



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32268

Entry Year 2018

Acreage: 752

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2016-08-09

Stand Examiner: Rick Hill

Legal Description:

T45N, R27W, Sec. 19

Identified Planning Goals:

Vegetative management in the Chain Lake management area will provide a variety of forest products; maintain or enhance wildlife habitat; protect areas with unique characteristics; and provide for forest based recreational uses.

Soil and topography:

Ranging from a relatively small amount of level creek bottoms, to upland which is partly fairly level to only rolling or moderately hilly.

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

State ownership here is quite well blocked in with other State lands on the west & south, a large private hunting club on the north (Michigan Northwoods Club), and a mix of State & small private nonindustrial owners on the east. Development is very limited with a few seasonal cottages or hunting camps widely distributed. The now abandoned ELF submarine communication line crosses the compartment east-west.

Unique Natural Features:

The rather large grass opening complex in the center of this compartment is perhaps the most unique natural feature here. It has the potential to harbor a more diverse collection of flora & fauna that are suited to an open grassland habitat.

Archeological, Historical, and Cultural Features:

There are no known sites in this compartment.

Special Management Designations or Considerations:

The large opening in this compartment has been maintained over time, and has been a SCA in the past.

Watershed and Fisheries Considerations:

This compartment contains headwaters of Big Brook Creek which is Type 1 trout stream less than 50' width. Big Brook Creek contains Brook Trout, Blacknose Dace, and Burbot. A 300' buffer is recommended for Big Brook Creek in riparian areas adjacent to stands which include Aspen. For all other riparian areas, Best Management Practices should be followed to reduce erosion into waterbodies.

Wildlife Habitat Considerations:

Compartment 268 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

Surface sediments consist of coarse-textured glacial till. The glacial drift thickness appears to be less than 50 feet in the area. Primarily Archean granite/gneiss subcrops below the glacial drift. This rock could be used as dimension stone. A gravel pit is located less than one mile to the south, in Section 30, and potential should be good. There were previous metallic mineral leases in this area, but the state does not own any mineral rights in Section 19. There is no economic oil and gas production in the UP

Vehicle Access:

County Road PW (Bryan Creek Road – gravel road) provides access from the north from Co. Rd 581. This connects to a Dept. maintained good dirt road that connects to Kates Grade (another Co. Rd) located to the southeast. Generally narrow, two track, dirt roads provide interior access within the compartment.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

Only low key recreational opportunities for activities such as hunting, fishing, berry picking, trapping, snowmobiling, etc. exist in this compartment.

Fire Protection:

This area is some what isolated making fire response times some what long. the area has a fair amount of jack pine and grass fuel types making it a fire prone area. The department conducts regular prescribed burns to control woody vegetation within the large grass stand that makes up the majority of the compartment.

Additional Compartment Information:**The following reports from the Inventory are attached:**

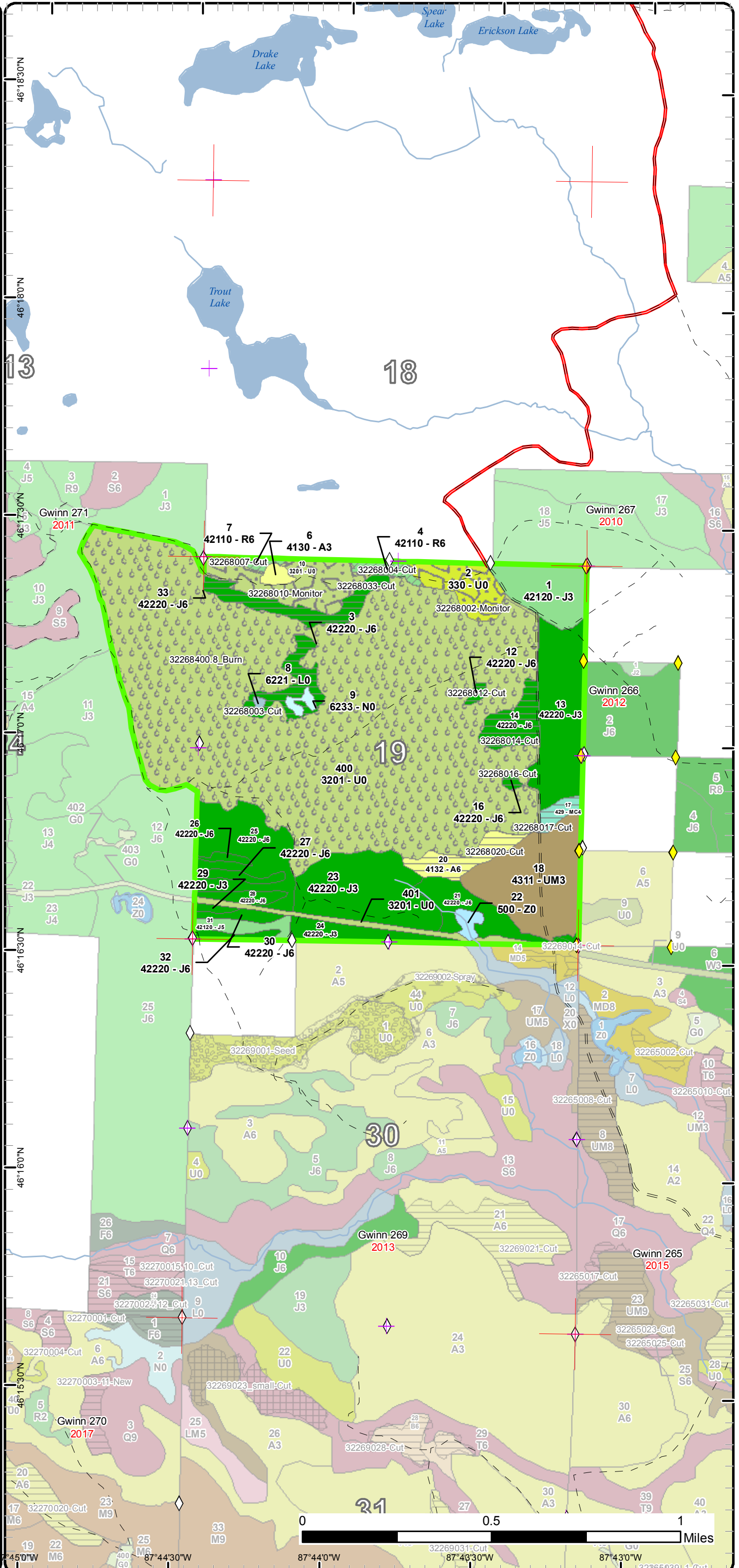
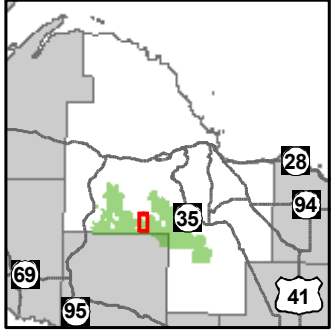
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

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

Cover Type & Treatments Map

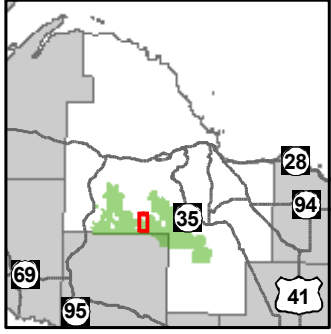
Compartment: 268
 T45N, R27W, Sec. 19
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2018
 Acres: 751.7 GIS Calculated
 Examiner: Rick Hill
 Map Revised: 2/8/2017
 Map Phase: Post-Review



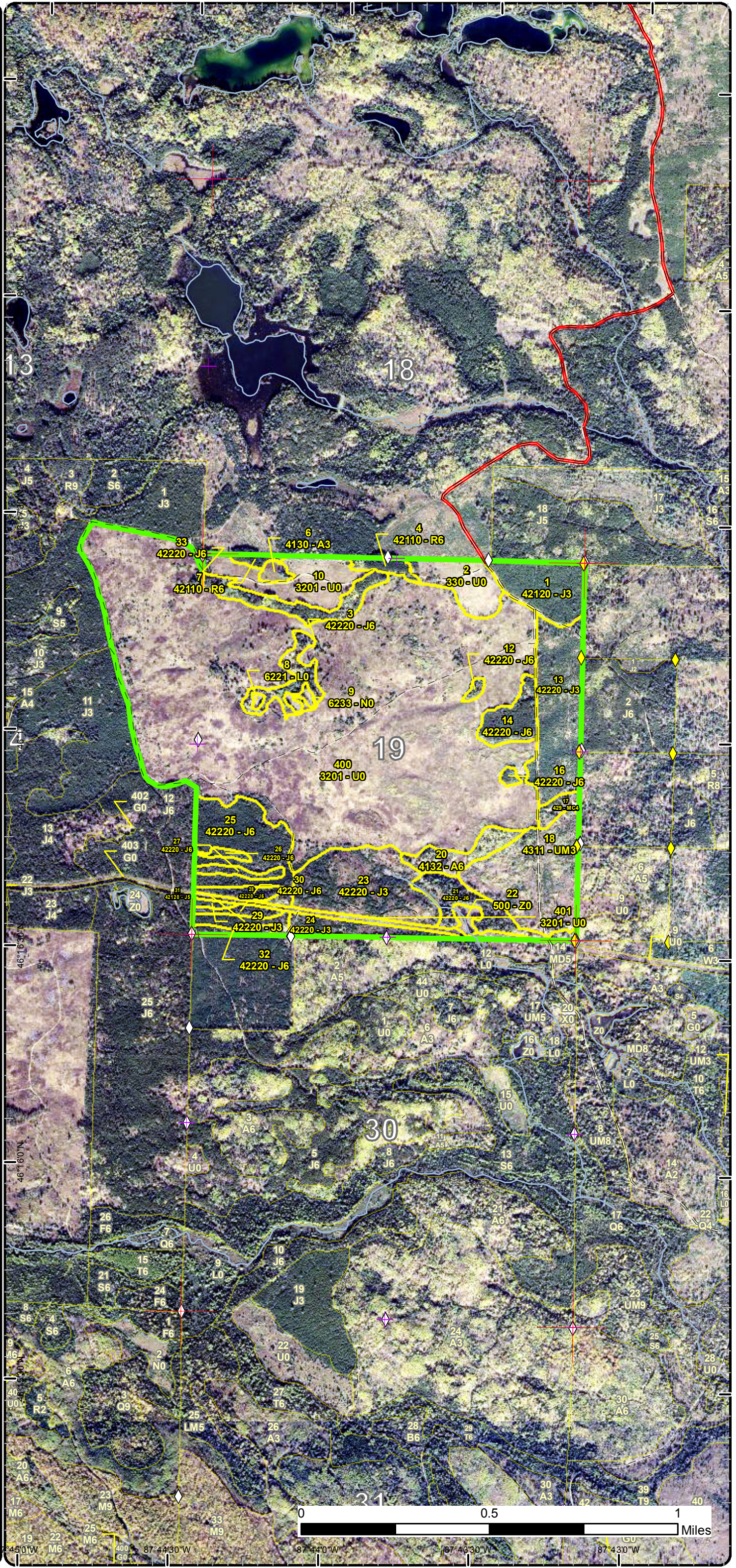
- Miris Corners
- Remonumented Section Corners
- Survey Grade GPS Corners
- Field Grade GPS Corners
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Rivers
- Compartment Boundary
- Clearcut (w/Reserves)
- Prescribed Burn
- Regeneration Survey
- Thinning (Crown, Low, Systematic)
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes

Stand Boundary Map

Compartment: 268
 T45N, R27W, Sec. 19
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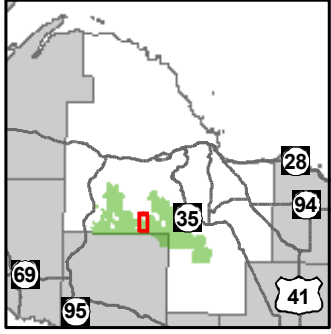


- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- County Gravel Roads
- Gravel Roads
- - Poor Dirt Roads
- Rivers
- Compartment Boundary
- Stand Boundaries
- 413 - Aspen Types
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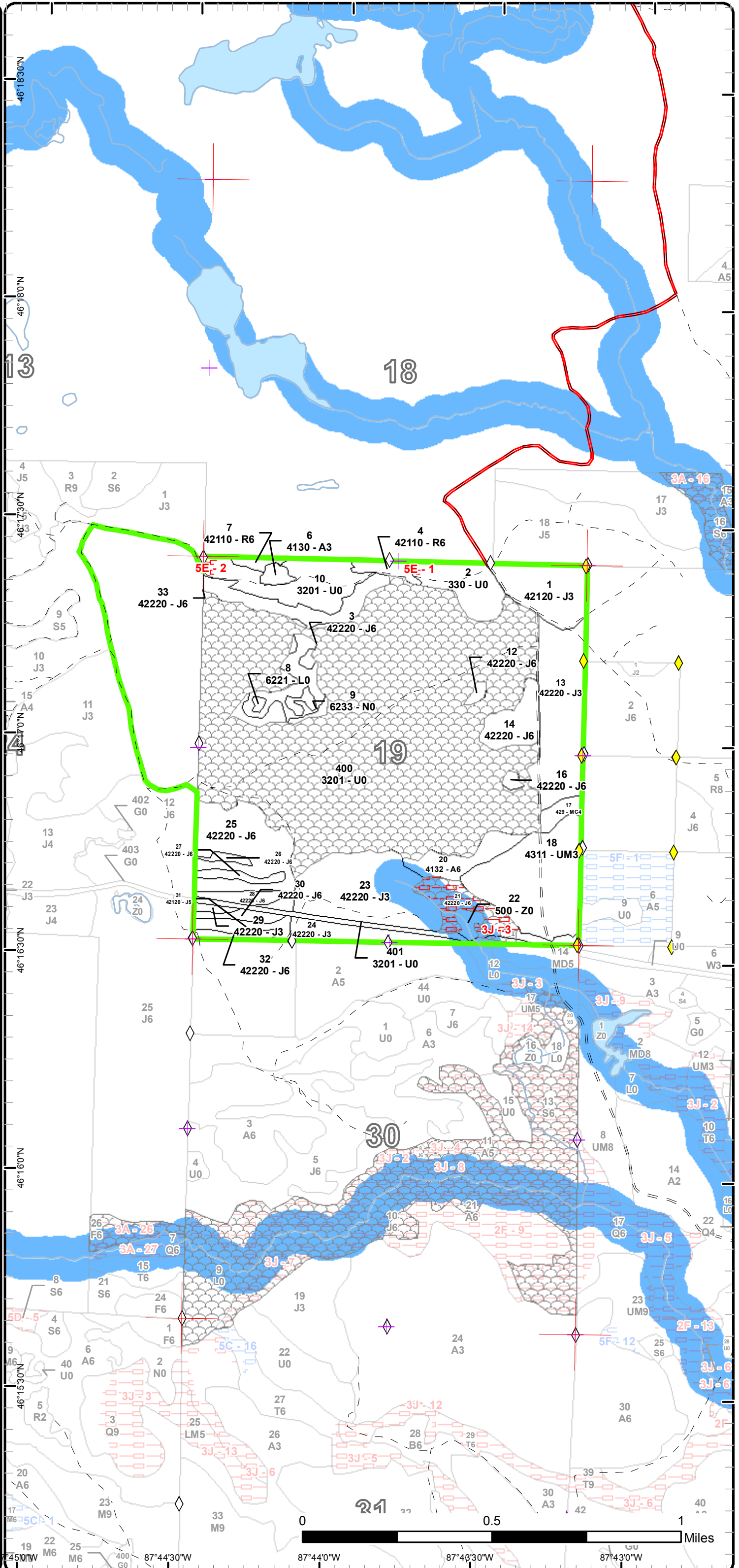


Special Conservation Areas & Site Conditions Map

Compartment: 268
 T45N, R27W, Sec. 19
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
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- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◆ Field Grade GPS Corners
- County Gravel Roads
- Gravel Roads
- - - Poor Dirt Roads
- Rivers
- Compartment Boundary
- - - Unavailable
- 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



Report 1 – Total Acres by Cover Type and Age Class

Gwinn Mgt. Unit
Rick Hill : Examiner

Compartment 268 Year of Entry 2018



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	2	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	12
Jack Pine	0	0	37	68	37	0	29	24	1	16	0	0	0	0	0	0	0	0	212
Low-Density Trees	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Lowland Shrub	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Marsh	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Red Pine	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Upland Mixed Forest	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
Upland Shrub	455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	455
Water	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	476	2	79	68	37	6	39	24	1	16	0	0	0	0	0	0	0	4	752



Report 2 – Treatment Summary

Gwinn Mgt. Unit

Compartment 268

Year of Entry: 2018

Acres of Harvest

Total Compartment Acres: 752

Commercial Harvest - 58
 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	10	0	0	0	0	0	0	0	0	10
Jack Pine	38	0	0	0	0	0	0	0	0	38
Red Pine	0	0	0	0	0	6	0	0	0	6
Upland Conifers	4	0	0	0	0	0	0	0	0	4
Total	52	0	0	0	0	6	0	0	0	58

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	58	0	0	0	423	0	37	0	0	518
Next Step	0	0	11	28	13	65	511	0	0	629
Total	58	0	11	28	436	65	548	0	0	1147



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	32268002-Monitor	14.7	330 - Low-Density Trees	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription
Specs:

Next Step ; Monitoring, Artificial Regen(3yr); Pesticide, Skidder/Mechanical
Treatments:

Acceptable Jack pine
Regen:

Other Percent to Treat = 100%
Comment:

Proposed Start Date: 06/15/2016

3	32268003-Cut	10.6	42220 - Natural Jack Pine	Poletimber Well	64	Unspecified	Harvest	Clearcut	3302 - Low Density Conifer Trees		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all trees. Leave all white pine. Focus retention along stand 9 and 8.
Specs:

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

Acceptable Grass, Stand will be moved to the eastern edge of opening
Regen:

Other Allow fire to naturally regenerate this stand. Accept any stocking level as this stand is in a managed opening.
Comment:

Retain White pine (2%) – bear, crossbill. Great nest site in large opening complex. (State Game Funds)

Proposed Start Date: 10/01/2017

4	32268004-Cut	3.9	42110 - Planted Red Pine	Poletimber Well	43	111-140	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin every third row to allow for operability.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

7	32268007-Cut	1.9	42110 - Planted Red Pine	Poletimber Well	43	141-170	Harvest	Systematic Thinning	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Third row thin, remove all aspen and jack pine as well. leave all aspen not needed for operations.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Agree with Treatment (leave aspen- small stand 2 acres) (State Game Funds)
Comment:

Proposed Start Date: 10/01/2017



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
10	32268010-Monitor	22.3	3201 - Sweet Fern	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(1yr)	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription
Specs:

Next Step Pesticide, Skidder/Mechanical; ; Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable jack pine, red pine, oak and spruce
Regen:

Other Percent to Treat = 100%
Comment:

Proposed Start Date: 10/01/2016

12	32268012-Cut	1.3	42220 - Natural Jack Pine	Poletimber Well	71	81-110	Harvest	Clearcut	3205 - Mixed Upland Shrub		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut stand, no retention due to small size.
Specs:

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

Acceptable Shrubs, trees, grass
Regen:

Other Allow fire to naturally regenerate this stand. Accept any stocking level as this stand is in a managed opening
Comment:

Proposed Start Date: 10/01/2017

14	32268014-Cut	11.3	42220 - Natural Jack Pine	Poletimber Well	53	51-80	Harvest	Clearcut	42220 - Natural Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut stand, leave all oak, white pine, and Red pine.
Specs:

Next Step Seeding, Machine Seed; Pesticide, Hand Application; Monitoring, Natural Regen (Intermediate); Planting, Replant
Treatments:

Acceptable Jack Pine, aspen, oak, red pine, and white pine
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

16	32268016-Cut	1.2	42220 - Natural Jack Pine	Poletimber Well	53	51-80	Harvest	Clearcut	330 - Low- Density Trees		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut stand, no retention due to small size.
Specs:

Next Step Burn, Opening
Treatments:

Acceptable Grass, shrubs, and trees
Regen:

Other Allow fire to naturally regenerate this stand. Accept any stocking level as this stand is in a managed opening
Comment:

Proposed Start Date: 10/01/2017



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
17	32268017-Cut	3.9	429 - Mixed Upland Conifers	Poletimber Poor	54	1-50	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Clearcut stand, leave all oak, white pine, and red pine. no other retention due to small size.

Specs:

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

Acceptable Jack pine, red pine, white pine, and aspen
Regen:

Other Retain White Pine (15%) Pole/Sapling size – Bear, crossbill (State Game Funds)

Comment:

Proposed Start Date: 10/01/2017

20	32268020-Cut	10.4	4132 - Aspen, Jack Pine	Poletimber Well	55	81-110	Harvest	Clearcut with Retention	4132 - Aspen, Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clear cut stand leaving any oak and red and white pine if present.

Specs:

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

Acceptable Aspen, jack pine
Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

33	32268033-Cut	13.2	42220 - Natural Jack Pine	Poletimber Well	64	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all trees. Leave retention pocket on west side of stand.

Specs:

Next Step Seeding, Machine Seed; Monitoring, Natural Regen (Intermediate); Pesticide, Aerial
Treatments:

Acceptable Jack pine, aspen
Regen:

Other Retention pockets should also include some large BT aspen for nesting trees and cavity nesters N. goshawk (State Game Funds)

Comment:

Proposed Start Date: 10/01/2017

400	32268400.8_B urn	423.0	3201 - Sweet Fern	Nonstocked		Unspecified	Burn	Opening	330 - Low-Density Trees		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Burn per FRD specs for wildlife.

Specs:

Next Step Monitoring, Other - Specify
Treatments:

Acceptable
Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 517.7**

Report 4 – Site Conditions

Gwinn Mgt. Unit
Rick Hill : Examiner

Compartment: 268
Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	3J	5E
		With Condition	Not Available			
13	13	0	0	Aspen		
213	200	0	13	Jack Pine	13	
15	14	0	0	Low-Density Trees		0
1	1	0	0	Lowland Shrub		
2	2	0	0	Marsh		
6	6	0	0	Red Pine		
4	4	0	0	Upland Conifers		
42	42	0	0	Upland Mixed Forest		
455	454	0	1	Upland Shrub		1
3	3	0	0	Water		
752	737		15	Total Forested Acres	13	1
	98%		2%	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:							
2	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							



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
	Potential Old Growth		SCA Removal	14

Comments

This area no longer meets the criteria to be classified as a Special Conservation Area.

**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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42120 - Planted Jack Pine	Sapling Well	19.8	24	Immature	Was commercially cut in Oct. 1990 by Holli Forest Products, Inc., permit # 05-88-01, "Bryan Creek Sharptail Block". Red & white pine was left. FTP C31-228 for spot herbiciding east part of stand, followed by disk trenching & contract hand planting of jack pine, which was done in May of 1993.
3	42220 - Natural Jack Pine	Poletimber Well	10.6	64	Unspecified	
4	42110 - Planted Red Pine	Poletimber Well	3.9	43	111-140	Private landowner to the north (Mr. Stahelin) planted this in trespass in 1974. Mark entire stand for thinning with consideration given for access by mechanized equipment. Presently an east-west single wire fenceline exists with DNR 1/4 corner in place, but verify accuracy of fence line when setting up sale.
6	4130 - Aspen	Sapling Well	2.4	7	Immature	OPIC - FMD: Harvested during the summer of 2010 by Cholewa Forest Products, TS#32-102-08-01. Tops were chipped.
7	42110 - Planted Red Pine	Poletimber Well	1.9	43	141-170	It was decided at time of sale prep in 2007 not to harvest this stand due to the small diameter of the trees. They were barely 6" dbh at that time.
12	42220 - Natural Jack Pine	Poletimber Well	1.3	71	81-110	6/19/2014 TJS: It was decided at the time of sale prep in 2007 to hold this stand and treat with the adjacent stand 14 at next entry for operational reasons.
13	42220 - Natural Jack Pine	Sapling Well	37.4	17	Immature	Was commercially cut in Nov. 1999 by Minerick Logging, Inc., permit #102-98-01, "Sharptail Sale". Oak, red & white pine were left. In August of 2000, 15 acres of the stand were sprayed with herbicide (Tordon 101) at 5 qts/acre to target aspen, cherry; red maple. It was then disk trenched & direct seeded in one operation in the Oct. of 2000. FTP C31-407.
14	42220 - Natural Jack Pine	Poletimber Well	11.3	53	51-80	
16	42220 - Natural Jack Pine	Poletimber Well	1.2	53	51-80	OPIC - FMD: Tiny island of jack pine, very similar to stand 14. Manage with stand 14.
17	429 - Mixed Upland Conifers	Poletimber Poor	3.9	54	1-50	OPIC - FMD: Mixture of A2 & mature aspen & jack pine, but little volume of wood present. Hold till stand 20 is cut to make this saleable. It was left as a visual buffer when stands 13 & 18 were cut to visually break up the would be mile long clearcut.
18	4311 - Pine, Aspen Mix	Sapling Well	41.7	17	Immature	Was commercially cut by Minerick Logging, Inc. in Nov. 1999, permit #02-98-01, "Sharptail Sale". All oak, red & white pine was left. Area would grow better jack pine than aspen, but wildlife needs to be considered also.
20	4132 - Aspen, Jack Pine	Poletimber Well	10.4	55	81-110	A mostly level site, good logging chance. Jack pine is generally in the east end.
21	42220 - Natural Jack Pine	Poletimber Well	15.6	89	51-80	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	42220 - Natural Jack Pine	Sapling Well	37.5	27	Immature	Was commercially cut in Oct 1990 by Holli Forest Prod., Inc., permit # 05-88-01, "Bryan Creek Sharptail Block". A 2 inch cutting spec was used (no reserve species here). Access was from the northwest side of stand. Almost no aspen in stand at present (some small clones in valley in northeast). Also, since regeneration here is natural, some spots are lacking and quite open.
24	42220 - Natural Jack Pine	Sapling Well	11.0	27	Immature	Was commercially cut in Oct 1990 by Holli Forest Prod., Inc., permit # 05-88-01, "Bryan Creek Sharptail Block". A 2 inch cutting spec was used (no reserve species here). Access was from the northwest side of stand. Almost no aspen in stand at present. Also, since regeneration here is natural, some spots are lacking and quite open.
25	42220 - Natural Jack Pine	Poletimber Well	31.3	34	1-50	Was commercially cut in Fall of 1979 by Escanaba Paper Co. - Mead, (Polar Logging was jobber), permit # 6/79A, "Hart Lake Block". Sale was piece cut. Older cutover strips inbetween were already adequately stocked with jack pine. FTP C31-53, for machine planting of jack pine, accomplished in May, 1983 at the rate of 605 trees/acre. Using 2-0 jack pine stock.
26	42220 - Natural Jack Pine	Poletimber Well	1.6	56	81-110	These east-west strips were cut around 1961 or shortly before that. Do we want to perpetuate this strip pattern or try to accommodate some older wood with some younger wood to make a larger cut? I believe these strips were cut by Arvid Nyland of Ishpeming, permit # 14/60A. He was to cut alternating 2 chain wide east-west strips. A letter dated Nov. 1961 by Clayton Schooley, District Forester, mentions that the cut is complete. No doubt it was piece cut, and I assume regeneration was natural.
27	42220 - Natural Jack Pine	Poletimber Well	3.3	56	81-110	These east-west strips were cut around 1961 or shortly before that. Do we want to perpetuate this strip pattern or try to accommodate some older wood with some younger wood to make a larger cut? I believe these strips were cut by Arvid Nyland of Ishpeming, permit # 14/60A. He was to cut alternating 2 chain wide east-west strips. A letter dated Nov. 1961 by Clayton Schooley, District Forester, mentions that the cut is complete. No doubt it was piece cut, and I assume regeneration was natural.
28	42220 - Natural Jack Pine	Poletimber Well	4.1	56	81-110	These east-west strips were cut around 1961 or shortly before that. I believe these strips were cut by Arvid Nyland of Ishpeming, permit # 14/60A. He was to cut alternating 2 chain wide east-west strips. A letter dated Nov. 1961 by Clayton Schooley, District Forester, mentions that the cut is complete. No doubt it was piece cut, and I assume regeneration was natural. Cut all 5 strips in 10 years.
29	42220 - Natural Jack Pine	Sapling Well	1.3	56	81-110	These east-west strips were cut around 1961 or shortly before that. We believe these strips were cut by Arvid Nyland of Ishpeming, permit # 14/60A. He was to cut alternating 2 chain wide east-west strips. A letter dated Nov. 1961 by Clayton Schooley, District Forester, mentions that the cut is complete. No doubt it was piece cut, and I assume regeneration was natural.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	42220 - Natural Jack Pine	Poletimber Well	3.4	56	81-110	These east-west strips were cut around 1961 or shortly before that. Do we want to perpetuate this strip pattern or try to accommodate some older wood with some younger wood to make a larger cut? Not now, but in the future, perhaps treatment period 2. I believe these strips were cut by Arvid Nyland of Ishpeming, permit # 14/60A. He was to cut alternating 2 chain wide east-west strips. A letter dated Nov. 1961 by Clayton Schooley, District Forester, mentions that the cut is complete. No doubt it was piece cut, and I assume regeneration was natural.
31	42120 - Planted Jack Pine	Poletimber Medium	5.8	34	51-80	Was commercially cut in Fall of 1979 by Escanaba Paper Co. - Mead, (Polar Logging was jobber), permit # 6/79A, "Hart Lake Block". Sale was piece cut. Older cutover strips inbetween were already adequately stocked with jack pine. FTP C31-53, for machine planting of jack pine, accomplished in May, 1983 at the rate of 605 trees/acre. Using 2-0 jack pine stock.
32	42220 - Natural Jack Pine	Poletimber Well	3.1	56	51-80	These east-west strips were cut around 1961 or shortly before that. Do we want to perpetuate this strip pattern or try to accommodate some older wood with some younger wood to make a larger cut? I believe these strips were cut by Arvid Nyland of Ishpeming, permit # 14/60A. He was to cut alternating 2 chain wide east-west strips. A letter dated Nov. 1961 by Clayton Schooley, District Forester, mentions that the cut is complete. No doubt it was piece cut, and I assume regeneration was natural.
33	42220 - Natural Jack Pine	Poletimber Well	13.2	64	81-110	Several different age classes of jack pine present, but generally the younger pine is nearer to the large grass opening complex. This stand we can hold 10 yrs to spread out the cutting somewhat. I see old roller chopper marks on the ground, so some of this stand could have gotten started after some Dept. treatment. Some clones of aspen in stand also.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	330 - Low-Density Trees	14.7		Harvested during the summer of 2010 by Cholewa Forest Products. Sharptail Jack Pine Sale #32-120-08-01. Stand is under FTP for jack pine regeneration (c32-754) the seeding has failed the site needs to be planted to achieve full stocking. Planted in spring of 2016 by Superior Forestry Services. Count per TMS spec.
8	6221 - Fen	0.7	No	OPIC - FMD: Small marsh at bottom of pothole with tiny vernal pond within.
9	6233 - Wet Meadow	1.8	No	OPIC - FMD: Two small interconnected marshs at bottom of pothole with tiny vernal ponds within.
10	3201 - Sweet Fern	22.3		Harvested during the summer of 2010 by Cholewa Forest Products. Sharptail Jack Pine Sale #32-120-08-01. Stand is under FTP for jack pine regeneration (c32-754) the seeding has failed the site needs to be planted to achieve full stocking. Planted in spring of 2016 by Superior Forestry Services. Count per TMS spec.
22	500 - Water	2.6	No	Beaver pond, spring fed source of ground water since this is the headwaters of this drainage.
400	3201 - Sweet Fern	424.5	Yes	Special Conservation Area. Historically, this site was managed for sharptail grouse. Although no longer inhabited by sharptails, this large grass complex is still highly valued for deer habitat, and for a variety of other nongame species (both birds & mammals) such as sandhill cranes, raptors, songbirds, etc. Periodic prescribed burning is still needed here to maintain this habitat on as-needed basis. Numerous treatments (prescribed burning, roller chopping, etc.) have occurred here in the past. Under FTP W32-883 for Rx burn.
401	3201 - Sweet Fern	7.9	No	This was the ELF cleared right of way from 1985 till 2005.