



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32099

Entry Year 2019

Acreage: 1,186

County Alger

Management Area: Chatham-Autrain Moraines

Revision Date: 2017-08-01

Stand Examiner: Kevin LaBumbard

Legal Description:

T45N R22W Sections 1,12,13 and T45N R21W Section 18

Identified Planning Goals:

One large hardwood stand is scheduled for a selection harvest. The harvest plan is to retain representatives of all tree species in this stand as well as all size classes. Emphasis is on improving tree and stand timber quality yet retaining den trees and other trees important for wildlife.

Soil and topography:

Terrain ranges from flat to gently rolling with some steep moraine ridges. High quality hardwood soils to poorly drained wetlands. Primary soils types include Shoepac, Shoepac-Trenary, Cathro-Ensley, Charlevoix-Ensley, Chatham-Ensley, and Lupton-Tawas-Carbondale mucks.

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

Much of this compartment is bordered by private lands except to the west. The properties mostly consist of hunting camps and residences.

Unique Natural Features:

Archeological, Historical, and Cultural Features:

There are a few old logging camp sites in this compartment.

Special Management Designations or Considerations:

Remote "islands" of highground timber would make good candidates for Type 2 old growth.

Watershed and Fisheries Considerations:

COMPARTMENT 099

Fisheries Values: Good

Fisheries Concerns: Johnson Creek is located throughout this compartment and is also a designated trout stream. All treatments near any surface should maintain a minimum of a 100 foot buffer to prevent any new sources of erosion in this system. Johnson Creek is a cold-transitional stream making it vulnerable to any disruptions in the watershed.

Wildlife Habitat Considerations:

Compartment 099 is found within the Chatham/AuTrain Management Area; on a Fluted Ground Moraine in northeastern Marquette County and western Alger County. The dominant Natural Communities are mesic northern forests and poor conifer swamps. This Management Area provides one of the best opportunities in the WUP State Forest system to manage for large grasslands and associated wildlife species. Large opening management, along with sharecropped agricultural practices will continue to be a high priority here. Wildlife management issues in this management area will focus on maintaining large open land complexes; habitat fragmentation (patch size for openings); and mowing and burning practice modifications (for the eastern compartments).

The following have been identified as featured species for the Chatham/AuTrain Management Area: bobolink, Canada goose, northern goshawk, and sharp-tail grouse.

Mineral Resource and Development Concerns and/or Restrictions

Sections 1,12 & 13, T45N-R22W, Alger County

A gravel pit is located less than two miles to the northeast. Much of the compartment, however, is covered by wetlands and glacial drift is thin in the area, which could limit sand and gravel potential. There may be some potential for production of crushed stone within the compartment sourced from the bedrock formations. There is no history of metallic mineral leasing in this area and metallic mineral potential is considered mineral. There is no economic oil and gas production in the UP.

Vehicle Access:

Fairly good from Kuninen Road but the road is in poor shape. The northeastern part of the compartment has limited access thru private ownership. Poor access from the south.

Survey Needs:

none at this time.

Recreational Facilities and Opportunities:

General forest recreation such as hunting and fishing. Deer hunting is the primary activity.

Fire Protection:

This compartment has a very low risk for wildfire. This is due to hardwood or swamp soils.

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

Gwinn Mgt. Unit

Compartment 99

Year of Entry 2019

Kevin LaBumbard : Examiner

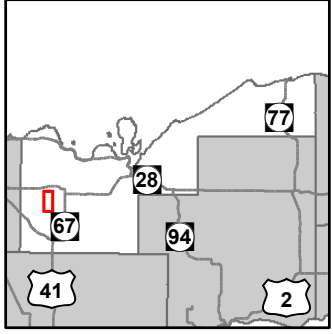


Age Class

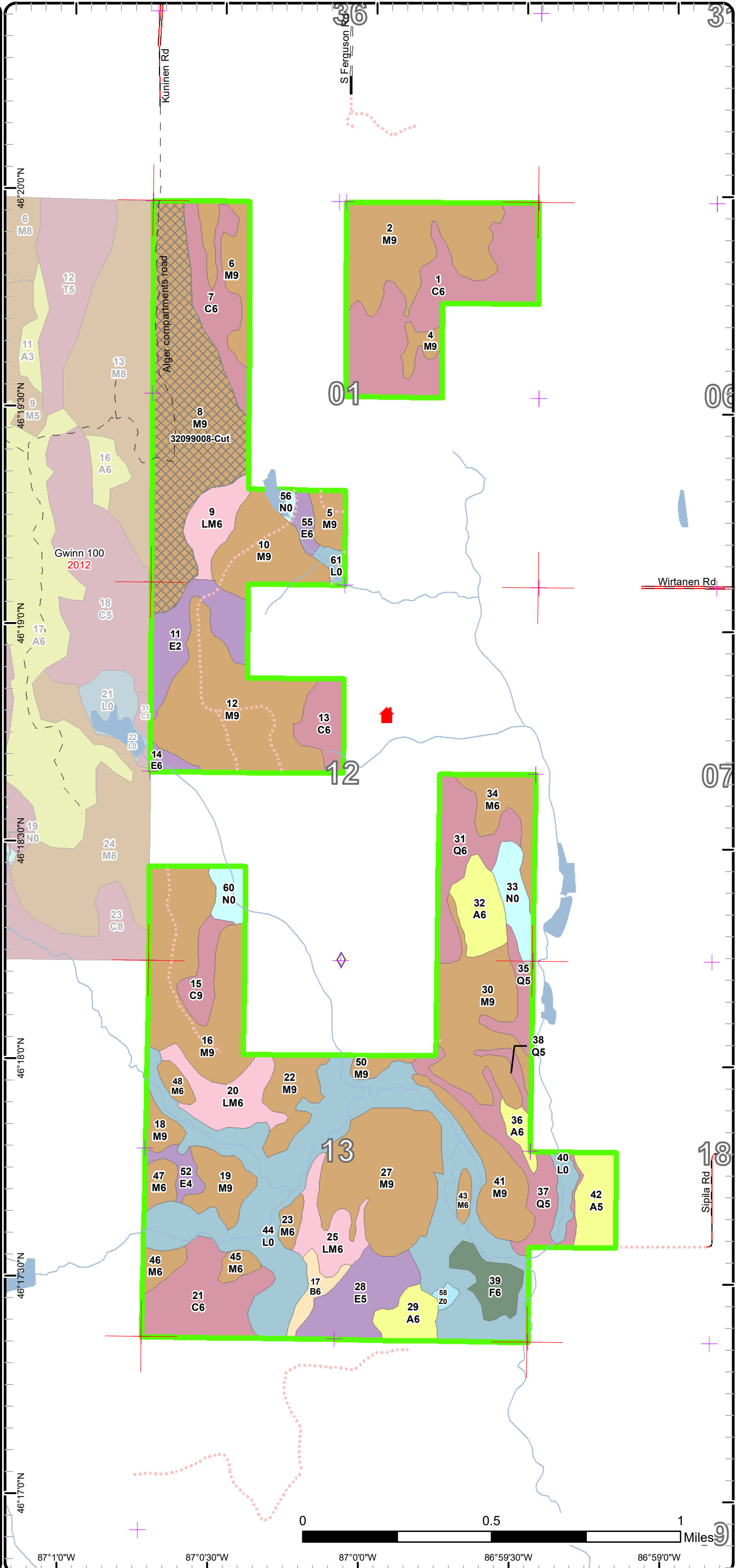
	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	0	0	0	0	0	17	12	5	17	0	0	0	0	0	0	0	51
Cedar	0	0	0	0	0	0	0	0	0	40	117	0	0	0	0	0	0	0	157
Lowland Conifers	0	0	0	10	0	0	0	0	0	0	57	0	0	0	0	0	0	0	67
Lowland Deciduous	0	0	0	32	0	0	0	0	34	0	4	0	0	0	0	0	0	0	70
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	40	16	0	0	0	0	0	0	0	56
Lowland Shrub	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160
Marsh	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Northern Hardwood	0	0	0	0	0	0	0	0	0	4	19	0	0	0	0	0	0	557	580
Paper Birch	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Upland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	185	0	0	42	0	0	0	24	46	89	244	0	0	0	0	0	0	557	1187

Cover Type & Treatments Map

Compartment: 99
 T45N, R22W, Sec. 01, 12, 13
 County: Alger
 Unit: Gwinn
 Mgmt Area: Chatham-Autrain Moraines
 YOE: 2019
 Acres: 1186 GIS Calculated
 Examiner: Kevin LaBumbard
 Map Revised: 1/12/2018
 Map Phase: Post-Review

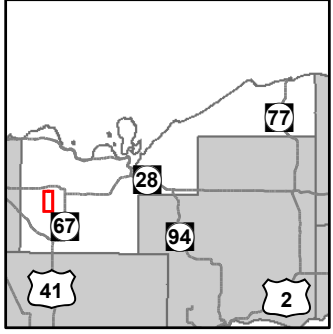


- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- - - Counties
- 🏠 Cabin
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- - - Poor Dirt Roads
- ⋯ Closed
- Streams
- Lakes and Rivers All
- ▭ Compartment Boundary
- ▨ Selection (Group, Single Tree)
- 411 - Northern Hardwood
- 413 - Aspen
- 414 - Other Upland Deciduous
- 423 - Other Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes

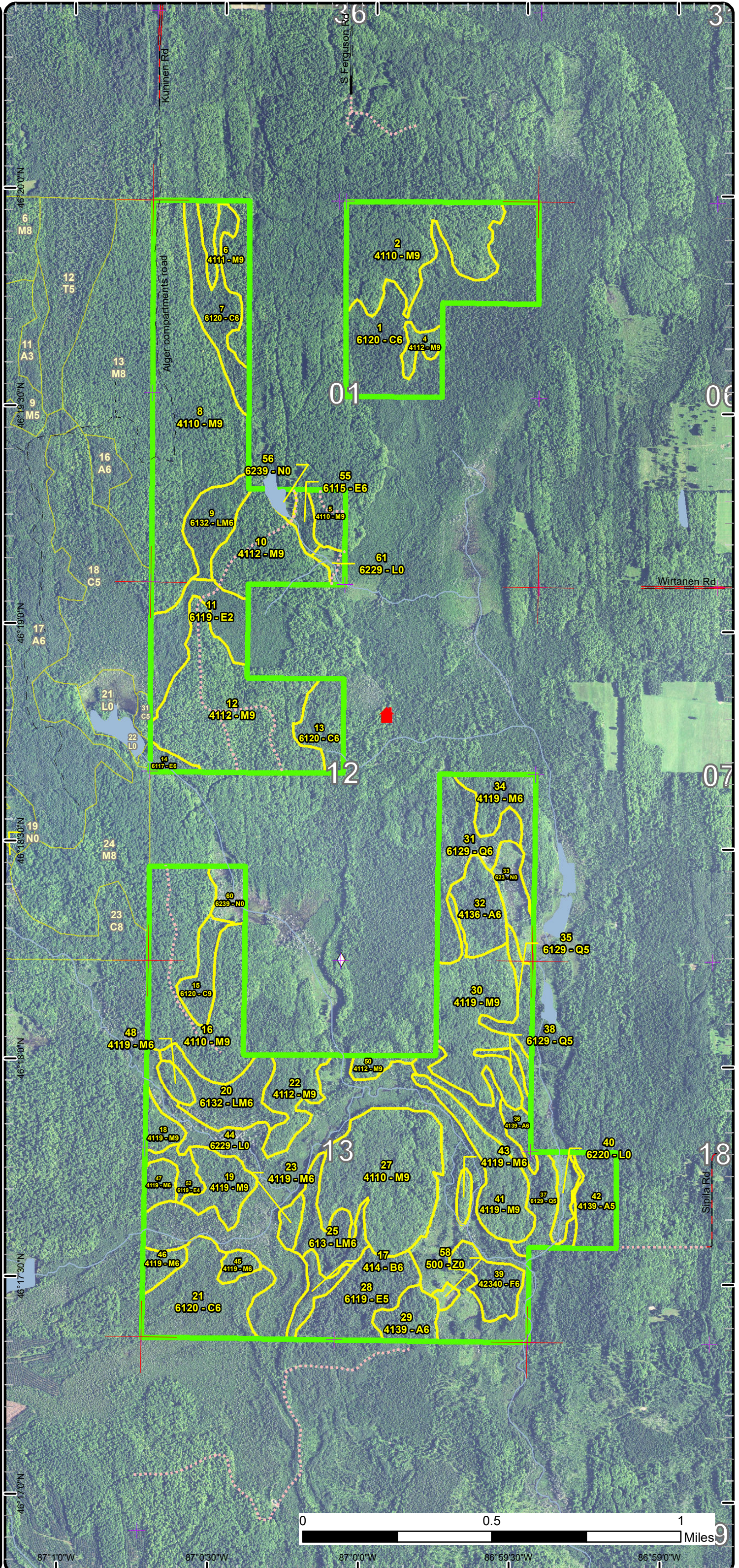


Stand Boundary Map

Compartment: 99
 T45N, R22W, Sec. 01, 12, 13
 County: Alger
 Unit: Gwinn
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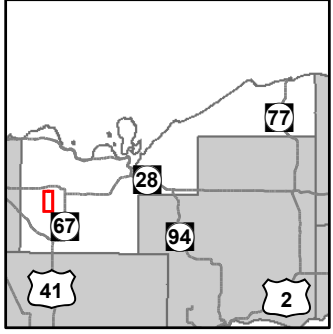


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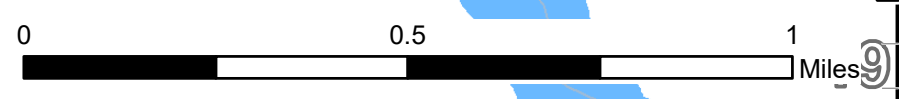
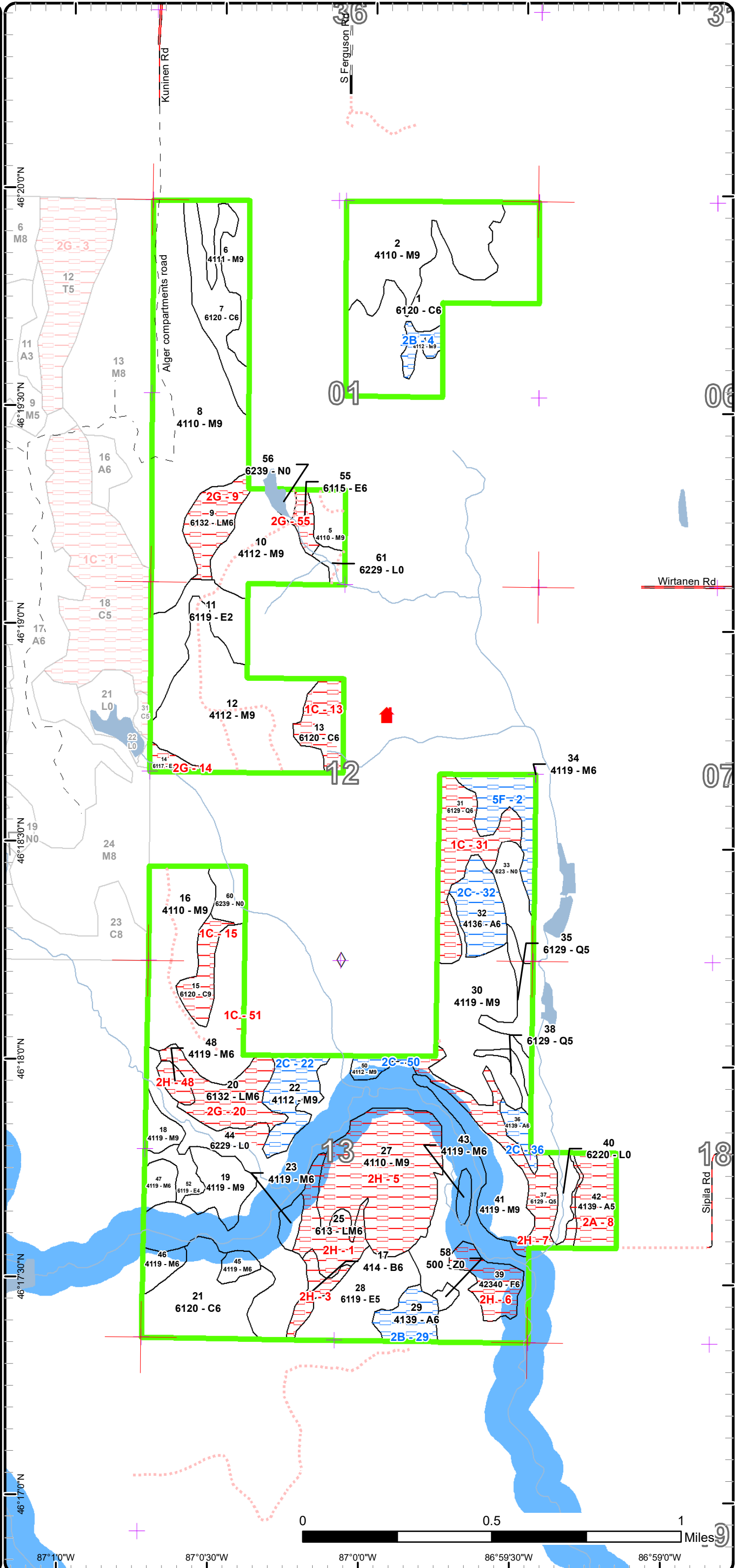


Special Conservation Areas & Site Conditions Map

Compartment: 99
 T45N, R22W, Sec. 01, 12, 13
 County: Alger
 Unit: Gwinn
 Mgmt Area: Chatham-Autrain Moraines
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- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)
- 1C: Other dept or div proc/practices
- 2A: Adjacent landowner denied access
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



87°10'W 87°0'30"W 87°0'0"W 86°59'30"W 86°59'0"W



Report 2 – Treatment Summary

Gwinn Mgt. Unit

Year of Entry: 2019

Acres of Harvest

Compartment 99

Total Compartment Acres: 1,186

Commercial Harvest - 100
 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
Northern Hardwood		0	100	0	0	0	0	0	0	0	100
	Total	0	100	0	0	0	0	0	0	0	100

Proposed and Next Step Treatments by Method

		Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current		100	0	0	0	0	0	0	0	0	100
Next Step		0	0	0	0	0	100	0	0	0	100
	Total	100	0	0	0	0	100	0	0	0	200



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
8 32099008-Cut	99.9	4110 - Sugar Maple Association	Sawtimber Well	99	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Uneven-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Selection harvest to 80 ba. Canopy gap size should be adequate with standard sawlog size tree removal. No large gaps will be required in this high snowfall zone. Retain as much cherry and Y. birch as possible, as well as basswood. Consider winter harvest only as access road is quite wet.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable sugar maple

Regen:

Other WLD - Maintain as much closed canopy as possible- Northern Goshawk

Comment:

Proposed Start Date: 10/01/2018

Total Treatment Acreage Proposed: 99.9

Report 4 – Site Conditions

Gwinn Mgt. Unit

Kevin LaBumbard : Examiner

Compartment: 99

Year of Entry: 2019

Availability for Management

Total	Acres	Acres Avail	Acres
Acres	Available	<i>With Condition</i>	Not Available

Dominant Site Conditions

	Availability for Management			Dominant Site Conditions							
	Acres	Available	<i>With Condition</i>	2B	2C	5F	1C	2A	2G	2H	
51	0	34	17	Aspen	12	22			17		
157	131	1	26	Cedar	1			26			
67	13	0	53	Lowland Conifers				28			26
70	61	0	8	Lowland Deciduous						8	
56	0	0	56	Lowland Mixed Forest						38	18
160	157	0	3	Lowland Shrub						3	
23	23	0	0	Marsh							
580	469	45	66	Northern Hardwood	5	21	19	1			65
7	0	0	7	Paper Birch							7
14	0	0	14	Upland Spruce/Fir							14
2	2	0	0	Water							
1,186	856	80	250	Total Forested Acres	18	44	19	55	17	49	129
	72%	7%	21%	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	Dominant Site Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable		2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Blocked by Johnson Creek.								
2	Available		5F: Evaluated for Forest Health Considerations	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Low quality, sparse stand; difficult access								

Report 4 – Site Conditions

Gwinn Mgt. Unit

Kevin LaBumbard : Examiner

Compartment: 99

Year of Entry: 2019

3	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	2B: Unknown if access through adjacent landowner(s) is possible	6	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	61	3A: Conservation Values incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
Comments: Candidate for Type 2 Old Growth.							
6	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	2A: Adjacent landowner denied access	17	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit

Kevin LaBumbard : Examiner

Compartment: 99

Year of Entry: 2019

9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	16	4A: No Markets Available for these Forest Products	1C: Other dept or div proc/practices	Unspecified	Unspecified
Comments:							
13	Unavailable	1C: Other dept or div proc/practices	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	1C: Other dept or div proc/practices	3G: Other Influence zones - See comments	Unspecified	Unspecified
Comments:							
15	Unavailable	1C: Other dept or div proc/practices	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
20	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	25	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Available	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	17	2E: Road needed	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit

Kevin LaBumbard : Examiner

Compartment: 99

Year of Entry: 2019

29	Available	2B: Unknown if access through adjacent landowner(s) is possible	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
31	Unavailable	1C: Other dept or div proc/practices	28	3G: Other Influence zones - See comments	Unspecified	Unspecified	Unspecified
Comments:							
32	Available	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	17	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments:							
36	Available	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	5	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments:							
48	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	4	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit

Kevin LaBumbard : Examiner

Compartment: 99

Year of Entry: 2019

50	Available	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	4	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	3G: Other Influence zones - See comments	Unspecified	Unspecified
Comments:							
51	Unavailable	1C: Other dept or div proc/practices	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
55	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	3G: Other Influence zones - See comments	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

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



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	Poletimber Well	69.2	99	81-110	Converting to cedar from mixed swamp conifer. Mostly well-stocked Q along high ground edge fading to poorly stocked small cedar interior with good cedar regeneration 2-5' tall in gaps. Many sparse areas along with thickly stocked cedar patches. Wet ground, overall mixed swamp conifers. Stream and springs in stand.
2	4110 - Sugar Maple Association	Sawtimber Well	53.6	180	81-110	FMD: Thinned 1990. Excellent regen. 1" dbh Sugar maple. High quality sawlog stand. BA only about 80. Some mortality. Some older large trees here with good wildlife values. Small patch of aspen west probably convert to hardwoods when stand is cut next. Wet swales, some seasonal drainage. More gaps west where blowdown occurred. Crown room, no needs this entry period. 2017-access limited private landowners. The multiple swales with standing water will make harvesting a challenge with modern day equipment. BA's are still lower than they should be but it would be nice to release the regeneration.
4	4112 - Maple, Beech, Cherry Association	Sawtimber Well	5.3	180	81-110	Several vernal ponds. Knife ridge west about 1/2 of stand. Small stream just north of stand. Medium quality, good potential. Diverse stand, hemlock and beech in spots.
5	4110 - Sugar Maple Association	Sawtimber Well	8.3	180	81-110	OPIC - FMD: Thinned 1992. Good quality large trees mostly high quality sugar maple. Some areas ok BA so overall would be light thin. Need access through private land, unknown at this time. In the northern hardwood stands we will retain representatives of all species present as well as all size classes. We will retain some den trees as well as other trees important to wildlife. ***Stand set-up as sale #005-09 "Fergie Hardwoods" (unit 1) - limiting factor removed and thinned Oct, 2010.
6	4111 - S.Maple, Hard Mast Association	Sawtimber Well	18.8	180	51-80	Cut 2000-2002 northern michigan veneers permit #25-99-01. Fair to good quality M9 or M8M6 stand. Good regeneration 3-6' sugar maple. Some N-S swales with seasonal drainage. Areas of M7M6 but center ridge is M9 good quality sawlog sugar maple. 2017-most of the beech in the stand full of scale. Variable BA's.
7	6120 - Lowland Cedar	Poletimber Well	25.1	87	51-80	OPIC - FMD: Seasonal drainage. Mix of E and Q. More ash north part with more cedar and mixed swamp conifers south. Some patches of thick cedar. Some gaps. Mostly low, wet but some more upland areas with y. birch, red maple, and black ash.
8	4110 - Sugar Maple Association	Sawtimber Well	99.9	99	111-140	High quality sawlog stand. Good regeneration of sugar maple, 2 cohorts 1979 and 2002, 2" dbh and 6' tall. . Cut permit #15-99-01 in 2000-2002 northern michigan veneers (Gehling). Almost all good quality trees with 4-6 log(8') potential. A few ruts south end. Some sugar 24" nice quality. More red maple and yellow birch south.
9	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	15.8	97	81-110	Mix of Q and E. Pockets of water with cattails, marsh marigolds. Big spruce and cedar with smaller ash, fir. Some nice yellow birch on high ground edge. Wet, low with drainage south. Smaller trees and more sparse interior of stand. A few high areas with red maple.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
10	4112 - Maple, Beech, Cherry Association	Sawtimber Well	31.7	99	81-110	OPIC - FMD: Thinned 1992. Good quality large trees mostly high quality sugar maple. 1/2 of area sw of stream is red maple type. Also patches of hemlock. Some areas ok BA so overall would be light thin. Need access through private land, unknown at this time. In the northern hardwood stands we will retain representatives of all species present as well as all size classes. We will retain some den trees as well as other trees important to wildlife. ***Stand set up as sale #005-09 "Fergie Hardwoods" - limiting factor removed. 2016-thinned Oct, 2010-2015. Multiple problems with the sale.
11	6119 - Mixed Lowland Deciduous Forest	Sapling Medium	26.3	24	Immature	P2 wet site 2" dbh average. Sparse areas. Some fir, red maple clumps w. birch cherry etc. with willow and alder. Should completely fill in with trees eventually. Sparse overall and many non-stocked areas now. 2017-2-3" black ash, sugar maple, aspen, and willow. Odd to see sugar maple and black ash growing side by side. Very wet.
12	4112 - Maple, Beech, Cherry Association	Sawtimber Well	72.9	99	81-110	OPIC - FMD: Thinned 1992. M3 1" dbh in gaps. Patch of hemlock north point of stand. Fair to good quality. Some dieback, due to soil compaction? Ready for thinning but some gaps so will be light thin. Swales and vernal ponds. Need private land access, unknown at this time. In the northern hardwood stands we will retain representatives of all species present as well as all size classes. We will retain some den trees as well as other trees important to wildlife. ***Stand set up as sale #005-09 "Fergie Hardwoods" - limiting factor removed. 2016-thinned Oct, 2010-2016. Multiple problems with the sale, it was never completed, with part of this stand uncut.
13	6120 - Lowland Cedar	Poletimber Well	14.7	82	81-110	OPIC - FMD: A mix of Q,C, and E. Cedar patches with gaps containing small ash, yellow birch and red maple. Sparse, not overstocked in most areas.. Young trees mostly.
14	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	3.7	92	51-80	Sparse blowdown. Open. High banks merge to M type. Mix of E6 and Q6 with sparse areas. Small stream within stand.
15	6120 - Lowland Cedar	Sawtimber Well	11.1	92	111-140	Mostly big cedar especially east. Some E6 areas and wetter west. Overall C9 with slightly higher ground than most cedar.
16	4110 - Sugar Maple Association	Sawtimber Well	67.0	99	81-110	Good to high quality stand. Thinned 2001-2003 Taskey forest mgmt. Permit #26-99-01. No needs at this time. Nice sugar maple on center of ridges. More red maple and yellow birch toward cedar. Some high BA areas but overall OK. Good regeneration started about 3' tall. 2017-contains 2 acre cedar stand west side, 1 acre cedar stand east side. Regen is now 10-20' tall. Stand is mostly sawtimber size, with a lack of 6-10" dbh poles. Access will be a problems. Winter sale plus we'll need permission again from the Turovaara's. Reference recently closed "Fergie Hardwoods".
17	414 - Other Upland Deciduous	Poletimber Well	7.0	67	81-110	OPIC - FMD: Steep moraine or esker. Knife edge with narrow peak and steep slopes to swamp. Birch is converting to hardwood, mostly sugar maple. Some areas no aspen. Birch look in good shape and are mostly smaller trees 2-3 stick. Poor access.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	4119 - Mixed Northern Hardwoods	Sawtimber Well	6.3	180	81-110	OPIC - FMD: SCA. Mostly fair or poor quality hardwood. Good cherry. Some hemlock. Some large trees, cull but good wildlife value. Put in biodiversity maintenance 1999 entry to balance out hardwood percentage. Stand ties in well with adjacent riparian areas of Johnson creek. Poor access.
19	4119 - Mixed Northern Hardwoods	Sawtimber Well	15.0	180	81-110	OPIC - FMD: SCA. Big cedar and hemlock on edges of stand. Large hemlock interior 30"+ dbh but not sawlog quality. Poor timber quality hardwood mostly red maple. Some low ground in stand area. Big yellow birch. High wildlife value den trees etc. Stand was put in biodiversity maintenance to add to hardwood percentage in 1999. Also has old growth characteristics. Good tie in to adjacent riparian area of Johnson creek.
20	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	22.4	87	51-80	SCA. Mostly 2-3 stick ash with scattered cedar, spruce, fir and w. birch. Some Q6 mostly along upland areas. Some cedar in patches. Some alder areas. E6E5 mostly overall. Johnson Creek headwaters.
21	6120 - Lowland Cedar	Poletimber Well	37.0	92	81-110	SCA. Mix of C6 patches with ash scattered. Some sparser E5 or C5 areas. Some thick high BA cedar areas. Thickest cedar between hardwood islands north with wetter, more sparse areas mostly south. Put in biodiversity maintenance in 1999 to protect riparian values of Johnson creek.
22	4112 - Maple, Beech, Cherry Association	Sawtimber Well	17.1	180	111-140	Mostly good quality hardwood stand marked in 1989 not cut. Also sold again in 1999 and not cut. Paint is nonexistent. Very poor access involving small stream crossings. Stand has limiting factors with vernal ponds and drainages. Areas of large, poor timber quality trees with dens and other wildlife values. 1/2 of stand is red maple type but not poor quality.
23	4119 - Mixed Northern Hardwoods	Poletimber Well	4.1	99	81-110	- FMD: Small hardwood stand mostly red maple type. Upland cedar mixed in. Mostly pole stand but some larger trees. Access blocked by Johnson Creek.
25	613 - Lowland Mixed Forest	Poletimber Well	17.8	87	51-80	Small trees, mix of Q and E. Not real low ground.
27	4110 - Sugar Maple Association	Sawtimber Well	61.2	180	111-140	OPIC - FMD: Most of stand is M9 very good quality sugar maple with large log trees to 24"+ dbh. M3 1" areas near old opening. Areas around opening small trees and aspen in former open area filling in. Aspen south. Vernal ponds and drainages. Steep topography in spots, not feasible for cutting. Access blocked by Johnson Creek and trib. Consider for Type 2 old growth.
28	6119 - Mixed Lowland Deciduous Forest	Poletimber Medium	28.6	77	1-50	Smaller trees P6 fades to P4. Mostly P5. Small area of upland aspen. Dogwood shrub layer as well as alder more south. Mostly wet ground.
29	4139 - Aspen, Mixed Deciduous	Poletimber Well	11.7	77	51-80	Mostly A6 with about 1 acre of M6 SE. Some fir on edges. 3-4 stick hardwood under mature 6-stick aspen. 1 acre sparse. Vernal areas. Poor access through private and numerous stream crossings. Possible access from the south but a big effort for less than 12 acres of actual treatment area.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	4119 - Mixed Northern Hardwoods	Sawtimber Well	48.6	180	81-110	Good quality especially on higher ground. Large trees in spots. Over half the stand ready for thinning, other areas not overstocked. Defect in some large trees but some nice stems too. Excellent regeneration. M5 with big aspen on east side. Poor access through private and many stream crossings.
31	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	27.8	92	51-80	Mix of C and Q. Sparse areas wet with alder. Stream in center. Cedar mostly small except high ground edge is larger. Q6Q5. Small area of high ground NW included in stand.
32	4136 - Aspen, Mixed Conifer	Poletimber Well	17.0	92	81-110	Aspen 12-14". Access very poor due to multiple streams and private land. Much of stand north is converting to poor quality hardwood and fir mix. Most of the rest of stand still contains a lot of aspen. Some Balsam poplar areas west with a little wetter soil.
34	4119 - Mixed Northern Hardwoods	Poletimber Well	18.6	92	51-80	M6M5. Dead fir areas. Some aspen but most aspen gone from stand from age or beaver activity. Sparse areas with thick hazel and M3. Some low areas with ash. Poor access.
35	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	9.9	27	Immature	Mix of E and Q. Ash swale with stream. More Q east but more ash in swale. Some wider areas upstream. Brush areas with hazel, alder and scattered spruce and ash. Year origin due to past beaver activity.
36	4139 - Aspen, Mixed Deciduous	Poletimber Well	5.2	87	51-80	Poor access due to being blocked by private land and numerous stream crossings. Mix of aspen mature with poor quality hardwood.
37	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	25.6	92	1-50	Mix of E and Q. Ash swale with stream. More Q east but more ash in swale. Some wider areas upstream. Brush areas with hazel, alder and scattered spruce and ash. 2017-contains small area of upland hardwoods in NW along private. Mostly red maple.
38	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	3.4	92	1-50	Mix of E and Q. Ash swale with stream. More Q east but more ash in swale. Some wider areas upstream. Brush areas with hazel, alder and scattered spruce and ash.
39	42340 - Upland Spruce/Fir	Poletimber Well	13.6	92	51-80	Upland area mostly spruce/fir with hardwood mixed in. Beaver active, and most aspen cut out. Remote beaver flooding area and blocked by private land so access is poor. Not feasible to cut. N-S ridge with some smaller aspen south. Most of stand well-stocked well-spaced mature spruce and fir.
41	4119 - Mixed Northern Hardwoods	Sawtimber Well	24.0	180	81-110	Good quality especially on higher ground. Large trees in spots. Over half the stand ready for thinning, other areas not overstocked. Defect in some large trees but some nice stems too. Excellent regeneration. M5 with big aspen on east side. Poor access through private with multiple stream crossings.
42	4139 - Aspen, Mixed Deciduous	Poletimber Medium	16.9	67	51-80	N-S vernal stream in stand. Hardwood and fir patches. 4-5 stick aspen with with some 3-stick aspen and 3 stick hardwood. Red maple clumps and cherry poor timber quality. Wet areas, drainages, alder areas. Access poor due to private land.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4119 - Mixed Northern Hardwoods	Poletimber Well	2.9	180	51-80	. Stream 10-15' wide on all sides of this small "island" Cedar on edge. Large trees. Good sugar M9 also big yellow birch. Would make a good Type 2 old growth stand.
45	4119 - Mixed Northern Hardwoods	Poletimber Well	4.2	180	51-80	SCA. Small hardwood island in swamp mostly poor quality red maple with fir. Big trees, dens etc. Some hemlock. Dead fir areas, not overstocked.
46	4119 - Mixed Northern Hardwoods	Poletimber Well	5.9	180	81-110	SCA. Sugar maple type. Larger trees with dens and generally poor timber quality but good potential. Poor access.
47	4119 - Mixed Northern Hardwoods	Poletimber Well	6.2	180	81-110	Big trees scattered large hemlock to 25"+dbh. Mostly red maple poor timber quality but good wildlife values. Some good sugar maple potential.
48	4119 - Mixed Northern Hardwoods	Poletimber Well	4.2	87	51-80	SCA. Poor timber quality red maple yellow birch, hemlock. Upland cedar. Dens. Stream on north edge too.
50	4112 - Maple, Beech, Cherry Association	Sawtimber Well	4.3	99	81-110	2017- Mostly red maple type but good sugar on top of slope. Steep slopes in spots. Vernal lower. Access blocked by streams and lack of access through private.
52	6119 - Mixed Lowland Deciduous Forest	Poletimber Poor	6.1	27	Immature	Small ash E4E2 with alder. Flooded by beaver in past.
55	6115 - Lowland Ash	Poletimber Well	4.8	77	51-80	Stream , sparse grass areas. Areas of Q6E6. Smaller trees. Put in biodiversity maintenance to protect riparian values of stream. Hardwood is mostly red maple and elm.



Stand	Cover Type	Acres	Managed Site	General Comments:
33	623 - Emergent Wetland	12.4	No	OPIC - FMD: Flooded beaver pond at this time in 2007. 2017 current imagery shows most of the water gone.
40	6220 - Alder/willow	6.8	No	Drained beaver pond. Sparse alder and scattered trees.
44	6229 - Mixed lowland shrub	149.6	No	OPIC - FMD: SCA. Mostly lowland brush (alder) with some areas more recently drained grass and sedge. Some scattered trees and patches of lowland conifers. Some flooded areas. Johnson Creek. Put in biodiversity maintenance to protect riparian values of stream.
56	6239 - Mixed Emergent Wetland	2.8	No	OPIC - FMD: SCA. Mostly drained beaver flooding. Put in biodiversity maintenance to protect riparian values of stream.
58	500 - Water	1.8	No	Flooded beaver pond
60	6239 - Mixed Emergent Wetland	8.0	No	Former flooded beaver pond. Now marsh.
61	6229 - Mixed lowland shrub	3.6	No	Mostly lowland brush (alder) with some areas more recently drained grass and sedge. Some scattered trees and patches of lowland conifers. Some flooded areas. Johnson Creek. Put in biodiversity maintenance to protect riparian values of stream.