



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32244

Entry Year 2019

Acreage: 1,207

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2017-08-01

Stand Examiner: Jason Caron

Legal Description:

T45N - R29W, Section 19, 21, 28, 29 and 30.

Identified Planning Goals:

Perform timber harvests within older stands of pine, aspen, spruce and fir to promote a healthy, sustainable forest.

Soil and topography:

Ranging from relatively level wetlands to upland which is rolling to moderately hilly.

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

State ownership borders the major portion of the compartment boundary on the east and south. The remainder is bordered by private ownership, both corporate and private inholdings. Development is relatively limited with a scattering of seasonal cottages or hunting camps, with some concentration of cottages on the water bodies such as Casey & Porterfield Lakes, and along the Michigamme River. Timber harvest along with low key recreational activities such as hunting, mushroom & berry picking, ORV riding, snowmobiling, fishing and trapping make up the majority of the land use within this compartment.

Unique Natural Features:

The unique natural features within this compartment would include the numerous water bodies that exist.

Archeological, Historical, and Cultural Features:

One archaeological site is located within this compartment, 20MQ14. It is in stand 12. This stand is scheduled to be cut. However, the site has been previously determined to not be eligible for listing on the National Register of Historic Places, so it does not need to be avoided. There may be additional, unrecorded archaeological resources in the area however. If any are observed please report them to our office (SHPO).

Special Management Designations or Considerations:

No special management designations or considerations exist.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

Compartment 244 is found within the Chain Lakes Moraine Management Area; on a Disintegration Moraine in Southwestern Marquette County. The dominant Natural Communities are dry mesic northern forests, poor conifer swamps, and mesic northern forests. This management area offers opportunities to increase diversity and perhaps long-term oak sustainability through under planting white and red pine. Another priority is to maintain or increase wildlife corridors especially along riparian corridors. Wildlife management issues in the management area are: mast (hard and soft); habitat fragmentation; mature forest conditions; mesic conifer; coarse woody debris; and retention or development of large living and dead standing trees (for cavities). This management area represents approximately ¼ of the oak resource on WUP state forest.

The following have been identified as featured species for Chain Lakes Management Area: black bear, gray jay, pileated woodpecker, Northern goshawk, red crossbill.

Mineral Resource and Development Concerns and/or Restrictions

Sections 19, 21, & 28-30, T45N R29W, Marquette County

A gravel pit is located approximately one mile to the west, and there may be some sand and gravel potential within the compartment but bedrock appears to be at or near the surface in places. Bedrock consists of mostly granite and gneiss, which could be used as dimension stone. Iron formation is mapped within the compartment but the unit has never been mined and is likely uneconomical for various reasons. There has been past metallic mineral leasing in this area. There is

no economic oil and gas production in the UP.

Vehicle Access:

The Porterfield Lake Road provides the primary access through this compartment, it connects the Casey Lake Road to the north with the Floodwood Road to the south. There are numerous secondary roads that exist off of the Porterfield Lake Road that provide access to other areas within the compartment.

Survey Needs:

No survey needs within this compartment.

Recreational Facilities and Opportunities:

No recreational facilities exist. The recreational opportunities consist of motorcycle riding and snowmobiling, both activities are made possible by well maintained trails within sections 28 & 29.

Fire Protection:

Fire protection is good within this compartment given the numerous roads that exist throughout. Some pine types do exist but the majority of the compartment consists of aspen and lowland timber types.

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**

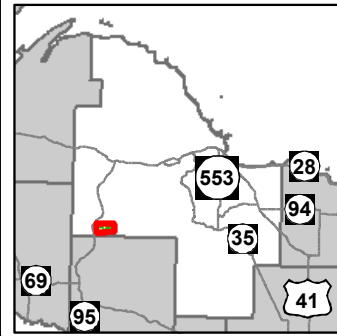
Report 1 – Total Acres by Cover Type and Age Class



Age Class

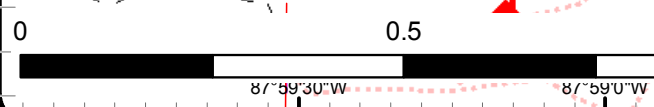
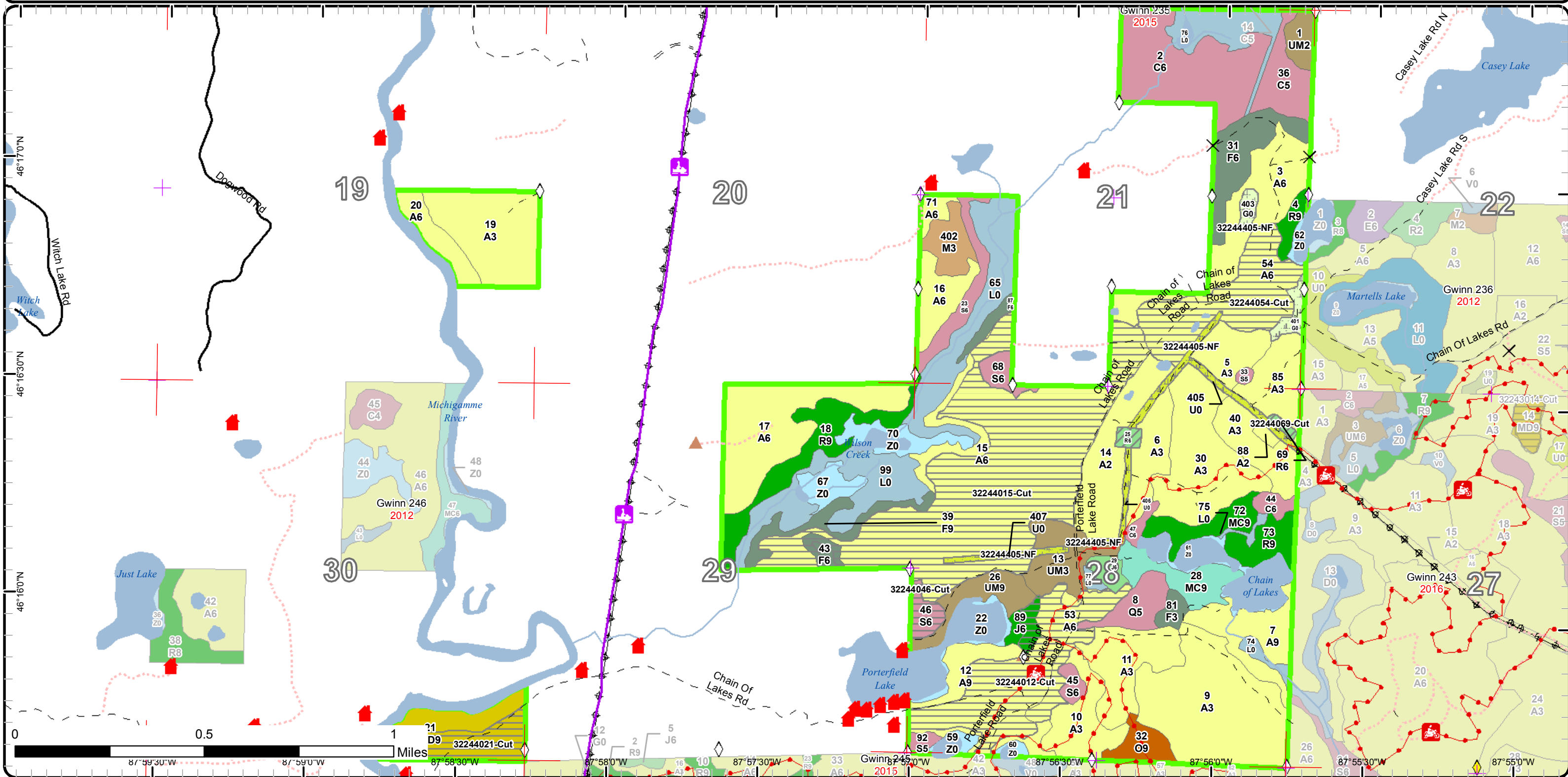
	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	95	46	247	0	164	63	51	12	22	0	0	0	0	0	0	0	0	700
Cedar	0	0	0	0	0	0	0	0	0	4	3	0	64	0	0	0	0	0	70
Herbaceous Openland	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Jack Pine	0	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	9
Low-Density Trees	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Lowland Conifers	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
Lowland Shrub	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	24	6	0	0	0	0	0	0	0	30
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	34
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	12
Northern Hardwood	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Oak	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9
Red Pine	0	0	0	0	4	0	5	25	0	12	0	0	0	0	0	0	0	0	46
Upland Conifers	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	15
Upland Mixed Forest	0	0	25	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	40
Upland Spruce/Fir	0	0	0	25	0	0	4	16	0	0	0	0	0	0	0	0	0	0	45
Water	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
Total	179	95	82	272	4	179	73	95	28	85	57	0	64	0	0	0	0	0	1210

Cover Type & Treatments Map



Compartment: 244
 T45N, R29W, Sec: 19, 21, 28-30
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2019
 Acres: 1206.9 GIS Calculated
 Examiner: Jason Caron
 Map Revised: 1/11/2018
 Map Phase: Post-Review

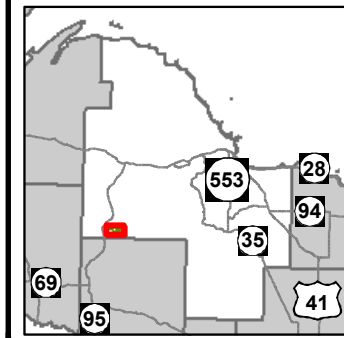
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|---|---|---|
| <ul style="list-style-type: none"> — Miris Corners — Remonumented Section Corners ◆ Survey Grade GPS Corners ◇ Field Grade GPS Corners --- Counties ✕ Gate ▲ Berms 🏠 Cabin 🏍️ Motorcycle Trails (DNR License) 🏠 Snowmobile Trails 🚗 ORV License & Trail Permit — Designated Snowmobile Trails | <ul style="list-style-type: none"> — Paved Roads — Gravel Roads — Poor Dirt Roads ⋯ Closed — Streams — Lakes and Rivers All ⚡ Powerline — Compartment Boundary — Other Treatment - See Comments — Clearcut (w/Reserves) — Thinning (Crown, Low, Systematic) — 411 - Northern Hardwood — 412 - Oak Types — 413 - Aspen Types — 419 - Mixed Upland Deciduous | <ul style="list-style-type: none"> 421 - Planted Pines 422 - Natural Pines 423 - Other Upland Conifers 429 - Mixed Upland Conifers 430 - Upland Mixed Forest 612 - Lowland Coniferous Forest 310 - Herbaceous Openland 330 - Low Density Trees 500 - Water 622 - Lowland Shrub Lakes |
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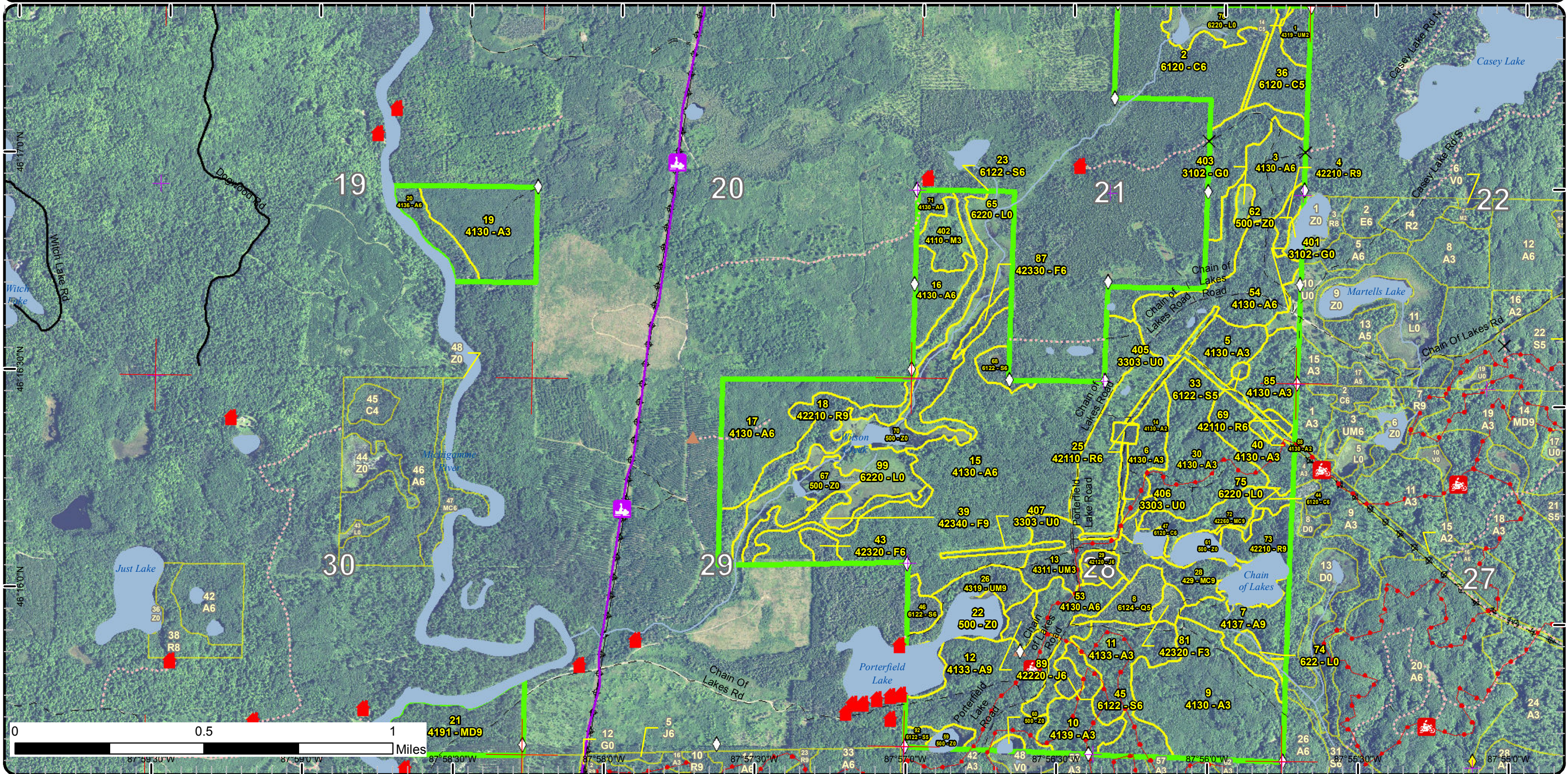
87°59'30"W 87°59'0"W 87°58'30"W 87°58'0"W 87°57'30"W 87°57'0"W 87°56'30"W 87°56'0"W 87°55'30"W 87°55'0"W

Stand Boundary Map

Compartment: 244
 T45N, R29W, Sec: 19, 21, 28-30
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
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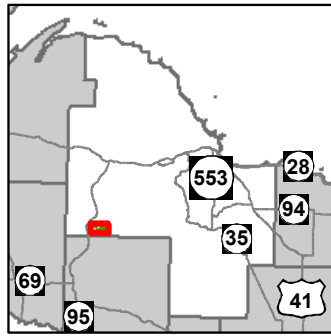


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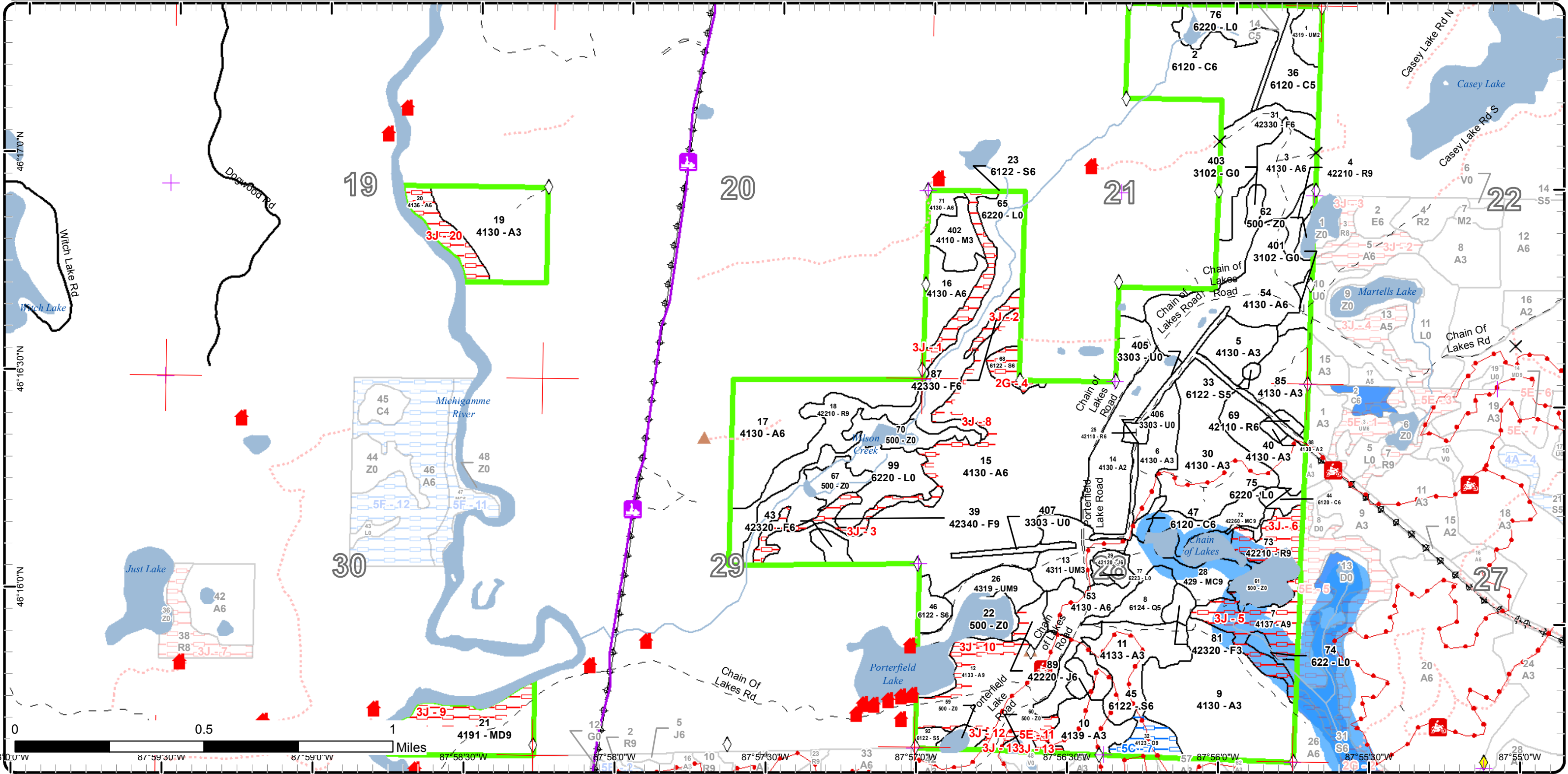


Special Conservation Areas & Site Conditions Map

Compartment: 244
 T45N, R29W, Sec: 19, 21, 28-30
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2019
 Acres: 1206.9 GIS Calculated
 Examiner: Jason Caron
 Map Revised: 1/11/2018
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
- X Gate
- ▲ Berms
- ▲ Cabin
- 🏍️ Motorcycle Trails (DNR License)
- 🏍️ Snowmobile Trails
- ORV License & Trail Permit
- Designated Snowmobile Trails
- Paved Roads
- Gravel Roads
- - - Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers
- ⊕ Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Riparian Area





Report 2 – Treatment Summary

Gwinn Mgt. Unit

Year of Entry: 2019

Acres of Harvest

Compartment 244

Total Compartment Acres: 1,207

Commercial Harvest - 287
 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	258	0	0	0	0	0	0	0	0	258
Lowland Spruce/Fir	6	0	0	0	0	0	0	0	0	6
Mixed Upland Deciduous	19	0	0	0	0	0	0	0	0	19
Red Pine	0	0	0	0	0	4	0	0	0	4
Total	283	0	0	0	0	4	0	0	0	287

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	287	0	0	0	0	0	0	0	22	309
Next Step	0	235	235	0	0	235	305	0	0	1009
Total	287	235	235	0	0	235	305	0	22	1318



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
12	32244012-Cut	58.3	4133 - Aspen, Mixed Pine	Sawtimber Well	65	111- 140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Clearcut with reserves. The treatment boundary has been adjusted around Porterfield Lake and around the wet features for retention purposes. If
Specs: retention is left within the stand, leave it in patches, not individual trees (except for oak and 16" dbh white pine). Consult with ORV specialist regarding sale prep around the motorcycle trail.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)
Treatments:

Acceptable Red pine
Regen:

Other WLD - In addition: Retain all Red Oak (5%) and White Pine over 16" dbh (5%) (black bear, gray jay, pileated woodpecker, white-tailed deer).
Comment:

Proposed Start Date: 10/01/2018

15	32244015-Cut	157.5	4130 - Aspen	Poletimber Well	43	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with reserves. Leave patches of mature timber for retention purposes. Place retention along edges or wet areas, if they exist. Do not
Specs: harvest oak.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)
Treatments:

Acceptable Red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

21	32244021-Cut	18.9	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	80	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with no reserves. Harvest all trees.
Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)
Treatments:

Acceptable Red pine
Regen:

Other WLD - Retain all Burr and White Oak (2%) from notes a 32 dbh white oak was noted (black bear, white-tailed deer). Retention should also
Comment: include some White Pine (10%) Note: no oversized trees should be harvested.

Proposed Start Date: 10/01/2018

25	32244025-Cut	2.2	42110 - Planted Red Pine	Poletimber Well	32	Immatur re	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Perform a third row thin to open up the crowns and promote growth.
Specs:

Next Step
Treatments:

Acceptable red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
46	32244046-Cut	5.9	6122 - Black Spruce	Poletimber Well	96	111-140	Harvest	Clearcut with Retention	612 - Lowland Coniferous Forest	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Clearcut with reserves. Do not harvest pine within the stand. Also, leave a patch of mature black spruce to act as a future seed source.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable spruce, fir, pine, aspen and maple.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

54	32244054-Cut	42.5	4130 - Aspen	Poletimber Well	53		Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with reserves. A wet area exists within the stand. Leave a retention patch around this wet area to act as a buffer. Consider harvesting

Specs: pine, depending on the density within the stand. Do not cut oak if it exists.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen, spruce, fir, pine, maple, birch and oak.

Regen:

Other This stand did not appear to have off-site aspen issues. The aspen appears to be more vigorous within this stand.

Comment:

WLD - In addition: Retain all White Pine (2%) (black bear)

Proposed Start Date: 10/01/2018

69	32244069-Cut	1.3	42110 - Planted Red Pine	Poletimber Well	32	111-140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Perform a third row thin to open up the crowns and promote growth.

Specs:

Next Step

Treatments:

Acceptable Red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

405	32244405-NF	21.9	3303 - Mixed Low Density Trees	Nonstocked			NonForestMgt	Other - Specify	3102 - Grass		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Plant scattered mast producing trees as appropriate and cover crops in herbaceous openings according to local site conditions to promote forage

Specs: for specified wildlife species. Hand/mechanical removal of brush/vegetation from the opening will be used to maintain the openings and hunter walking trails--current and future; disking, mowing, cultipacking, pesticide application may be used as necessary to accomplish wildlife goals. Partial completion reports will be completed annually for the duration this FTP is valid, describing completed work.

Next Step Monitoring, Other - Specify

Treatments:

Acceptable Site to be maintained as opening.

Regen:

Other Site to be maintained as opening. If adjacent stands are to be harvested, please consult with Wildlife Technician Caleb Eckloff for practices to maintain the opening. Examples include roller-chopping, herbicide, minimum harvest spec., etc. to clear encroaching vegetation.

Comment:

Proposed Start Date: 01/01/2018

**Total Treatment
Acreage Proposed: 308.5**

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 244
Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		5C	2G	3J	5E
699	639	0	60	Aspen			58	2
70	70	0	0	Cedar				
7	7	0	0	Herbaceous Openland				
10	8	0	2	Jack Pine			2	
15	15	0	0	Low-Density Trees				
11	11	0	0	Lowland Conifers				
88	88	0	0	Lowland Shrub				
30	13	0	17	Lowland Spruce/Fir		6	11	
35	19	0	16	Mixed Upland Deciduous			16	
12	12	0	0	Natural Mixed Pines				
11	11	0	0	Northern Hardwood				
9	0	9	0	Oak	9			
45	33	0	12	Red Pine			12	
15	15	0	0	Upland Conifers				
39	39	0	0	Upland Mixed Forest				
44	29	0	15	Upland Spruce/Fir			15	
68	68	0	0	Water				
1,207	1,077	9	121	Total Forested Acres	9	6	113	2
	89%	1%	10%	Relative Percent				

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 244
Year of Entry: 2019

3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Riparian area along Wilson Creek.							
4	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	22	3D: Recreational / Scenic values	Unspecified	Unspecified	Unspecified
Comments: The Schwartz Creek flows through the southern part of this stand. The ground is steep in spots. Access would be difficult as well.							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	3D: Recreational / Scenic values	Unspecified	Unspecified	Unspecified
Comments: Stand buffers the lake and nearby water sources.							
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was recently thinned. Basal area is higher but stand should wait another entry period before considering a harvest.							
8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit
Jason Caron : Examiner

Compartment: 244
Year of Entry: 2019

9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	16	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand acts as a buffer along the Michigamme River.							
10	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Lake buffer around Porterfield Lake.							
11	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
20	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	3D: Recreational / Scenic values	3G: Other Influence zones - See comments	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4319 - Mixed Upland Forest	Sapling Medium	6.6	10	Immature	Stand was once a mature birch, fir and spruce type. Stand has now converted into a red maple and fir type due to slowdown and dying timber. Fir is in terrible shape due to budworm. Scattered mature paper birch, white spruce and a few cedar. Birch and white spruce will fall out soon. Moose browse exists within the stand. North half is fir, south half is red maple.
2	6120 - Lowland Cedar	Poletimber Well	48.7	117	51-80	Stand consists of stunted, poor quality cedar. Stand is poor quality due to a high water table. A heavy tag alder understory exists within the stand. A couple of small inclusions of mature black spruce exist in the northeast part of the stand.
3	4130 - Aspen	Poletimber Well	34.3	26	Immature	Stand was cut in 1990-91. TS# 3-89-01. Stand consists of mostly aspen, some poorer quality due to poor soils.
4	42210 - Natural Red Pine	Sawtimber Well	4.6	55	1-50	Stand of mature red pine with scattered tamarack and white spruce included, mostly in the north half. Red pine is of nice quality.
5	4130 - Aspen	Sapling Well	13.5	17	Immature	Stand harvested in 1999: TS#110-99-01. Stand consists of aspen with mature oak and pine left throughout. Old skid roads within the stand have seeded in with red pine, and some balm present also. Terrain in this small stand is quite rugged - ridges & potholes.
6	4130 - Aspen	Sapling Well	15.3	17	Immature	Stand harvested in 1999-2000: TS#110-99-01. Stand consists of decent quality aspen with mature oak scattered throughout. Many of the oak have dead or dying tops. Possibly due to root damage during logging?
7	4137 - Aspen, Birch	Sawtimber Well	22.1	83	81-110	Stand acts as a buffer for the Chain Lake and the west branch of Schwartz Creek. The stand is essentially a ridge between the two water features. Stand consists of mature timber that is inaccessible for logging. Aspen and birch are in poor condition due to age. The fir understory is in poor condition. Stand is hilly throughout.
8	6124 - Lowland Spruce-Fir	Poletimber Medium	11.4	40		Stand consists patches of mature pole sized cedar with poorer quality spruce and fir throughout the remainder of the stand. Spruce and fir is in poor condition due to the budworm.
9	4130 - Aspen	Sapling Well	65.7	27	Immature	Stand was cut in 1989-90. TS #11-89-01. Stand currently consists of decent quality aspen. A mix of red maple and fir within the understory. A couple of pockets of mature timber were left within this stand for retention during the last harvest.
10	4139 - Aspen, Mixed Deciduous	Sapling Well	19.4	7	Immature	Stand was harvested in the spring/summer of 2010 TS# 107-09. No pine or oak were cut within the stand. Currently, the stand contains poorer quality aspen. Mature red pine and oak exist throughout the stand. If the aspen was younger I would final harvest the pine and oak to release the aspen. I feel excessive damage would occur to the understory at this point to warrant a harvest.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	4133 - Aspen, Mixed Pine	Sapling Well	25.8	7	1-50	Stand was cut in 2010. TS# 107-09-01. The stand currently consists of decent quality aspen and red maple pockets. Some areas are free to grow and some areas the aspen and red maple are overtopped by mature red pine. I considered this stand long and hard for a final harvest but opted to leave it due to the motorcycle trail that exists within it and the fact that I am harvesting a lot of aspen mixed with red pine within this compartment.
12	4133 - Aspen, Mixed Pine	Sawtimber Well	51.3	65	111-140	Stand consists of aspen and paper birch that are poor quality due to age. Red pine within the stand is in good condition. Scattered oak exists throughout the stand as well.
13	4311 - Pine, Aspen Mix	Sapling Well	17.7	17	Immature	Stand was cut in Spring of 2000, TS# 111-99. Stand consists of poorer quality aspen regeneration mixed with jack pine. Mature red pine was not cut during the previous harvest and heaviest within the northwest corner of the stand.
14	4130 - Aspen	Sapling Medium	29.7	6	Immature	Stand harvested spring-summer 2011. TS# 106-09. Stand currently consists of poorer quality aspen and red maple stump sprouts. Stand should fill in more with time.
15	4130 - Aspen	Poletimber Well	164.1	43	51-80	Stand was cut in 1973-74. TS#13/73A. All oak was left, and only marked red & white pine was cut. This was followed by a KG treecutter treatment of the residual trees in 1975 - FTP #W3-505. Stand currently consists of poorer quality aspen. Pockets of off-site aspen exist throughout the entire stand. Some areas look good, while other areas look very poor. Scattered pine and oak exists throughout the entire stand.
16	4130 - Aspen	Poletimber Well	13.9	27	Immature	OPIC - FMD: Was commercially cut in summer of 1990 by Minerick Logging, Inc., under permit # 006-89-01, "Wilson Creek Block". All cherry was left and a 2 inch cutting spec was used in the SWSW only. Access from the west on existing trail road leading to a private hunting camp.
17	4130 - Aspen	Poletimber Well	47.3	27	Immature	Stand was cut in Spring of 1990. TS# 006-89-01. Stand consists of homogeneous aspen, virtually no other species is present. Aspen is decent quality thus far. A few big tooth aspen present, but not much.
18	42210 - Natural Red Pine	Sawtimber Well	24.8	66	111-140	Stand of mixed species. A beautiful red pine stand exists in the southern part with some legacy tree sized red pine present. A mix of white pine, birch, and aspen exist within the remaining parts of the stand. This stand does create a nice buffer for future harvest of the adjacent stand.
19	4130 - Aspen	Sapling Well	37.8	27	Immature	Stand was cut in 1990. TS # 013-89-01. Stand currently consists of dense quaking aspen with some big tooth aspen mixed in. Stand looks fairly healthy thus far. A small drainage exists within the southeast corner of the stand.
20	4136 - Aspen, Mixed Conifer	Poletimber Well	11.7	70	81-110	Stand consists of mixed deciduous and conifer. Aspen, spruce, fir, and birch are in poor condition.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	34.5	80	81-110	Stand of mixed deciduous and conifer. Paper birch and aspen are in decline. A small flood plain exists along the river which contains mostly log sized red maple with a few scattered ash. White oak is present within the stand. Consider cutting a portion of this stand, look at buffer requirements. Measured a 32 inch dbh white oak in the stand.
23	6122 - Black Spruce	Poletimber Well	11.4	80	111-140	Stand of spruce that acts as a buffer to the adjacent wetland.
25	42110 - Planted Red Pine	Poletimber Well	2.2	32	Immature	This stand was part of a research area set up circa 1985 by MTU to monitor growth effects of Project ELF (abandoned about 2005). One of two such research stands - the other stand is 69. Stand currently consists of good quality red pine. Stand needs a row thin.
26	4319 - Mixed Upland Forest	Sawtimber Well	14.7	65	81-110	Stand consists of mixed species. Stand acts as a buffer along the lake. Paper birch, aspen, fir and spruce are in poor condition due to age and the budworm infestation. Seeps exist that flow into the lake. Evidence of beaver along the lake edge.
28	429 - Mixed Upland Conifers	Sawtimber Well	15.0	90	51-80	Stand acts as a riparian buffer for Chain of Lakes. Somewhat of a low, east-west ridge. Pine is variable in stocking, but is the dominant species overall. Provides scenic values to this water influence zone. The west side of the stand contains mostly spruce and fir. The east half contains a mix of pine, red maple, and birch. Red pine is good quality. Fir, spruce and birch are in poor condition.
29	42120 - Planted Jack Pine	Poletimber Well	4.3	45	51-80	This stand resulted from a wildfire in Spring of 1972. TS# 3-72. Jack pine is currently in good condition. Trees were planted at a tight spacing therefore the density is high.
30	4130 - Aspen	Sapling Well	43.8	27	Immature	Stand was harvested in the spring of 1990. TS #26-89-01. All oak was left (18 sq.ft/acre in 1990), and a 2 inch cutting spec was used. Stand currently consists of good quality aspen mixed with mature oak.
31	42330 - Upland Fir	Poletimber Well	21.3	26	Immature	Stand was cut in 1990-91. TS# 3-89-01. This stand was created from the parent stand (stand 3) due to the amount of spruce and fir component. Some budworm damage present currently.
32	4123 - Red Oak	Sawtimber Well	8.7	90	81-110	Stand was harvested in the spring & summer of 2010 TS# 107-09. I split stand 10 to create this stand due to the high amount of oak that exists. This stand is an oak stand but during the harvest no oak was cut. The few red maple and paper birch that existed throughout the stand were cut. Red maple stump sprouts are scattered throughout the stand.
33	6122 - Black Spruce	Poletimber Medium	1.1	85	1-50	Small spruce swamp situated in sort of a pothole. Not especially a commercially viable stand but is valuable for wildlife and could be credited for retention purposes.
36	6120 - Lowland Cedar	Poletimber Medium	15.1	117	51-80	Stand of very poor quality cedar, most likely due to a high water table within the stand. A heavy tag alder component within the understory. Dead tops exist on a fair amount of cedar within the stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
39	42340 - Upland Spruce/Fir	Sawtimber Well	11.3	75	81-110	Stand acts as a buffer along Wilson Creek. Stand consists of mostly conifer with a few birch and red maple present.
40	4130 - Aspen	Sapling Well	16.8	17	Immature	Stand was harvested in 2000. TS# 110-99. Stand currently consists of decent quality aspen with scattered mature pine and oak throughout the stand.
43	42320 - Upland Spruce	Poletimber Well	4.3	75	81-110	A small stand of decent quality black spruce with old aspen mixed in along the edges.
44	6120 - Lowland Cedar	Poletimber Well	3.6	80	111-140	A small pocket of pole sized cedar. Numerous seeps exist within the stand. Cedar is good quality and dense.
45	6122 - Black Spruce	Poletimber Well	3.4	83		Typical black spruce swamp with largest timber on edges grading into smaller diameter & heights in center. Some pine & aspen on edges as well. Stand provides more value for wildlife & aesthetics than it will for timber value.
46	6122 - Black Spruce	Poletimber Well	5.9	96	111-140	Stand consists of mature black spruce with scattered large red pine throughout the stand.
47	6120 - Lowland Cedar	Poletimber Well	2.5	90	111-140	Stand is part of riparian buffer for lake system. A strong ground water seep exists in the north end with a small creek with substantial flow emptying into lake. Variety of sizes & ages of cedar - some old remnant cedar. Also some patchy blowdown.
53	4130 - Aspen	Poletimber Well	20.3	53	51-80	Stand of poorer quality aspen.
54	4130 - Aspen	Poletimber Well	42.5	53		Stand of mixed quality aspen. Some is good quality, other areas are poor. I noticed one wetland patch within the stand.
68	6122 - Black Spruce	Poletimber Well	5.5	85	81-110	Stand consists of black spruce and tamarack. Timber becomes smaller as you move towards the small bog within the stand. A few legacy tree red pine exist along the southern edge of the stand. Fire scars on them as well. Stand has the west 1/16th corner (IP & cap) between Sec 21/28 located in this stand. Also, this stand has a tiny half acre bog within it, and a spot of open water within that.
69	42110 - Planted Red Pine	Poletimber Well	1.3	32	111-140	This stand was part of a research area set up circa 1985 by MTU to monitor growth effects of Project ELF (abandoned about 2005). Stand currently consists of good quality red pine. Stand needs a third row thin.
71	4130 - Aspen	Poletimber Well	4.1	27	Immature	OPIC - FMD: Was commercially cut in summer of 1990 by Minerick Logging, Inc., under permit # 006-89-01, "Wilson Creek Block". All cherry was left and a 2 inch cutting spec was used in the SWSW only. Access from the west on existing trail road leading to a private hunting camp.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
72	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	11.8	90	51-80	Stand was formerly left as a riparian buffer. Terrain is comprised of ridges and ravines or potholes. Stand consists of very old, poor quality aspen and birch that are falling out of the stand. The natural red pine within the stand is of very good quality, numerous fire scars on the bases of trees are present. Even a patch of cedar along the lake shore in a bay. Old evidence of beaver chewing - thus the beaver have eliminated aspen from the stand or nearly so. Red pine is not uniform throughout, but rather patchy in places. A few fir and white spruce exist but most are dead due to the budworm outbreak. A ridge of large diameter big tooth aspen exists in the NE corner of the stand.
73	42210 - Natural Red Pine	Sawtimber Well	11.7	90	81-110	Stand was left as a riparian buffer. Stand consists of beautiful log sized red and white pine mixed with red maple and paper birch. Birch is poor quality and is falling out of the stand.
81	42320 - Upland Spruce	Sapling Well	3.8	27	Immature	Stand was harvested in the spring of 1990. TS#11-89-01. Stand currently consists of dense white spruce and fir regeneration. Cedar is regenerating here and there within the stand. Trees are of small diameter given it's age. Ground looks to be rocky in areas and low in other areas.
85	4130 - Aspen	Sapling Well	18.1	6	Immature	Stand harvested spring-summer 2011. TS# 106-09. Stand of young aspen. I notice some young oak regenerating as well. scattered mature oak and pine within the sale.
87	42330 - Upland Fir	Poletimber Well	3.7	69	81-110	Stand consists of mixed conifer. Fir is multi-aged and in poor condition. Stand acts as a buffer to the adjacent flowage.
88	4130 - Aspen	Sapling Medium	1.5	6	Immature	Stand harvested spring-summer 2011 by Frank's Logging, ELF Project Aspen, #32-106-09-01. All oak, white birch, red and white pine, spruce-fir and everyother maple (clump and single stem) were left. MO for stand is aspen but will all the maple, birch and oak left this won't happen. 2007 Comments: Final Harvest with Reserves. MTU research plot where tree measurements are still being taken in 1999 yr of entry. A news release by MTU indicated two lines of research on the effects of ELF electromagnetic fields. One monitored the effect on the life cycle of red pine and northern hdwds (changes in growth rates, nutrient levels, foliage production, and insect & disease status). The other monitored the effect on litter decomposition and nutrient flow for northern red oaks, red maple, and red pine. A grant of \$2.3 million was awarded. 2017- Decided to keep all the old notes for this stand and not merge the stand into stand 40 for future reference.
89	42220 - Natural Jack Pine	Poletimber Well	5.4	59	51-80	A small jack pine stand. Timber is mature.
92	6122 - Black Spruce	Poletimber Medium	2.5	85	1-50	I did not make it to this stand in 2017. Here are the 2007 notes- Small spruce swamp verges on being a treed bog, at least in the center. Best timber on edges of high ground. The Section corner is located ontop of a ridge, - steep slope down to the swamp. Thus this is an inclusion of high ground and not really significant enough to make a separate stand. Eckloff's camp has a target range extending east into this swamp.
402	4110 - Sugar Maple Association	Sapling Well	10.8	15	Immature	A former grass opening that has filled in with poor quality black cherry. A few aspen clones do exist within the stand.



Stand	Cover Type	Acres	Managed Site	General Comments:
22	500 - Water	18.9	No	Porterfield Lake - origin of name unknown. There existed a sawmill town of Floodwood in the 1890's (per a book written by Ken Salo & Jim Kippola about the history of the Witch Lake area - in 2006) in Dickinson Co. near what is now M-95 south of the Michigamme River, back when the pine was being cut in this area. Thus the name may have been given to the lake around that time. A State Forest Campground existed on this lake, built in the 1980's and closed in summer of 1992. A local campowner had told me the deepest spot in the lake is 38 feet in the west central part of the lake.
59	500 - Water	3.7	No	Small two & a half acre pond known locally as "Eckloff's Pond". Quite scenic surrounded by a fringe of treed bog /black spruce and then ridges of birch & pine.
60	500 - Water	1.9	No	Tiny one acre pond. Quite scenic surrounded by a fringe of treed bog /black spruce and then a ring of red/white pine on the high ground.
61	500 - Water	21.1	No	"Chain of Lakes" consist of three small inter-connected lakes. They appear to be quite shallow, but with clear, probably spring-fed water source. The outlet through a beaver dam on the south side of the largest lake is actually the headwaters of the west branch of the Schwartz Creek. Original GLO survey notes say that the 1/4 corner between Sec 28/27 falls in this lake. Clayton Schooley, Area Forester in Ishpeming through the early 1960's, had proposed a campground on these lakes (but it never happened).
62	500 - Water	3.0	No	An un-named, shallow pond which probably is vernal in character.
65	6220 - Alder/willow	33.8	No	Tag alder, lowland brush, periodically flooded by beaver. Wilson Creek flows through stand.
67	500 - Water	8.2	No	Beaver pond on Wilson Creek. Can be larger or smaller at any point in time depending on beaver activity.
70	500 - Water	11.7	No	OPIC - FMD: SCA stand. Riparian buffer. Marsh, formerly flooded as a beaver pond.
74	622 - Lowland Shrub	2.9	No	Part of riparian buffer complex surrounding Chain of Lakes. Outlet creek from Chain of Lakes (west branch of Schwartz Creek) flows southeasterly through this stand.
75	6220 - Alder/willow	1.5	No	Tiny creek flows through from northeast to southwest, emptying into the Chain Lake. I believe this may be the outlet creek from Martells Lake.
76	6220 - Alder/willow	17.2	No	Various lowland brush species but mostly alder. Even some cattails present. Tiny creek in north part flows westward. Also includes the abandoned ELF (terminal buried ground) row, but this should seed in with swamp conifers in the next decade. A couple of small pockets of timber exist on the north side but too small to delineate.
77	6223 - Inundated Shrub Swamp	1.3	No	Tiny marsh surrounded by jack/red pine for the most part.
99	6220 - Alder/willow	31.3	No	Tag alder, lowland brush, periodically flooded by beaver. Part of the Wilson creek watershed.



Stand	Cover Type	Acres	Managed Site	General Comments:
401	3102 - Grass	4.4	No	Old grass opening that is slowly filling in.
403	3102 - Grass	2.8	No	FTP W31-276. Rockrake, disk, & seed. Was seeded in August of 1992. Access trail from east was bermed. 2017- opening is starting to fill in with trees along the edges. Overall this opening would be a good one to try and reclaim.
405	3303 - Mixed Low Density Trees	8.0	No	This is the residual cleared ELF row (100 ft wide) left from when the system was abandoned in 2005.
406	3303 - Mixed Low Density Trees	3.3	No	This is the residual cleared ELF row (100 ft wide) left from when the system was abandoned in 2005.
407	3303 - Mixed Low Density Trees	3.3	No	This is the residual cleared ELF row (100 ft wide) left from when the system was abandoned in 2005. This portion contained the terminal ground where the signal entered the earth or bedrock.