



Compartment Review Presentation

Shingleton Forest Management Unit

Compartment 175

Entry Year 2016

Acreage: 864

County Alger

Management Area: Pictured Rocks Buffer

Revision Date: 05/02/2014

Stand Examiner: Mario Molin

Legal Description:

T47N R17W Sections 8, 9, 16 and 17

Identified Planning Goals:

Timber production, wildlife habitat management, and protection of fisheries resources in the Mosquito River drainage.

Soil and topography:

The rolling terrain in the northern portion of the compartment is generally composed of fine sands to fine sandy loams, with short slopes ranging from 0 to 12%. To the south and along the Mosquito River corridor, the terrain is considerably flatter and muck soils are predominant.

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

Several hunting camps are located on the private lands in and around this compartment. Most of the private acreage in section 16 is CFR land owned by the Forest Land Group (formerly Shelter Bay Forests).

There is a buried power cable in this compartment that runs immediately adjacent to County Road 639, on the south side of the road.

Both the state and private lands have been managed for timber production.

Unique Natural Features:

No Unique Natural Features known.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

The Mosquito River and a number of its tributaries flow through this compartment. The headwaters of the Mosquito are located in section 9 on state land. Also, there is fairly heavy traffic along County Road 639 due to its proximity to Pictured Rocks National Lakeshore; aesthetics should be considered when managing timber near the road.

Watershed and Fisheries Considerations:

Fisheries Values: Good to Excellent

Fisheries Concerns: Mosquito Creek flows through the middle of this compartment and is a designated trout stream.

Brook trout populations are present and this stream has been a suggested coaster brook trout stream also. Tobi Harbor brook trout were stocked here at one time. No Aspen stands exist in this compartment, but a premium on keeping the canopy cover over the stream and limiting erosion should be maintained. In stands 17 and 24 the clear-cuts should maintain a minimum of a 100 ft buffer from the stream. Stand 22 should maintain a minimum of a 100 foot buffer from the stream. The smaller tributaries should be treated the same as the mainstem of the Mosquito River.

Wildlife Habitat Considerations:

During pre-settlement times, the upland areas in this compartment supported a mixed deciduous/coniferous forest. The deciduous species of this forest consisted primarily of American Beech, sugar maple, and yellow birch. Hemlock, balsam fir, spruce and white cedar were the dominant upland conifers. Lowland areas supported a diverse forest of cedar, spruce, tamarack, red maple and black ash. The Mosquito River and several tributaries lie within this compartment.

Lowland areas within this compartment appear to be similar to pre-settlement species composition. Upland areas remain dominated by northern hardwood stands. However, the species composition of those stands has shifted from a heterogeneous mixture of hardwoods and conifers to a system dominated by sugar maple. The amount of hemlock and spruce in those stands appears to have been reduced.

The wildlife habitat management regime consists of protecting the hydrology along the Mosquito River and its tributaries,

maintaining closed canopy lowland conifer stands, and providing age and structural diversity within the northern hardwood communities; including increasing the hemlock component.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of end moraine of medium-textured glacial till. There is insufficient data to determine the glacial drift thickness. The Ordovician Prairie du Chien (PdC) Formation subcrops below the glacial drift. The PdC could be used for stone. The nearest gravel pit is one mile to the east and there should be potential in the compartment. There is no commercial oil and gas production in the UP.

Vehicle Access:

County Road 639 forms the northern boundary of this compartment, and several two-track logging roads enter the compartment from it. The western boundary is the Camp 15 Road, which is currently flooded by beaver activity along the Mosquito River. Once the beaver are controlled, this road and its various water crossings must be re-assessed. Several two-tracks also connect to this road, and at least one portable bridge and several culverts will be needed to make them usable for the proposed timber sale activities.

Survey Needs:

Additional land survey work may be needed in sections 8 and 16 to facilitate proposed timber sale activities in stands #4, #5, #8 and #13.

Recreational Facilities and Opportunities:

The state lands in this compartment are subject to moderate hunting pressure, and the Mosquito River provides trout fishing opportunities. There are no developed recreation sites in this compartment.

Fire Protection:

The fuel types in this compartment are not generally regarded as high-risk unless prolonged drought occurs. Access to certain areas is currently difficult due to the situation on the Camp 15 Road and the water crossings on the two-tracks.

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**

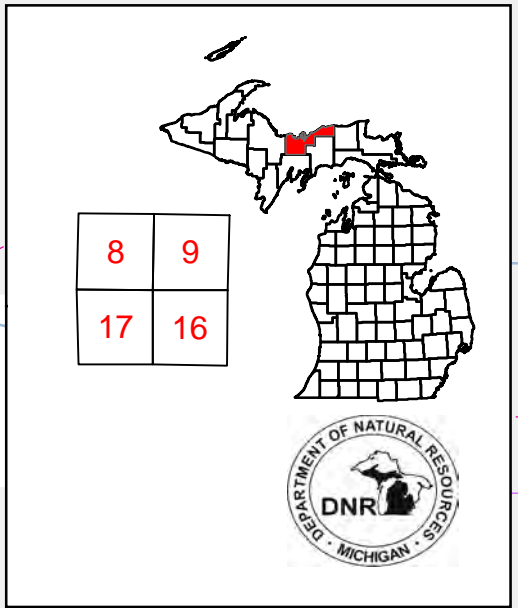
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

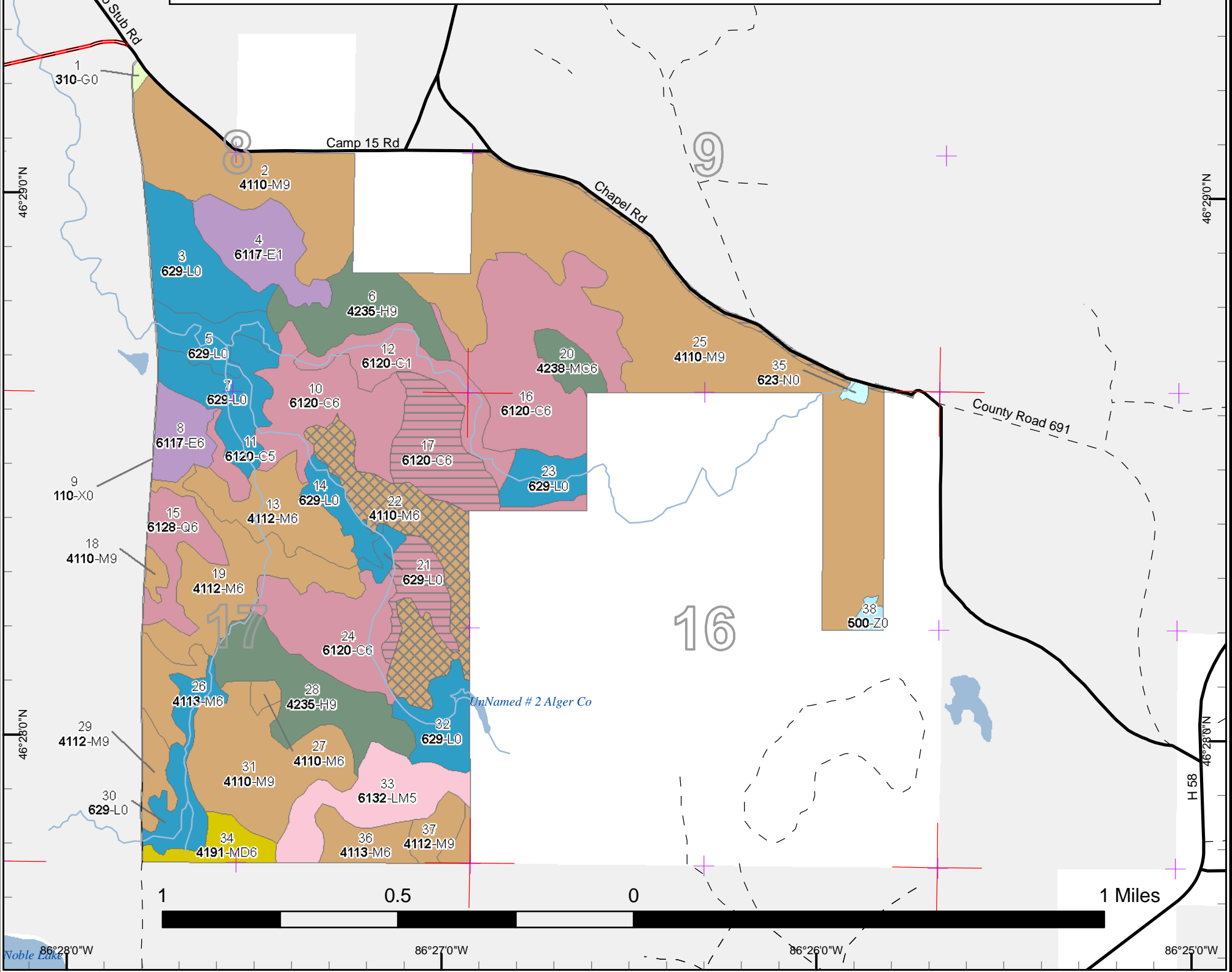
Compartment: 175
 T47N R17W
 08 09 16 17
 County: Alger
 Unit: Shingleton
 Management Area: Pictured Rocks Buffer
 YOE: 2016
 Acres: 864 GIS Calculated
 Examiner: Mario Molin
 Map Revised: 07/30/2014
 Map Phase: Pre-Review

Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



Legend

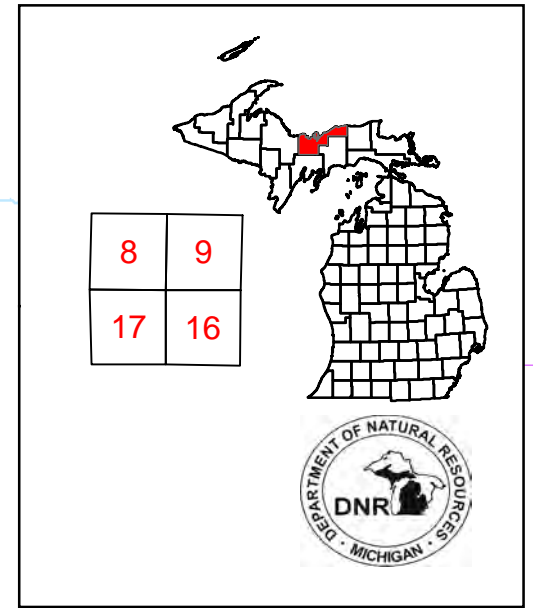
<ul style="list-style-type: none"> — Miris Corners — Highway — County Paved Roads — Paved Roads — County Gravel Roads — Gravel Roads — Poor Dirt Roads — County Poor Dirt Roads — Trail (Non-Recreation) — Stream — Intermittent Stream — Lakes and Rivers — State Forest Land 	<p>Non-Forest Regeneration</p> <p>Planned Regeneration</p> <ul style="list-style-type: none"> — Natural — Planted <p>Treatments</p> <ul style="list-style-type: none"> — Clearcut (w/Reserves, Patch/Strip) — Selection (Group, Single Tree) — Treatments w/ Site Condition 	<p>Forest Stands</p> <p>Level 3</p> <ul style="list-style-type: none"> 411 - Northern Hardwood 419 - Mixed Upland Deciduous 423 - Other Upland Conifers 611 - Lowland Deciduous Forest 612 - Lowland Coniferous Forest 613 - Lowland Mixed Forest <p>Non-Forest Stands</p> <p>Level 3</p> <ul style="list-style-type: none"> 110 - Low Intensity Urban 310 - Herbaceous Openland 500 - Water 623 - Emergent Wetland 629 - Mixed non-forested wetland
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Special Conservation Areas & Site Conditions Map

Compartment: 175
 T47N R17W
 08 09 16 17
 County: Alger
 Unit: Shingleton
 Management Area: Pictured Rocks Buffer
 YOE: 2016
 Acres: 864 GIS Calculated
 Examiner: Mario Molin
 Map Revised: 07/30/2014
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Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



Legend

- Miris Corners
- Stand Boundaries

Site Condition Available

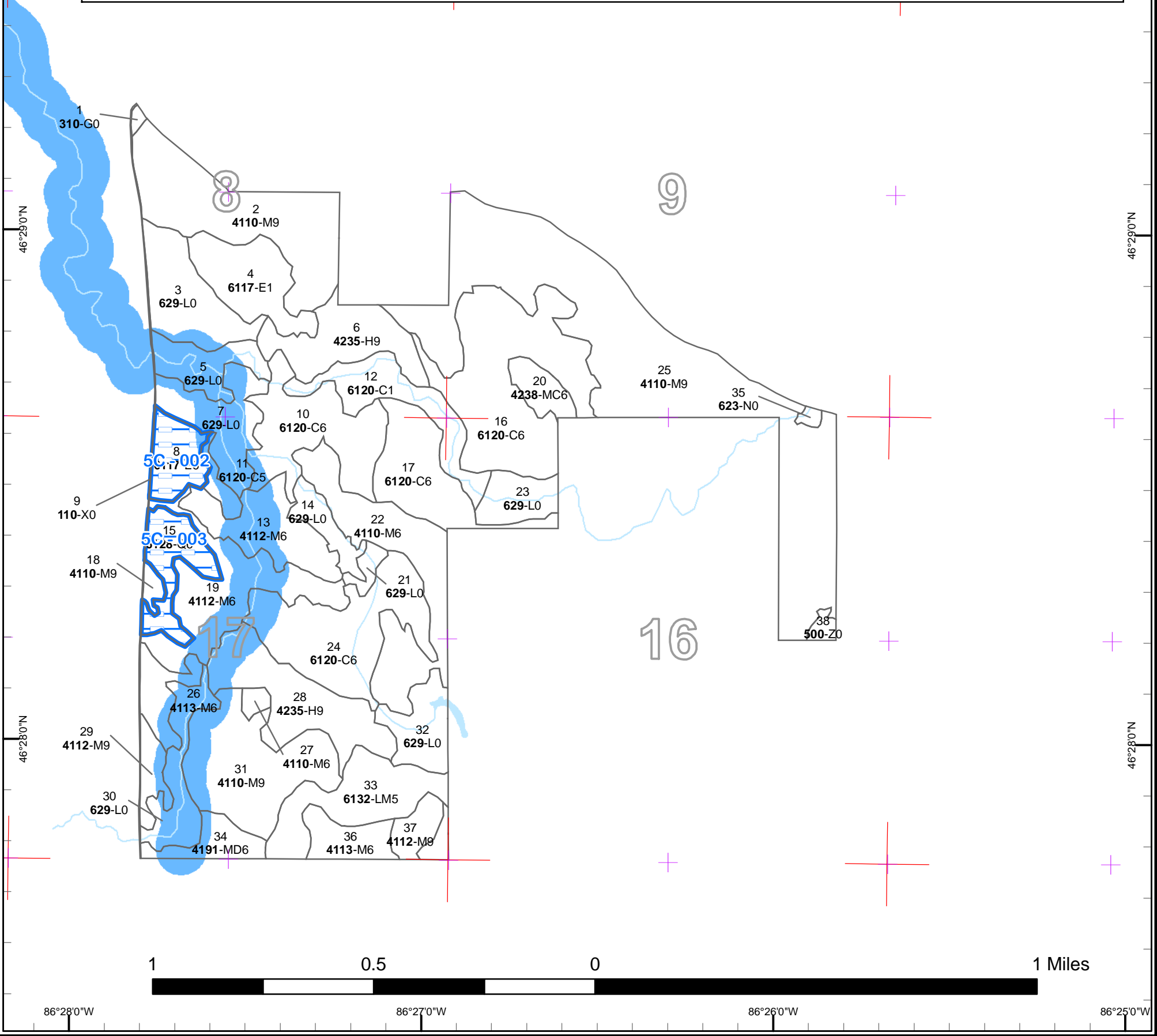
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)

Available Factors W/ Constraints

5C: Delay treatment for age/size class diversity or exceptional site quality

Reviewable SCAs

- Proposed SCA
- SCA Removal
- Cold Water Streams
- High Priority Trout Stream Buffer



Report 1 – Total Acres by Cover Type and Age Class



	Age Class													Total	
	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 +		Uneten Age
Cedar	0	0	0	23	0	0	0	0	4	0	0	108	63	0	198
Hemlock	0	0	0	0	0	0	0	0	59	0	0	0	0	0	59
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16
Lowland Deciduous	24	0	0	0	0	0	0	0	13	0	0	0	0	0	37
Lowland Mixed Forest	0	0	0	28	0	0	0	0	0	0	0	0	0	0	28
Lowland Shrub	117	0	0	0	0	0	0	0	0	0	0	0	0	0	117
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10
Northern Hardwood	0	0	0	2	0	0	0	0	382	0	0	0	0	0	384
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	147	0	0	54	0	0	0	0	468	0	0	108	87	0	864



Report 2 – Proposed Treatment Summaries

Shingleton Mgt. Unit
Year of Entry 2016

Compartment 175
Total Compartment Acres: 864

Acres by Treatment Type

Commercial Harvest - 88	Tree Planting - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Lowland Coniferous Forest	39	0	0	0	0	0	39
Northern Hardwood	7	42	0	0	0	0	49
Total	46	42	0	0	0	0	88



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
17	41175017-Cut	26.0	6120 - Lowland Cedar	High Density Pole	114	81-110	Harvest	Clearcut with Reserves	6120 - Lowland Cedar	Cmpt. Review Proposal

Prescription Clear cut with patches left, make patches in areas with heavy cedar and in areas with other species that are healthy.

Specs:

Other Stand has a noticable amount of birch, it is in decline, younger/healthier birch is on site, this should be included in some of the retention pockets
Comments:

Proposed access is through TFG property, gain permissions prior to set up.

Next Follow up according to work instructions.

Steps: Acceptable regeneration is any mix of species left on site.

Proposed

Start Date: 10/01/2015

22	41175022-Cut	41.9	4110 - Sugar Maple Association	High Density Pole	85	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Cmpt. Review Proposal
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Prescription Reopen/maintain regen gaps, create new regen gaps where possible and open up around black cherry where it makes sense. residual BA will vary, but an average of 70 BA should be left in the non regen hole/black cherry opening.

Specs:

Other Stand was cut in 1987 or 1988, has fairly good advanced regeneration. Canopy has closed up in most spots. Average BA of Sugar Maple is 86
Comments: Black Cherry is 10.

Proposed access is through TFG property, gain permissions prior to set up.

Next Follow up according to work instructions.

Steps:

Proposed

Start Date: 10/01/2015

24	41175024-Cut	13.0	6120 - Lowland Cedar	High Density Pole	114	141-170	Harvest	Clearcut with Reserves	6120 - Lowland Cedar	Cmpt. Review Proposal
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Prescription Stand will only be harvested on the East side of creek. Clear cut the stand maintaining 100 ft buffer along creek. Also use redline on east side of stand to carve out reserve areas.

Specs:

Other West side of stand has cold water/high priority trout designation.

Comments: Proposed access is through TFG property, gain permissions prior to set up.

Next Followup according to work instructions.

Steps: Acceptable regeneration is any mix of residual stand.

Proposed

Start Date: 10/01/2015

25	41175025-Cut_small	7.1	4110 - Sugar Maple Association	High Density Log	85	81-110	Harvest	Clearcut	122 - Roads/Parking Lot	Cmpt. Review Proposal
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Prescription Road widening

Specs:

Other

Comments:

Next None

Steps:

Proposed

Start Date: 07/07/2014

**Total Treatment
Acreage Proposed: 88.0**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type! #Type!

Prescription

Specs:

Other

Comment:

Next

Steps:

Proposed

Start Date: #Type!

Limiting Factor

**Total Treatment
Acreage Proposed: 0.0**

Report 5 – Site Conditions

Shingleton Mgt. Unit

Compartment 175

Mario Molin : Examiner

Year of Entry 2016

Availability for Management

Total Acres	Acres Available	Acres Not Available	Dominant Site Conditions	
			No	5C
198	198		Cedar	198
59	59		Hemlock	59
16	16		Lowland Conifers	16
37	37		Lowland Deciduous	24
28	28		Lowland Mixed Forest	28
10	10		Mixed Upland Deciduous	10
384	384		Northern Hardwood	384
8	8		Upland Conifers	8
740	740		Total Forested Acres	711
	100%		Relative Percent	29

**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
002	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	13				
Comments: Wait for next entry.							
003	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	16				
Comments: Wait for next entry.							



Report 6 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				



Report 7 – 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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.



S t a n d	Shingleton Mgt. Unit		Report 8 – Forested Stands			Compartment: 175 Year of Entry: 2016
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4110 - Sugar Maple Association	High Density Log	52.8	85	81-110	Cut in 2010, BA is a little high for just being cut, pay close attention to canopy closure and regeneration next entry to decide if a cut is necessary.
4	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Sapling	23.6	4	1-50	
6	42350 - Upland Hemlock	High Density Log	25.0	85	81-110	Big ridge line, quite steep in areas. Mix of size classes.
8	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	13.0	85	81-110	Odd littel stand, included a small grass opening with large hole in it, stand is both upland and lowland made of red maple and conifer species. Cut in mid/late 1980's.
10	6120 - Lowland Cedar	High Density Pole	35.2	114	141-170	Could argue to type out a Q stand in the north end near the middle of the stand (very difficult to see in imagery but there is a noticable change on the ground, dont feel it necessary because if the area is prescribed the treatment would likey be the same in the type types.
11	6120 - Lowland Cedar	Medium Density Pole	4.0	85	1-50	
12	6120 - Lowland Cedar	Low Density Sapling	22.9	35	1-50	Regenerating cedar stand, overstory died off. Mix of species is found.
13	4112 - Maple, Beech, Cherry Association	High Density Pole	24.1	85	51-80	Stand has a double set of ridges, hardwoods on higher ground and conifers in the lower. Cut in mid/late 1980's.
15	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	16.4	148	111-140	
16	6120 - Lowland Cedar	High Density Pole	63.1	134	111-140	
17	6120 - Lowland Cedar	High Density Pole	27.9	114	81-110	Stand is heavy to cedar with p. birch, spruce, fir, and r. maple. Paper birch is in decline and should be harvested.
18	4110 - Sugar Maple Association	High Density Log	2.4	85	51-80	Cut in mid/late 1980's.
19	4112 - Maple, Beech, Cherry Association	High Density Pole	36.0	85	51-80	Stand changes in size class and density throughout, Has good regeneration, stand (all hardwood stands in southern 1/2) was cut heavily in the mid/ late 1980's.
20	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Pole	7.9	134	111-140	

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Shingleton Mgt. Unit

Report 8 – Forested Stands

Compartment: 175
Year of Entry: 2016

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	4110 - Sugar Maple Association	High Density Pole	41.9	85	81-110	Good advanced regeneration 2-3 inch dbh. Diameter distributions is not well balanced, few trees in the small pole (4-6 in) range.
24	6120 - Lowland Cedar	High Density Pole	44.8	114	141-170	Creek cut through the middle.
25	4110 - Sugar Maple Association	High Density Log	143.3	85	81-110	Cut in 2010
26	4113 - R.Maple, Conifer	High Density Pole	10.3	85	51-80	Cut in mid/late 1980's. Has black ash elm and cedar.
27	4110 - Sugar Maple Association	High Density Pole	2.3	33	1-50	Cut in 1981.
28	42350 - Upland Hemlock	High Density Log	34.0	85	81-110	Cut in mid/late 1980's.
29	4112 - Maple, Beech, Cherry Association	High Density Log	6.9	85	51-80	
31	4110 - Sugar Maple Association	High Density Log	43.5	85	81-110	Cut in mid/late 1980's.
33	6132 - Mixed Lowland Forest with Cedar	Medium Density Pole	28.5	30	1-50	Generally submerchantable, black ash, red maple in southwest progressing to cedar to the east.
34	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	9.8	85	81-110	Cut in mid/late 1980's.
36	4113 - R.Maple, Conifer	High Density Pole	13.8	85	51-80	Cut in mid/late 1980's.
37	4112 - Maple, Beech, Cherry Association	High Density Log	7.1	85	51-80	Cut in mid/late 1980's.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3102 - Grass	0.9	No	Unspecified	
3	629 - Mixed non-forested wetland	25.5	No	Unspecified	Flooded area, killed all cedar, black ash sapplings.
5	629 - Mixed non-forested wetland	14.2	No	Unspecified	
7	629 - Mixed non-forested wetland	22.2	No	Unspecified	
9	11 - Low Intensity Urban	2.3	No	Low	
14	629 - Mixed non-forested wetland	8.6	No	Unspecified	
21	629 - Mixed non-forested wetland	3.3	No	Unspecified	
23	629 - Mixed non-forested wetland	11.5	No	Unspecified	
30	629 - Mixed non-forested wetland	16.9	No	Unspecified	
32	629 - Mixed non-forested wetland	14.9	No	Unspecified	Some cat-tails sticking up above the snow. Full of large dead cedar.
35	6239 - Mixed Emergent Wetland	1.3	No	Unspecified	
38	50 - Water	2.2	No	Unspecified	