



Compartment Review Presentation

Escanaba Forest Management Unit

Compartment 99

Entry Year 2016

Acreage: 641

County Delta

Management Area: Dead Horse Moraines

Revision Date: 06/12/2014

Stand Examiner: Dan McNamee

Legal Description:

T43N, R22W, Sections 19&30; T43N, R23W, Section 24

Identified Planning Goals:

A variety of silviculture techniques will be used to treat 8 stands totaling approximately 109.5 acres. 31 acres of lowland coniferous forest will be treated by the seed tree method of harvest, 8 acres of lowland Deciduous forest type will be clear-cut, 45 acres of Northern Hardwood forest will be treated using the selection method of harvest; 21 acres will be treated using the shelterwood method of harvest and 5 acres of Upland Mixed forest type will be treated using the shelterwood harvest method.

Soil and topography:

Major soil types are Carbondale, Lupton, Rifle, Tacoosh, Angelica, and Trenary. Topography is nearly level to moderately steep.

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

State land to the north and east. Non-Industrial Private land borders to the south and west.

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:

This area is part of the Lampi deer yard cedar regeneration project. This project was started in the late 1950's and has been ongoing for the past 50 years or so.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

This small irregularly-shaped compartment is located on the west edge of a larger block of state land. The area is predominantly aspen and upland hardwoods with cedar swamp and lowland brush patches occupying the lowland wet areas. The compartment provides a mix of habitat conditions for numerous wildlife species. Several upland hardwood stands will be thinned creating canopy gaps that will produce abundant red maple browse for wintering deer and other wildlife. Additionally, some large unmerchantable trees will be retained to provide food and nesting requirements for various bird species. A buffer will be maintained along the Rapid River which will provide riparian wildlife habitat.

Mineral Resource and Development Concerns and/or Restrictions

Vehicle Access:

Limited, private land and wet ground make it hard to access.

Survey Needs:

None

Recreational Facilities and Opportunities:

Hunting and trapping.

Fire Protection:

If a fire should ever get started in this area, initial attack will be difficult. As stated before access is limited.

Additional Compartment Information:

The following reports from the Inventory are attached:

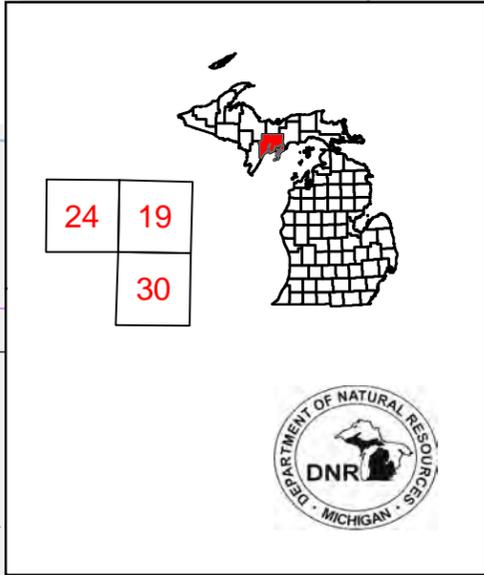
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

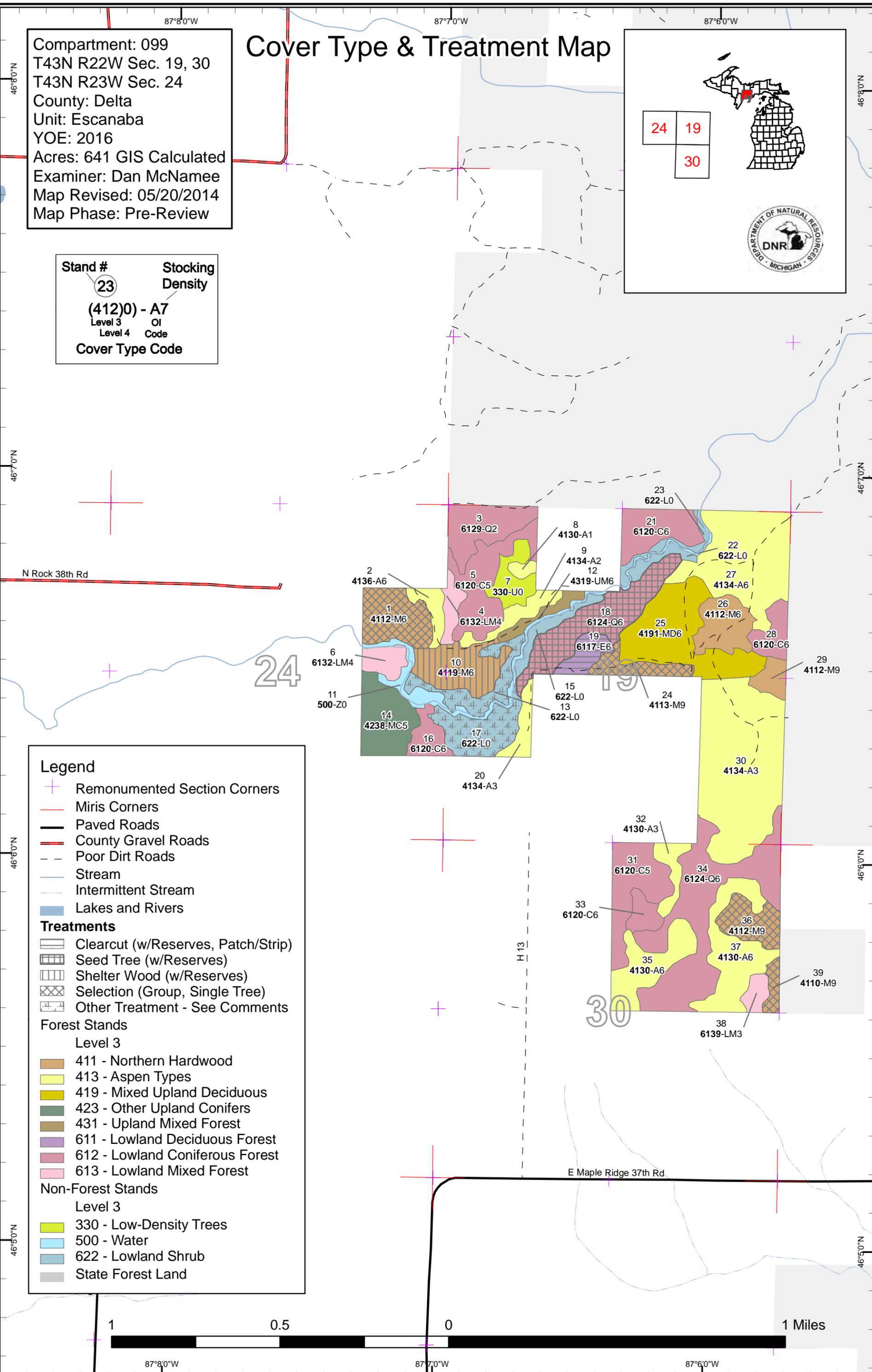
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatment Map

Compartment: 099
 T43N R22W Sec. 19, 30
 T43N R23W Sec. 24
 County: Delta
 Unit: Escanaba
 YOE: 2016
 Acres: 641 GIS Calculated
 Examiner: Dan McNamee
 Map Revised: 05/20/2014
 Map Phase: Pre-Review



Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



Legend

- Remonumented Section Corners
- Miris Corners
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Stream
- Intermittent Stream
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Selection (Group, Single Tree)
- Other Treatment - See Comments

Forest Stands

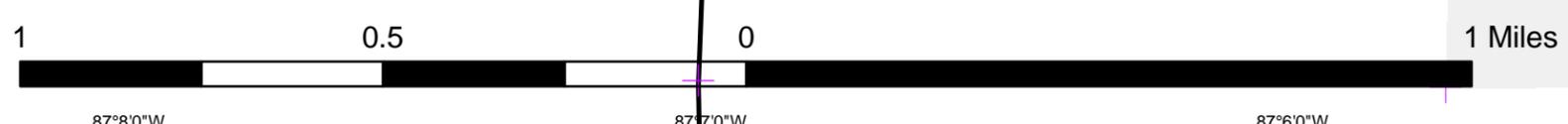
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

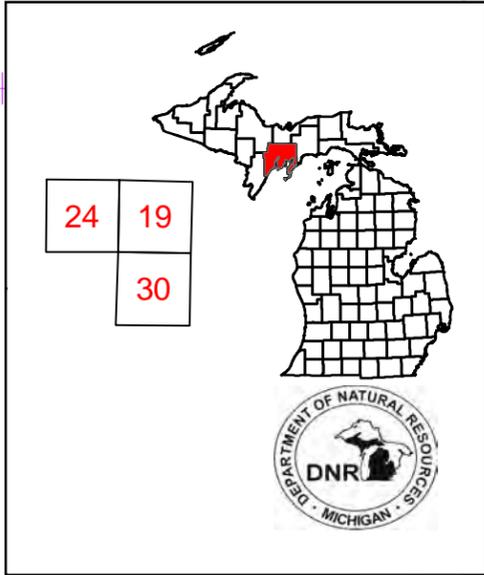
Level 3

- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- State Forest Land

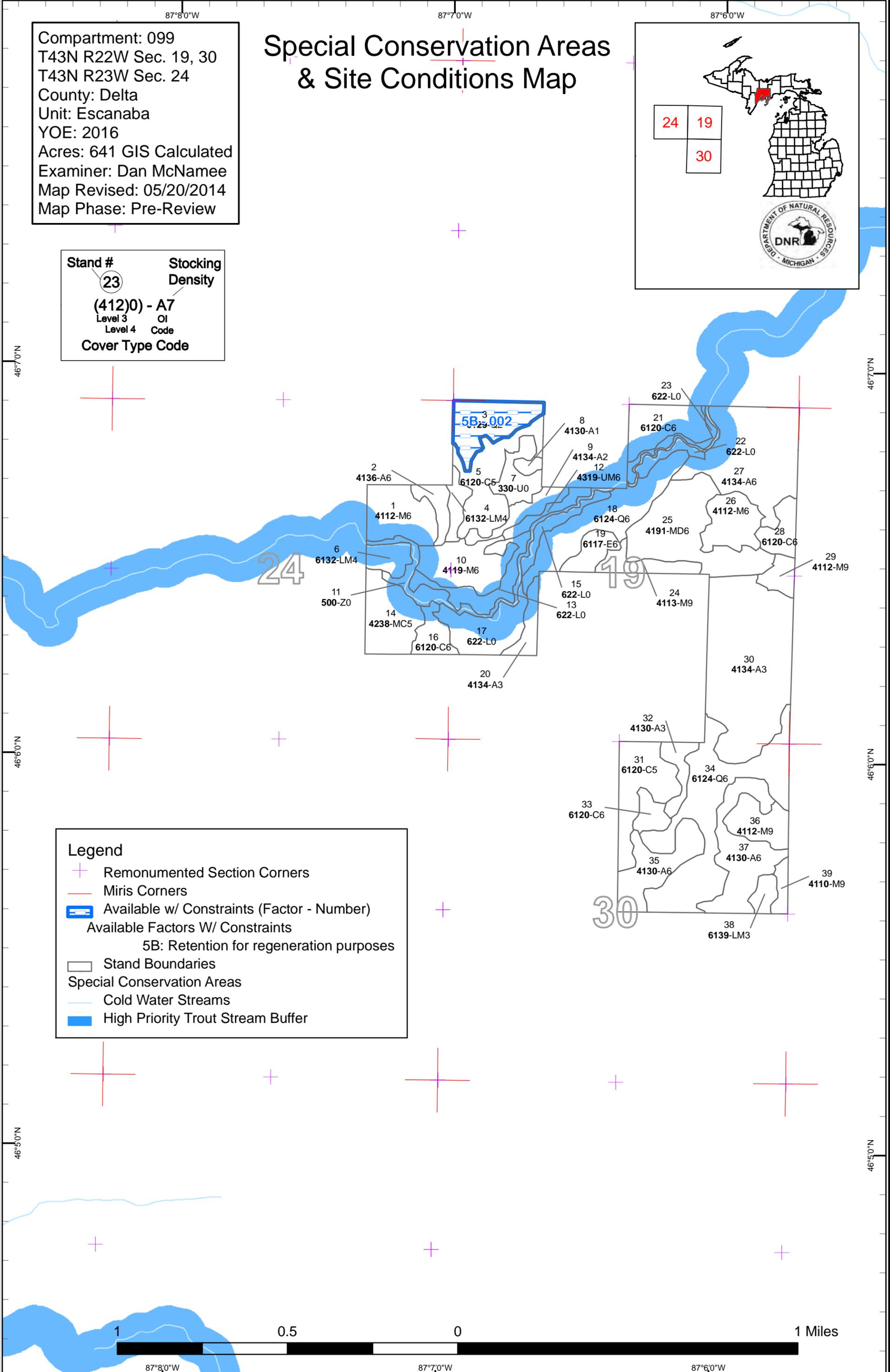


Compartment: 099
 T43N R22W Sec. 19, 30
 T43N R23W Sec. 24
 County: Delta
 Unit: Escanaba
 YOE: 2016
 Acres: 641 GIS Calculated
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 Map Revised: 05/20/2014
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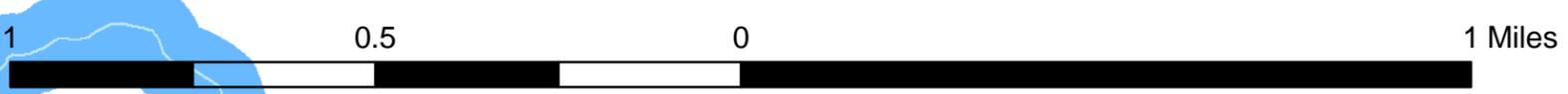
Special Conservation Areas & Site Conditions Map



Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



Legend
 + Remonumented Section Corners
 — Miris Corners
 Available w/ Constraints (Factor - Number)
 Available Factors W/ Constraints
 5B: Retention for regeneration purposes
 Stand Boundaries
 Special Conservation Areas
 Cold Water Streams
 High Priority Trout Stream Buffer



87°8'0"W 87°7'0"W 87°6'0"W

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 +	Uneven Age	
Aspen	10	39	103	49	0	0	0	0	0	0	0	0	0	0	201
Cedar	0	0	0	0	0	0	0	0	0	14	40	24	8	0	86
Low-Density Trees	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Lowland Conifers	0	0	0	56	0	0	0	0	31	0	0	0	19	0	106
Lowland Deciduous	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8
Lowland Mixed Forest	0	0	4	0	0	0	0	0	5	7	0	0	0	0	17
Lowland Shrub	45	0	0	0	0	0	0	0	0	0	0	0	0	0	45
Mixed Upland Deciduous	0	0	40	0	0	0	0	0	0	0	0	0	0	0	40
Northern Hardwood	0	0	0	0	0	0	0	46	40	0	0	0	0	0	87
Upland Conifers	0	0	0	0	0	0	0	0	0	21	0	0	0	0	21
Upland Mixed Forest	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Water	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	81	39	148	105	0	13	0	46	77	42	40	24	27	0	641



Report 2 – Proposed Treatment Summaries

Escanaba Mgt. Unit
Year of Entry 2016

Compartment 099
Total Compartment Acres: 641

Acres by Treatment Type

Commercial Harvest - 110 Tree Planting - 0 Other - 0
 Habitat Cut - 0 Opening Maintenance - 32

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Lowland Coniferous Forest	0	0	31	0	0	0	31
Lowland Deciduous Forest	8	0	0	0	0	0	8
Northern Hardwood	0	45	0	21	0	0	66
Upland Mixed Forest	0	0	0	5	0	0	5
Total	8	45	31	26	0	0	110

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1 33099001-Cut	19.6	4112 - Maple, Beech, Cherry Association	High Density Pole	80	51-80	Harvest	Group Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal

Prescription Thin stand and create canopy gaps where regen is established. Retain the patches of cedar and hemlock throughout the stand and Leave the dead red maple cavity nesting trees where present.

Other Comments: Nice stand of N. Hardwoods. Mix of red maple, sugar maple with scattered H, C, and Fb. Stand contains good regen of Sm, Rm and recruitment of these spp.

Next Steps: Conduct regen check per work instruction. Acceptable regen = SM, RM, Fb

Proposed Start Date: 10/01/2015

10 33099010-Cut	20.8	4119 - Mixed Northern Hardwoods	High Density Pole	80	81-110	Harvest	Shelterwood	4113 - R.Maple, Conifer	Cmpt. Review Proposal
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Prescription Treat by Shelterwood method. Leave 10 - 20 BA of Maple, also leave patches of Cedar and Hemlock that are located within stand intact. Leave the dead red maple cavity nesting trees where present.

Other Comments: Predominately R. maple with scattered cedar, hemlock and spruce. There are patches where cedar and hemlock are heavy. There is good regen of R maple, balsam fir and spruce.

Next Steps: Conduct regen check per work instructions. Acceptable regen= R maple, y. birch, s. maple balsam and spruce.

Proposed Start Date: 10/01/2015

18 33099018-Cut	31.1	6124 - Lowland Spruce-Fir	High Density Pole	81		Harvest	Seed Tree with Reserves	612 - Lowland Coniferous Forest	Cmpt. Review Proposal
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Prescription Harvest the mature timber, Leave seed source along the west edge of stand, seed trees will be spruce or tamarack. Pocket of cedar on north end of stand will be left intact. If there is another area of heavy cedar it will be left.

Other Comments: Overmature Tamarack and spruce. Timber is heavy in some areas and patchy in others. there is scattered A, P, Fb throughout stand.

Next Steps: Conduct regen check per work instructions. Acceptable regen= T, Fs, A, P, Fb.

Proposed Start Date: 10/01/2015

19 33099019-Cut	7.7	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	58		Harvest	Clearcut	611 - Lowland Deciduous Forest	Cmpt. Review Proposal
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Prescription Clearcut, leave the submerchatable timber.

Other Comments: Mix of P, Ash, Fb Fs, Rm. and scattered Cedar. If a pocket of heavy Cedar is located within stand it will be left otherwise all incidental cedar should be harvested to allow stand to regenerate to a fully stocked stand.

Next Steps: Conduct regen checks per work instructions. Acceptable regen= Ash, Balm, R. maple, Fb, Fs, and C.

Proposed Start Date: 10/01/2015



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
24 33099024-Cut	8.7	4113 - R.Maple, Conifer	High Density Log	75	51-80	Harvest	Group Selection	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal

Prescription Create Regen gaps by marking individual gaps throughout the stand. Leave the heavier patches of Cedar on east side of stand.

Specs:

Other Comments: West side of stand is more contains more hardwood without cedar. East side of stand has some cedar pockets.

Next Steps: conduct regen check per work instruction. Acceptable regen = R. maple, S.Maple. and other associated hardwoods.

Proposed Start Date: 10/01/2015

36 33099036-Cut	12.8	4112 - Maple, Beech, Cherry Association	High Density Log	78		Harvest	Single Tree Selection	411 - Northern Hardwood	Cmpt. Review Proposal
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Prescription Select Harvest. Harvest stand to Residual BA 70-80.

Specs:

Other Comments: This stand should be included when stands 31,32,35 from compartment 98 are treated. Create an Out of entry harvest for stand 29 in comp98 and treat this the same as this stand is being treated. Acces will have to be from the north or through pvt landowner to the south, either mark through the lowland vain or clearcut leaving no retention.

Next Steps:

Proposed Start Date: 10/01/2015

39 33099039-Cut	3.8	4110 - Sugar Maple Association	High Density Log	78		Harvest	Group Selection	411 - Northern Hardwood	Cmpt. Review Proposal
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Prescription Selection harvest/groupselection. retain 70 BA and open up regen gaps around existing regeneration.

Specs:

Other Comments: Harvest these stands with adjacent stand in compartment 98 (35, 32, 31).

Next Steps: Conduct regen check per work instructions. Acceptable regen= Sm, Rm and associated hdwd spp. also Fb.

Proposed Start Date: 10/01/2015

13 NF_33099013-NonFor	13.2	622 - Lowland Shrub				Non-Forest Management	Other - Specify	3204 - Mast Producing Shrub	Cmpt. Review Proposal
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Prescription Plant soft mast species within the lowland area for deer browse

Specs:

Other Comments:

Next Steps: create FTP

Proposed Start Date: Unspecified

17 NF_33099017-NonFor	18.5	622 - Lowland Shrub				Non-Forest Management	Other - Specify	3204 - Mast Producing Shrub	Cmpt. Review Proposal
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Prescription Plant soft mast species in the lowland areas for deer browse

Specs:

Other Comments:

Next Steps: Create FTP

Proposed Start Date: Unspecified

Report 3 -- Treatments Prescribed
with No Limiting Factor



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
Total Treatment Acreage Proposed:		136.0							



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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

Escanaba Mgt. Unit
Dan McNamee : Examiner

Compartment 099
Year of Entry 2016

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No		5B
	Available	Not Available				
201	201		Aspen	201		
86	86		Cedar	86		
106	106		Lowland Conifers	87	19	
8	8		Lowland Deciduous	8		
17	17		Lowland Mixed Forest	17		
40	40		Mixed Upland Deciduous	40		
87	87		Northern Hardwood	87		
21	21		Upland Conifers	21		
5	5		Upland Mixed Forest	5		
570	570		Total Forested Acres	552	19	
	100%		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
002	Available	5B: Maintain for regeneration purposes	19				
Comments:							



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
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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	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	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.
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	4112 - Maple, Beech, Cherry Association	High Density Pole	19.6	80	51-80	
2	4136 - Aspen, Mixed Conifer	High Density Pole	6.0	19		Aspen and R. maple regen under residual R. maple, B. fir.
3	6129 - Mixed Coniferous Lowland Forest	Medium Density	18.9	128		This stand is a mix of two aged lowland conifer. It was harvested in 1969 using the strip cut method and again in 1996 using the seed tree method. little cedar regen, more tamarack and spruce. Stand in adjacent compartment (90) to north has significant regen of cedar.
4	6132 - Mixed Lowland Forest with Cedar	Low Density Pole	5.4	81		Stand is scattered B.ash, B. fir, aspen, balm, and a few Paper birch. North end contains more of the above species with lowland brush (tag alder and michigan holly. Mix of 25-50% and 50-75% canopy closure.
5	6120 - Lowland Cedar	Medium Density Pole	23.9	118		The Tamarack areas are more open with more holly and tag alder understory. The more cedar areas of the stand have is more closed canopy, but the stand is more of a T-4 stand overall. There is paper birch component in stand, but only a trace.
6	6132 - Mixed Lowland Forest with Cedar	Low Density Pole	6.9	92		More of an E type to the east and More of C w/ E to west.
8	4130 - Aspen	Low Density Sapling	2.1	6		Harvested in 2008. Filling in with A, P, Rm. Open in some areas.
9	4134 - Aspen, Spruce/Fir	Medium Density	7.9	6		Stand harvested in 2008, residual Fb, C, Rm and ash 7-8"diam. 3-4 stks tall. stand is filling in with A,Fb,Rmand Fs.
10	4119 - Mixed Northern Hardwoods	High Density Pole	20.8	80	81-110	
12	4319 - Mixed Upland Forest	High Density Pole	5.1	58		
14	42380 - Non Pine Upland Conifer, Mixed Deciduous	Medium Density Pole	20.7	92		This stand was treated under the "Beaverr Meadows Hardwood Sale, #330429201 in 1995. All the cedar was left and the smal hardwood island was select cut. Clear cut this stand in 2 treatment periods, Harvesting all the timber, the Cedar is a component of the stand and it is restricting regen growth, leave some pockets where it is heavy but cut the rest that is scattered.
16	6120 - Lowland Cedar	High Density Pole	7.8	120		Center of stand and to the east 80-90% od the cedar is dead,
18	6124 - Lowland Spruce-Fir	High Density Pole	31.1	81		
19	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	7.7	58		



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	4134 - Aspen, Spruce/Fir	High Density Sapling	6.6	17		Harvested in 1997. In places heavy to Fb and in places heavy to A/P
21	6120 - Lowland Cedar	High Density Pole	16.9	106		Cedar with mix of other spp. quality of cedar is poor, as you move east through stand you get more Fb,P,Wb,ash.
24	4113 - R.Maple, Conifer	High Density Log	8.7	75	51-80	
25	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	40.4	24		
26	4112 - Maple, Beech, Cherry Association	High Density Pole	15.3	75		Harvested in 2011, Engineer hdwd sale. Where stand was opened up there is good maple regen recruiting into stand. Where it was not opened up there is regen but it is being browsed by deer(not getting enough sun to recruit into stand), Stand is on the border of pole>log.
27	4134 - Aspen, Spruce/Fir	High Density Pole	48.5	35		Treated in 1980, Bee Sting Sale.
28	6120 - Lowland Cedar	High Density Pole	8.5	99		Primarily Cedar some short lived spp but would be hard to harvest. Small island of hardwood in middle of stand, to small to break out.
29	4112 - Maple, Beech, Cherry Association	High Density Log	5.9	75	81-110	Thinned in 2011, Engineer Hdwd sale. Primarily Red maple stand. stand has maple regen and deer have browsed it.
30	4134 - Aspen, Spruce/Fir	High Density Sapling	75.6	24		Treated in 1990, Flying Squirrel Hdwds. Mix of high and low ground, mostly high with some low.
31	6120 - Lowland Cedar	Medium Density Pole	22.9	103		
32	4130 - Aspen	High Density Sapling	6.7	17		
33	6120 - Lowland Cedar	High Density Pole	5.8	99		
34	6124 - Lowland Spruce- Fir	High Density Pole	56.0	30		Stand was harvested in 1986. Low and high ground mix. Mix of timber, young mixed with older spruce and cedar. Patchy timber, small diameter 2-3 sticks with some 4-5 stick. Nice cedar patches in the north end and another in the central part of stand, too small to map out.
35	4130 - Aspen	High Density Pole	19.8	17		Stand treated in 1997.
36	4112 - Maple, Beech, Cherry Association	High Density Log	12.8	78		Treated in 1997. Sugar maple/R.maple/Ironwood. Vain of B.ash, B.spruce, Q.aspen that runs N>S through center of stand. Very south end is overmature R.maple mixed with Ash.

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Escanaba Mgt. Unit

Report 8 – Forested Stands

Compartment: 099
Year of Entry: 2016



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	4130 - Aspen	High Density Pole	27.9	20		
38	6139 - Mixed Lowland Forest	High Density Sapling	4.5	20		Extremely thick Tamarack/ B. spruce regen with lowland brush. pockets of B. ash regen, small pockets of aspen and balm regen.
39	4110 - Sugar Maple Association	High Density Log	3.8	78		



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
7	3302 - Low Density Conifer Trees	10.1	Unspecified	Unspecified	Michigan Holly and tagalder with scattered spruce, tamarack, paper birch, and red maple. sometimes the trees are in patches but mostly scattered trees. Will probably convert to T in the future.
11	50 - Water	15.3	No	Unspecified	
13	622 - Lowland Shrub	13.2	No	Unspecified	Lowland brush eith scattered ash.
15	6220 - Alder/willow	6.0	No	Unspecified	Lowland brush with scattered Fb and ash along Rapid River.
17	622 - Lowland Shrub	18.5	No	Unspecified	Old beaver flooding. Dead Cedar with Lowland brush and open areas of marsh grass.
22	6220 - Alder/willow	3.8	No	Unspecified	Tag Alder with scattered ash and some pockets of catails
23	622 - Lowland Shrub	4.0	No	Unspecified	Tag alder with a few scattered ash.