



**Gwinn Forest Management Unit**  
**Compartment Review Presentation**  
**Compartment 279      Entry Year: 2013**  
**Compartment Acreage: 2,192      County: Marquette**

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**Revision Date:** August 18, 2011

**Stand Examiner:** Ben Travis

**Legal Description:** T46N R25W Sec. 19, 20, 28-33

**RMU (if applicable):** Palmer Moraine Management Area

**Management Goals:** Timber management, forest regeneration, forest fire control, wildlife habitat management, fisheries productivity, forest recreation and water quality are all critical considerations during the planning, implementation and monitoring phases of treatments made within this compartment. The overall management goal is to improve forest health, diversity and productivity of the area through sustainable, proper forest treatments. Treatments prescribed will ensure wise utilization and renewal of the forest resources while continuing to enhance the quality of many wildlife and fisheries habitats. Overmature aspen stands will be regenerated to develop and maintain a balanced age-class distribution of stands ranging from young, dense saplings to mature, valuable timber. Some black spruce stands will be entered for treatment to begin establishment of a balanced age-class distribution. Red and White pine stands will be managed throughout their rotations for timber production, wildlife habitat concerns and desired regeneration.

**Soil and Topography:** Rock outcroppings, cliffs and boulders are present along many portions of the Escanaba River and O'Neal Creek. Many more rock occurrences and variable topography are found in the forest stands south of O'Neal Creek. Michigamme-Rock outcrop, Rubicon-Ishpeming-Rock outcrop complex, Rubicon-Ocqueoc-Rock outcrop complex, Champion cobbly fine sandy loam, Dishno-Michigamme-Rock outcrop complex, Peshekee-Rock outcrop complex and Sundog-Rock outcrop complex are some of the soil series found in this southern portion of the compartment. Less frequent rock formations and more level terrain are common north of O'Neal Creek. Rubicon-Sayner complex, Rubicon-Ocqueoc-Rock outcrop complex, Au Gres sand, Sundog-Rock outcrop complex, Greenwood and Dawson and Champion-Dishno complex are some of the soil series found north of O'Neal Creek. The isolated state 80 east of the Escanaba River has Grayling sand and Rubicon sand soil series.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** Marquette county manages a large expanse of forest dominated by jack pine to the east of this compartment. Cliffs Mining Company owns a large tract of undeveloped land to the north of this compartment. A section of state land is located to the west of this compartment, but separated from the compartment along most of its length by small private parcels. Multiple small private parcels lie adjacent to this compartment and limit access for timber production and forest recreation in many areas. Many rustic camps are found in the vicinity of the compartment. Forest harvests, fishing and hunting are the primary land uses on private property in this vicinity.

**Unique, Natural Features:** Intermittent wetland and dry-mesic northern forest to E. Hardwood-conifer swamp to SE. Frigga fritillary to E. Loon to E and SW. Kirtland's warbler to SE. Great blue heron rookery to SW. Bald eagle and osprey to SW. Narrow-leaved gentian to N and E. Purple clematis and historical record for veiny meadow rue to S. Canada rice-grass to W. Historical records for purple clematis, northern gooseberry, and male fern to NW. Potential for osprey, eagle, and great blue heron rookery. Potential for red-

shouldered hawk and goshawk. Potential for moose and wolf. Potential for wood turtle in Uncle Tom's Creek, O'Neal Creek, and East Branch Escanaba River. Potential for Kirtland's warbler. Potential for northern blue butterfly in openings in jack pine stands if dwarf bilberry is present. Limited potential for frigga fritillary, freija fritillary and red-disked alpine in bogs. Potential for auricled tway-blade, western dock, veiny meadow-rue, 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. Potential for dwarf bilberry, wild oat grass, and Canada rice-grass in grassy openings and in clearings in jack pine. Exposed bedrock, rock outcrops, and boulders harbor potential for blunt-lobed woodsia, northern woodsia, fragrant cliff woodfern, purple clematis, Laurentian fragile fern, walking fern, purple cliff brake, slender cliff-brake, rock whitlow-grass, northern gooseberry, and Douglas's hawthorn.

**Archeological, Historical, and Cultural Features:** None known.

**Special Management Designations or Considerations:** Special Conservation Areas (SCA's) exist along the East Branch of the Escanaba River. Obtaining permanent easements and/or land acquisitions should be considered in the north portion of Section 5 to provide dedicated access to this compartment from Pohlman Drive (county road).

**Watershed and Fisheries Considerations:** Adhere to Best Management Practices when treating stands along waterways. A 300 foot buffer with no treatments is to be provided along the East Branch of the Escanaba River. A 100 foot buffer with no treatments is to be provided along O'Neal Creek.

**Wildlife Habitat Considerations:** Identify and implement strategies that increase mesic conifer such as white pine. Special Conservation Areas along the Escanaba River, O'Neal Creek and tributaries, maintain conifer to provide snow intercept, cover, mature forest structure and protection for wildlife corridors and protect riparian areas. Diversity in habitat types offers a variety of hunting and wildlife viewing opportunities.

**Mineral Resource and Development Concerns and/or Restrictions:** Surface sediments consist of thin to discontinuous glacial outwash sand and gravel and postglacial alluvium and medium-textured till over bedrock. The glacial drift thickness varies up to 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 located in Section 20, and potential appears to be good. Abandoned iron mines are located four miles to the south. Sections 22, 30, 31 and 34 were previously leased for metallic exploration. There is no economic oil and gas production in the UP.

**Vehicle Access:** Rugged stone cliffs and O'Neal Creek separate the compartment into disconnected north and south road networks. The East Branch of the Escanaba River and associated high rock faces limit access to the compartment from the east except for one bridge. Vehicle access to the northeast portion of the compartment is via a poor dirt county road that crosses the east Branch of the Escanaba River in Section 20. A fairly good forest road network branches off from this river crossing to the west, though access in places is limited by gates and/or "No Trespassing" signs at private lines. A new network of restricted forest roads was developed by logging activity in the south portion of the compartment in 2011. These new roads connect into Pohlman Drive (poor dirt county road) through private land in Section 5. Securing a permanent easement across these private lands would be desirable. The new forest roads have many soft, wet areas so will be closed with berms except when needed for logging access during frozen periods. Paved County Road MU provides a possible access route to the southwest portion of the compartment if private landowners grant permission to cross their lands. Several camps utilize forest roads in the north portion of the compartment for access to their properties.

**Survey Needs:** Establishment of several new corners will be requested in the future.

**Recreational Facilities and Opportunities:** No developed recreational facilities exist within this compartment. No new recreational facilities are planned at this time. Dispersed camping along the Escanaba River, fishing and hunting are important uses of this land. ATVs frequently use the north forest road network. Snowmobiles also utilize the north forest road network in the winter.

**Fire Protection:** The eastern edge of the compartment adjoins a large, sandy outwash plain dominated by jack pine (KI Sawyer area). The Escanaba River and associated streams provide an adequate water source throughout the compartment. The northern forest road network and the new southern forest road system greatly facilitates fire equipment access. Some remote areas of the compartment would prove to be very problematic for fire access.

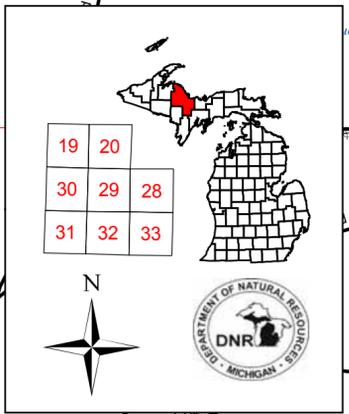
**Additional Compartment Information:** The village of Gwinn is approximately 4 miles south of the compartment. The community of Sands Station lies approximately 2 miles northeast of the compartment. The former Air Force Base KI Sawyer is approximately 3 miles east of the compartment. A wide overhead powerline corridor forms the western edge of the compartment. An 80 acre parcel was acquired by the state during the last several years which blocks in the state ownership in Section 32, providing access in the south.

- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
  - ◆ **Cover Type by Age Class**
  - ◆ **Cover Type by Management Objective**
  - ◆ **Compartment Volume Summary**
  - ◆ **Proposed Treatments – No Limiting Factors**
  - ◆ **Proposed Treatments – With Limiting Factors**
  
- **The following information is displayed, where pertinent, on the attached compartment maps:**
  - ◆ **Base feature information, stand numbers, cover types**
  - ◆ **Proposed treatments**
  - ◆ **Proposed road access system**
  - ◆ **Suggested potential old growth**

# Cover Type & Treatment Map

Compartment 279  
 T46N, R25W, Sec. 19, 20, 28, 29, 30-33  
 County: Marquette  
 Unit: Gwinn  
 YOE: 2013  
 Acres: 2,192 GIS Calculated  
 Stand Examiner: Ben Travis  
 Map Revised: 8/23/2011  
 Map Phase: Pre-Review

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



### Legend

- Miris Corners
- RIs Corners
- Remonumented Section Corners
- Highway
- Paved Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Power
- Snowmobile Trail
- Gate
- Snowmobile Trails
- State Highway
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

### Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)

### Forest Stands

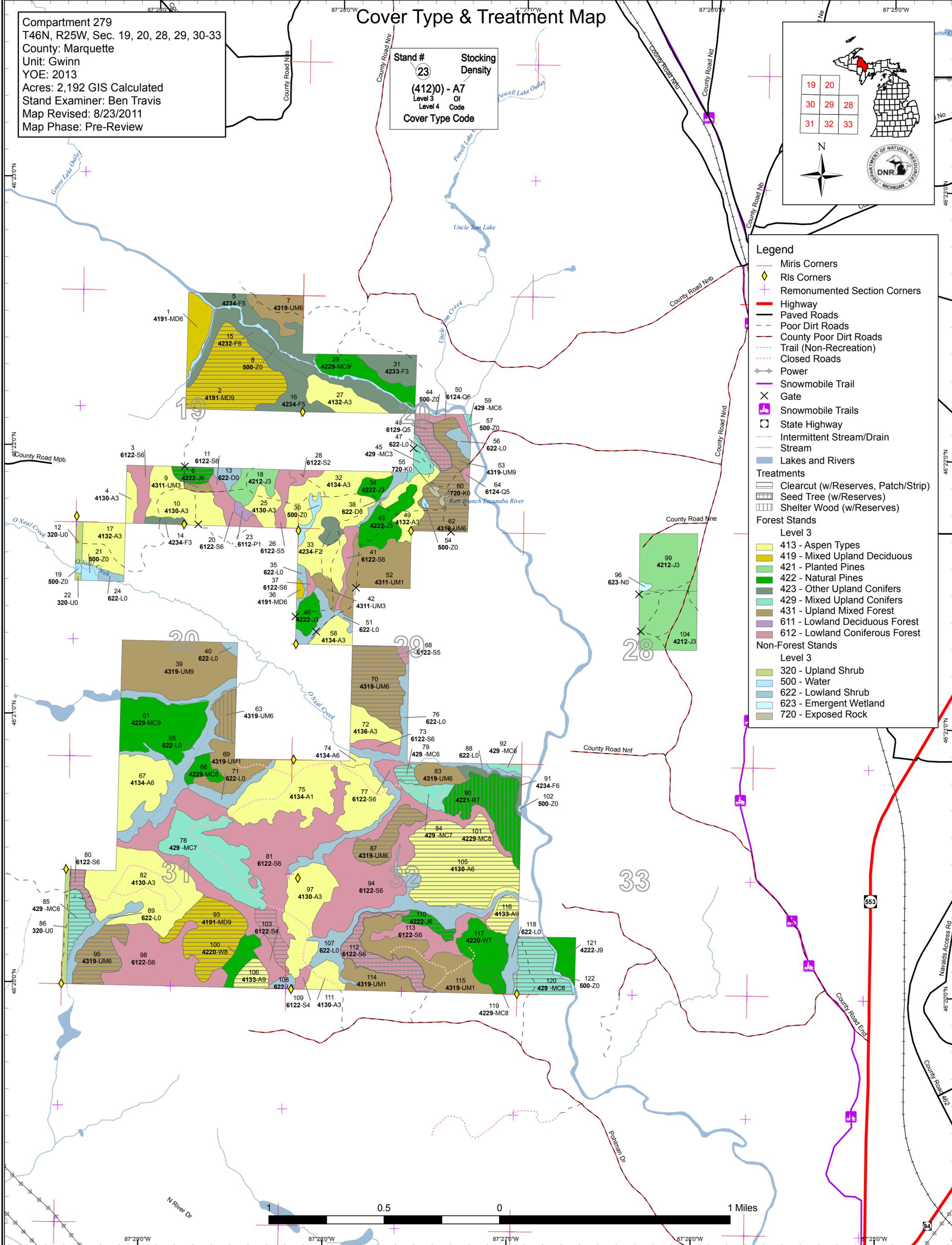
Level 3

- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

### Non-Forest Stands

Level 3

- 320 - Upland Shrub
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 720 - Exposed Rock

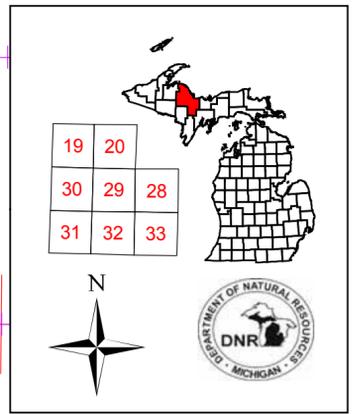




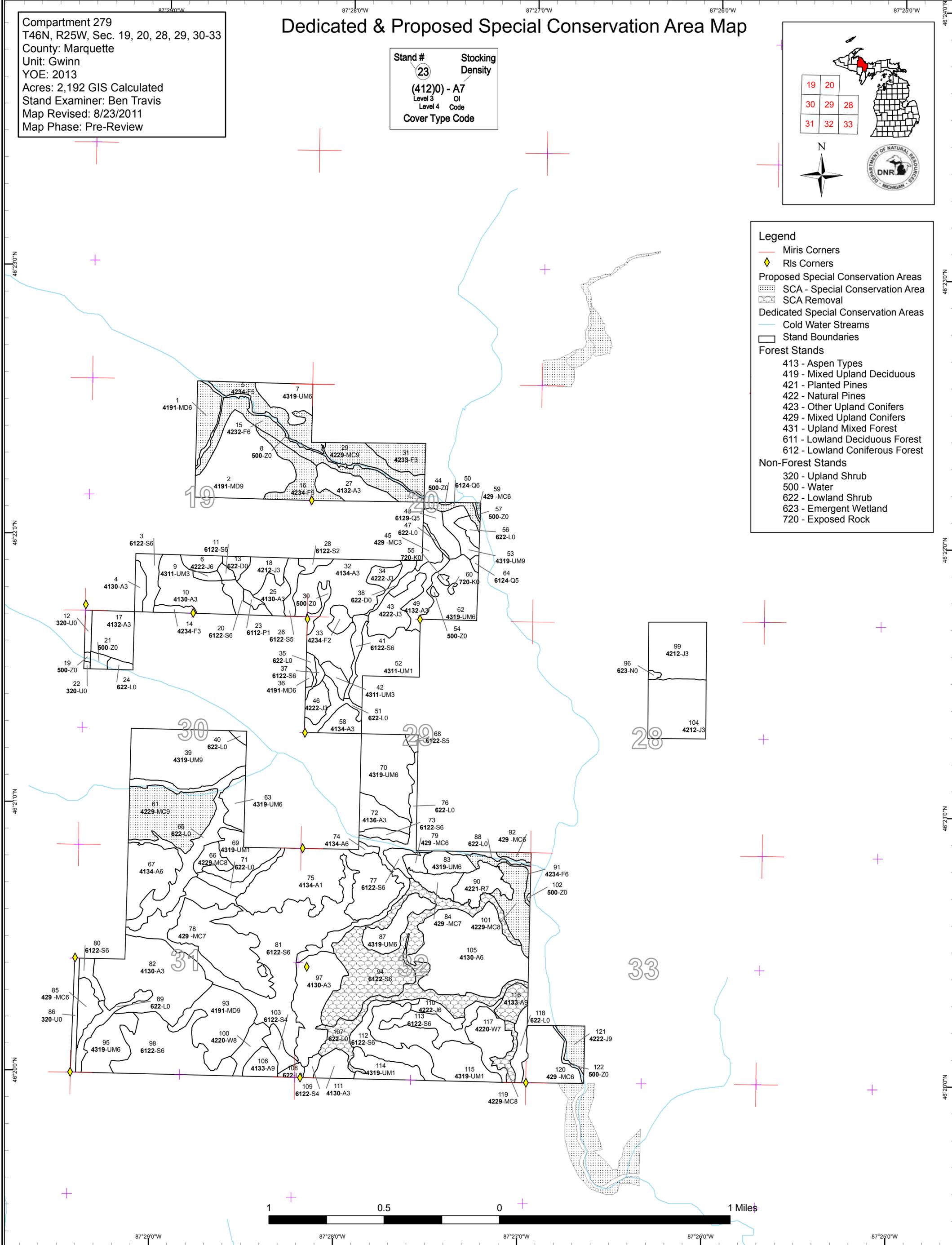
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 Acres: 2,192 GIS Calculated  
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# Dedicated & Proposed Special Conservation Area Map

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



- Legend**
- Miris Corners
  - ◆ Ris Corners
  - Proposed Special Conservation Areas**
  - ▨ SCA - Special Conservation Area
  - ▩ SCA Removal
  - Dedicated Special Conservation Areas**
  - Cold Water Streams
  - ▭ Stand Boundaries
  - Forest Stands**
  - 413 - Aspen Types
  - 419 - Mixed Upland Deciduous
  - 421 - Planted Pines
  - 422 - Natural Pines
  - 423 - Other Upland Conifers
  - 429 - Mixed Upland Conifers
  - 431 - Upland Mixed Forest
  - 611 - Lowland Deciduous Forest
  - 612 - Lowland Coniferous Forest
  - Non-Forest Stands**
  - 320 - Upland Shrub
  - 500 - Water
  - 622 - Lowland Shrub
  - 623 - Emergent Wetland
  - 720 - Exposed Rock



**Table 1 – Total Acres by Cover Type and Age Class**



	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 +		Uneven Age
Aspen	0	165	77	175	0	0	0	102	46	0	0	0	0	0	0	564
Exposed Rock	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Jack Pine	0	0	38	89	0	0	7	0	17	0	0	0	0	0	0	152
Lowland Aspen/Balsam Poplar	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Conifers	0	0	0	5	0	0	0	0	1	0	11	0	0	0	0	17
Lowland Shrub	162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	162
Lowland Spruce/Fir	0	0	0	4	0	0	7	13	17	337	0	0	0	0	0	377
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	0	0	0	0	0	1	15	109	0	0	0	0	0	0	125
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	108	0	108
Red Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
Treed Bog	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Upland Conifers	0	10	0	6	0	0	0	0	31	5	0	0	0	67	0	119
Upland Mixed Forest	0	81	38	8	0	0	30	43	55	10	0	0	0	80	18	363
Upland Shrub	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Upland Spruce/Fir	0	0	3	21	0	0	0	0	21	61	0	0	0	0	0	107
Water	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	32
<b>Total</b>	<b>207</b>	<b>257</b>	<b>156</b>	<b>311</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>173</b>	<b>298</b>	<b>412</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>306</b>	<b>18</b>	<b>2192</b>



## Table 2 – Proposed Treatment Summaries

**Gwinn Mgt. Unit**  
**Year of Entry 2013**

**Compartment 279**  
**Total Compartment Acres: 2192**

### Acres by Treatment Type

Commercial Harvest - 504	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
<b>Aspen</b>	108	0	0	0	0	0	0	<b>108</b>
<b>Jack Pine</b>	14	0	0	0	0	0	0	<b>14</b>
<b>Lowland Conifers</b>	0	0	11	0	0	0	0	<b>11</b>
<b>Lowland Spruce/Fir</b>	11	0	30	0	0	0	0	<b>42</b>
<b>Mixed Upland Deciduous</b>	109	0	0	0	0	0	0	<b>109</b>
<b>Natural Mixed Pines</b>	0	0	0	21	0	0	0	<b>21</b>
<b>Red Pine</b>	0	0	0	19	0	0	0	<b>19</b>
<b>Upland Conifers</b>	43	0	0	0	0	0	0	<b>43</b>
<b>Upland Mixed Forest</b>	126	0	0	11	0	0	0	<b>137</b>
<b>Total</b>	<b>412</b>	<b>0</b>	<b>41</b>	<b>51</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>504</b>



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	32279006-Cut	7.0	42220 - Natural Jack Pine	High Density Pole	57	Harvest	Clearcut	42220 - Natural Jack Pine	Cmpt. Review Proposal
<u>Prescription</u> Leave any white pine, red pine or oak. No additional retention.									
<u>Specs:</u>									
<u>Other</u>									
<u>Comments:</u>									
<u>Next</u> Cultural work including site prep and perhaps seeding/planting will be required to regenerate jack pine. Follow-up cultural work with a									
<u>Steps:</u> regeneration survey as per the work instructions. Acceptable regeneration is jack pine and red pine.									
48	32279048-Cut	10.6	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	94	Harvest	Seed Tree with Reserves	6129 - Mixed Coniferous Lowland Forest	Cmpt. Review Proposal
<u>Prescription</u> Clumps of 10 to 20 cedar and spruce trees, located approximately 5 chains apart, are to be left as a seed source. Also, cedar trees less than 5									
<u>Specs:</u> inches as measured 10 inches above the ground will also be retained. Additional mature cedar and spruce will be									
<u>Other</u> Site does have some areas of upland.									
<u>Comments:</u>									
<u>Next</u> Follow-up harvest with a regeneration survey as per work instructions. Acceptable regeneration is spruce, cedar, aspen, white birch, tamarack									
<u>Steps:</u> and fir.									
53	32279053-Cut	9.7	4319 - Mixed Upland Forest	High Density Log	82	Harvest	Clearcut with Reserves	4135 - Aspen, Cedar	Cmpt. Review Proposal
<u>Prescription</u> Retain some scattered cedar and spruce as seed source. Retain any white pine and hemlock.									
<u>Specs:</u>									
<u>Other</u>									
<u>Comments:</u>									
<u>Next</u> Follow-up harvest with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, cedar, fir, jack pine, red maple and									
<u>Steps:</u> spruce.									
62	32279062-Cut	29.7	4319 - Mixed Upland Forest	High Density Pole	59	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<u>Prescription</u> Retain most red and white pine. Leave some scattered spruce and white birch. Leave all hemlock, yellow birch, cedar and oak. Establish									
<u>Specs:</u> retention patches around the two ponds within stand. Sale boundary will remain 300 feet away from Escanaba River.									
<u>Other</u> Patchy composition with pockets of black spruce, aspen and jack pine.									
<u>Comments:</u>									
<u>Next</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, red maple, jack pine, red pine,									
<u>Steps:</u> white pine, black cherry, spruce, birch and fir.									
63	32279063-Cut	10.8	4319 - Mixed Upland Forest	High Density Pole	150	Harvest	Shelterwood	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u> Use area exclusion along Oneil creek for retention. Leave 100 foot wide buffer along Oneil creek. Will leave some scattered white birch and									
<u>Specs:</u> spruce. May mark component of red and white pine, leaving enough trees for appropriate shade and seed. Leave oak, h									
<u>Other</u> Access road has soft, wet stretches which will require frozen conditions for vehicle travel.									
<u>Comments:</u>									
<u>Next</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white									
<u>Steps:</u> birch, red maple, spruce, aspen and fir.									

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
79 32279079-Cut	3.9	429 - Mixed Upland Conifers	High Density Pole	85	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal

Prescription Use sale boundary to exclude areas along north line for retention. Leave 100 foot wide buffer along Oneil creek. Leave most white pine unless needed for equipment operability. May mark up to 50% of red pine. Leave oak, yellow birch, hemlock and cedar.

Other Comments: Access road has soft, wet areas and is only operable during frozen times.

Next Steps: Handplant red pine and jack pine after harvest, without furrows. May want to plant oak as well. Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white birch, spruce, r

81 32279081_sm all-Cut	11.5	6122 - Black Spruce	High Density Pole	80	Harvest	Clearcut with Reserves	6129 - Mixed Coniferous Lowland Forest	Cmpt. Review Proposal
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Prescription Upland with some rock and lowland portions within stand. Clumps of 10 to 20 spruce trees, located approximately 5 chains apart, are to be left as a seed source. White pine will be left unless interfering with logging equipment operability. Some scattered

Other Comments: Stand will need to be harvested during frozen period due to saturated soils in areas of stand and soft, wet state of primary access road.

Next Steps: Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white birch, spruce, aspen and fir.

90 32279090-Cut	18.5	42210 - Natural Red Pine	Low Density Log	120	Harvest	Shelterwood	42210 - Natural Red Pine	Cmpt. Review Proposal
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Prescription Species other than red and white pine were removed from stand during harvest in early 2011. The remaining red pine overstory will be thinned to remove a subset of the overmature trees and open-up heavier stocked patches, which will further reduce the dens

Other Comments: Access to this site requires frozen conditions due to soft, wet forest road conditions, so this sale will only occur during the winter months. Scarification equipment is also considered inoperable on the access roads during non-frozen times, so this form

Next Steps: Could underplant red pine and jack pine by hand without furrows following completion of harvest if needed. Perhaps consider underplanting oak as well. Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is

101 32279101-Cut	21.4	42290 - Natural Mixed Pine	Medium Density Log	120	Harvest	Shelterwood	42210 - Natural Red Pine	Cmpt. Review Proposal
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Prescription Sale area will not be closer than 100 feet to Oneil creek and 300 feet to Escanaba river. Remove all white birch, black spruce, aspen, red maple, jack pine and fir. Will mark for removal approximately 25% to 50% of red pine. Will also mark for removal ap

Other Comments: Jack pine range up to 14 inches Dbh and have very weak crowns. Red pine have diameters up to 22 inches Dbh with fading crowns. A subset of the white pine poles are inferior in canopy quality and vigor/health.

Next Steps: Could underplant by hand to red pine and jack pine following harvest if needed. No furrows will created. Perhaps underplant oak as well. Follow-up completed scarification with a regeneration survey as per work instructions. Acceptable regeneration is aspe

105 32279105-Cut	89.7	4130 - Aspen	High Density Pole	62	Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
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Prescription Remove aspen, spruce, red maple, jack pine and white birch. Mark approximately 50% of red pine for removal. Will leave most white pine. Retention will be through area reserve(s). Leave any oak, yellow birch, hemlock or cedar. Sale boundary will not be clo

Other Comments: Access to this site requires frozen conditions due to soft, wet forest road conditions and surrounding wetlands, so this sale will only occur during the winter months.

Next Steps: Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white birch, spruce, aspen, red maple and fir.



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
110	32279110-Cut	7.4	42220 - Natural Jack Pine	High Density Pole	70	Harvest	Clearcut	42220 - Natural Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Will mark approximately 50% of red pine for removal. Leave white pine unless needed for logging equipment operability. Leave oak and hemlock.  <u>Specs:</u> No other retention is prescribed.</p> <p><u>Other</u> Access to site for logging equipment will require frozen conditions due to wet area on haul road.  <u>Comments:</u></p> <p><u>Next</u> Site will need to be hand-planted to a mix of red and jack pine after harvest. Follow-up cultural work with regeneration survey as per the work  <u>Steps:</u> instructions. Acceptable regeneration is red pine, jack pine, white pine, birch and spruce.</p>									

112	32279112-Cut	24.8	6122 - Black Spruce	High Density Pole	85	Harvest	Seed Tree with Reserves	6122 - Black Spruce	Cmpt. Review Proposal
<p><u>Prescription</u> Clumps of 10 to 20 spruce trees, located approximately 5 chains apart, are to be left as a seed source. Some larger pockets of spruce will also  <u>Specs:</u> be reserved. Leave cedar and white pine.</p> <p><u>Other</u> Will need to assess green-up conditions to north and south of stand before implementing treatment in field. Stand will need to be harvested  <u>Comments:</u> during frozen conditions due to saturated soils in stand and wet, soft stretch on main access road.</p> <p><u>Next</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, white birch, tamarack, aspen,  <u>Steps:</u> cedar and spruce.</p>									

116	32279116-Cut	9.4	4133 - Aspen, Mixed Pine	High Density Log	62	Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> May remove up to 20% of white pine and 50% of red pine. Retention will be by area exclusion along creek to north. Sale boundary will not be  <u>Specs:</u> closer than 100 feet from creek. Leave oak, hemlock and yellow birch.</p> <p><u>Other</u> Lot of stone faces along south edge of stand. Will need to determine best access point for logging equipment. Main access road has soft, wet  <u>Comments:</u> stretch which will require frozen season for vehicle travel.</p> <p><u>Next</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, red pine, jack pine, spruce,  <u>Steps:</u> white birch, red maple, aspen and fir.</p>									

120	32279120-Cut	28.3	429 - Mixed Upland Conifers	High Density Pole	79	Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Remove jack pine, aspen, fir, white birch, red maple and spruce. Remove approximately 50% of red pine. Leave most white pine but may need to  <u>Specs:</u> provide for equipment operability in areas. Leave oak, hemlock and yellow birch.</p> <p><u>Other</u> Recommend that Special Conservation Area within stand be expanded to 300 feet from Escanaba River. Harvest would not enter this expanded  <u>Comments:</u> SCA.</p> <p><u>Next</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white  <u>Steps:</u> birch, spruce, aspen and fir.</p>									

**Total Treatment  
Acreage Proposed: 282.6**

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>2 32279002-Cut</b>	64.1	4191 - Mixed Upland Deciduous with Conifer	High Density Log	77	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<u>Prescription</u> Mark approximately 50 percent of red pine for removal. Leave white pine unless needed for logging equipment operability. Leave oak, hemlock, yellow birch and cedar. Retention will be met with area exclusions.								
<u>Specs:</u>								
<u>Other Comment:</u> Access would be from southwest corner of stand as steep terrain found further east along private line.								
<u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, jack pine, red pine, white pine, red maple, birch, fir and spruce.								
<u>Limiting Factor and No Treatment Reason</u> 1G: Neighbor Not known if private landowner will allow access to stand for possible timber sale.								
<b>70 32279070-Cut</b>	42.9	4319 - Mixed Upland Forest	High Density Pole	69	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u> Mark approximately 50% of red pine for removal. Leave white pine unless needed for logging equipment operability. Leave oak, cedar, hemlock and yellow birch. Retention will be met with area exclusion.								
<u>Specs:</u>								
<u>Other Comment:</u> Permission for timber sale access across private to north will need to be secured. Permission was granted last entry period, enabling harvest of stand 72.								
<u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, red pine, jack pine, fir, spruce, aspen and birch.								
<u>Limiting Factor and No Treatment Reason</u> 1G: Neighbor								
<b>80 32279080-Cut</b>	5.6	6122 - Black Spruce	High Density Pole	85	Harvest	Seed Tree	6122 - Black Spruce	Cmpt. Review Proposal
<u>Prescription</u> Several Clumps of 10 to 20 spruce trees, located approximately 5 chains apart, are to be left as a seed source. Mature spruce will be incorporated into sale boundary line. Leave cedar and white pine								
<u>Specs:</u>								
<u>Other Comment:</u> Portions of stand have saturated soils and so stand will need to be harvested during frozen periods. Permission is needed for sale access across private land to west.								
<u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, white birch, spruce, aspen and fir.								
<u>Limiting Factor and No Treatment Reason</u> 1G: Neighbor Uncertain if access will be granted across private to west off of Co Rd MU.								
<b>85 32279085-Cut</b>	10.9	429 - Mixed Upland Conifers	High Density Pole	150	Harvest	Clearcut with Reserves	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> Remove aspen, spruce, fir, red maple, white birch and jack pine. Leave most white pine and red pine, but may remove some due to poor health, overstocking and/or equipment operability. Use boundary line to exclude small pockets for retention along wetland								
<u>Specs:</u>								
<u>Other Comment:</u> Will need permission for sale access across private land to west.								
<u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white birch, spruce, red maple, aspen and fir.								
<u>Limiting Factor and No Treatment Reason</u> 1G: Neighbor Uncertain if access will be granted across private to west off of Co Rd MU.								



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
87	32279087-Cut	19.2	4319 - Mixed Upland Forest	High Density Pole	76	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> May mark a component of white pine due to poor condition, overstocking/poor spacing, and equipment operability needs. Mark approximately 50% of red pine. Leave oak, cedar, hemlock and yellow birch. Retention will be met with area exclusion.</p> <p><u>Specs:</u></p> <p><u>Other</u> Logging equipment access will be require frozen periods.</p> <p><u>Comment:</u></p> <p><u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, red pine, jack pine, aspen, birch, fir and spruce.</p> <p><u>Limiting Factor and No</u> 2G: Blocked by physical obstacle</p> <p><u>Treatment Reason</u> Not certain that a suitable access point can be found due to surrounding lowlands and high rock faces along perimeter of stand.</p>									
93	32279093-Cut	44.7	4191 - Mixed Upland Deciduous with Conifer	High Density Log	75	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Remove aspen, red maple, jack pine, spruce, white birch and fir. May remove up to 25% of white and red pine. Retention will be area reserve.</p> <p><u>Specs:</u> Leave oak, hemlock and yellow birch.</p> <p><u>Other</u> Access road to stand from west will need to be frozen for any large vehicle traffic. Will need permission for sale access across private to west.</p> <p><u>Comment:</u></p> <p><u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white birch, spruce, aspen and fir.</p> <p><u>Limiting Factor and No</u> 1G: Neighbor</p> <p><u>Treatment Reason</u> Uncertain if access will be granted across private to west off of Co Rd MU.</p>									
95	32279095-Cut	24.9	4319 - Mixed Upland Forest	High Density Pole	75	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Remove aspen, spruce, fir, red maple, white birch and jack pine. Leave most white pine and red pine, but may remove some due to poor health, overstocking and/or equipment operability. Use boundary line to exclude pockets for retention along wetlands to we</p> <p><u>Specs:</u></p> <p><u>Other</u> Will need permission for sale access across private land to west. Private land to south recently harvested.</p> <p><u>Comment:</u></p> <p><u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, jack pine, red pine, white birch, spruce, red maple, aspen and fir.</p> <p><u>Limiting Factor and No</u> 1G: Neighbor</p> <p><u>Treatment Reason</u> Uncertain if access will be granted across private to west off of Co Rd MU.</p>									
106	32279106-Cut	9.2	4133 - Aspen, Mixed Pine	High Density Log	75	Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Remove aspen, jack pine, white birch, red maple, fir and spruce. Leave most red or white pine unless needed for logging equipment operability or utilization of trees in decline. Leave any oak or hemlock.</p> <p><u>Specs:</u></p> <p><u>Other</u> Private lands to south have recently been harvested.</p> <p><u>Comment:</u></p> <p><u>Next Steps:</u> Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is white pine, red pine, jack pine, white birch, spruce, aspen and fir.</p> <p><u>Limiting Factor and No</u> 2G: Blocked by physical obstacle</p> <p><u>Treatment Reason</u> Access problematic due to private land to south, wetlands to east and north and high stone terrain to west.</p>									

**Total Treatment  
Acreage Proposed: 221.5**

Out of YOE -- Treatments  
Prescribed with No Limiting Factor

Year of Entry: 2013



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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:

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**Total Treatment  
Acreage Proposed: 0**

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## Gwinn Mgt. Unit

## 5 – Forested Stands

Compartment: 279  
Year of Entry: 2013

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	14.9	60	81-110	
2	4191 - Mixed Upland Deciduous with Conifer	High Density Log	64.1	77	81-110	
3	6122 - Black Spruce	High Density Pole	10.1	70		
4	4130 - Aspen	High Density Sapling	5.5	25		
5	42340 - Upland Spruce/Fir	Medium Density Pole	20.8	82		
6	42220 - Natural Jack Pine	High Density Pole	7.0	57	81-110	
7	4319 - Mixed Upland Forest	High Density Pole	18.1	Uneven Age		
9	4311 - Pine, Aspen Mix	High Density Sapling	2.6	25		
10	4130 - Aspen	High Density Sapling	33.5	25		
11	6122 - Black Spruce	High Density Pole	2.3	84	51-80	
14	42340 - Upland Spruce/Fir	High Density Sapling	3.4	10		
15	42320 - Upland Spruce	High Density Pole	34.9	82	81-110	
16	42340 - Upland Spruce/Fir	Medium Density Pole	21.5	77		
17	4132 - Aspen, Jack Pine	High Density Sapling	23.6	22		
18	42120 - Planted Jack Pine	High Density Sapling	13.5	20		
20	6122 - Black Spruce	High Density Pole	8.6	84	51-80	
23	6112 - Lowland Aspen	Low Density Sapling	2.3	25		
25	4130 - Aspen	High Density Sapling	10.5	25		

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## Gwinn Mgt. Unit

## 5 – Forested Stands

Compartment: 279  
Year of Entry: 2013

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
6122 - Black Spruce	Medium Density Pole	7.5	60	1-50	
4132 - Aspen, Jack Pine	High Density Sapling	19.1	26		
6122 - Black Spruce	Medium Density	3.9	26		
42290 - Natural Mixed Pine	High Density Log	19.9	150	1-50	
42330 - Upland Fir	High Density Sapling	15.6	20		
4134 - Aspen, Spruce/Fir	High Density Sapling	66.8	26		
42340 - Upland Spruce/Fir	Medium Density	5.6	26		
42220 - Natural Jack Pine	High Density Sapling	6.4	26		
4191 - Mixed Upland Deciduous with Conifer	High Density Pole	1.4	55		
6122 - Black Spruce	High Density Pole	1.8	55		
4319 - Mixed Upland Forest	High Density Log	68.6	150	171-200	
6122 - Black Spruce	High Density Pole	6.9	75	81-110	
4311 - Pine, Aspen Mix	High Density Sapling	5.6	26		
42220 - Natural Jack Pine	High Density Sapling	19.7	26		
429 - Mixed Upland Conifers	High Density Sapling	6.2	26		
42220 - Natural Jack Pine	High Density Sapling	8.9	26		
6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	10.6	94	141-170	
4132 - Aspen, Jack Pine	High Density Sapling	15.8	26		

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## Gwinn Mgt. Unit

## 5 – Forested Stands

Compartment: 279  
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
50	6124 - Lowland Spruce- Fir	High Density Pole	4.9	25		
52	4311 - Pine, Aspen Mix	Low Density Sapling	35.8	3		
53	4319 - Mixed Upland Forest	High Density Log	9.7	82	51-80	
58	4134 - Aspen, Spruce/Fir	High Density Sapling	9.9	5		
59	429 - Mixed Upland Conifers	High Density Pole	0.6	80		
61	42290 - Natural Mixed Pine	High Density Log	51.4	150	141-170	
62	4319 - Mixed Upland Forest	High Density Pole	29.7	59	81-110	
63	4319 - Mixed Upland Forest	High Density Pole	11.6	150	111-140	
64	6124 - Lowland Spruce- Fir	Medium Density Pole	1.2	75		
66	42290 - Natural Mixed Pine	Medium Density Log	7.8	150	51-80	
67	4134 - Aspen, Spruce/Fir	High Density Pole	33.8	79		
68	6122 - Black Spruce	Medium Density Pole	2.0	50		
69	4319 - Mixed Upland Forest	Low Density Sapling	22.0	10		
70	4319 - Mixed Upland Forest	High Density Pole	42.9	69		
72	4136 - Aspen, Mixed Conifer	High Density Sapling	14.4	5		
73	6122 - Black Spruce	High Density Pole	5.5	60	1-50	
74	4134 - Aspen, Spruce/Fir	High Density Pole	2.6	76		
75	4134 - Aspen, Spruce/Fir	Low Density Sapling	88.6	1		

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## Gwinn Mgt. Unit

## 5 – Forested Stands

Compartment: 279  
Year of Entry: 2013

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
77	6122 - Black Spruce	High Density Pole	5.4	85	1-50	
78	429 - Mixed Upland Conifers	Low Density Log	55.8	150	1-50	
79	429 - Mixed Upland Conifers	High Density Pole	4.2	85	1-50	
80	6122 - Black Spruce	High Density Pole	5.6	85	111-140	
81	6122 - Black Spruce	High Density Pole	127.6	80	111-140	
82	4130 - Aspen	High Density Sapling	76.5	13		
83	4319 - Mixed Upland Forest	High Density Pole	11.1	76	81-110	
84	429 - Mixed Upland Conifers	Low Density Log	10.4	1		
85	429 - Mixed Upland Conifers	High Density Pole	10.9	150	81-110	
87	4319 - Mixed Upland Forest	High Density Pole	19.2	76	111-140	
90	42210 - Natural Red Pine	Low Density Log	18.5	120	1-50	
91	42340 - Upland Spruce/Fir	High Density Pole	5.2	85	1-50	
92	429 - Mixed Upland Conifers	High Density Pole	2.7	71		
93	4191 - Mixed Upland Deciduous with Conifer	High Density Log	44.7	75	141-170	
94	6122 - Black Spruce	High Density Pole	81.1	85	111-140	
95	4319 - Mixed Upland Forest	High Density Pole	24.9	75	141-170	
97	4130 - Aspen	High Density Sapling	42.2	8		
98	6122 - Black Spruce	High Density Pole	53.9	82		

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## Gwinn Mgt. Unit

## 5 – Forested Stands

Compartment: 279  
Year of Entry: 2013

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
99	42120 - Planted Jack Pine	High Density Sapling	38.2	16		
100	42200 - Natural White Pine	Medium Density Log	10.6	120	1-50	
101	42290 - Natural Mixed Pine	Medium Density Log	22.2	120	111-140	
103	6122 - Black Spruce	Low Density Pole	8.0	85		
104	42120 - Planted Jack Pine	High Density Sapling	40.9	27	1-50	
105	4130 - Aspen	High Density Pole	91.5	62	141-170	
106	4133 - Aspen, Mixed Pine	High Density Log	9.2	75	81-110	
109	6122 - Black Spruce	Low Density Pole	3.0	54		
110	42220 - Natural Jack Pine	High Density Pole	7.4	70	1-50	
111	4130 - Aspen	High Density Sapling	10.1	8		
112	6122 - Black Spruce	High Density Pole	24.8	85		
113	6122 - Black Spruce	High Density Pole	19.4	85	51-80	
114	4319 - Mixed Upland Forest	Low Density Sapling	16.2	10		
115	4319 - Mixed Upland Forest	Low Density Sapling	45.4	1		
116	4133 - Aspen, Mixed Pine	High Density Log	10.2	62		
117	42200 - Natural White Pine	Low Density Log	21.9	150		
119	42290 - Natural Mixed Pine	Medium Density Log	6.4	150		Exceptional vistas from top of rock face above drainage.
120	429 - Mixed Upland Conifers	High Density Pole	28.3	79	81-110	

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Gwinn Mgt. Unit

5 – Forested Stands

Compartment: 279  
Year of Entry: 2013



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
121	42220 - Natural Jack Pine	High Density Log	9.8	79	1-50	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
8	50 - Water	9.6	No	Unspecified	
12	3203 - Upland Blueberry	3.3	Yes	Low (NonForested)	
13	6224 - Treed Bog	4.9	No	Unspecified	
19	50 - Water	0.7	No	Unspecified	
21	50 - Water	3.2	No	Unspecified	
22	3203 - Upland Blueberry	0.5	Yes	Low (NonForested)	
24	6220 - Alder/willow	2.7	No	Unspecified	
30	50 - Water	4.5	No	Unspecified	
35	6220 - Alder/willow	2.8	No	Unspecified	
38	6224 - Treed Bog	4.8	No	Unspecified	
40	6220 - Alder/willow	1.7	No	Unspecified	
44	50 - Water	0.3	No	Unspecified	
47	6220 - Alder/willow	1.3	No	Unspecified	
51	6220 - Alder/willow	9.3	No	Unspecified	
54	50 - Water	0.6	No	Unspecified	
55	720 - Exposed Rock	1.0	No	Unspecified	
56	6220 - Alder/willow	4.6	No	Unspecified	
57	50 - Water	0.5	No	Unspecified	Escanaba River.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
60	720 - Exposed Rock	0.7	No	Unspecified	
65	6220 - Alder/willow	40.3	No	Unspecified	
71	6220 - Alder/willow	10.1	No	Unspecified	
76	6220 - Alder/willow	27.2	No	Unspecified	
86	3203 - Upland Blueberry	6.7	Yes	Low (NonForested)	
88	6220 - Alder/willow	3.8	No	Unspecified	
89	6220 - Alder/willow	10.9	No	Unspecified	
96	6233 - Wet Meadow	1.1	No	Unspecified	
102	50 - Water	0.2	No	Unspecified	
107	6220 - Alder/willow	35.2	No	Unspecified	
108	6220 - Alder/willow	3.2	No	Unspecified	
118	6220 - Alder/willow	9.1	N/A	Unspecified	
122	50 - Water	2.1	No	Unspecified	



## 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	Unique Site - SCA	32279001	14.9	Special Conservation Area along Escanaba River. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
5	Unique Site - SCA	32279005	20.8	Special Conservation Area along Escanaba River. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
15	Unique Site - SCA	32279015	34.9	Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
16	Unique Site - SCA	32279016	21.5	North portion of stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
29	Unique Site - SCA	32279029	19.9	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
31	Unique Site - SCA	32279031	15.6	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
50	Unique Site - SCA	32279050	4.9	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
59	Unique Site - SCA	32279059	0.6	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
61	Unique Site - SCA	32279061	51.4	Stand should be be considered for inclusion in Special Conservation Area as old-growth candidate stand. Stand exhibits many old-growth characteristics such as advanced age and size of overstory trees and no recent human impacts. Stand is remote and isolated by physical barriers and private property. Stand should be further reviewed when Old Growth Criteria have been approved.
91	Unique Site - SCA	32279091	5.2	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
92	Unique Site - SCA	32279092	2.7	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.



## 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
94	SCA Removal	32279094	81.1	Stand not within 300 feet of Escanaba River so recommend removal of SCA.
101	Unique Site - SCA	32279101	22.2	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
116	SCA Removal	32279116	10.2	Stand is overmature and should be harvested to promote regeneration.
119	SCA Removal	32279119	6.4	Stand not within 300 feet of Escanaba River.
121	Unique Site - SCA	32279121	9.8	Stand within Escanaba River Special Conservation Area. Wildlife and trout stream concerns. No forest treatments within 300 feet of river.
107	SCA Removal	NF_32279107	35.2	Stand further than 300 feet away from Escanaba River.



**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.