



Compartment Review Presentation

Baraga Forest Management Unit

Compartment 11063

Entry Year 2019

Acreage: 1,092

County Ontonagon

Management Area: Central Houghton

Revision Date: 2017-05-17

Stand Examiner: Ryan Mattila

Legal Description:

Bohemia Township T51N, R37W, Sections 1, 12 and 13.

Identified Planning Goals:

To maintain a healthy sustainable forest with special consideration to wildlife and fisheries habitat.

Soil and topography:

Rolling upland with some large swamps. Somewhat excessively drained sands and loamy sands (Kalkaska, Gogebic and Keweenaw series) in the rolling uplands and some very poorly drained organic soils and poorly drained loamy soils (Carbondale, Tawas, Greenwood and Dawson) in the lowland swamps.

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

State land borders the compartment to the east. There are a few small parcels of private ownership scattered that border the compartment where some of the owners have harvested timber from their parcels, but most of the private owners use their land for recreational purposes. The majority of the surrounding land is owned by three different land management companies with primary goals of timber management.

Unique Natural Features:

MNFI indicates the potential for Red Shouldered Hawk, Eagle, Osprey, Great Blue Heron rookery, Goshawk, Moose and Gray Wolf in the compartment. There is also potential for Wood Turtle along riparian corridors.

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

BMP guidelines should be followed around the intermittent streams, Firesteel river and Senecal creek watercourses.

Watershed and Fisheries Considerations:

The streams in this compartment are cold water trout streams. There is a concern about bank erosion and stream crossings.

Wildlife Habitat Considerations:

Maintaining a conifer component in hardwood cover types provide habitat for many of the featured species in this compartment. Retaining mast producing and mature wildlife trees will benefit featured species including black bears, northern goshawks, pileated woodpeckers.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments appear to be fine-grained and not well-suited for construction sand & gravel. The compartment is located on the west side of the Keweenaw Fault that separates copper-bearing formations from older cratonic rocks. Metallic mineral potential appears to be low for the compartment. There is no known potential for economic oil and gas production in the UP.

Vehicle Access:

The Clear Lake Road is a state forest road which starts from Pike Lake Road (a county road) 3.5 to 4 miles east of the compartment. A forest road continues from the Clear Lake access site and heads WSW approximately 3.5 miles where it enters the east side of the compartment. A road does exist through the compartment to the Nichols Grade but is in need of a large culvert or bridge. There is access from the south from Simar a forest road continues north through Senecal Creek and into the compartment. There is also access from the north from M-26 across industrial lands.

Survey Needs:

Some survey work will be needed for timber harvest activities.

Recreational Facilities and Opportunities:

The Firesteel River and Senecal Creek water courses offer some excellent fishing opportunities. The large expanse of continuous forest offer great hunting opportunities for both large and small game.

Fire Protection:

This compartment has little to no potential for a large fire with the primary cover type being northern hardwoods. Its proximity to the Twin Lakes field office will also help to keep fires small.

Additional Compartment Information:

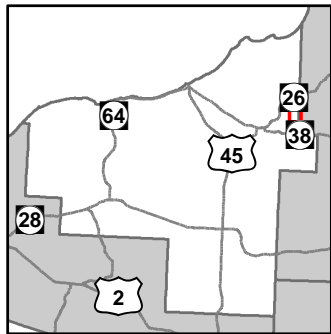
The following reports from the Inventory are attached:

- 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**

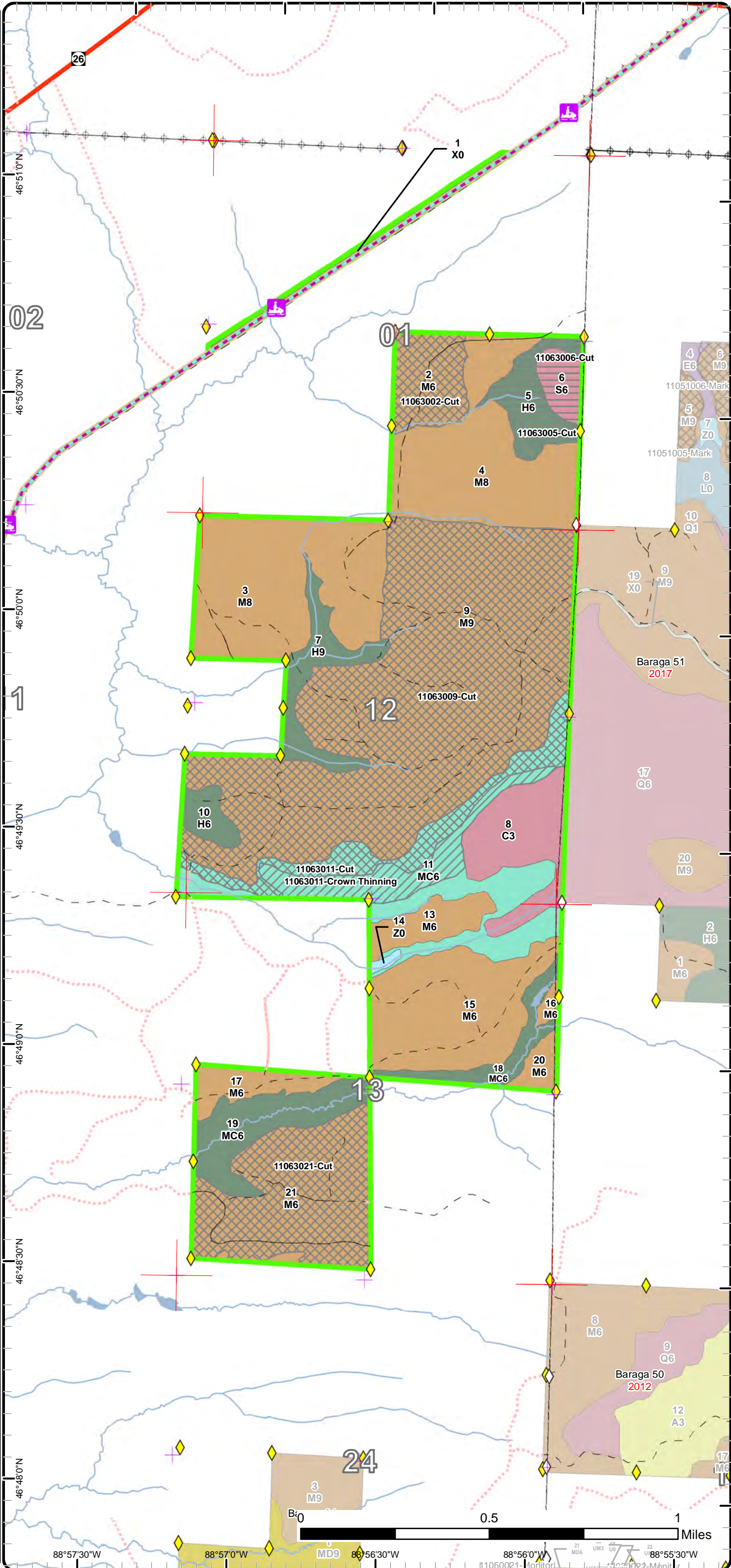
The following information is displayed, where pertinent, on the attached compartment maps:

- 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: 63
 T51N,R37W, Sec: 1, 12, 13
 County: Ontonagon
 Unit: Baraga
 Mgmt Area: Central Houghton
 YOE: 2019
 Acres: 1091.9 GIS Calculated
 Examiner: Ryan Mattila
 Map Revised: 9/12/2017
 Map Phase: Post Review

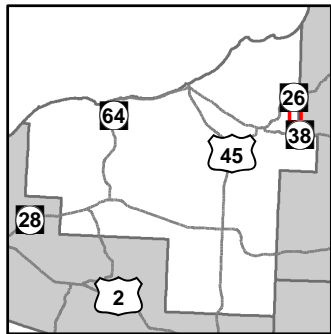


- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◆ Field Grade GPS Corners
- Counties
- Ⓜ ORV Routes
- Ⓜ Snowmobile Trails
- Designated Ski Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Designated Railtrail
- Highway
- Gravel Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 612 - Lowland Coniferous Forest
- 122 - Roads/Parking Lot
- 500 - Water
- Lakes

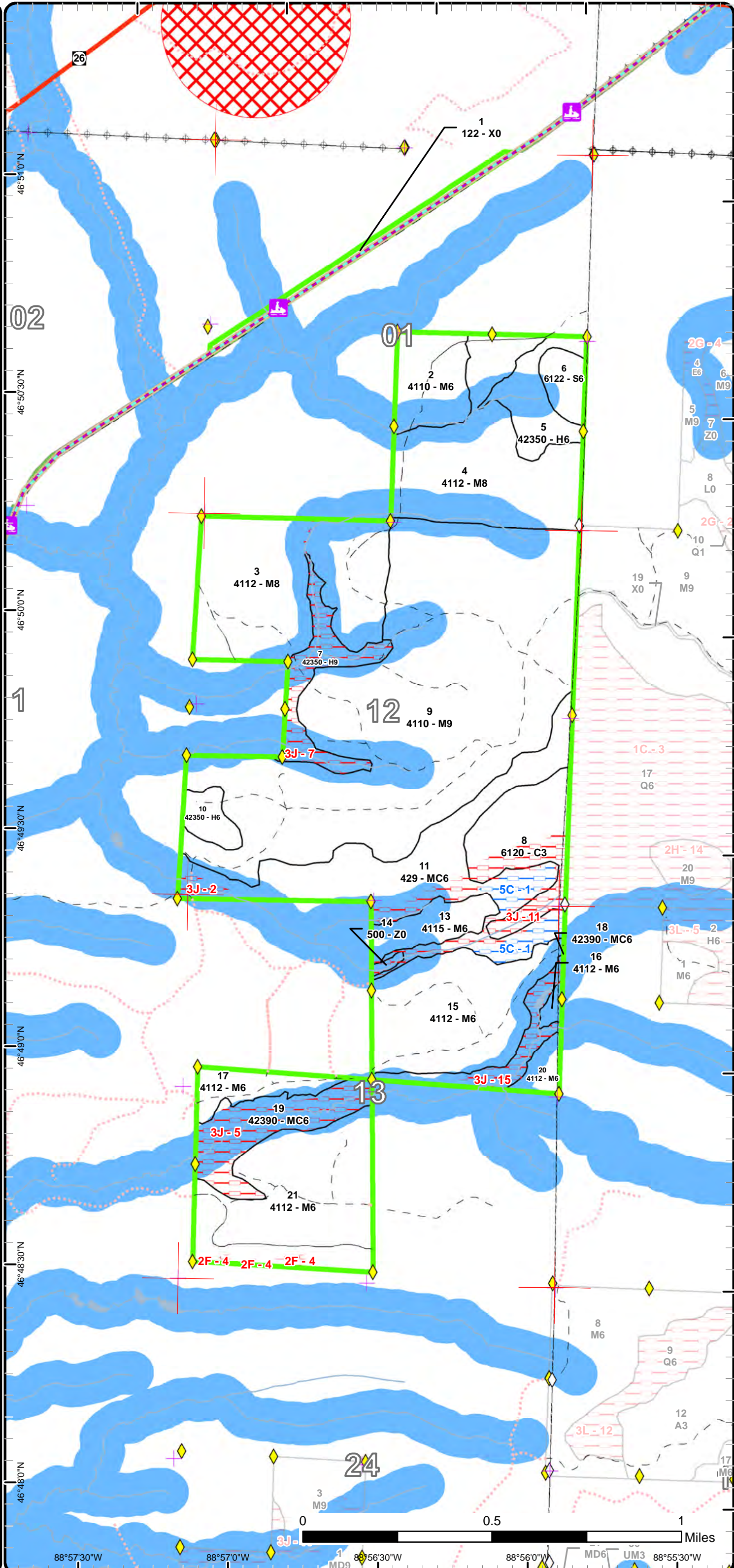


Special Conservation Areas & Site Conditions Map

Compartment: 63
 T51N,R37W, Sec: 1, 12, 13
 County: Ontonagon
 Unit: Baraga
 Mgmt Area: Central Houghton
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- Highway
- Gravel Roads
- - - Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers All
- - - Pipeline
- ⊕ Powerline
- ▭ Compartment Boundary
- ▭ Available w/ Constraints
- ▭ Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 3J: Water quality / BMPs (stream, river, or lake)
- ▭ Stand Boundaries
- ▭ Cold Water Streams
- ▭ Cold Water Lakes
- ▭ High Priority Trout Stream Buffer
- ▭ Northern Long-Eared Bat Hibernacula Buffers
- ▭ Rail-Trail Corridor



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
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44
Hemlock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	63
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	12
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	796	795
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165	165
Urban	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	14	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	1068	1093



Report 2 – Treatment Summary

Baraga Mgt. Unit

Year of Entry: 2019

Acres of Harvest

Compartment 63

Total Compartment Acres: 1,092

Commercial Harvest - 564
 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
Hemlock	25	0	0	0	0	0	0	0	0	25
Lowland Spruce/Fir	12	0	0	0	0	0	0	0	0	12
Northern Hardwood	0	462	0	0	0	0	0	0	0	462
Upland Conifers	0	36	0	0	0	30	0	0	0	66
Total	37	497	0	0	0	30	0	0	0	564

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	564	0	0	0	0	0	0	0	0	564
Next Step	0	0	0	0	0	0	534	0	0	534
Total	564	0	0	0	0	0	534	0	0	1098



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	11063002-Cut	30.4	4110 - Sugar Maple Association	Poletimber Well	93	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Selectively thin hardwoods to 70-90 sqft of BA. Favor mast producing black cherry and oak, hemlock, white pine and cedar where present. Oak should be released on 3 sides to an average BA of 60 sqft. Where 30 sqft or more of hemlock occurs thin to less than 100 sqft of BA. Follow all guidelines set forth in "The Complete Marker". Retention for this stand will be greater than 3% and will consist of tree species of the dominant cover type and reserve tree species.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Any mix of the over story species.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											
5	11063005-Cut	24.5	42350 - Upland Hemlock	Poletimber Well	89	111-140	Harvest	Clearcut with Retention	4312 - Hemlock, Mixed Deciduous	Uneven-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest all species down to 4.6 DBH except White Pine, Cedar and Red Oak. Also, Leave tree mark 1-2 windfirm hemlock per acre for seed production.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> A composition of the current overstory species with an emphasis hemlock. Immediate regeneration may be more deciduous with coniferous establishing later.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											
6	11063006-Cut	12.0	6122 - Black Spruce	Poletimber Well	97	51-80	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Clear cut leaving all cedar, white pine, and hemlock for retention.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Any mix of the over story species											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											
9	11063009-Cut	336.3	4110 - Sugar Maple Association	Sawtimber Well	94	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Selectively thin hardwoods to 70-90 sqft of BA. Favor mast producing black cherry and oak, hemlock, white pine and cedar where present. Oak should be released on 3 sides to an average BA of 60 sqft. In areas of stand with higher component of intolerant species create larger regeneration gaps up to 1 ac to encourage in strand diversity. Where 30 sqft or more of hemlock occurs thin to less than 100 sqft of BA. Follow all guidelines set forth in "The Complete Marker". Retention for this stand will be greater than 3% and will consist of tree species of the dominant cover type and reserve tree species.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Any mix of the over story species.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2018											



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
11	11063011-Crown Thinning	30.2	429 - Mixed Upland Conifers	Poletimber Well	93	171-200	Harvest	Crown Thinning	429 - Mixed Upland Conifers	Two-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Harvest stand cutting all species except hemlock and cedar. Leave all oak and white pine if present and one Yellow Birch >16" DBH if present.

Specs: Treatment area may be reduced to exclude wet areas and pockets of un-merchantable trees or increase if north line shifts to include more area under this prescription as to marking.

Next Step

Treatments:

Acceptable Any mix of the over story species.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

11	11063011-Cut	35.7	429 - Mixed Upland Conifers	Poletimber Well	93	171-200	Harvest	Single Tree Selection	429 - Mixed Upland Conifers	Two-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Harvest stand cutting all spruce and fir. Mark hardwoods targeting the removal of mature and poor formed trees to create regeneration gaps.

Specs: Mark hemlock as needed for operability and to encourage regeneration. Treatment area may be reduced to exclude wet areas and pockets of un-merchantable trees

Next Step

Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any mix of the over story species.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

21	11063021-Cut	94.8	4112 - Maple, Beech, Cherry Association	Poletimber Well	89	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Selectively thin hardwoods to 70-90 sqft of BA. Favor mast producing black cherry and oak, hemlock, white pine and cedar where present. Oak

Specs: should be released on 3 sides to an average BA of 60 sqft. Where 30 sqft or more of hemlock occurs thin to less than 100 sqft of BA. Follow all guidelines set forth in "The Complete Marker". Retention for this stand will be greater than 3% and will consist of tree species of the dominant cover type and reserve tree species.

Next Step

Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable .Any mix of over story species

Regen:

Other

Add spec to contact MiTRALE (Don Helsel, 906-884-4546) if sale is going to be active during summer months. Also, add snowmobile spec.

Comment:

Proposed Start Date: 10/01/2018

**Total Treatment
Acreage Proposed: 563.9**

Report 4 – Site Conditions

Baraga Mgt. Unit
Ryan Mattila : Examiner

Compartment: 63
Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	2F	3J
		With Condition	Not Available				
44	25	0	19	Cedar			19
63	36	0	27	Hemlock			27
12	12	0	0	Lowland Spruce/Fir			
795	791	0	4	Northern Hardwood		2	2
165	73	17	75	Upland Conifers	17		75
12	12	0	0	Urban			
2	0	0	1	Water			1
1,092	949	17	127	Total Forested Acres	17	2	124
	87%	2%	12%	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	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	17	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	2F: Too steep	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Baraga Mgt. Unit
 Ryan Mattila : Examiner

Compartment: 63
 Year of Entry: 2019

5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	36	Unspecified	Unspecified	Unspecified	Unspecified
Comments: WLD does not permit the treatment of Hemlock stands.							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	28	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
Comments: WLD does not permit the harvest of Hemlock stands.							
11	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	40	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
15	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	14	2G: Too wet (sensitive soils, does not include access issues)	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.

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Baraga Mgt. Unit

Report 7 – Forested Stands

Compartment: 63
Year of Entry: 2019

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4110 - Sugar Maple Association	Poletimber Well	30.4	93	111-140	Axel Hdwd, unit 6. cut 2000
4112 - Maple, Beech, Cherry Association	Sawtimber Medium	108.8	86	81-110	cut 1989, Split camp hdwd. TCR 2014 Foot Again Hdwd.
4112 - Maple, Beech, Cherry Association	Sawtimber Medium	93.9	86	81-110	TCT 2014 Foot Again Hdwds.
42350 - Upland Hemlock	Poletimber Well	24.5	89	111-140	trace of birch, aspen, balsam, black spruce,
6122 - Black Spruce	Poletimber Well	12.0	97	51-80	
42350 - Upland Hemlock	Sawtimber Well	27.5	87	171-200	wet drainagetrace balsam, white pine
6120 - Lowland Cedar	Sapling Well	43.8	91	51-80	
4110 - Sugar Maple Association	Sawtimber Well	336.3	94	111-140	cut 2000
42350 - Upland Hemlock	Poletimber Well	10.8	89	141-170	trace sugar, spruce, cedar, white pine
429 - Mixed Upland Conifers	Poletimber Well	108.0	93	171-200	
4115 - Y.Birch, Hemlock NH	Poletimber Well	19.4	74	81-110	
4112 - Maple, Beech, Cherry Association	Poletimber Well	80.4	70	81-110	
4112 - Maple, Beech, Cherry Association	Poletimber Well	3.0	79	81-110	trace of balsam, spruce, white pine, cedar
4112 - Maple, Beech, Cherry Association	Poletimber Well	17.6	71	81-110	
42390 - Mixed Non-Pine Upland Conifers	Poletimber Well	18.3	120	111-140	
42390 - Mixed Non-Pine Upland Conifers	Poletimber Well	38.3	120	111-140	
4112 - Maple, Beech, Cherry Association	Poletimber Well	8.1	91	81-110	
4112 - Maple, Beech, Cherry Association	Poletimber Well	97.3	89	111-140	cut 2000



Stand	Cover Type	Acres	Managed Site	General Comments:
1	122 - Road/Parking Lot	11.7	No	snowmobile trail with balsam, red maple sap/poles along trail and the powerline to the north
14	500 - Water	1.6	No	beaver flooding