Compartment Review Presentation

Escanaba Forest Management Unit

Compartment 33054
Entry Year 2022
Acreage: 1,970
County Menominee
Management Area: Green Bay Lake Plain

Revision Date: 2020-08-18

Stand Examiner: Dustin Salter

Legal Description:

T35N R25W Sections 16, 17, and 18

Identified Planning Goals:

This compartment is comprised primarily of deciduous tree types, with the primary types being aspen, red maple, balm and ash. The western half of the compartment has more aspen and the eastern half is primarily red maple and ash. The aspen covertype have balanced age classes, to continue this, an older aspen stand will be harvested to provide good habitat for wildlife and forest products. There are a number of mixed conifer stands that will be harvested as well. Most of these stands have a significant volume of spruce/fir, which is being defoliated by the spruce budworm. It is important to harvest these stands, before mortality occurs. There will also be a few red maple and ash stands harvested. These stands are mature and need to be harvested while the trees have enough vigor to maximize stump sprouting. The emerald ash borer has been identified only a few miles from this compartment, so it is important to harvest the ash before the borer causes significant mortality. There is also, three natural red pine stands that will be final harvested with the intent of regenerating these stands with a mix of species.

Soil and topography:

Topography is gently rolling with poorly drained nonacid mucks and peats. Mixed in with the mucks and peats are well drained loam soils. Other soils include well drained loams over limestone bedrock. Major soil series include Lupton Cathro, Tawas, Emmet, Longrie, Summerville, Onaway, Carbondale, Tacoosh, and Angelica.

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

This compartment is within a block of state land that is eight miles wide and twenty miles long on the east half of Menominee County. There are no private in-holdings within this compartment and it is nearly surrounded by state land, with exception of one private forty. There is very little development within this block of state land, but to the west of it there are many residences and farms. The non-farming land is used primarily for recreational activities.

Unique Natural Features:

The Walton River flows through the western portion of the compartment.

Archeological, Historical, and Cultural Features:

None Known.

Special Management Designations or Considerations:

None Known.

Watershed and Fisheries Considerations:

This compartment contains the Walton River, a designated Type 1 trout stream greater than 50’ in width (above Westman Dam Rd) and Type 4 trout stream less than 50’ in width (below Westman Dam Rd). A 100’ buffer is recommended above Westman Dam Rd. A 300’ buffer is recommended below Westman Dam Rd in riparian areas susceptible to aspen regeneration. For areas not susceptible to aspen regeneration, 100’ buffer plus 5’ per 1% increase in slope; buffers are recommended to protect these areas in accordance with Best Management Practices.

Wildlife Habitat Considerations:

This compartment is largely early-successional aspen forest in the west with lowland hardwood stands being more pronounced in the east. About 70 acres of aspen will be harvested, providing good wildlife habitat for many popular game species. The emerald ash borer was confirmed by USDA near this compartment and ash stands will be treated this decade.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of lacustrine (lake) sand and gravel. There is approximately 80 feet of relief in the compartment. The glacial drift thickness varies between 10 and 50 feet. The Ordovician Trenton Formation underlies the glacial drift. The

Trenton is quarried for stone/dolomite near Escanaba. A gravel pit is located in the SE NW of Section 18, southwest of Westman Lake. There appears to be good gravel potential in the compartment.

Vehicle Access:

There is very good vehicle access within the compartment. The Westman road (County Road) runs through the west half of the compartment and the Indian Springs Road meanders along the southern boundaries. The Camp “O” Road runs through the northeast portion. There are numerous two track roads throughout, some of which are impassable during wet periods.

Survey Needs:

None.

Recreational Facilities and Opportunities:

Part of the Forest Island ORV Trail runs through the northeast portion of this compartment. The trail is located on the Camp “O” Road. The Walton River provides fishing opportunities. The main uses of this area are hunting, camping, atving, snowmobiling, and trapping.

Fire Protection:

There is good access throughout the compartment and there is an abundance of water access points. The timber types throughout the compartment are not fire prone and there are numerous drains and lowland areas breaking up the larger upland stands. This compartment contains primarily deciduous tree types.

Additional Compartment Information:

The Westman Dam is located within this compartment. It is located where the Westman Road crosses the Walton River.

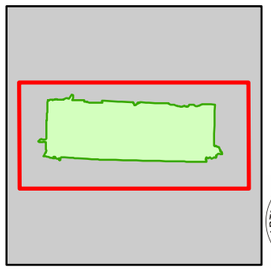
The following reports from the Inventory are attached:

- **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



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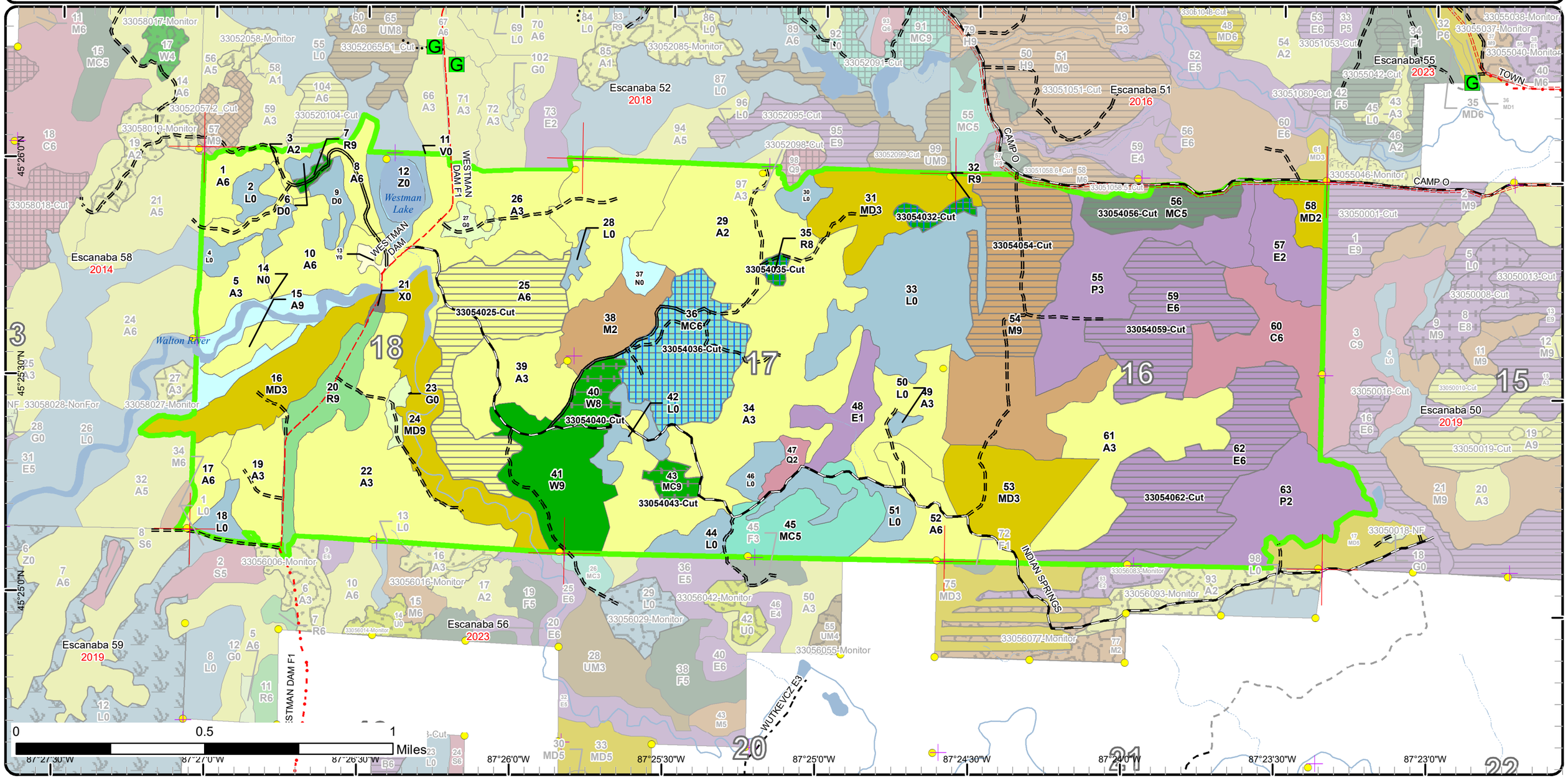
Compartment: 54

County: Menominee
Unit: Escanaba
Mgmt Area: Green Bay Lake Plain
YOE: 2022
Acres: 1,970 GIS Calculated
Examiner: Dustin Salter
Map Revised: 9/8/2020
Map Phase: Web-Post

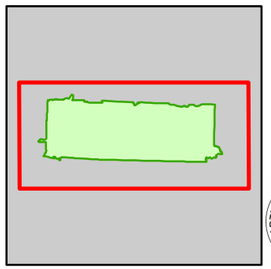
- Miris Corners
- Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Primary Forest Road
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- DNR - Management Access
- Designated ORV Route
- Gate

- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Compartment Boundary
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers

- 429 - Mixed Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand/Soil



Stand Boundary Map



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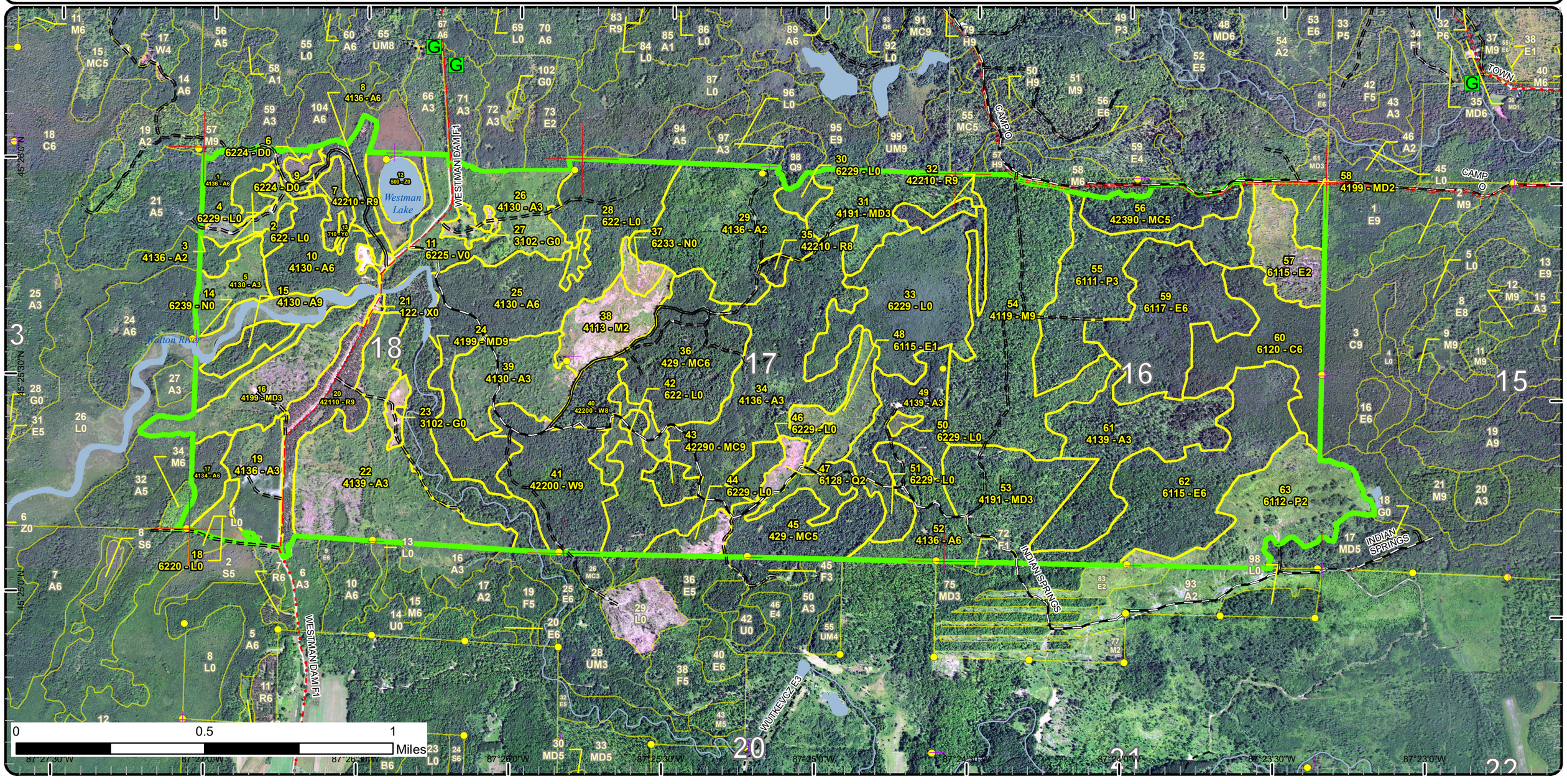
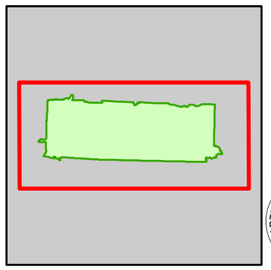


Special Conservation Areas



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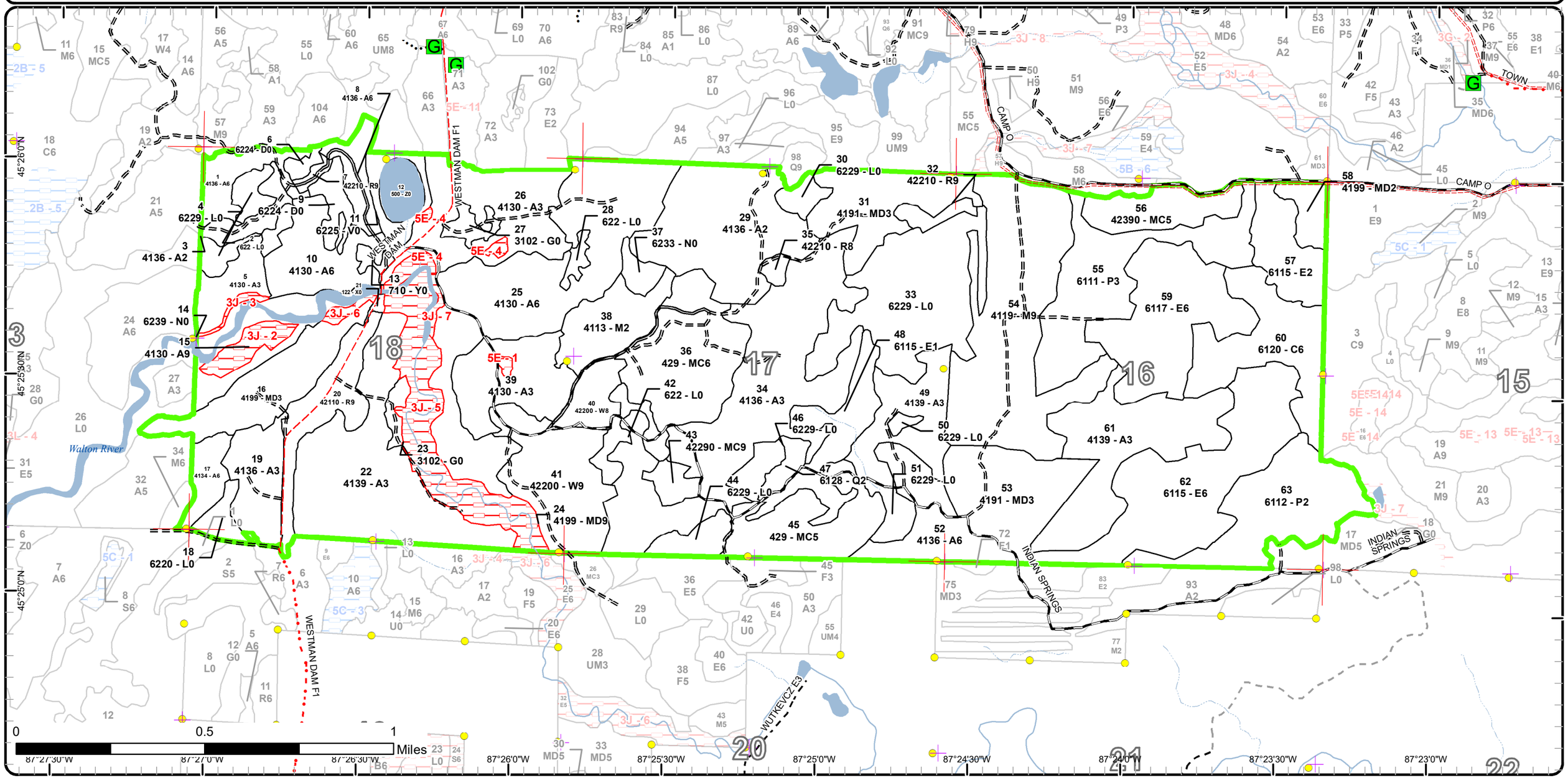
- Designated ORV Route
- Gate
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Compartment Boundary
- Unavailable
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes



Report 1 – Total Acres by Cover Type and Age Class

Escanaba Mgt. Unit **Compartment 54** **Year of Entry 2022**

Dustin Salter : 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	215	164	178	97	118	0	0	10	0	0	0	0	0	0	0	0	0	**781**
Bog	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	**50**
Herbaceous Openland	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
Lowland Aspen/Balsam Poplar	0	59	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**124**
Lowland Conifers	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
Lowland Deciduous	0	46	0	0	0	66	0	0	0	0	85	0	0	0	0	0	0	0	**197**
Lowland Shrub	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**159**
Marsh	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**34**
Mixed Upland Deciduous	0	42	51	0	48	0	0	0	0	50	0	0	0	0	0	0	0	0	**190**
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	**7**
Northern Hardwood	0	28	0	0	0	0	0	0	0	114	0	0	0	0	0	0	0	0	**142**
Red Pine	0	0	0	0	29	0	0	0	2	0	9	0	0	0	0	0	0	0	**40**
Sand, Soil	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Treed Bog	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**12**
Upland Conifers	0	0	0	0	0	0	0	0	0	25	58	0	0	0	0	0	0	41	**124**
Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Water	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
White Pine	0	0	0	0	0	0	0	0	52	0	15	0	0	0	0	0	0	0	**66**
Total	**239**	**396**	**280**	**178**	**174**	**184**	**0**	**0**	**64**	**189**	**174**	**0**	**50**	**0**	**0**	**0**	**0**	**41**	**1966**

Report 2 – Treatment Summary

Escanaba Mgt. Unit

Year of Entry: 2022

Acres of Harvest

Compartment 54

Total Compartment Acres: 1,970

Commercial Harvest - 400

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		69	0	0	0	0	0	0	0	0	**69**
Lowland Deciduous		151	0	0	0	0	0	0	0	0	**151**
Natural Mixed Pines		0	0	0	0	0	0	7	0	0	**7**
Northern Hardwood		64	0	0	0	0	0	0	0	0	**64**
Red Pine		0	0	0	9	0	2	0	0	0	**11**
Upland Conifers		25	0	0	58	0	0	0	0	0	**83**
White Pine		0	0	0	0	0	0	15	0	0	**15**
	Total	**309**	**0**	**0**	**67**	**0**	**2**	**22**	**0**	**0**	**400**

Proposed and Next Step Treatments by Method

		Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current		400	0	0	0	0	0	0	0	0	**400**
Next Step		0	0	0	0	0	0	376	0	0	**376**
	Total	**400**	**0**	**0**	**0**	**0**	**0**	**376**	**0**	**0**	**776**

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

Proposed Treatments:

7	**33054007-Cut**	2.4	42210 - Natural Red Pine	Sawtimber Well	72	111-140	Harvest	Crown Thinning	42210 - Natural Red Pine	Even-Aged	No

Prescription Specs: Mark red pine down to 90 basal area. Cut all other species greater than three (3) inches at DBH.

Next Step Treatments:

Acceptable Regen: No regeneration is expected.

Other Comment: Good quality red pine stand, that is in need of a thinning to improve the growth of the remaining stems. This will be the stands first thinning, no regeneration is expected.

Site Condition

Proposed Start Date: 10/1 /2021

25	**33054025-Cut**	69.0	4130 - Aspen	Poletimber Well	42	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH. Retain 3% retention. Some of the retention will be in the 100' buffer along the Walton River.

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

Acceptable Regen: Aspen, maple, pine and spruce/fir.

Other Comment: Moderate to low quality aspen stand. The southern two-thirds of the stand is slightly better quality. To break up the age classes of this large stand, the southern two thirds of the stand will be harvested this entry and the remaining portion will be harvested next entry. With the aspen being lower quality, it needs to be harvested early to maximize sprouting.

Site Condition

Proposed Start Date: 10/1 /2021

32	**33054032-Cut**	5.5	42210 - Natural Red Pine	Sawtimber Well	95	141-170	Harvest	Seed Tree with Retention	42210 - Natural Red Pine	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH; except mark to retain some red pine seed trees around the perimeter of the stand.

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

Acceptable Regen: Red and white pine, spruce/fir and maple.

Other Comment: This stand was last thinned in 2003 on contract 041-02-01. Good quality natural red pine stand. The red pine is mature and should be final harvested, to begin to regenerate the stand. There is a dense understory of white pine regeneration, that will be released after the overstory is harvested. Before white pine over takes the stand, the overstory needs to be cut to allow red pine to seed in with full sunlight. This stand will have a mix of red and white pine over time.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
35	33054035-Cut	3.0	42210 - Natural Red Pine	Sawtimber Medium	95	111-140	Harvest	Seed Tree with Retention	42211 - Natural Red Pine, Mixed Deciduous	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH; except retain some red pine seed trees around the perimeter of the stand.

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

Acceptable Regen: Red and white pine, aspen and red maple.

Other Comment: Stand was cut in 1995. All of the pine was retained. This is a two-aged stand mature red pine over a fully stocked understory of aspen and red maple. The red pine is mature and should be harvested. By removing the overstory, the aspen and red maple will be released, before it becomes stunted. Also, by opening up the stand it will allow some pine to seed in, once sunlight is able to reach the ground.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
36	33054036-Cut	58.2	429 - Mixed Upland Conifers	Poletimber Well	90	81-110	Harvest	Seed Tree with Retention	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH; except mark to retain some pine seed trees. Also, leave some retention patches centered around the lowland pockets.

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

Acceptable Regen: White and red pine, aspen, red maple, birch and spruce/fir.

Other Comment: Mature pine stand with younger aspen and red maple mixed in. This stand was cut in 1982 on permit 26-82A. All of the short lived species were cut and the pine was retained. The pine is now mature and is more than 50% of the stand. The aspen and red maple are nearing maturity. So, the entire stand should be harvested. This stand will regenerate with a mix of pine, aspen and red maple. This stand contains some lowland pockets within it.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
40	33054040-Cut	14.5	42200 - Natural White Pine	Sawtimber Medium	90	1-50	Harvest	Overstory Removal	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	No

Prescription Specs: Cut all trees greater than five (5) inches; except mark to retain some pine seed trees.

Next Step Treatments:

Acceptable Regen: Pine, red maple, aspen and spruce/fir.

Other Comment: Stand was shelterwood cut in 2004 on contract 050-02-01. There was 40 to 50 basal area retained of primarily pine and red maple. This stand was shelterwood harvested to begin to get regeneration. The stand has a dense understory of mixed regeneration, with a partial overstory of mature pine and red maple. This regeneration now needs to be released, before it becomes stunted.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
43	33054043-Cut	7.3	42290 - Natural Mixed Pine	Sawtimber Well	90	51-80	Harvest	Overstory Removal	4319 - Mixed Upland Forest	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches; except retain some pine seed trees around the perimeter of the stand.

Next Step Treatments:

Acceptable Regen: Pine, aspen, maple, and spruce/fir.

Other Comment: Two aged stand, with mature pine and spruce over younger aspen and maple regeneration. The pine and spruce is mature and should be harvested to release the advanced regeneration. About 60% of the stand is upland and the other 40% is lowland pockets.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
54	33054054-Cut	64.3	4119 - Mixed Northern Hardwoods	Sawtimber Well	86	81-110	Harvest	Clearcut with Retention	4113 - R.Maple, Conifer	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH; except retain all hemlock and cedar. Mark to retain some pine seed trees. Also, leave a couple of retention patches. The retention patches should be centered on the dense patches of hemlock, where all species will be retained.

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

Acceptable Regen: Maple, beech, ash, birch, pine and spruce/fir.

Other Comment: Good quality red maple that was thinned between 2002 and 2005 on contract 051-02-01. The maple and ash are mature and should be harvested, while they are vigorous enough to stump sprout. The red maple is not good enough quality to thin the stand again, there is a significant amount of top die back on the red maple. Portions of the stand have advanced regeneration that also needs to be released before it becomes stunted. Only a portion of the stand, will be harvested this entry to break up the age classes.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
56	33054056-Cut	24.9	42390 - Mixed Non-Pine Upland Conifers	Poletimber Medium	86	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No

Prescription Specs: Cut all trees greater that three (3) inches at DBH; except retain all hemlock and cedar.

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

Acceptable Regen: Aspen, maple, pine, spruce/fir and balm.

Other Comment: Stand was cut in 1983. It looks like only the aspen, balm and red maple were harvested. The majority of the stand has older mature spruce/fir throughout it, with some older patches of hemlock and cedar mixed in as well. The majority of the hemlock and cedar are in dense patches. The spruce budworm is defoliating the spruce/fir, it should be harvested before any mortality occurs.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
59	33054059-Cut	65.8	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	47	51-80	Harvest	Clearcut with Retention	6119 - Mixed Lowland Deciduous Forest	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH; except retain all cedar.

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

Acceptable Regen: Balm, aspen, ash, red maple and spruce/fir.

Other Comment: Low quality balm and ash stand with a dense understory of holly. The stand is a mix of balm and ash. The slightly upland areas have balm and the lower areas are primarily ash. There are also some scattered patches of spruce/fir within the stand. All of the species are mature and should be harvested now to maximize sprouting and prior to the arrival of the emerald ash borer. There are some dense patches of lowland brush within the stand as well.

Site Condition

Proposed Start Date: 10/1 /2021

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
62	33054062-Cut	85.4	6115 - Lowland Ash	Poletimber Well	94	81-110	Harvest	Clearcut with Retention	611 - Lowland Deciduous Forest	Even-Aged	No

Prescription Specs: Cut all trees greater than three (3) inches at DBH; except retain all cedar. Also, retain spruce less than seven (7) inches at DBH.

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

Acceptable Regen: Ash, balm, maple, aspen and spruce/fir.

Other Comment: Lowland ash stand. The western half of the stand is drier ground and is a mix of green ash and and red maple. The eastern half is lower ground and is primarily black ash. All species are mature and should be harvested to maximize sprouting and prior to the arrival of the emerald ash borer. The adjacent ash stand-stand 63 was harvested in 2014 and the ash has regenerated very well.

Site Condition

Proposed Start Date: 10/1 /2021

Total Treatment Acreage Proposed: **400.3**

Report 4 – Site Conditions

Escanaba Mgt. Unit

Dustin Salter : Examiner

Compartment: 54

Year of Entry: 2022

Availability for Management

Total Acres	Acres Available	*Acres Avail With Condition*	Acres Not Available		Dominant Site Conditions 3J	5E
782	762	*0*	21	**Aspen**	14	7
10	10	*0*	0	**Bog**		
50	50	*0*	0	**Cedar**		
10	10	*0*	0	**Herbaceous Openland**		
124	124	*0*	0	**Lowland Aspen/Balsam Poplar**		
6	6	*0*	0	**Lowland Conifers**		
198	198	*0*	0	**Lowland Deciduous**		
159	159	*0*	0	**Lowland Shrub**		
34	34	*0*	0	**Marsh**		
191	138	*0*	53	**Mixed Upland Deciduous**	53	
7	7	*0*	0	**Natural Mixed Pines**		
142	142	*0*	0	**Northern Hardwood**		
40	40	*0*	0	**Red Pine**		
3	3	*0*	0	**Sand, Soil**		
12	12	*0*	0	**Treed Bog**		
124	124	*0*	0	**Upland Conifers**		
1	1	*0*	0	**Urban**		
10	10	*0*	0	**Water**		
66	66	*0*	0	**White Pine**		
1,970	1,897		73	Total Forested Acres	66	7
	96%		4%	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**	**5E: Long-Term Retention**	1	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

Retention from when the stand was harvested.

2	**Unavailable**	**3J: Water quality / BMPs (stream, river, or lake)**	10	Unspecified	Unspecified	Unspecified	Unspecified

Comments:
Fisheries division is worried about aspen cutting within 300' of the Walton River, to prevent beaver activity.

3	**Unavailable**	**3J: Water quality / BMPs (stream, river, or lake)**	2	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified

Comments:
Buffer left along the Walton River.

4	**Unavailable**	**5E: Long-Term Retention**	6	Unspecified	Unspecified	Unspecified	Unspecified

Comments:
Three retention patches.

5	**Unavailable**	**3J: Water quality / BMPs (stream, river, or lake)**	50	Unspecified	Unspecified	Unspecified	Unspecified

Comments:
Buffer along the Walton River.

6	**Unavailable**	**3J: Water quality / BMPs (stream, river, or lake)**	3	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified

Comments:
This area was retained to provide a buffer along the Walton River and to provide long term retention.

7	**Unavailable**	**3J: Water quality / BMPs (stream, river, or lake)**	2	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified

Comments:
Buffer area along the Walton River and part of the long term retention of the stand.

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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres

Comments

Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

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

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
1	4136 - Aspen, Mixed Conifer	Poletimber Well	16.9	30	1-50	N/A	Thick aspen stand with more conifer on the southern edge.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	40	Pole/Sapling	5	30
Balsam Fir	5	Sapling/Pole	4	30
White Spruce	10	Sapling/Pole	4	30
White Pine	5	Sapling/Pole	4	30
Bigtooth Aspen	30	Pole/Sapling	5	30
Red Maple	10	Sapling/Pole	3	30

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	< 5 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
2	622 - Lowland Shrub	Nonstocked	6.7		Unspecified	No	Lowland brush stand with some trees/seedlings around the edge.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
3	4136 - Aspen, Mixed Conifer	Sapling Medium	10.0	5	1-50	N/A	This stand was clearcut in 2014 on contract 023-14-01. This stand is being managed for a mix of primarily aspen, red maple, balsam, and white pine. Upland sand ridge with some lowland on the northern end of the stand. There are residual white pine, spruce/fir and red maple poles.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	40	Sapling	1	5
White Pine	15	Sapling/Pole	4	40
Red Maple	10	Sapling/Pole	1	5
White Spruce	10	Sapling/Pole	3	40
Bigtooth Aspen	20	Sapling	1	5
Balsam Fir	5	Sapling/Pole	3	40

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
4	6229 - Mixed lowland shrub	Nonstocked	8.9		Unspecified	No	Lowland brush stand with some merchantable ash.

Sub-Canopy Species	Density	Avg. Height	Size
Black Ash	Low	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
5	4130 - Aspen	Sapling Well	17.6	5	Immature	N/A	This stand was clearcut in 2014 on contract 023-14-01. This stand is being managed for a mix of primarily aspen and balm. A 100' buffer was left along the Walton River, the majority of which was forested. The majority of the elm that were retained is already dead from the Dutch Elm Disease. This stand has fully regenerated with aspen, ash and balm. There are ash stump sprouts and seed origin saplings.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	60	Sapling	1	5
Green Ash	25	Sapling	1	5
Balsam Poplar	10	Sapling	1	5
Red Maple	5	Sapling	1	5

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Willow spp.	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
6	6224 - Treed Bog	Nonstocked	3.1		Unspecified	No	Treed bog, with some merchantable stems within the stand.

Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	Medium	>20 feet	Sapling
Tamarack	Medium	>20 feet	Sapling
White Pine	Low	>20 feet	Sapling
Red Pine	Low	>20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
7	42210 - Natural Red Pine	Sawtimber Well	2.4	72	111-140	N/A	Good quality red pine stand, that is in need of a thinning to improve the growth of the remaining stems. This will be the stands first thinning, no regeneration is expected.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	87	Log/Pole	10	72
Bigtooth Aspen	5	Pole/Log/Sap	5	72
Paper Birch	5	Pole/Sapling	7	72
Balsam Fir	3	Pole/Sapling	6	72

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
8	4136 - Aspen, Mixed Conifer	Poletimber Well	13.4	29	1-50	N/A	Moderate quality aspen stand with some older red pine mixed in. The stand was cut on contract 56-88-01.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	Pole/Sapling	5	29
Balsam Fir	5	Sapling/Pole	4	29
Red Pine	15	Pole/Log/Sap	9	72
Bigtooth Aspen	35	Pole/Sapling	5	29
Red Maple	10	Sapling/Pole	3	29

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
9	6224 - Treed Bog	Nonstocked	9.1		Unspecified	No	Treed Bog.

Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	Medium	>20 feet	Sapling
Tamarack	Medium	>20 feet	Sapling
White Pine	Low	>20 feet	Sapling
Red Pine	Low	>20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
10	4130 - Aspen	Poletimber Well	33.2	37	51-80	N/A	Good quality aspen stand with some pockets of lowland brush within it.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	55	Pole/Sapling	7	37
Balsam Poplar	10	Pole/Sapling	7	37
Green Ash	5	Pole/Sapling	5	37
Bigtooth Aspen	30	Pole/Sapling	7	37

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
11	6225 - Bog	Nonstocked	10.2		Unspecified	No	Bog surrounding Westman Lake.
12	500 - Water	Nonstocked	10.3		Unspecified	No	Westman Lake
13	710 - Sand, Soil	Nonstocked	2.7	0	Unspecified	No	Old sand and gravel pit.
14	6239 - Mixed Emergent Wetland	Nonstocked	28.0		Unspecified	No	Lowland marsh grass with some clumps of lowland brush. The Walton River flows through this stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
15	4130 - Aspen	Sawtimber Well	9.8	72	51-80	N/A	Overmature aspen stand, that should be harvested while the trees have enough vigor to sprout, but the majority of the stand is within 300' of the Walton River. So, the stand will be retained to prevent beaver issues.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Pole	10	72
Paper Birch	5	Pole	10	72
Quaking Aspen	70	Pole	10	72
Balsam Poplar	5	Pole	10	72
Green Ash	10	Pole	10	72
Black Cherry	5	Pole	10	72

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	< 5 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
16	4199 - Other Mixed Upland Deciduous	Sapling Well	42.3	5	Immature	N/A	Stand was clearcut in 2014-15 on contract 024-12-01. All species were cut; except white pine, beech, and elm. Stand has fully regenerated with a mix of aspen, maple, and ash. The ash stump sprouted very well. There was a buffer retained along the Walton River on the north end of the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Beech	2	Sapling/Pole	3	55
Red Maple	13	Sapling	1	5
Quaking Aspen	35	Sapling	1	5
Balsam Poplar	15	Sapling	1	5
Green Ash	20	Sapling	1	5
White Spruce	2	Sapling/Pole	3	
White Pine	3	Pole/Log	8	55
Black Cherry	10	Sapling	1	5

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
17	4134 - Aspen, Spruce/Fir	Poletimber Well	12.1	31	51-80	N/A	Stand was clearcut on contract 046-88-01. Fully stocked aspen and balsam fir stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Sapling/Pole	4	31
Quaking Aspen	65	Pole/Sapling	5	31
Balsam Fir	25	Sapling/Pole	4	31
Green Ash	5	Sapling/Pole	4	31

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
18	6220 - Alder/willow	Nonstocked	7.3		Unspecified	No	Lowland brush and treed bog.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
19	4136 - Aspen, Mixed Conifer	Sapling Well	25.8	15	Immature	N/A	Stand was clearcut in 2004 on contract 005-02-01. Good quality aspen stand with an open area on the north end of the stand, which is filling in with conifers.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	3	15
Quaking Aspen	70	Sapling	3	15
Balsam Fir	10	Sapling/Pole	2	
White Spruce	5	Sapling/Pole	2	
White Pine	5	Sapling/Pole	2	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
20	42110 - Planted Red Pine	Sawtimber Well	29.2	38	111-140	N/A	Red pine plantation that was planted in 1982. Stand had its first thinning in 2014-15 on contract 024-12-01. There were two rows cut and the other two rows were thinned, removing the low quality trees.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	95	Log/Pole	10	38
White Pine	5	Log/Pole	14	98

Sub-Canopy Species	Density	Avg. Height	Size
Bigtooth Aspen	Low	10 - 20 feet	Sapling
White Pine	Low	< 5 feet	Sapling
Red Maple	Low	< 5 feet	Sapling
White Spruce	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
21	122 - Road/Parking Lot	Nonstocked	1.0		Unspecified	No	Parking area along Wetman Dam Road, to provide access to the Walton River.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
22	4139 - Aspen, Mixed Deciduous	Sapling Well	88.8	7	Immature	N/A	Stand was clearcut in 2013 on contract 024-12-01. All species were cut; except white pine, beech, and elm. Fully stocked stand with a mix of aspen, red maple and ash. There are some small pockets of upland brush mixed in as well. There were some larger red maple saplings left after the harvest.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	25	Sapling	1	7
Quaking Aspen	15	Sapling	1	7
Green Ash	5	Sapling	1	7
Black Cherry	5	Sapling	1	7
Bigtooth Aspen	40	Sapling	2	7
White Pine	5	Sapling/Pole	4	
Balsam Poplar	5	Sapling	1	7

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
Tag Alder	Medium	5 - 10 feet	Tall Shrub
White Spruce	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
23	3102 - Grass	Nonstocked	4.5		Unspecified	No	Grass opening, with some white pine seedlings around the perimeter.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
24	4199 - Other Mixed Upland Deciduous	Sawtimber Well	50.2	83	81-110	N/A	The Walton River flows through this stand, which provides a buffer along the river. This stand is a mix of upland and lowland along the river. Some areas have steep banks down to the river.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Log/Pole/Sap	10	83
Basswood	5	Log/Pole	10	83
Paper Birch	10	Log/Pole	10	83
Quaking Aspen	20	Log/Pole	10	83
Balsam Fir	15	Pole/Sap/Log	8	83
Black Ash	10	Pole/Sapling	7	83
Green Ash	20	Log/Pole/Sap	10	83

Sub-Canopy Species	Density	Avg. Height	Size
White Spruce	Low	5 - 10 feet	Sapling
White Pine	Low	10 - 20 feet	Pole
Ironwood	Low	>20 feet	Pole
Tag Alder	Medium	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
25	4130 - Aspen	Poletimber Well	118.1	42	51-80	N/A	Moderate to low quality aspen stand. The southern two-thirds of the stand is slightly better quality. To break up the age classes of this large stand, the southern two thirds of the stand will be harvested this entry and the remaining portion will be harvested next entry. With the aspen being lower quality, it needs to be harvested early to maximize sprouting.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	Pole	7	42
Bigtooth Aspen	50	Pole	8	42
White Pine	5	Pole/Log/Sap	9	74
Red Maple	8	Pole/Sapling	6	42
Paper Birch	2	Pole/Sapling	5	42

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
26	4130 - Aspen	Sapling Well	59.3	8	Immature	N/A	This stand was clearcut between 2012 and 2013 on contract 023-12-01. Three retention patches were retained. One was along Westman Lake, one along the east edge and one along the Walton River. This stand has fully regenerated with aspen and red maple. Some of the red maple are older saplings that were retained from harvest.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Sapling/Pole	2	8
Quaking Aspen	20	Sapling	2	8
Bigtooth Aspen	50	Sapling	2	8
Ironwood	5	Sapling	3	35
Green Ash	5	Sapling	3	35

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	5 - 10 feet	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
27	3102 - Grass	Nonstocked	5.7		Unspecified	No	Grassy opening with some mature red maple and sapling aspen.

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	>20 feet	Log
Quaking Aspen	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
28	622 - Lowland Shrub	Nonstocked	3.4	0	Unspecified	No	Lowland brush stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
29	4136 - Aspen, Mixed Conifer	Sapling Medium	72.4	15	Immature	N/A	Stand was clearcut between 2002 and 2006 on contract 041-02-01. The ash and spruce less than 10" and the pine were retained. There were some older sapling red maple retained from the harvest. There are numerous lowland pockets of tag alder and holly.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	30	Sapling/Pole	2	15
Bigtooth Aspen	45	Sapling	2	15
Balsam Fir	3	Sapling/Pole	3	25
White Pine	15	Pole/Sap/Log	7	74
Black Ash	5	Pole/Sapling	7	74
Red Pine	2	Log/Pole/Sap	13	74

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Michigan Holly	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
30	6229 - Mixed lowland shrub	Nonstocked	6.1	0	Unspecified	No	Lowland brush stand with some tamarack, ash and maple poles.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
31	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	40.3	10	1-50	N/A	This stand was shelterwood cut between 2010 and 2012 on contract 022-10-01. This stand had a partial overstory of red maple, ash and pine, but the majority of the residual stems have died or blown over, leaving very little overstory. The stand overall has regenerated very well and is fully stocked with maple, white pine, aspen and ash.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	45	Sapling/Pole	2	10
Balsam Fir	3	Sapling	3	
White Pine	20	Sapling/Pole/Log	1	10
Green Ash	15	Sapling/Pole/Log	1	10
Northern White Cedar	2	Pole	8	90

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Pole
White Spruce	Low	10 - 20 feet	Pole
White Pine	Medium	10 - 20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
32	42210 - Natural Red Pine	Sawtimber Well	5.5	95	141-170	N/A	This stand was last thinned in 2003 on contract 041-02-01. Good quality natural red pine stand. The red pine is mature and should be final harvested, to begin to regenerate the stand. There is a dense understory of white pine regeneration, that will be released after the overstory is harvested. Before white pine over takes the stand, the overstory needs to be cut to allow red pine to seed in with full sunlight. This stand will have a mix of red and white pine over time.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	2	Log/Pole	15	95
Red Pine	98	Log/Pole/Sap	14	95

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	High	10 - 20 feet	Sapling
White Spruce	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
33	6229 - Mixed lowland shrub	Nonstocked	77.9		Unspecified	No	Lowland brush stand, with scattered clumps of black ash.

Sub-Canopy Species	Density	Avg. Height	Size
Black Ash	Low	>20 feet	Pole

34 4136 - Aspen, Mixed Conifer — Sapling Well — 131.0 acres — Stand Age 24 — BA Range 1-50 — Managed Site: N/A

This stand was cut between 1992 and 1999 on a couple of different contracts. The stand has regenerated well with aspen, but there are numerous lowland pockets of tag alder and holly throughout the stand. There are some open areas that are filling in with conifers.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Sapling/Pole	4	24
Paper Birch	5	Sapling	3	24
Quaking Aspen	60	Sapling/Pole	4	24
Balsam Fir	3	Sapling	3	24
White Spruce	10	Sapling/Pole	3	24
Red Pine	2	Log/Pole	12	83
White Pine	5	Log/Pole/Sap	10	83

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	Variable	Tall Shrub
Michigan Holly	Medium	5 - 10 feet	Tall Shrub

35 42210 - Natural Red Pine — Sawtimber Medium — 3.0 acres — Stand Age 95 — BA Range 111-140 — Managed Site: N/A

Stand was cut in 1995. All of the pine was retained. This is a two-aged stand mature red pine over a fully stocked understory of aspen and red maple. The red pine is mature and should be harvested. By removing the overstory, the aspen and red maple will be released, before it becomes stunted. Also, by opening up the stand it will allow some pine to seed in, once sunlight is able to reach the ground.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	90	Log/Pole	16	95
Bigtooth Aspen	5	Pole	8	25
White Pine	5	Log/Pole/Sap	15	95

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Full	>20 feet	Sapling
Bigtooth Aspen	Medium	>20 feet	Sapling

36 429 - Mixed Upland Conifers — Poletimber Well — 58.2 acres — Stand Age 90 — BA Range 81-110 — Managed Site: N/A

Mature pine stand with younger aspen and red maple mixed in. This stand was cut in 1982 on permit 26-82A. All of the short lived species were cut and the pine was retained. The pine is now mature and is more than 50% of the stand. The aspen and red maple are nearing maturity. So, the entire stand should be harvested. This stand will regenerate with a mix of pine, aspen and red maple. This stand contains some lowland pockets within it.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	13	Sapling/Pole	4	38
Paper Birch	2	Pole/Sapling	6	38
Bigtooth Aspen	25	Pole/Sapling	6	38
White Pine	45	Log/Pole/Sap	15	90
Black Spruce	5	Pole/Sapling	7	90
Red Pine	10	Log/Pole/Sap	12	90

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Michigan Holly	Low	5 - 10 feet	Tall Shrub

37 6233 - Wet Meadow — Nonstocked — 5.9 acres — Stand Age 0 — BA Range Unspecified — Managed Site: 612 - Lowland Coniferous Forest

Stand was clearcut in 2013 on contract 022-12-01. The stand is regenerating with spruce and white pine. Over time more will continue to seed in.

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	< 5 feet	Sapling
Black Spruce	Low	< 5 feet	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
38	4113 - R.Maple, Conifer	Sapling Medium	27.7	7	Immature	N/A	Stand was clearcut in 2013 on contract 022-12-01. All of the brush was picked up and ground up, to facilitate planting operations. The stand was herbicided in 2015, to eliminate competition and than trenched in 2016. The stand was planted with red pine in 2017. The planting and herbiciding failed. The stand has regenerated well with a mix of red maple and white pine primarily. The management objective should be changed to mixed deciduous and pine. There is only a small percentage of the planted red pine that are still growing.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	65	Sapling	1	7
White Pine	10	Sapling	1	7
Red Pine	5	Sapling	1	7
Black Cherry	5	Sapling	1	7
Black Spruce	5	Sapling	1	7
Quaking Aspen	10	Sapling	1	7

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
39	4130 - Aspen	Sapling Well	39.4	8	Immature	N/A	Stand was clearcut in 2012 on contract 022-12-01. Some pine was marked to retain, along with a retention patch. The stand has fully regenerated, with primarily a mix of aspen and red maple. There was quite a bit of sapling red maple retained from the harvest.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Sapling	2	8
Quaking Aspen	20	Sapling	2	8
White Pine	10	Log/Pole/Sap	10	74
Bigtooth Aspen	50	Sapling	2	8

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	Tall Shrub
Black Cherry	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
40	42200 - Natural White Pine	Sawtimber Medium	14.5	90	1-50	N/A	Stand was shelterwood cut in 2004 on contract 050-02-01. There was 40 to 50 basal area retained of primarily pine and red maple. This stand was shelterwood harvested to begin to get regeneration. The stand has a dense understory of mixed regeneration, with a partial overstory of mature pine and red maple . This regeneration now needs to be released, before it becomes stunted.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Pole/Log	9	90
White Pine	80	Log/Pole/Sap	15	90
Red Pine	15	Log/Pole/Sap	13	90

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	>20 feet	Sapling
Quaking Aspen	Medium	>20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
41	42200 - Natural White Pine	Sawtimber Well	51.5	74	81-110	N/A	Good quality white pine stand with younger aspen and red maple poles and saplings. Thin this stand next entry, when the aspen and red maple are mature.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Sapling/Pole	4	40
Quaking Aspen	10	Pole/Sapling	7	40
White Pine	83	Log/Pole	12	74
Paper Birch	2	Pole/Sapling	6	40

Sub-Canopy Species	Density	Avg. Height	Size
Beech	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
42	622 - Lowland Shrub	Nonstocked	11.5	0	Unspecified	No	Lowland brush stand, with some scattered ash.

Sub-Canopy Species	Density	Avg. Height	Size
Black Ash	Low	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
43	42290 - Natural Mixed Pine	Sawtimber Well	7.3	90	51-80	N/A	Two aged stand, with mature pine and spruce over younger aspen and maple regeneration. The pine and spruce is mature and should be harvested to release the advanced regeneration. About 60% of the stand is upland and the other 40% is lowland pockets.

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	20	Pole/Sapling	7	90
White Pine	35	Log/Pole	14	90
Red Pine	45	Log/Pole	15	90

Sub-Canopy Species	Density	Avg. Height	Size
Michigan Holly	Low	5 - 10 feet	Tall Shrub
Bigtooth Aspen	Low	>20 feet	Sapling
Red Maple	Medium	10 - 20 feet	Sapling
White Pine	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling
Red Pine	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
44	6229 - Mixed lowland shrub	Nonstocked	10.3	0	Unspecified	613 - Lowland Mixed Forest	The western half of the stand was clearcut in 2018 on contract 033-17-01. The east half of the stand was clearcut on contract 022-12-01. Some conifer seed trees were retained. The west half of the stand was turned back in uncompleted, so it was re-advertised. There is some ash and red maple stump sprouts, but the deer have heavily browsed them. The stand is filling in with red maple, spruce, ash and balsam fir, but over time tamarack will also seed in.

Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	Low	>20 feet	Sapling
Red Maple	Medium	< 5 feet	Sapling
Balsam Fir	Low	< 5 feet	Sapling
Northern White Cedar	Low	>20 feet	Pole
Black Ash	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
45	429 - Mixed Upland Conifers	Poletimber Medium	40.7	24	51-80	N/A	Uneven aged stand, the ages vary from 15 up to 76. The stand is a mix of upland and lowland. The upland areas have a wider age difference and the lowland is mostly 24 years old.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling/Pole	3	24
Red Pine	5	Pole/Sap/Log	8	76
Quaking Aspen	15	Sapling/Pole	3	24
Balsam Fir	10	Sapling/Pole	3	24
White Spruce	20	Sapling/Pole	3	24
Tamarack	25	Sapling/Pole	3	24
White Pine	15	Pole/Sap/Log	6	76

Sub-Canopy Species	Density	Avg. Height	Size
Michigan Holly	Medium	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
46	6229 - Mixed lowland shrub	Nonstocked	16.8		Unspecified	No	Lowland brush stand with scattered black ash and red maple.

Sub-Canopy Species	Density	Avg. Height	Size
Black Ash	Low	>20 feet	Pole
Red Maple	Low	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
47	6128 - Lowland Coniferous, Mixed Deciduous	Sapling Medium	6.3	6	Immature	N/A	Stand was clearcut in 2014 on contract 022-12-01. There were some seed trees clumps, but most of them have blown over. The stand is regenerating well with spruce and tamarack already.

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	35	Sapling	1	6
Tamarack	35	Sapling	1	6
Red Maple	20	Sapling	1	6

Sub-Canopy Species	Density	Avg. Height	Size
Michigan Holly	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
48	6115 - Lowland Ash	Sapling Poor	20.4	5	Immature	N/A	Stand was cut in 2015 on contract 022-12-01. Some ash, maple, spruce and cedar were retained, but the majority have blown over or died. The ash and maple have stump sprouted well, with some seedling ash and maple also present. Over time this stand will continue to fill in. This stand has dense lowland brush, which will inhibit tree growth.

Canopy Species	% Cover	Size Class	DBH	Age
Green Ash	75	Sapling	1	5
Red Maple	20	Sapling	1	5
Balsam Fir	5	Sapling	1	5

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	High	5 - 10 feet	Tall Shrub
Michigan Holly	Medium	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
49	4139 - Aspen, Mixed Deciduous	Sapling Well	33.6	24	1-50	N/A	This stand was cut in 1996. Fully stocked stand with a mix of aspen, maple and spruce/fir.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	30	Sapling/Pole	4	24
Quaking Aspen	55	Sapling/Pole	4	24
Balsam Fir	5	Sapling/Pole	3	24
White Spruce	10	Sapling/Pole	4	24

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	Variable	Tall Shrub
Willow spp.	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
50	6229 - Mixed lowland shrub	Nonstocked	1.9	0	Unspecified	No	Lowland brush stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
51	6229 - Mixed lowland shrub	Nonstocked	7.9	0	Unspecified	No	Lowland brush stand with some scattered red maple and tamarack.

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	>20 feet	Pole
Tamarack	Low	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
52	4136 - Aspen, Mixed Conifer	Poletimber Well	34.5	38	51-80	N/A	Two aged stand, with a mix of younger red maple and aspen and older pine and spruce/fir. This stand should be harvested next entry.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	25	Pole/Sapling	6	38
Quaking Aspen	38	Pole	7	38
Balsam Fir	5	Pole/Sapling	7	76
White Pine	10	Pole/Sapling	5	76
Balsam Poplar	2	Pole/Sapling	5	38
Green Ash	3	Pole/Sapling	6	38
Black Cherry	2	Pole/Sapling	5	38
White Spruce	5	Pole/Sap/Log	8	76
Bigtooth Aspen	10	Pole	8	38

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
53	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	47.5	31	1-50	N/A	This stand was strip cut in 1989 and then the remaining strips were cut in 2003. This stand is very variable, about half of it is dry ground and the other half is lower wet ground. The strips cut in 1989 regenerated well, except the lower areas. The strips cut in 2003, regenerated well with stump sprouts, but the deer heavily browsed and killed most of the hardwood and aspen sprouts. There are three deer ex-closures within the stand. The majority of the stand has now regenerated.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	33	Sapling/Pole	4	31
Paper Birch	5	Sapling/Pole	3	31
Quaking Aspen	15	Pole/Sapling	6	31
Balsam Poplar	5	Pole/Sapling	5	31
Balsam Fir	10	Sapling/Pole	3	31
Tamarack	5	Sapling/Pole	4	31
White Pine	5	Pole/Sapling	5	31
Green Ash	20	Sapling/Pole	3	31

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	Variable	Tall Shrub
Michigan Holly	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments

54 4119 - Mixed Northern Hardwoods — Sawtimber Well — 114.2 — 86 — 81-110 — N/A

Good quality red maple that was thinned between 2002 and 2005 on contract 051-02-01. The maple and ash are mature and should be harvested, while they are vigorous enough to stump sprout. The red maple is not good enough quality to thin the stand again, there is a significant amount of top die back on the red maple. Portions of the stand have advanced regeneration that also needs to be released before it becomes stunted. Only a portion of the stand, will be harvested this entry to break up the age classes.
There is an old forest service experimental forest research plot located in this stand. It is in the SW1/4 NW1/4 of section 16. Nothing has been done to this site since 1980.
Significant change 8/29/2018: Control phragmites where necessary. Next Step monitor herbicide use on phragmites.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	70	Log/Pole/Sap	13	86
Paper Birch	10	Log/Pole	10	86
White Spruce	3	Log/Pole/Sap	10	86
Northern White Cedar	2	Log/Pole	12	110
White Pine	5	Log/Pole/Sap	16	86
Hemlock	5	Log/Pole	14	110
Green Ash	5	Log/Pole/Sap	13	86

Sub-Canopy Species	Density	Avg. Height	Size
Beech	Low	10 - 20 feet	Sapling
Quaking Aspen	Low	10 - 20 feet	Sapling
Michigan Holly	Medium	5 - 10 feet	Tall Shrub
Tag Alder	Low	5 - 10 feet	Tall Shrub

55 6111 - Lowland Balsam Poplar — Sapling Well — 64.9 — 13 — 1-50 — N/A

Stand was cut in 2007 on contract 035-02-01. All species were removed; except the ash and maple between 9 and 12 inches were retained. Also, all cedar and pine were retained. This stand has regenerated well with balm, aspen, and green ash. Some conifers are seeding in the more open areas.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Sapling/Pole/Log	2	13
Quaking Aspen	15	Sapling	2	13
Balsam Poplar	60	Sapling	2	13
Balsam Fir	5	Sapling	2	25
Green Ash	15	Sapling/Pole/Log	3	13

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	High	5 - 10 feet	Tall Shrub
Michigan Holly	High	5 - 10 feet	Tall Shrub

56 42390 - Mixed Non-Pine Upland Conifers — Poletimber Medium — 24.9 — 86 — 51-80 — N/A

Stand was cut in 1983. It looks like only the aspen, balm and red maple were harvested. The majority of the stand has older mature spruce/fir throughout it, with some older patches of hemlock and cedar mixed in as well. The majority of the hemlock and cedar are in dense patches. The spruce budworm is defoliating the spruce/fir, it should be harvested before any mortality occurs.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Pole/Sapling	6	37
Balsam Poplar	3	Pole/Log/Sap	7	37
Balsam Fir	30	Pole/Log/Sap	9	86
White Spruce	25	Pole/Sap/Log	8	86
Northern White Cedar	10	Log/Pole	13	125
Hemlock	15	Log/XLog/Pole	15	125

Sub-Canopy Species	Density	Avg. Height	Size
Michigan Holly	Low	5 - 10 feet	Tall Shrub
Black Cherry	Low	10 - 20 feet	Sapling

57 6115 - Lowland Ash — Sapling Medium — 26.1 — 5 — Immature — N/A

Stand was clearcut in the winter of 2014-15 on contract 021-12-01. All species were cut; except cedar, some scattered hardwood, and spruce/fir less than 6 inches. The majority of the cedar is in the southern 1/3rd of the stand. The stand is regenerating with a mix of stump sprouted ash and red maple, with seed origin seedlings as well. Over time the stand will continue to fill in.

Canopy Species	% Cover	Size Class	DBH	Age
Green Ash	75	Sapling	1	5
Northern White Cedar	15	Log/Pole	10	110
White Spruce	5	Sapling/Pole	3	
Red Maple	5	Sapling	1	5

Sub-Canopy Species	Density	Avg. Height	Size
Michigan Holly	Low	5 - 10 feet	Tall Shrub
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
58	4199 - Other Mixed Upland Deciduous	Sapling Medium	10.5	16	Immature	N/A	Stand was clearcut in 2005 on contract 035-02-01. This stand contains primarily aspen and red maple sprouts with some balsam and spruce. Over time more balsam and spruce will fill in the open areas.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	35	Sapling	2	16
Quaking Aspen	25	Sapling	3	16
Balsam Poplar	10	Sapling	3	16
Balsam Fir	5	Sapling/Pole	4	
White Spruce	5	Sapling/Pole	4	
Green Ash	20	Sapling	2	16

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	Variable	Tall Shrub
Michigan Holly	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
59	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	65.8	47	51-80	N/A	Low quality balm and ash stand with a dense understory of holly. The stand is a mix of balm and ash. The slightly upland areas have balm and the lower areas are primarily ash. There are also some scattered patches of spruce/fir within the stand. All of the species are mature and should be harvested now to maximize sprouting and prior to the arrival of the emerald ash borer. There are some dense patches of lowland brush within the stand as well.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	5	Pole/Log	9	47
Balsam Poplar	30	Pole/Sapling	7	47
Balsam Fir	5	Pole/Sap/Log	8	47
White Spruce	10	Pole/Sap/Log	8	47
Northern White Cedar	5	Log/Pole	10	110
Black Ash	25	Pole/Sap/Log	8	94
Green Ash	15	Pole/Log/Sap	8	94

Sub-Canopy Species	Density	Avg. Height	Size
Michigan Holly	Full	5 - 10 feet	Tall Shrub
Tag Alder	Medium	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
60	6120 - Lowland Cedar	Poletimber Well	50.2	110	111-140	N/A	Good quality cedar stand, with some ash and birch mixed in.

Canopy Species	% Cover	Size Class	DBH	Age
Black Ash	10	Pole/Sapling	7	94
Paper Birch	3	Pole/Log	8	94
Balsam Poplar	2	Pole	9	65
Northern White Cedar	75	Pole/Log	9	110
Green Ash	10	Pole/Sap/Log	8	94

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	5 - 10 feet	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub
Michigan Holly	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
61	4139 - Aspen, Mixed Deciduous	Sapling Well	66.4	15	1-50	N/A	This stand was cut in 2004-05 on contract 029-02-01. The cedar less than 8" was cut, all aspen, balm, balsam fir and spruce was cut and the larger diameter ash, maple and birch were also cut. This stand is two aged - with mature cedar, ash and maple over a fully stocked understory of primarily of aspen, balm and ash regeneration.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Log/Pole/Sap	10	110
Northern White Cedar	10	Log/Pole	13	110
Green Ash	25	Sapling/Pole/Log	1	15
Balsam Poplar	20	Sapling	2	15
Quaking Aspen	40	Sapling	2	15

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
62	6115 - Lowland Ash	Poletimber Well	85.4	94	81-110	N/A	Lowland ash stand. The western half of the stand is drier ground and is a mix of green ash and and red maple. The eastern half is lower ground and is primarily black ash. All species are mature and should be harvested to maximize sprouting and prior to the arrival of the emerald ash borer. The adjacent ash stand-stand 63 was harvested in 2014 and the ash has regenerated very well.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	13	Log/Pole/Sap	10	94
Balsam Poplar	5	Pole/Log	9	65
Northern White Cedar	3	Log/Pole	14	110
Black Ash	45	Pole/Sap/Log	8	94
Green Ash	30	Log/Pole/Sap	10	94
White Spruce	2	Log/Pole/Sap	10	94
Balsam Fir	2	Pole/Sapling	7	94

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	Variable	Tall Shrub
Michigan Holly	Medium	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
63	6112 - Lowland Aspen	Sapling Medium	59.4	6	Immature	N/A	This stand was clearcut in 2014 on contract 021-12-01. Some ash and cedar were retained, but most have died or blown over. This stand is regenerating well with ash and balm primarily, with some aspen on the higher ground. There are also some patched of older red maple saplings/poles within the stand. The ash regeneration is a mix of stump sprouts and seed origin seedlings. Over time more regeneration will fill in, the more open areas. The deer heavily browsed and killed the majority of the maple and aspen sprouts following the harvest.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling/Pole	1	6
Balsam Poplar	35	Sapling	1	6
Quaking Aspen	5	Sapling	1	6
Green Ash	50	Sapling	1	6

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	High	Variable	Tall Shrub
Michigan Holly	Medium	5 - 10 feet	Tall Shrub