



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12157

Entry Year 2017

Acreage: 1,004

County Iron

Management Area: Panola Plains

Revision Date: 2015-07-30

Stand Examiner: Scott Sebero

Legal Description:

T42N-R32W sections 3, 10 and 11

Identified Planning Goals:

Develop age class distribution in aspen type. Maintain health of conifer types and increase acreage where possible. Maintain and improve road system.

Soil and topography:

Vilas-Karlin complex on flat to rolling hills with a few small low areas and drains.

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

State lands mixed with company lands and some private parcels. Lands used mainly for hunting and fishing and managed for timber products.

Unique Natural Features:

Mud Lake, Tim Bowers Pond and Paint River.

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

None.

Watershed and Fisheries Considerations:

Minimum buffers should be implemented. Streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function. Additionally, wetlands and open waters in riparian areas and floodplains are physically, chemically, and biologically integrated with rivers via functions that improve downstream water quality. These systems act as effective buffers to protect downstream waters from pollution and are essential components of river food webs. BMP's should be implemented to control sediment sources from adjacent uplands. Fine sediments such as silt and sand negatively affect natural reproduction of fish, decrease the diversity of aquatic invertebrate and fish taxa, and result in lower overall fish populations.

Wildlife Habitat Considerations:

This compartment is part of the Panola Plains Management Area. The predominant wildlife habitat features, in this compartment, are the large opening complexes that have been maintained on an annual basis by wildlife division through fire and herbaceous plantings. Eastern bluebird is the featured species that is managed for to monitor the health of the opening complex. In addition, ideal Kirtland's warbler jack pine habitat is located within this compartment. The blueberry, serviceberry, cherry and oak shrubs and trees that are promoted in this compartment, in openings and forest understories, provide hard and soft mast for bear, deer, turkeys, grouse and a variety of non-game wildlife species.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 50 and 100 feet. The Precambrian Michigamme Formation and Amasa iron formation underlie the glacial drift. There is not a current economic use for these rocks. Abandoned iron mines are located less than two miles to the north. Part of this compartment was previously leased for metallic exploration and potential may still exist, particularly in Section 2 where iron formations have been mapped. The nearest gravel pit may be in Section 8, but there appears to be some additional potential. There is no economic oil and gas production in the UP.

Vehicle Access:

Off US-2 on Panola Plains Road and associated woods roads.

Survey Needs:

None.

Recreational Facilities and Opportunities:

Hunting and fishing.

Fire Protection:

Additional Compartment Information:

None.

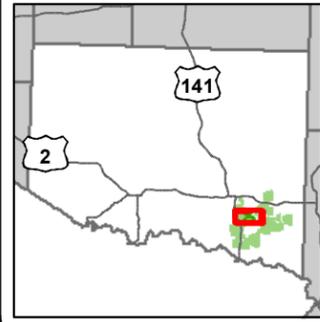
The following reports from the Inventory are attached:

- 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

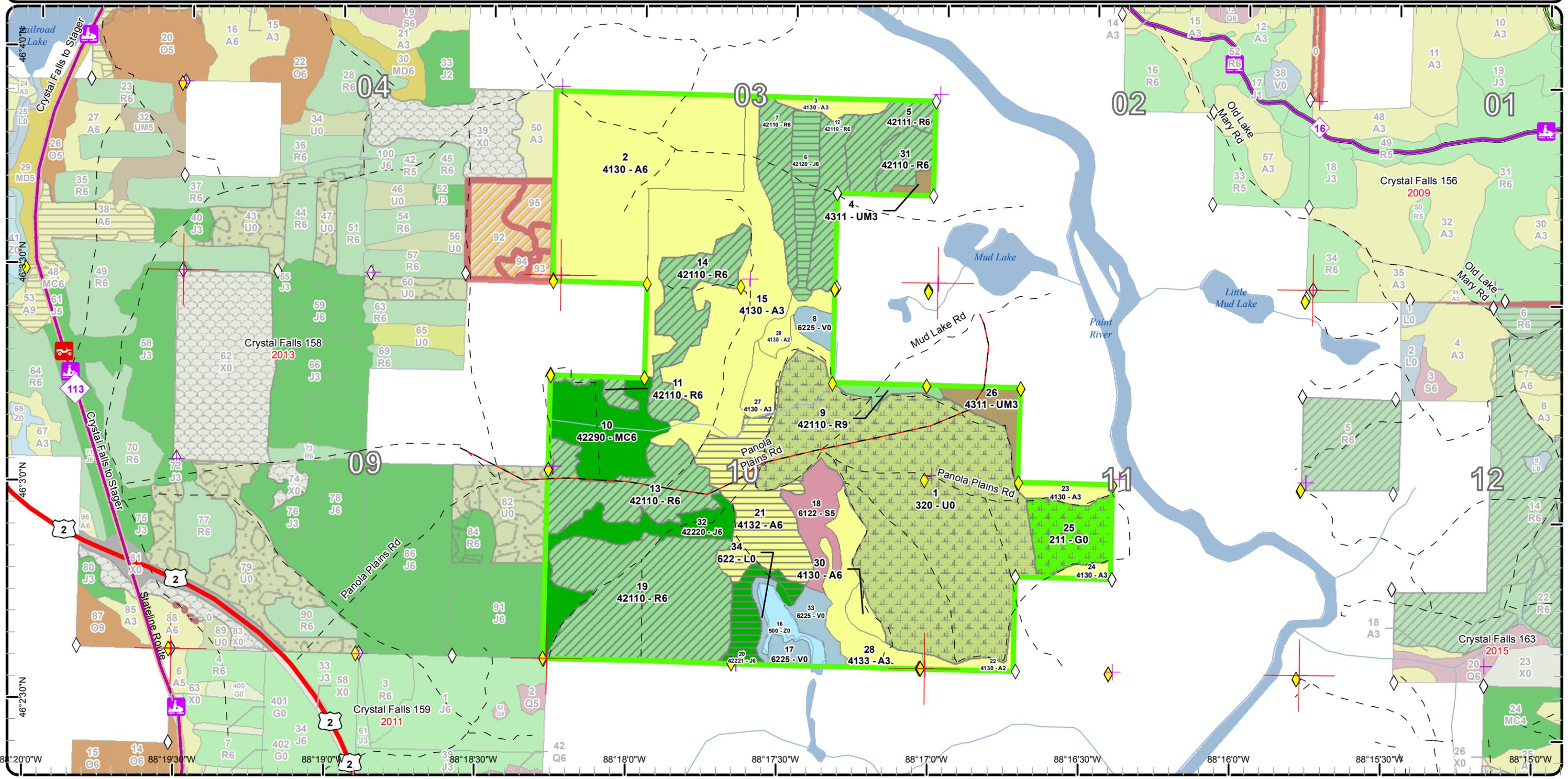


Compartment: 157
 T42NR32W 03,10-11
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Panola Plains
 YOE: 2017
 Acres: 1004 GIS Calculated
 Examiner: Scott Sebero
 Map Revised: 8/28/2015
 Map Phase: Pre-Review



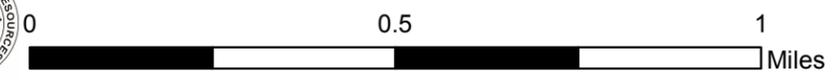
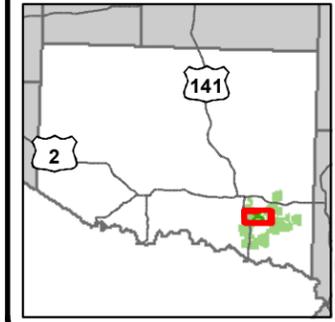
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Highway
- - Poor Dirt Roads
- - County Poor Dirt Roads
- - - Designated Hiking Pathways
- - - Designated Ski Trails
- - - - Designated ORV Routes
- Snowmobile
- Designated Railtrails
- ORV Routes
- Snowmobile Trails
- Rivers
- Lakes
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Thinning (Crown, Low, Systematic)

- Forest Covertype**
- 413 - Aspen
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 430 - Upland Mixed Fores
 - 612 - Lowland Coniferous Forest
- Non-Forest Covertype**
- 211 - Cropland
 - 320 - Upland Shrub
 - 500 - Water
 - 622 - Lowland Shrub

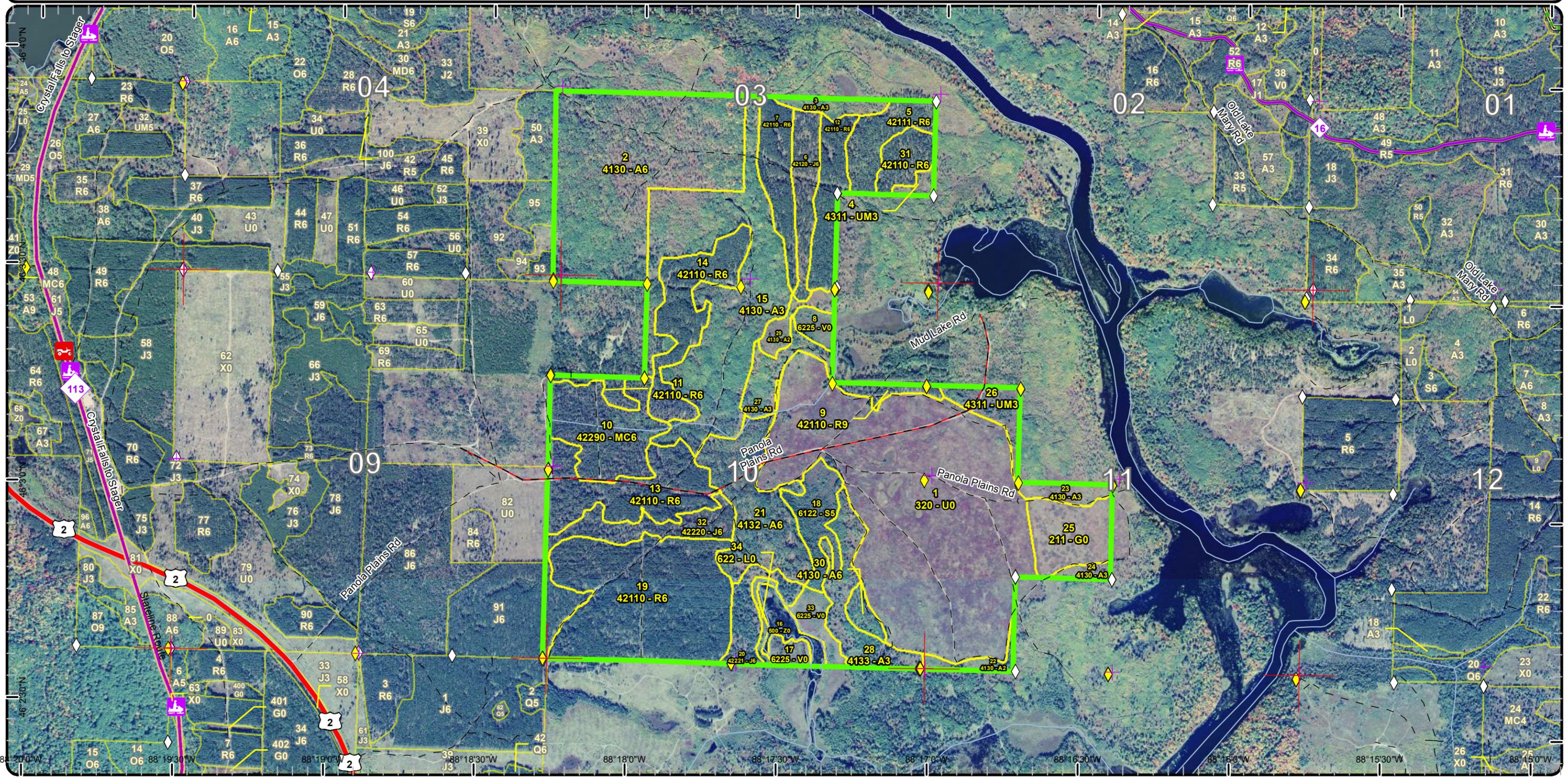


Stand Boundary Map

Compartment: 157
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 - Stand Boundaries
- | Non-Forest Covertype | |
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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
Aspen	0	24	46	106	121	5	45	0	0	0	0	0	0	0	0	0	0	0	347
Bog	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Cropland	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Jack Pine	0	0	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	60
Lowland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Lowland Spruce/Fir	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	18
Natural Mixed Pines	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Red Pine	0	0	0	0	0	0	209	42	0	0	0	0	0	0	0	0	0	0	251
Upland Mixed Forest	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Upland Shrub	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219
Water	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Total	275	24	99	106	121	5	332	42	0	1004									



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2017

Acres of Harvest

Compartment 157
Total Compartment Acres: 1,004

Commercial Harvest - 322
Harvests with Site Condition - 0
Next Step Harvest - 0
Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	45	0	0	0	0	0	0	0	0	45
Jack Pine	31	0	0	0	0	0	0	0	0	31
Red Pine	0	0	0	0	0	246	0	0	0	246
Total	76	0	0	0	0	246	0	0	0	322

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	322	0	0	0	0	0	0	0	243	565
Next Step	0	31	0	0	0	0	76	0	0	108
Total	322	31	0	0	0	0	76	0	243	673



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
1	12157001-NF	218.9	320 - Upland Shrub	Nonstocked			Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland	Approved Proposal

Habitat Cut: Yes**Site Condition:**Prescription Opening maintenanceSpecs:Next StepTreatments:AcceptableRegen:Other Old next step comments:Comment:Proposed Start Date: 10/1 /2016

5	12157005-Cut	18.6	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	56	141- 170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**Prescription Cut every third row of red pine. Cut all aspen, paper birch, maple and jack pine with one or more pulpwood sticks. Leave all oak, cherry and white pine.Specs:Next StepTreatments:AcceptableRegen:Other Old next step comments:Comment:Proposed Start Date: 10/1 /2016

6	12157006-Cut	17.6	42120 - Planted Jack Pine	Poletimber Well	56	81-110	Harvest	Clearcut	4222 - Natural Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**Prescription Cut all trees greater than 2" DBH.Specs:Next Step SitePrep, Scarification; Monitoring, Natural Regen (Re-Inventory)Treatments:Acceptable Jack pine.Regen:Other Scarify after harvest to regenerate jack pine. Old next step comments:Comment:Proposed Start Date: 10/1 /2016

7	12157007-Cut	20.5	42110 - Planted Red Pine	Poletimber Well	56	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**Prescription Cut all aspen and jack pine with one or more pulpwood stick. Mark red pine to 120 BA. Leave all oak, cherry and white pine.Specs:Next StepTreatments:AcceptableRegen:Other Old next step comments:Comment:Proposed Start Date: 10/1 /2016



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	12157011-Cut	4.8	42110 - Planted Red Pine	Poletimber Well	54	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Mark red pine to 120 BA. Leave all oak, cherry and white pine.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

12	12157012-Cut	21.2	42110 - Planted Red Pine	Poletimber Well	56	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mark red pine to 120 BA. Leave all oak, cherry and white pine.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

13	12157013-Cut	42.4	42110 - Planted Red Pine	Poletimber Well	65	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mark red pine and jack pine to 120 BA. Favor red pine. Leave all oak, cherry and white pine.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

14	12157014-Cut	33.7	42110 - Planted Red Pine	Poletimber Well	56	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mark red pine to 120 BA. Leave all oak, cherry and white pine.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



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
19	12157019-Cut	92.3	42110 - Planted Red Pine	Poletimber Well	54	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Mark red pine and jack pine to 120 BA. Favor red pine. Leave all oak, cherry and white pine.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

20	12157020-Cut	13.9	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	57	81-110	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Cut all aspen, paper birch and maple 2" or greater DBH. Cut all spruce, balsam and jack pine with one or more pulpwood stick. Mark oak to 30

Specs: BA. Leave red and white pine.

Next Step

SitePrep, Scarification; Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable

Mix of jack pine, red pine, oak and aspen.

Regen:

Other Scarify stand to promote jack pine and oak regeneration. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

21	12157021-Cut	44.9	4132 - Aspen, Jack Pine	Poletimber Well	57	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Cut all aspen, paper birch and maple 2" or greater DBH. Cut all spruce, balsam and jack pine with one or more pulpwood stick. Leave all red

Specs: and white pine, cherry and oak.

Next Step

Treatments:

Acceptable

Mix of aspen, jack pine and red pine.

Regen:

Other Retention will be small lobe on east side of stand. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

25	12157025-NF	24.2	211 - Cropland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Approved Proposal
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Habitat Cut: Yes**Site Condition:**

Prescription Opening maintenance.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



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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
31	12157031-Cut	12.2	42110 - Planted Red Pine	Poletimber Well	56	111-140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription Mark red pine to 120 BA. Leave all oak, cherry and white pine.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
Acreage Proposed: 565.3**

Dominant Site Conditions

3J

Aspen	
Bog	
Cropland	
Jack Pine	1
Lowland Shrub	
Lowland Spruce/Fir	
Natural Mixed Pines	
Red Pine	
Upland Mixed Forest	
Upland Shrub	
Water	
Total Forested Acres	1
Relative Percent	

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: 100 foot buffer on pond.							

Mgt. Unit

Compartment: #Type!

Year of 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
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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.



Stand	Crystal Falls Mgt. Unit		Report 8 – Forested Stands			Compartment: 157 Year of Entry: 2017	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
2	4130 - Aspen	Poletimber Well	121.0	35	51-80		
3	4130 - Aspen	Sapling Well	6.9	15	1-50		
4	4311 - Pine, Aspen Mix	Sapling Well	3.3	18	1-50		
5	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	18.6	56	141-170		
6	42120 - Planted Jack Pine	Poletimber Well	17.6	56	81-110		
7	42110 - Planted Red Pine	Poletimber Well	20.5	56	141-170		
9	42110 - Planted Red Pine	Sawtimber Well	5.5	57	111-140		
10	42290 - Natural Mixed Pine	Poletimber Well	37.9	16	51-80		
11	42110 - Planted Red Pine	Poletimber Well	4.8	54	141-170		
12	42110 - Planted Red Pine	Poletimber Well	21.2	56	141-170		
13	42110 - Planted Red Pine	Poletimber Well	42.4	65	141-170		
14	42110 - Planted Red Pine	Poletimber Well	33.7	56	141-170		
15	4130 - Aspen	Sapling Well	105.6	27	1-50		
18	6122 - Black Spruce	Poletimber Medium	18.1	57	51-80		
19	42110 - Planted Red Pine	Poletimber Well	92.3	54	141-170		
20	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	14.7	57	81-110		
21	4132 - Aspen, Jack Pine	Poletimber Well	44.9	57	81-110		
22	4130 - Aspen	Sapling Medium	5.7	6	1-50	Two pockets of pole sized aspen and jack pine not harvested last YOY. Should harvest this YOY.	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	4130 - Aspen	Sapling Well	7.0	6	1-50	
24	4130 - Aspen	Sapling Well	3.7	6	1-50	Pocket of aspen not harvested last YOE. Should harvest this YOE.
26	4311 - Pine, Aspen Mix	Sapling Well	12.1	10	1-50	
27	4130 - Aspen	Sapling Well	13.8	17	1-50	
28	4133 - Aspen, Mixed Pine	Sapling Well	25.1	17	1-50	
29	4130 - Aspen	Sapling Medium	7.5	6	1-50	
30	4130 - Aspen	Poletimber Well	5.1	40	81-110	
31	42110 - Planted Red Pine	Poletimber Well	12.2	56	111-140	
32	42220 - Natural Jack Pine	Poletimber Well	27.5	56	81-110	



Stand	Cover Type	Acres	Managed Site	General Comments:
1	320 - Upland Shrub	218.9	No	
8	6225 - Bog	5.7	No	
16	500 - Water	8.9	No	
17	6225 - Bog	4.9	No	
25	211 - Cropland	24.2	No	Planted as goose pasture.
33	6225 - Bog	9.1	No	
34	622 - Lowland Shrub	2.8	No	