	4131 - Aspen, Oak	Sawtimber Well	15.5	84	81-110	Stand is on a steep slope with a swamp/ small drainage at the bottom. Stand is a mix of aging aspen and red oak with a bit of pine in areas.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	6139 - Mixed Lowland Forest	Poletimber Well	4.1	75	51-80	Along the Manistee River.
12	4319 - Mixed Upland Forest	Sawtimber Well	15.6	90	141-170	Variable stand but generally more white pine than adjacent stands. Some areas of aspen or red maple dominance. Some decent oak <6" dbh and white pine in sub-canopy. Average BA is 143 sf/acre.
13	4199 - Other Mixed Upland Deciduous	Sawtimber Well	34.8	90	111-140	Stand is on some pretty hilly terrain. Mostly and oak aspen mix with some medium to poor quality hardwoods. Beech and ironwood understory. BBD present in the beech and oak is looking pretty maxed out. Younger pockets of aspen on the west side but very mature looking aspen on the east.
14	413 - Aspen	Sapling Well	8.7	16	Immature	Part of Overlook Aspen, 61-056-00-01. cut everything except oak, white pine, red pine, cedar and balsam fir. Cut spring 2002.OPIC - FMD: 12/11/2007 Stand looks good. (Grieve) 12/98 (Grieve) Beech reproduction (not much). This stand is a plain just below the hill and before the low land area along the river. This stand is high risk.
15	4134 - Aspen, Spruce/Fir	Poletimber Well	18.6	56	111-140	bulk of stand is upland fir, aspen and birch.. at bottom of ridge... looks to maybe be some seepy areas.
16	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	32.8	118	81-110	
18	429 - Mixed Upland Conifers	Sawtimber Well	9.9	76	141-170	took this part out of stand 15... more pine here... soem areas thick to pine but alot has aspen and maple mixed throughout.. some cool old red pien and white pine at south end and at top of ridge. stand will hold 10 years if needed but could be cut
19	4311 - Pine, Aspen Mix	Sawtimber Well	10.6	60	141-170	Variable stand, but differentiated by having more pine than stands on either side. Parts are aspen dominated and there is a little more northern hardwood influence on northeast side. Average BA is 170 sf/acre. Some very large, old white pine stumps.
20	4119 - Mixed Northern Hardwoods	Poletimber Well	3.8	60	141-170	Mix of older oaks and mediocre quality hardwoods. Fair amount of beech and aspen/oak are aging out. Not much potential for thinning. Relatively steep hill.
21	4130 - Aspen	Poletimber Well	201.9	49	111-140	Large, variable stand. Generally aspen of various size classes with scattered pockets of pine and oak and red maple throughout. Generally less dense towards southern end. Very large, old white pine stumps.
22	429 - Mixed Upland Conifers	Sawtimber Well	9.9	76	141-170	took this part out of stand 15... more pine here... soem areas thick to pine but alot has aspen and maple mixed throughout.. some cool old red pien and white pine at south end and at top of ridge. stand will hold 10 years if needed but could be cut
23	4133 - Aspen, Mixed Pine	Poletimber Medium	6.1	30	51-80	Similar to Stand 2 in Comp 247. Should be treated together. Mediocre aspen.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	4130 - Aspen	Sapling Well	4.6	16	Immature	Part of Overlook Aspen, 61-056-00-01, cut spring 2002. Good regeneration.
30	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	19.5	90	141-170	Along the banks of the Manistee River. Swamp conifer with some dead ash, red maple, or birch mixed in.
32	6112 - Lowland Aspen	Poletimber Medium	1.5	33	Unspecified	Small depression. Hard to tell how wet.
33	4139 - Aspen, Mixed Deciduous	Sapling Well	35.7	5	1-50	Ox Bow Popple, 61-029-10-01. Cut 2/2013-7/2013 by Mid Michigan Logging. Cut all trees except oak, cedar, hemlock, cherry and balsam fir < 5". Tops were chipped. Left drumming logs. Expected regeneration: aspen, red maple, balsam fir. This stand was split from a larger one to distribute age classes.
34	4319 - Mixed Upland Forest	Sawtimber Well	5.8	80	111-140	Much of stand is on steep banks of the Manistee River, but there is a nice pocket of A9 at the northern tip of stand. Nice walking trail to local high point overlooking the river.
37	6120 - Lowland Cedar	Sawtimber Well	3.5	90	111-140	Wet stand with some nice, larger cedar. County truck turnaround at southeast corner.
40	4119 - Mixed Northern Hardwoods	Poletimber Well	35.0	60	81-110	Variable stand. Mostly clumpy red maple with scattered aspen and white pine. Average BA is 110 sf/acre. Some open areas or A2 underneath. Fair to poor quality. Relatively open understory.
43	4130 - Aspen	Sapling Well	24.9	7	Immature	Part of Clear Big Flats, 61-024-10-01. Cut all trees except oak, cherry, balsam fir and white pine. Scattered residual, heavier at southwest corner and north part. Aspen is now about 6-7' tall. Heavy browse on red maple but some have made it above browse level.
49	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	17.1	118	111-140	Along the Manistee River, mostly on the steep banks or below. Variable stand but has some nice pockets of natural red pine and cedar. Some hemlock in the understory, especially at the northern end.
51	4199 - Other Mixed Upland Deciduous	Sawtimber Well	46.4	48	81-110	Variable stand. More red maple at north end and more aspen to the south. Relatively heavy white pine in understory along western edge and northern part. Mediocre red maple and aspen is starting to fall out. Average BA 106 sf/acre. Small pocket of mostly fallen over JP at south end.
52	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	9.3	118	51-80	
53	4131 - Aspen, Oak	Sawtimber Well	5.3	75	111-140	This is the part of stand 54 which was not cut because it was too close to the banks of the Manistee River, Natural Rivers Act.
54	4130 - Aspen	Sapling Well	3.5	17	Immature	Clearcut as part of Washtub Corners Aspen, 61-054-00-01. Cut 2001 by Flees. Expect regen to be mix of aspen, red maple, oak, white pine. Good regen, aspen is 20-30' tall.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	42210 - Natural Red Pine	Sawtimber Well	21.2	150	171-200	Mostly natural red pine with wide range of diameters and variable BA. More deciduous at western end. Tall red maple in sub-canopy. Old, burned pine stumps and fire-scarred red pine. Average BA 180 sf/acre.
57	4123 - Red Oak	Sawtimber Medium	22.3	95	51-80	Part of Washtub Corners Aspen, 61-054-00-01. Cut 2001 by Flees. Cut with 2" spec except for oak and non-merchantable white pine. Variable, especially regeneration after last sale. Aspen is patchy.
58	4130 - Aspen	Sapling Medium	18.8	15	Immature	Timber sale 61-054-00-01. Patchy regeneration with open gaps and scattered overstory oak. Some aspen is 2-3" dbh and 20-30' tall.
59	4139 - Aspen, Mixed Deciduous	Sapling Well	12.0	6	1-50	Cut with Clear Big Flats, 61-024-10-01. Cut 12/2012 by Lutke. Cut all trees except oak, cherry, balsam fir and white pine. 2-aged stand with scattered red maple and oak over aspen, red maple and cherry. Variable overstory.
61	411 - Northern Hardwood	Sawtimber Well	1.4	60	51-80	Small hardwood pocket within young planted red pine stand.
63	4310 - Pine, Oak Mix	Poletimber Poor	2.2	54	1-50	Pot hole frost pocket. A few red pine.
64	4130 - Aspen	Poletimber Medium	2.1	33	Unspecified	Small pothole depression with scattered aspen.
65	4112 - Maple, Beech, Cherry Association	Poletimber Poor	4.0	30	1-50	Oak wilt treatment site. SPs removed 12/2017. Scattered red maple, 4-6" dbh, 30-40' tall.
68	42110 - Planted Red Pine	Poletimber Well	352.6	56	141-170	Row-thinned 2012-13 as 61-025-10-01, Big Flat Thin. Little to no understory. Borderline log/pole stand. BAs: 200, 140, 220, 170.
69	4133 - Aspen, Mixed Pine	Poletimber Well	8.6	61	51-80	Poor quality stand but aspen is dying. Small gaps/openings, especially east edge.
71	4199 - Other Mixed Upland Deciduous	Sawtimber Well	12.3	80	51-80	Left from adjacent stand as Natural Rivers buffer. Most of white pine is at north end. Understory is open. White pine and red maple in subcanopy are pretty tall. Less pine in the canopy of southern part.
72	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	5.3	80	81-110	On the steep bank of the Manistee River.
73	42200 - Natural White Pine	Sawtimber Well	3.5	85	111-140	Small pocket of white pine along the Manistee River. Japanese barberry.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
74	4130 - Aspen	Poletimber Well	49.2	27	Immature	Two-aged stand with residual white pine and oak over borderline A3/A6. Aspen is mediocre quality, mixture of quaking and bigtooth. Heavier residual along the river and at west end. Cut ~1991 as Puffer Aspen, 61-047-90-01. Cut all trees except oak and conifers. The logging roads were blocked, but closures have been breached.
75	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	17.9	81	81-110	Along the Manistee River and mostly below the bluff. Variable stand, mostly conifer with a few pockets of older aspen, especially at the east end. Some relatively large cedar. High mortality in aspen, and heavy CWD throughout. Used to have some black ash. Beaver activity. Some oak/beech on upland portions.
76	6118 - Lowland Deciduous with Cedar	Sawtimber Well	2.7	80	81-110	Variable stand. Adjacent to the Manistee River. Wet ground.
80	4110 - Sugar Maple Association	Poletimber Poor	15.0	60	1-50	Edges of the stand are regenerating to beech and ironwood mix. Lots of raspberry and blackberry in the middle of the stand. Too much snow to see if maple and oak are seeding in. Some maple dieback (shock). Croaking Oak North, 61-111-11-01 by Northwest Hardwoods. Cut winter 2011-2012. Cut all red oak, aspen, beech and ash (16 cords/acre). MSU researcher examined area for oak wilt and none was detected. Forest health section suggests, defoliation, drought, and two lined chestnut borer along with other environmental factors to blame for the mortality.
81	4130 - Aspen	Sapling Medium	9.7	16	Immature	Cut in 2001 as Highbanks Aspen, 61-053-00-01 by Flees. Patchy regeneration. Doesn't look that great.
83	4110 - Sugar Maple Association	Sawtimber Well	12.7	84	81-110	Nice quality sugar maple, lots of 4-5 log trees. Beech and ironwood regen concern. BAs 80, 110. Small negotiated sale, Kitchen Ash Firewood, 61-067-12-02. Cut 8/2012-12/2012. Cut all ash and all dead maple and oak. MSU researcher examined area for oak wilt and none was detected. Forest health section suggests, defoliation, drought, and two lined chestnut borer along with other environmental factors to blame for the mortality.
84	4133 - Aspen, Mixed Pine	Poletimber Medium	4.8	44	51-80	Similar to stand to the east. Mediocre aspen with scattered openings.
85	4110 - Sugar Maple Association	Sawtimber Poor	21.1	81	1-50	Getting pockets of cherry regen where it is open enough. Some individual tree dieback, I am thinking shock. Some areas are more M4. Deer browse looks like it could be an issue in this area. Too much snow at the time to see if maple is seeding in. Croaking Oak South, 61-110-11-01, cut winter 2011-2012 by AJD. Cut all oak, aspen and ash (18 cords/acre). MSU researcher examined area for oak wilt and none was detected. Forest health section suggests, defoliation, drought, and two lined chestnut borer along with other environmental factors to blame for the mortality.
801	4211 - Planted Red Pine	Poletimber Well	17.6	56	141-170	Consumers Energy timber reserve. Has been actively managed and is currently marked for a thinning.

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Traverse City Mgt. Unit

Report 7 – Forested Stands

Compartment: 246
Year of Entry: 2020

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
802	4211 - Planted Red Pine	Poletimber Well	2.6	56	141-170	Consumers Energy timber reserve. Has been actively managed and is currently marked for a thinning.
803	4211 - Planted Red Pine	Poletimber Well	6.8	56	141-170	Consumers Energy timber reserve. Has been actively managed and is currently marked for a thinning.
804	4211 - Planted Red Pine	Poletimber Well	3.0	56	141-170	Consumers Energy timber reserve. Has been actively managed.
805	4211 - Planted Red Pine	Poletimber Well	1.1	56	141-170	Consumers Energy timber reserve. Has been actively managed and is currently marked for a thinning.
806	4211 - Planted Red Pine	Poletimber Well	24.3	56	171-200	Consumers Energy timber reserve. Has been actively managed.



Stand	Cover Type	Acres	Managed Site	General Comments:
8	330 - Low-Density Trees	1.2	No	Area of the Eagle View overlook, developed by Springfield Township. Corrected past erosion issues and did some vista maintenance.
17	6223 - Inundated Shrub Swamp	18.9	No	Old beaver flooding with standing water. Beaver Salvage, 61-070-02-02. Cut about 70 cords of cedar in 2005-06.
26	6225 - Bog	1.6	No	Grassy bog.
36	122 - Road/Parking Lot	1.1	No	Coster Road.
41	6225 - Bog	1.7	No	
42	6229 - Mixed lowland shrub	5.7	No	Small marshy, wet area with gradual transition to upland areas. Some aspen growing on wet edges.
60	500 - Water	43.5	No	Manistee River
62	330 - Low-Density Trees	139.5		Cut with Clear Big Flats sale, 61-024-10-01, by Lutke Forest Products over the course of a few years. Trenched and planted to red pine. Will likely will have a decent amount of maple and cherry competition but seems to be off to a good start. Year 1 regen survey completed in 2016. 704 planted TPA + 116 natural. 498 stems competition. Per TMS, "Numbers looking good. Original planting was a fall planting that failed. Evaluate at year 3." FTP C62-809.
67	330 - Low-Density Trees	57.9		1 year regen survey in 2016. 826 planted TPA + 445 competition. Per TMS: "Numbers looking good. Original planting was a fall planting that failed. Evaluate at year 3." 3 year regen survey showed good survival but heavy competition, especially in western part of stand. recommended release. Part of Clear Big Flats, 61-024-10-01. FTP C62-809.
70	6229 - Mixed lowland shrub	0.7	No	Small depression.
82	3302 - Low Density Conifer Trees	135.1		Cut Big Flats, 61-026-10-01. Cut 1/2011-8/2011 by Lutke. Decision to restart red pine per Red Pine Project. Cut everything with 3" spec except oak and cherry. Left a fair amount of overstory cherry and a few oak but some of the cherry appears to be dying out. Known locally as Big Low Flats. FTP C62-810. Trenched 2012. Planted 2013. Replanted 2015. 2? year regen survey completed in 2016. Seedling survival looks pretty good but red maple/black cherry competition looks high in places and there are some A3 pockets. 3 year regen survey 6/2018. Good survival. Minimal competition. No release recommended.



Stand	Cover Type	Acres	Managed Site	General Comments:
401	310 - Herbaceous Openland	1.8	No	OPIC - FMD: 12/6/2007 Springfield Township has done a great job of cleaning this area up, keeping it clean & keeping the ORV use out. (Grieve) 12/98 (Grieve) Old gravel pit from when Consumers owned the land. Very bad ORV use on this land. The old pit is also being used for dumping. Is use as a rifle range. Needs to be cleaned up and closed off. 10/88 (Bakker) Sand barrow pit- ORV & shooting range use; old oil well pad has been seeded, Wildlife Division with plant autume olive.
402	310 - Herbaceous Openland	5.7	No	Formerly had some ORV and shooting issues. Has been cleaned up. Wildlife Division planted autumn olive.
403	310 - Herbaceous Openland	6.4	No	Overhead power line.