



Gwinn Forest Management Unit
Compartment Review Presentation
Compartment 249 Entry Year: 2013
Compartment Acreage: 1, 167 County: Marquette

Revision Date: August 18, 2011

Stand Examiner: Tom Seablom

Legal Description: T46N R27W SWSE, W1/2NWSE Sec. 23, Sec. 26 except S1/2NE, Sec. 35 except NWSW and W 1100 ft NESW

RMU (if applicable): Chain Lakes Moraine Management Area

Management Goals: Goals within this compartment are timber production, wildlife habitat management and protection of water quality. Timber management is primarily for fiber production using even age techniques, with some sawlog and old forest condition management where appropriate. Managing the timber in this manner continues to provide for both early and late successional wildlife habitat. Applying proper Best Management Practices (BMP's) during timber harvests and road work ensures water quality protection. Aspen is the dominant cover type within this compartment and surrounding landscape. For this entry period, four final harvests in the aspen type are being prescribed, with one as a conversion to red pine. The northern tier of this compartment lends itself well to white pine and this species will be promoted in the harvest that occurs in that area. Oak is component in most stands, though it is primarily in the southern half of the compartment. It will be retained where it is a minor component and will be harvested where it is at higher densities. Managing it in this manner will allow for mast production to continue as well as regeneration of oak through both seed and stump sprouting.

Soil and Topography: The majority of soils within the compartment belong to the Rubicon-Sayner (RS) Association, with only the extreme southern portion belonging in the Rubicon-Keweenaw (RK) Associations. Both of these soil groups are very deep, well to excessively drained, sand to loamy sands, with some cobbly loamy sands. Greenwood, Deford, and Carbondale soils are minor components that reside in the depressions and drainages. Topography ranges from nearly level and gently undulating to very hilly with steep (>50%) slopes. This compartment resides on the eastern edge of a larger sandy outwash plain and the southern edge of rugged rock outcrop.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Ownership in this area is a mix of state to the south and private to the north and east. The majority of the land in private ownership is held by the Empire Iron Mining Partners and the Tilden Mining Company. Smaller private parcels are disbursed throughout the landscape as well. Land use on the industrial land is for iron mining operations with some timber management taking place as well. The small private parcels are utilized primarily for recreation. State land use is recreation, wildlife and timber management.

Unique, Natural Features: Potential for osprey, eagle, and great blue heron rookery. Potential for goshawk. Potential for moose and wolf. Potential for wood turtle in Flopper Creek and Middle Branch Escanaba River. Potential for northern blue in openings in jack pine stands if dwarf bilberry is present. Potential for dwarf bilberry, wild oat grass and Canada rice-grass in grassy openings and in clearings in jack pine. Potential for auricled tway-blade and linear-leaved gentian along riparian areas. Potential for Farwell's water-milfoil and alternate-leaved water-milfoil in shallow lakes. Potential for purple clematis in dry-mesic conifer stands.

Archeological, Historical, and Cultural Features: A portion of the abandoned ELF ROW is within this compartment.

Special Management Designations or Considerations: Special Conservation Area's (SCA's) exist along the water courses in this compartment. They act as both a buffer for water quality and a corridor for wildlife movement.

Watershed and Fisheries Considerations: Follow proper BMP's along with a 300 foot buffer along designated trout streams and a 100 foot buffer along all other streams and any lakes. Both Floppers Creek and the Middle Branch of the Escanaba River are in this compartment.

Wildlife Habitat Considerations: Maintain or increase potential of hard mast production by utilizing management strategies that encourage oak. Manage for within-stand diversity by protecting and/or enhancing white and red pine, and strive to increase diversity for wildlife. Maintain the best age class diversity in aspen. Strive to increase within-stand diversity in aspen by utilizing retention guidelines to provide the best combination of food and cover. Within Special Conservation Areas along the Escanaba River maintain large closed canopy conifer that encourage white and red pine to provide snow intercept and cover, mature forest structure and protection for wildlife corridors and protect riparian areas. Diversity in habitat types in this compartment offers a variety of hunting, trapping, and wildlife viewing opportunities.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of coarse-textured glacial till and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 50 and 100 feet. The Precambrian Archean Granite/Gneiss subcrops below the glacial drift. There is not a current economic use for these rocks. Gravel pits are not located in the area, but potential appears to be good in the southern portion. Abandoned iron mines are located seven miles to the north. Sections 34 and 35 were previously leased for metallic exploration. There is no economic oil and gas production in the UP.

Vehicle Access: The Hawkins Pond and Hemmings Lake Roads provide primary access to this compartment. Woods roads provide access off of those to the interior of the compartment.

Survey Needs: None

Recreational Facilities and Opportunities: There are no recreational facilities within this compartment and no opportunities currently exist.

Fire Protection: This area is approximately two miles east of the 581 Zone Dispatch area and is within the Gwinn Field Office protection area. Good access and water sources exist throughout this compartment and surrounding landscape for wildfire response.

Additional Compartment Information: None

- **The following reports from the Inventory are attached:**
 - ◆ **Total Acres by Cover Type and Age Class**

- ◆ **Proposed Treatment Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**
 - ◆ **Stand Details (Forested and Nonforested)**
 - ◆ **Dedicated and Proposed Special Conservation Areas**
- **The following information is displayed, where pertinent, on the attached compartment maps:**
- ◆ **Base feature information, stand boundaries, cover types, and numbers**
 - ◆ **Proposed treatments**
 - ◆ **Details on the road access system**
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Cover Type & Treatment Map

Compartment 249
 T46N, R27W, Sec. 23, 26, 35
 County: Marquette
 Unit: Gwinn
 YOE: 2013
 Acres: 1,167 GIS Calculated
 Stand Examiner: Thomas Seablom
 Map Revised: 8/23/2011
 Map Phase: Pre-Review

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

23
 26
 35

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DEPARTMENT OF NATURAL RESOURCES
 MICHIGAN

Legend

- Miris Corners
- Remonumented Section Corners
- Paved Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Planned Regeneration

- Planted

Treatments

- Clearcut (w/Reserves, Patch/Strip)

Forest Stands

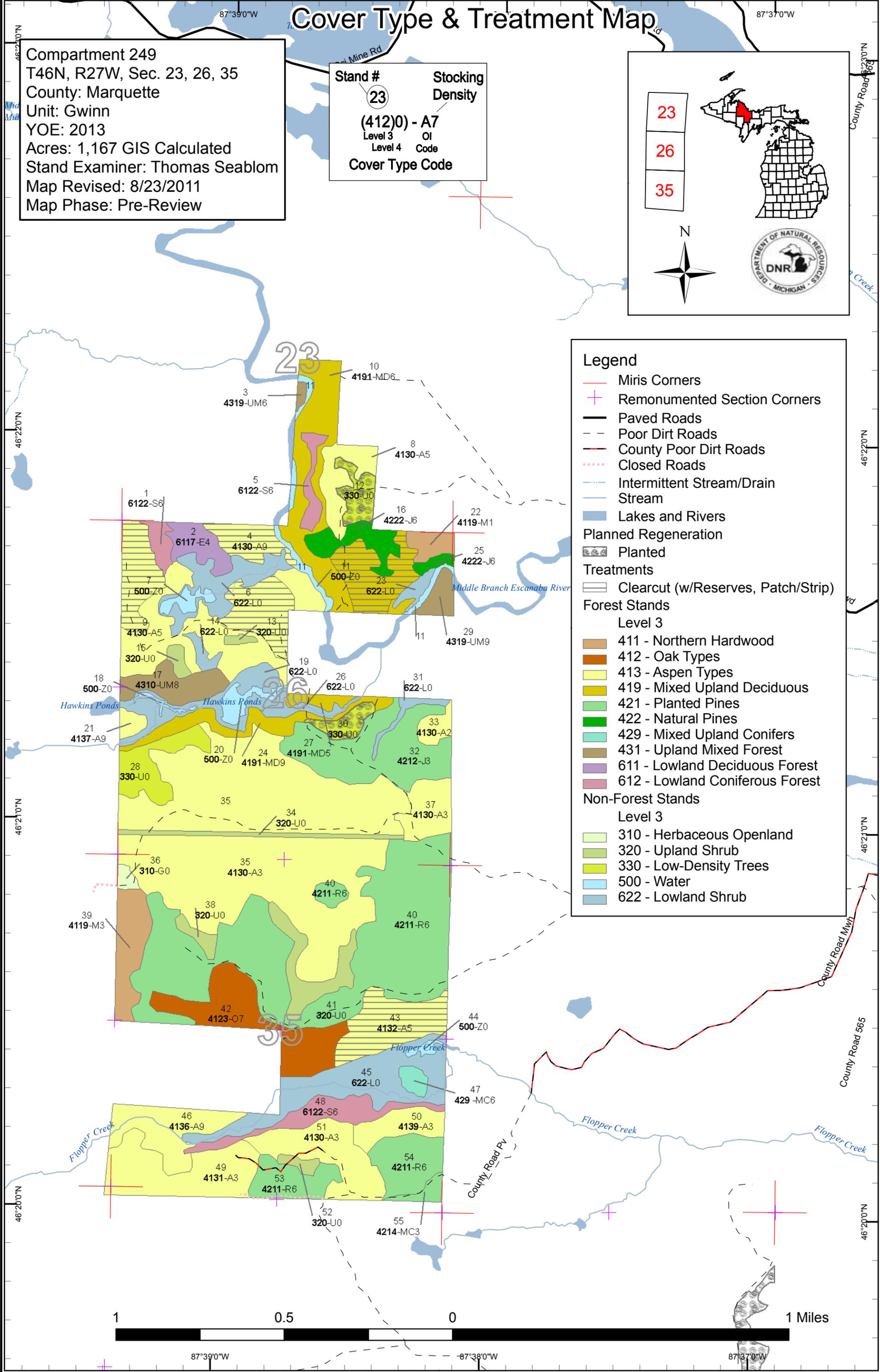
Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub



Dedicated & Proposed Special Conservation Area Map

87°40'0"W

87°37'0"W

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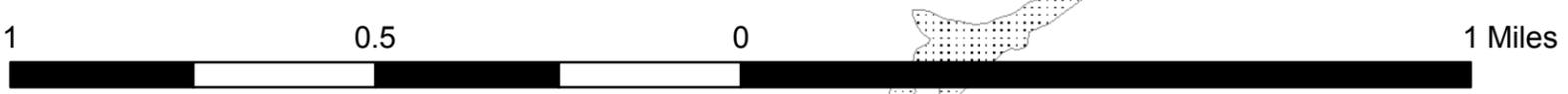
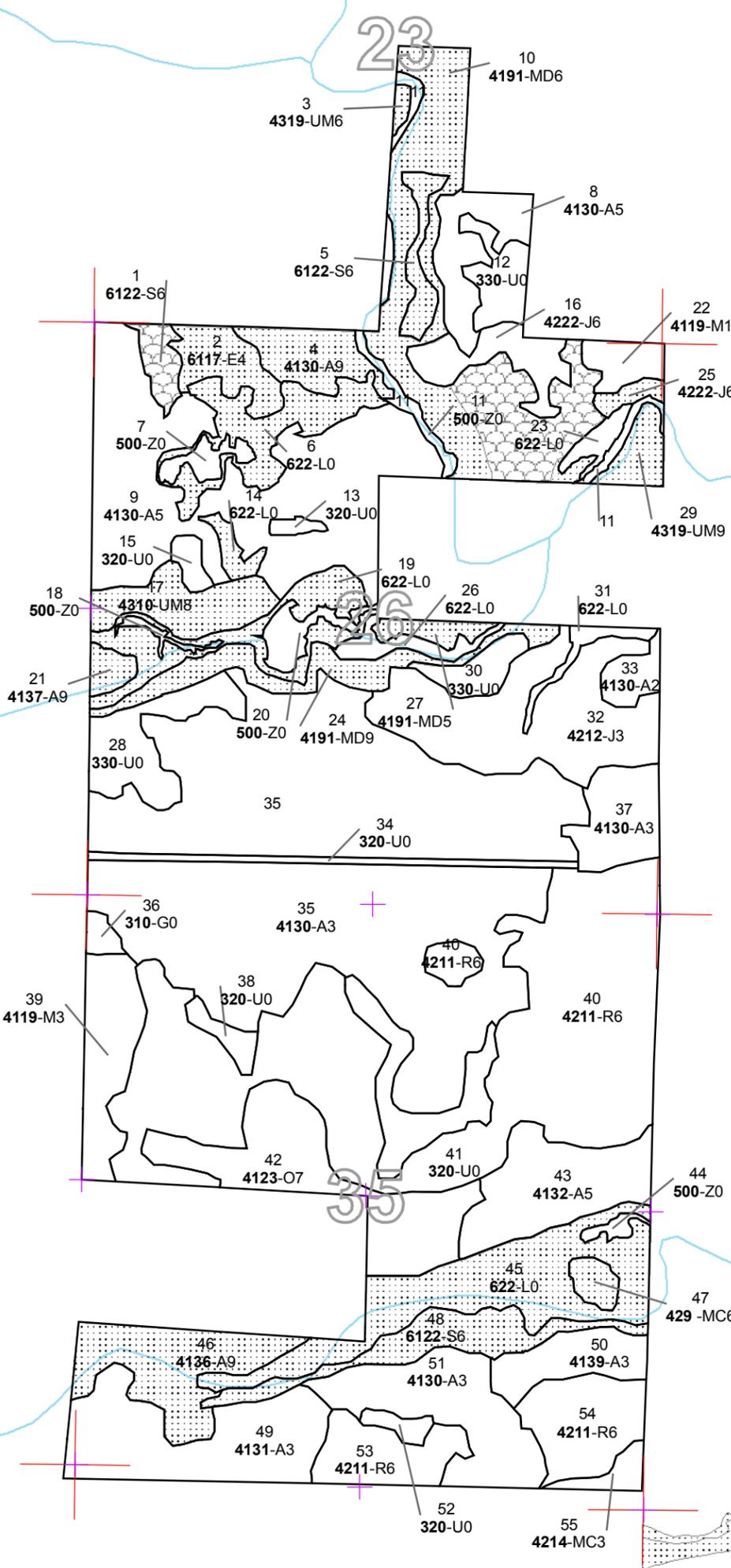
Stand #
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Stocking Density
 (412)0 - A7
 Level 3 OI
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23
 26
 35



Legend

- Miris Corners
- Proposed Special Conservation Areas**
- ▨ SCA - Special Conservation Area
- ▩ SCA Removal
- Dedicated Special Conservation Areas**
- Cold Water Streams
- ▭ Stand Boundaries
- Forest Stands**
- Level 3**
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
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- Non-Forest Stands**
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87°39'0"W

87°38'0"W

87°37'0"W

46°22'0"N

46°21'0"N

46°20'0"N

46°23'0"N

46°22'0"N

46°21'0"N

46°20'0"N



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Unretn Age
Aspen	0	72	30	317	15	0	0	0	32	26	0	0	0	0	12	505
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Jack Pine	0	0	49	0	3	12	0	0	0	0	0	0	0	0	0	64
Low-Density Trees	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Lowland Deciduous	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11
Lowland Shrub	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98
Lowland Spruce/Fir	0	0	0	0	0	0	0	5	18	6	0	0	0	0	0	30
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	82	0	0	0	0	0	0	82
Northern Hardwood	0	0	19	0	6	0	0	0	0	0	0	0	0	0	0	26
Oak	0	0	0	0	0	0	0	0	39	0	0	0	0	0	0	39
Planted Mixed Pines	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Red Pine	0	0	0	0	0	191	0	0	0	0	0	0	0	0	0	191
Upland Conifers	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
Upland Mixed Forest	0	0	0	0	0	0	0	0	22	1	0	0	0	0	0	23
Upland Shrub	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Water	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Total	188	72	103	317	24	203	0	5	204	37	0	0	0	0	12	1167



Table 2 – Proposed Treatment Summaries

Gwinn Mgt. Unit
Year of Entry 2013

Compartment 249
Total Compartment Acres: 1167

Acres by Treatment Type

Commercial Harvest - 103	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	80	0	0	0	0	0	80
Mixed Upland Deciduous	23	0	0	0	0	0	23
Total	103	0	0	0	0	0	103



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	32249009-Cut	39.2	4130 - Aspen	Medium Density Pole	29	Harvest	Clearcut	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut portions of this stand where aspen mortality is at its highest (to be defined on the ground). No oak, red or white pine are to be cut.</p> <p><u>Specs:</u> These areas will be primarily where soil moisture availability is low.</p> <p><u>Other</u> There is quite a bit of dead aspen in this stand, predominantly where it is drier. This site is not well suited for aspen and should be converted to a pine covertime, preferably red pine.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Upon completion of harvest, herbicide treated areas using ground application only, leave 4 1/10 acre patches along the edges where no herbicide is used, trench and plant to red pine.</p>									
10	32249010_tmt -Cut	23.1	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	79	Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Cut all live trees in this stand regardless of merchantability except for white pine and any oak. Retain as many dead standing aspen and white birch as possible providing for logging safety first. Late summer harvesting should be encourage to promote sca</p> <p><u>Specs:</u></p> <p><u>Other</u> The habitat in this portion of the compartment, north of the Middle Branch, is more in line with the Palmer Moraine Management Area rather than the Chain Lakes Moraine which this compartment is a part of. It is very conducive for pine rather than aspen. T</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Possible follow up treatment of white pine planting. Acceptable regeneration includes apsen, maple, birch, spruce, fir, and pine.</p>									
43	32249043-Cut	28.2	4132 - Aspen, Jack Pine	Medium Density Pole	71	Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Cut all trees regardless of merchantability except red and white pine and red oak. Summer logging should be encouraged to discriminate against aspen sprouting and aid in providing a scarified seed bed for pine.</p> <p><u>Specs:</u></p> <p><u>Other</u> The objective in this stand is to promote a conifer-oak mix. This will improve the habitat of this stand and help to promote this covertime in the surrounding landscape. A mixed stand of aspen, pine, oak and maple will be acceptable.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor success of regeneration for pine and oak. Subsequent scarificaion and/or planting may be necessary to promote the management objective. Acceptable regeneration includes aspen, maple, birch, pine, spruce, fir and oak.</p>									
Total Treatment Acreage Proposed:		90.5							

**Table 4 -- Treatments Prescribed with
a Limiting Factor**

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4 32249004-Cut	12.2	4130 - Aspen	High Density Log	79	Harvest	Clearcut with Reserves	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Harvest all aspen, maple, white birch and jack pine. A 300 foot buffer will be left along the Middle Branch Escanaba River. As many aspen and white birch snags as possible should be left.

Other Comment: This is a decadent aspen stand with scattered mature white pine in the overstory. The understory is heavy to white pine saplings and some poles. This harvest will release those and aid in promoting the conversion of this stand to white pine.

Next Steps: Acceptable regeneration includes aspen, maple, spruce, fir and pine.

Limiting Factor and No Treatment Reason 2A: Adjacent landowner denies access
Previous inventory notes state that landowner to the north refused access. Another attempt will be made this inventory period.

**Total Treatment
Acreage Proposed: 12.2**

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription
Specs:

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 0**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6122 - Black Spruce	High Density Pole	5.3	60	81-110	Stand was listed in previous inventory for Potential Old Growth (POG). It is a small stand of black spruce with some red maple, balsam fir and tamarack. White birch that had previously been in the northern portion of the stand has died and is now mainly snags with few live stems. Tag alder present in the understory is only in the north. The south is void of any tag alder and is sphagnum. This stand is fairly wet. It is recommended at this time to remove the stand from POG as it isn't exhibiting any old growth characteristics.
2	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Pole	11.2	79	1-50	Currently this stand is listed as SCA=>Potential Old Growth (POG). It doesn't really fit an old growth characteristic and should have this label removed. Riparian or wildlife corridor is more fitting as deer are using the upland knobs as connectors to move through this lowland area. Stand is predominantly lowland with scattered rock knobs covered with a thin layer of soil. The rock knobs are supporting upland trees, which are mature. The lowland area is primarily tag alder, tamarack with scattered pockets of balm, spruce-fir, red maple, and black ash. This stand is very wet.
3	4319 - Mixed Upland Forest	High Density Pole	1.2	86		Previous inventory has listed this stand as Potential Old Growth (POG). It is a small stand on the west side of the Middle Branch Escanaba River. It is providing a corridor along the river, is succeeding to spruce/fir with large red and white pine along the river. It should stay as an SCA for riparian corridor.
4	4130 - Aspen	High Density Log	12.2	Uneven Age	81-110	Stand has been listed from previous inventory as SCA Potential Old Growth (POG), water quality (BMP's), scenic/visual values. The stand borders the Middle Branch Escanaba River (east) and is surrounded by lowland brush on the south and west. Private borders to the north. This is a decadent stand of aspen and birch with red and white pine. The understory is heavy to white pine seedlings, saplings, and poles.
5	6122 - Black Spruce	High Density Pole	6.3	86	51-80	Stand has been previously listed as SCA-Potential Old Growth (POG), water quality/bmp's. This stand is a mix of black spruce and jack pine. The jack pine occurs where the elevation changes slightly and where it transitions to the upland. It is located in a depression between a rock outcropping to the west and shallow soil over granite to the east. Small (1/10-1/5 acre) patches of bare rock are present within this stand. It is very wet. Operability is very limited.
8	4130 - Aspen	Medium Density Pole	15.0	39	1-50	Stand was regenerated noncommercially in 1972 by KG blading by the Wildlife Division, FTP W3-328. At the time of treatment, it was noted the stand was scrubby aspen, birch, and red maple with scattered jack pine (which were left standing). Stand age was 36 with a basal area of 62 ft/ac. Currently, the stand is predominantly aspen with some scattered jack pine, balsam fir, spruce and some red maple. The stand is still of poor quality.
9	4130 - Aspen	Medium Density Pole	86.3	29	1-50	Stand was harvested in 1982 by Escanaba Paper Co., permit #1-80A. Oak had been cut in the eastern part of the stand and some in the north. There is a fair amount of dead aspen in this stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
10	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	61.4	79	51-80	Stand was listed from previous inventory as SCA-Potential Old Growth (POG). Part of this stand (the west and southeast edge and the north half) could be left as an SCA for a riparian corridor as it is along the Middle Branch Escanaba River. The north half is very rugged, large boulders and rock outcroppings are present throughout this portion of the stand. The remainder is upland, level and treatable and should be removed from the POG list. Timber quality for the aspen and hardwood is poor. The pine within this stand is doing quite well. The understory is primarily white pine, with some spruce and fir. If the stand is not treated it will convert to white pine. There is a small patch of black spruce in the southeast corner that was included with this stand as it is less than an acre.
16	42220 - Natural Jack Pine	High Density Pole	12.4	43	111-140	Stand is a result of a harvest under permit #12-66A, completed around 1967. Jack pine are 6-8" dbh, 4-5 sticks. There are a few scattered white pine, white birch, and some scattered aspen around the southern edge of the stand as it transitions into the mixed stand to the south.
17	4310 - Pine, Oak Mix	Medium Density Log	15.7	79	1-50	This stand has been listed from previous inventory as SCA=>Potential Old Growth. The majority of this stand was harvested in 1982, permit #1-80A, all aspen was removed and the oak and pine were left. The stand is now predominantly oak and white pine. Aspen and red maple saplings and poles are present as are white pine saplings and poles. A portion of this stand could be left as SCA=>Riparian corridor as a buffer along the Hawkins Pond water course, the remainder should be removed. This stand is moving toward white pine.
21	4137 - Aspen, Birch	High Density Log	3.5	79		Stand is listed as SCA=>Potential Old Growth, scenic values, water quality BMP's. Stand should remain as SCA for riparian corridor and water quality protection. Stand is a decadent stand of aspen and birch that is moving toward red maple and pine. This stand is small within the compartment boundary but is naturally part of a bigger stand to the west and pre-inventory stand 15 to the north.
22	4119 - Mixed Northern Hardwoods	Low Density Sapling	6.3	39		Stand was harvested in 2004, T-Sale #117-03-01, by Holli Forest Products. All merchantable jack pine, aspen and maple were harvested. There is a heavy residual of red maple and white birch, especially on the west end of the stand. Scattered pockets of aspen, birch, and maple exist elsewhere in the stand as a result of a harvest in 1972. Stand has been trenched and seeded via FTP #31-467 in 2006 and again in 2010 as a result of a failure. No herbicide was used. Stand will be very mixed.
24	4191 - Mixed Upland Deciduous with Conifer	High Density Log	16.9	79	51-80	Stand is currently listed as SCA=>Potential Old Growth. A more appropriate listing would be riparian corridor as it is a mature stand of jack pine, birch, aspen, red and white pine, that is along the Hawkins Pond water course.
25	42220 - Natural Jack Pine	High Density Pole	2.7	39	51-80	Stand is currently listed as SCA=>Potential Old Growth (POG), water quality/bmp's, scenic/visual values. A portion of this stand is poles, predominantly west end, with the east end containing larger trees. Part of this stand may have been cut with the surrounding area in 1972. It is along the Middle Branch Escanaba River and should remain as SCA but as riparian corridor. The stand is providing a conifer component along the river and is also providing for bank stabilization on the bend of the river.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	4.2	79	51-80	Stand listed as SCA=>Potential Old Growth (POG), scenic/visual values, water quality/bmp's. This is a small stand of jack pine, white birch and red maple located along a tributary to the Middle Branch Escanaba River. Stand should be left as SCA=>Riparian corridor as it acts as a buffer for the stream and a wildlife corridor as well.
29	4319 - Mixed Upland Forest	High Density Log	6.5	79	51-80	SCA=>Potential Old Growth (POG), scenic/visual values, water quality/bmp's along the Middle Branch Escanaba River. Stand is a mix of upland with some floodplain. Stand should remain in SCA for riparian corridor along the river. Stand is moving toward a mix of large pine with a spruce/fir understory.
32	42120 - Planted Jack Pine	High Density Sapling	49.2	15		Stand had been harvested in 1994 by DeShambo Forest Products, permit #9-93 (Hawkins Pond Sale). Site was herbicided, trenched and hand planted in May 1996 under FTP C31-332. Scattered red and white pine are present within the stand, moreso on the west end.
33	4130 - Aspen	Medium Density	5.3	7		Stand was harvested in Feb/March 2004 by Joe LaFleur Forest Products, LLC, #118-03-01 (Hawkins Pond Road Sale). Stand is regenerating to primarily aspen with some red maple and jack pine as well.
35	4130 - Aspen	High Density Sapling	231.0	25	1-50	Stand was harvested between 1983-86 by Escanaba Paper Co., permit #23-82. Stand is a mix of quaking and big tooth aspen, red maple with jack pine (pockets) scattered throughout. Some red oak log size trees are scattered throughout as well. Stand is just now moving from sapling to pole category. Majority of stems are still within the sapling size class.
37	4130 - Aspen	High Density Sapling	14.8	7		Stand was harvested in Feb/Mar 2004 by Joe LaFleur Forest Products, LLC., permit #118-03-01. Oak, cherry, white pine, spruce, fir and most red pine were left. Stand is regenerating well. Scattered pockets of red pine poles and logs. Some jack and white pine seedlings scattered in stand.
39	4119 - Mixed Northern Hardwoods	High Density Sapling	19.5	17	1-50	Stand cut in 1994 by Deshambo Forest Products, permit #9-93 (Hawkins Pond Sale). Oak scattered throughout, log size trees. Some basal area is 80 ft/ac. Stand is predominantly red maple with oak logs and poles in the overstory. Very little aspen is present in the stand. Some areas are void of any trees.
40	42110 - Planted Red Pine	High Density Pole	155.7	49	81-110	Stand was machine planted in 1962. It was thinned in 2007, TS#119-03-01. Some areas of the stand could be treated as the basal area is at or above 140 sq. ft/ac. Areas of the stand are only at 20-40 sq. ft/ac where heavy jack pine and aspen have been removed. Oak is present within the stand in concentrated areas. Scattered white birch are present as well.
42	4123 - Red Oak	Low Density Log	38.5	72	1-50	Stand was harvested in the fall of 2006, Maino's Road Plantation, TS#120-03-01. All oak was left. Site was then scarified via anchor chains in the summer of 2010. Note: southeast part of stand was not scarified but the covertype and timber management will be the same.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4132 - Aspen, Jack Pine	Medium Density Pole	28.2	71	51-80	Stand is of poor quality and mixed, but heavy to aspen. A depression does exist in the middle of the stand but is ringed with aspen. Stand appears to have been harvested in the past as aspen are two aged. Possibly done by previous landowner as some of this stand was acquired via land exchange. Stand could be harvested at this time or allowed to grow for one more entry period.
46	4136 - Aspen, Mixed Conifer	High Density Log	26.1	81	111-140	Stand is listed as SCA=>Potential Old Growth (POG), water quality/bmp's. Flopper's Creek flows through the middle of this stand. The stand is the hill sides on both sides of the creek. Operability here is quite difficult due to the slope and large rocks located throughout the stand. The bottom of the slopes are full of springs and seeps. Stand should remain in SCA as POG and riparian corridor for old forest habitat along the creek.
47	429 - Mixed Upland Conifers	High Density Pole	3.7	80		Stand is listed as SCA=>Potential Old Growth (POG), water quality, bmp's. The stand is a mixed pine island surrounded by Flopper Creek and tag alder. Stand should remain as SCA=>POG for providing old forest habitat along the creek.
48	6122 - Black Spruce	High Density Pole	18.1	71	81-110	Stand listed as SCA=>Potential Old Growth (POG). Very narrow stand that borders Flopper's Creek. Retain as POG for old forest habitat and riparian corridor along Flopper's Creek.
49	4131 - Aspen, Oak	High Density Sapling	38.4	7	51-80	Stand harvested in 2004 by K&K Logging, TS #121-03-01. Previous inventory notes state that 38 sq. ft/ac of oak were tallied from the cruise data. Points for this inventory cycle fell into heavier stocking areas. This is an aspen sapling stand with an oak log/pole overstory with some scattered red pine.
50	4139 - Aspen, Mixed Deciduous	High Density Sapling	13.5	5		Stand harvested in 2006 by K&K Logging, TS#121-03-01. All oak, cherry, birch, white pine, and balsam were left as well as 1 and 2 stick spruce and those unmarked red pine. Stand is regenerating to red maple and aspen.
51	4130 - Aspen	High Density Sapling	30.3	16		Stand harvested in 1994-95 by DeShambo Forest Products, permit #6-93, "Flopper Creek Block". All oak, white pine, and spruce were left as well as red pine smaller than 12 inches stump diameter. Stand is now aspen with pockets of jack pine and scattered overstory white pine and oak.
53	42110 - Planted Red Pine	High Density Pole	15.5	49	81-110	Stand was thinned in 2006 by K&K Logging, permit #121-03-01 (Flopper Creek South Sale). Red pine was marked, all jack pine and aspen were cut. Any birch, cherry, oak, balsam fir as well as 1-2 stick spruce were left. These are all trace species now. None were picked up on the inventory cruise.
54	42110 - Planted Red Pine	High Density Pole	19.8	49	81-110	Stand was thinned in 2006 by K&K Logging, permit #121-03-01 (Flopper Creek South Sale). Marked red pine were cut as well as aspen, maple, and jack pine. Any oak, birch, cherry, balsam, 1-2 stick spruce and white pine were left. A portion of it (south of the road) was also cut in 1991 with compartment 248 to the south (#25-88 "Four Compartment Sale"). The stand is currently in good shape. The red maple in the understorey is from both stump and seed origin.

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5 – Forested Stands

Compartment: 249
Year of Entry: 2013



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
55	42140 - Planted Mixed Pine	High Density Sapling	3.9	17		Stand was harvested in 1991 by Jim Carey Logging, permit #25-88 (Four Compartment Sale). Following the harvest it was herbicided, trenched and contract hand planted to red pine under FTP C31-254. Jack pine and white pine volunteers are present throughout, heavier on the west end of the stand. There appears to be almost as much jack pine as there is red pine from looking at crown distribution. Note: FTP date is 1991, but there is no completion date on when it was actually planted.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
6	6229 - Mixed lowland shrub	19.4	No	Unspecified	Scattered black spruce, tamarack and white pine. Heavy tag alder.
7	50 - Water	4.1	No	Unspecified	Beaver ponds
11	50 - Water	8.3	N/A	Unspecified	Middle Branch Escanaba River
12	3302 - Low Density Conifer Trees	8.9	Planted	High (NonForested)	Stand was harvested in Oct/Nov 2004 by Holli Forest Products, Inc., permit #117-03-01. Any oak, cherry, birch, red and white pine as well as any spruce and fir were left. All aspen, jack pine, and maple were cut. It was subsequently trenched and direct seeded to jack pine (FTP C31-467) in 2006 and again in 2009 due to a regeneration failure.
13	320 - Upland Shrub	1.5	N/A	Unspecified	
14	6220 - Alder/willow	3.1	No	Unspecified	
15	320 - Upland Shrub	2.9	N/A	Unspecified	
18	50 - Water	1.4	N/A	Unspecified	
19	6220 - Alder/willow	19.4	No	Unspecified	SCA=>POG
20	50 - Water	5.7	N/A	Unspecified	
23	6220 - Alder/willow	3.4	No	Unspecified	
26	6220 - Alder/willow	5.1	No	Unspecified	
28	3302 - Low Density Conifer Trees	17.4	No	Low (NonForested)	Sweet fern and sedge. Jack pine is throughout the stand. Almost a forested stand.
30	3302 - Low Density Conifer Trees	6.7	Planted	High (NonForested)	Herbicided, trenched and seeded to jack pine. Seeding took place in 2006. Stand was cut in Feb/Mar 2004 by Joe LaFleur Forest Products, LLC, permit #118-03-01 (Hawkins Pond Road Sale). FTP #31-466.
31	6220 - Alder/willow	3.5	No	Unspecified	Drainage
34	3201 - Sweet Fern	6.5	N/A	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
36	310 - Herbaceous Openland	2.4	N/A	Unspecified	
38	3205 - Mixed Upland Shrub	3.8	N/A	Unspecified	
41	320 - Upland Shrub	16.4	N/A	Unspecified	
44	50 - Water	1.7	N/A	Unspecified	
45	622 - Lowland Shrub	43.7	N/A	Unspecified	
52	3201 - Sweet Fern	2.7	Yes	Low (NonForested)	Stand is filling in with red pine.



7 – 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.

Stand	SCA Type	SCA Name	Acres	Comments
1	SCA Removal	32249001	5.3	Stand should be removed from Potential Old Growth status as it isn't providing anything unique to the compartment or surrounding landscape.
2	Unique Site - SCA	32249002	11.2	SCA=>Riparian Corridor. Wildlife are moving through this stand utilizing the small upland/rock knobs for travel. A tributary to the Middle Branch Escanaba River also is within this stand.
3	Unique Site - SCA	32249003	1.2	SCA=>Potential Old Growth (POG) and riparian corridor along the Middle Branch Escanaba River. It is providing for old growth characteristics along the river and is also providing cover for wildlife movement.
4	Unique Site - SCA	32249004	12.2	SCA=>Potential Old Growth. This stand is providing old forest characteristics in the form of stand structure (standing dead snags, cavity trees, etc.) and process (aspen is declining and white pine is succeeding). Stand is also acting as a riparian corridor along the Middle Branch Escanaba River.
5	Unique Site - SCA	32249005	6.3	SCA=>Riparian Corridor. Very rugged spruce stand that is located in a small depression between rock. Provides a lowland buffer to the Middle Branch and is a sensitive site from an operability standpoint. Logging this would be very difficult.
10	Unique Site - SCA	32249010	37.0	SCA=>Potential Old Growth (POG) and riparian corridor along the Middle Branch Escanaba River. Stand is providing for a travel corridor and buffer along the river. It is a decadent stand of white birch that is succeeding to pine and fir.
10	Unique Site - SCA	32249010_small_small	1.3	SCA=>Riparian corridor for wildlife and fisheries along the Middle Branch Escanaba River.
10	SCA Removal	32249010_tmt	23.1	This portion of stand 10 should be removed from SCA designation. It isn't providing anything unique to the compartment or surrounding landscape.
17	Unique Site - SCA	32249017	15.7	SCA=>Potential Old Growth and riparian corridor. This stand is providing for a wildlife travel corridor as well as a vegetated buffer along the Hawkins Pond watercourse.
21	Unique Site - SCA	32249021	3.5	SCA=>POG. Stand is part of a larger stand to the west that has the same designation. Stand is acting as a corridor and buffer along Hawkins Pond and a tributary to it.



7 – 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.

Stand	SCA Type	SCA Name	Acres	Comments
24	Unique Site - SCA	32249024	16.9	SCA=>Potential Old Growth. It is a narrow stand along the Hawkins Pond watercourse. This stand is providing for a wildlife travel corridor as well as a vegetated buffer along the stream.
25	Unique Site - SCA	32249025	2.7	SCA=>Riparian Corridor stand along the Middle Branch Escanaba River. Stand should remain as a SCA for a riparian corridor and BMP buffer. This stand is providing for a wildlife travel corridor as well as a vegetated buffer along the stream.
27	Unique Site - SCA	32249027	4.2	SCA=>Potential Old Growth. It is a narrow stand along the Hawkins Pond watercourse. This stand is providing for a wildlife travel corridor as well as a vegetated buffer along the stream.
29	Unique Site - SCA	32249029	6.5	SCA=>Potential Old Growth and riparian corridor. It is providing for a wildlife travel corridor as well as a vegetated buffer along the Middle Branch Escanaba River.
46	Unique Site - SCA	32249046	26.1	SCA=>Potential Old Growth. Stand is converting to spruce-fir with white pine. This stand is also providing for a wildlife travel corridor as well as a vegetated buffer along Flopper Creek.
47	Unique Site - SCA	32249047	3.7	SCA=>Potential Old Growth. Stand should remain as a SCA for POG as it will convert from jack pine to spruce and pine mix. This stand is also providing for a wildlife travel corridor as well as a vegetated buffer along Flopper Creek.
48	Unique Site - SCA	32249048	18.1	SCA=>Potential Old Growth and riparian corridor. This stand is providing for a wildlife travel corridor as well as a vegetated buffer along Flopper Creek.
6	Unique Site - SCA	NF_32249006	19.4	SCA=>Riparian corridor along feeder creek to Middle Branch Escanaba River. Stand has scattered tamarack and some high ground knobs of pine and hardwood.
14	Unique Site - SCA	NF_32249014	3.1	SCA=>Riparian corridor. Lowland brush.
19	Unique Site - SCA	NF_32249019	19.4	SCA=>Riparian corridor along Hawkins Pond watercourse.
45	Unique Site - SCA	NF_32249045	43.7	SCA=>Riparian corridor along Flopper Creek.



8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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.