



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 275

Entry Year 2015

Acreage: 980

County Marquette

Management Area: Dead Horse Moraines

Revision Date: 05/10/2013

Stand Examiner: Dean Wilson

Legal Description:

T46N-R25W, sections 1, 2, 10, 12, 13, 15, 22.

Identified Planning Goals:

Are directed at habitat and vegetation in maintaining the pine and hardwood types that occur in this compartment.

Soil and topography:

Pine areas are primarily level outwash plains consisting of excessively drained sands. The hardwood areas are hilly with somewhat deep well drained loams.

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

Surrounding properties for the most part are small to medium sized non-industrial private holdings. Land use is primarily forest production and passive recreation.

Unique Natural Features:

The jack pine plains area is known Kirkland Warbler habitat. The southeastern portion of this compartment has extremely rugged land form with severe topography and is locally known as the Big Hole. This area has numerous spring creeks and seeps that feed the Big Creek.

Archeological, Historical, and Cultural Features:

None known.

Special Management Designations or Considerations:

Management activities will allow for possible warbler habitation. Best management practices will be employed to protect water courses.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

Compartment 275 is found within the Dead Horse Moraines Management Area; which is Ground Moraines in southeastern Marquette, southwestern Alger, and northwestern Delta Counties. The State Forest covers about 88,000 acres and is mostly contiguous. The dominant Natural Communities are poor conifer swamps, mesic northern forests, and dry northern forests. Major forest cover types include northern hardwood, aspen, and mixed lowland conifer. This management area provides multiple benefits to the public including forest products, dispersed recreational activities, and habitat for fish and wildlife species. The Dead Horse Moraine management area contains a large proportion of hardwood forest which regenerates well partly due to the heavier snow cover and lower deer numbers than the southern portion of this Management Area where regeneration is more problematic. The primary focus of wildlife habitat management in the Dead Horse Moraine Management Area are: mast (hard and soft); mature forest (upland deciduous, especially aspen and mixed forest with little understory); coarse woody debris, early successional forest, and deer wintering complexes.

The following have been identified as featured species for the Dead Horse Moraine Management Area: Black Bear, Pileated Woodpecker, Ruffed Grouse, and White-Tailed Deer. However, the featured species concept does not preclude the management for other wildlife species within a particular MA, rather it is simply intended to be as a tool to help prioritize or focus habitat management.

For lands purchased with Pittman–Robertson Act or Game and Fish funds, the primary objective of vegetative management must be wildlife restoration.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of an end moraine of coarse-textured till and glacial outwash sand and gravel and postglacial till.

The glacial drift thickness varies between 100 to 200 feet. The Precambrian Archean Granite/Gneiss and Jacobsville Sandstone subcrop below the glacial drift. The Jacobsville was used and the granite/gneiss could be used as a building or dimension stone. Gravel pits are located in the area, and potential appears to be good. The Empire iron mine is located four miles to the northwest. Section 22 was previously leased for metallic exploration, but there are no current leases. There is no economic oil and gas production in the UP.

Vehicle Access:

Restricted by private property and severe terrain in section 12. The remaining tracts of this compartment have well established access.

Survey Needs:

None.

Recreational Facilities and Opportunities:

There are no developed recreational facilities. This compartment is heavily used for passive recreation.

Fire Protection:

The west part of this compartment is in the Sands zone dispatch area and contains numerous structures.

Additional Compartment Information:

This compartment was subject to an intensive salvage operation resulting from an extensive windthrow event on July 21st, 2002.

The following reports from the Inventory are attached:

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

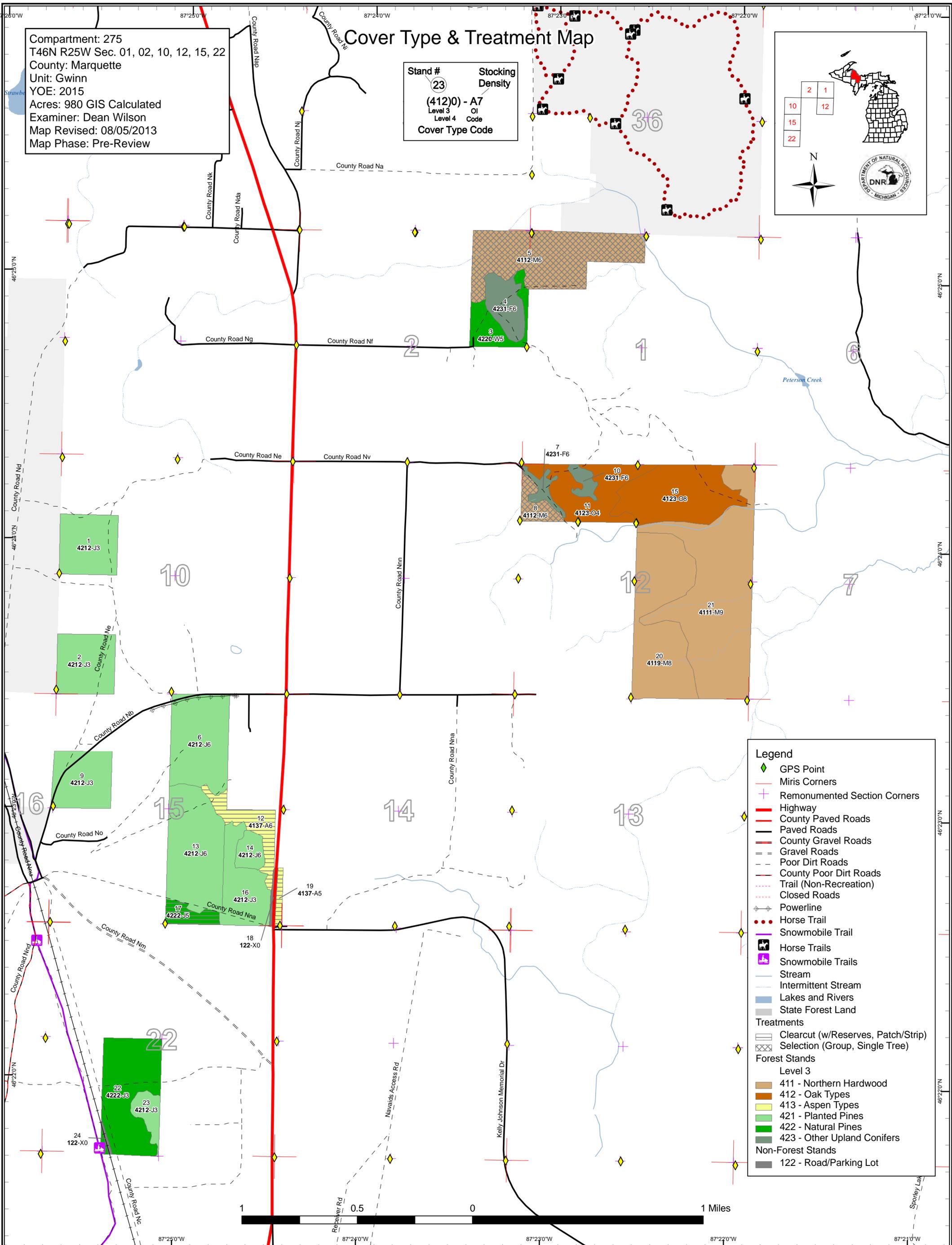
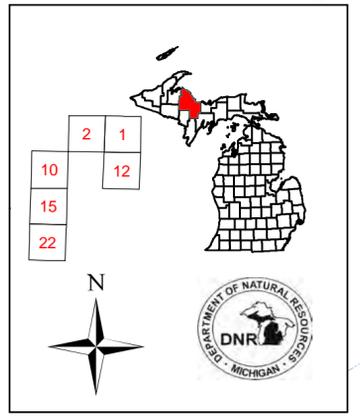
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

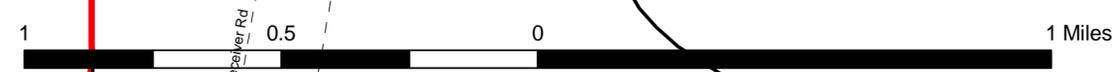
Compartment: 275
 T46N R25W Sec. 01, 02, 10, 12, 15, 22
 County: Marquette
 Unit: Gwinn
 YOY: 2015
 Acres: 980 GIS Calculated
 Examiner: Dean Wilson
 Map Revised: 08/05/2013
 Map Phase: Pre-Review

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



Legend

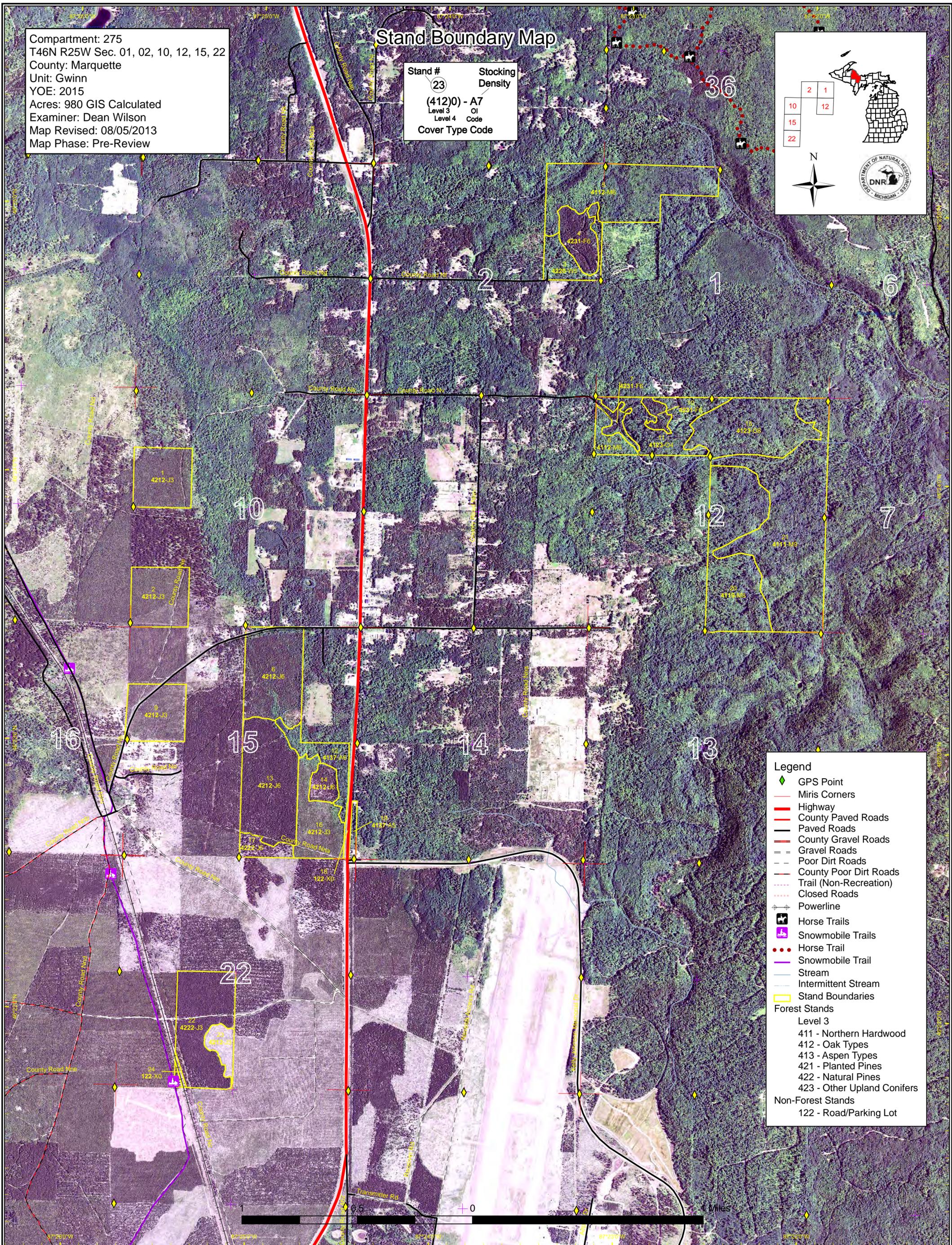
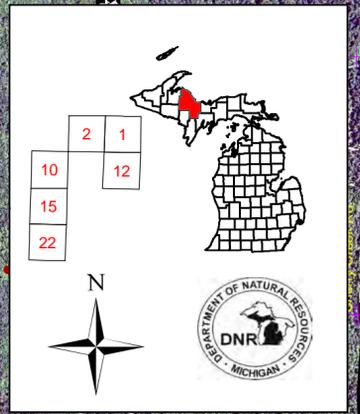
- GPS Point
- Miris Corners
- Remonumented Section Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Powerline
- Horse Trail
- Snowmobile Trail
- Horse Trails
- Snowmobile Trails
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land
- Treatments**
- Clearcut (w/Reserves, Patch/Strip)
- Selection (Group, Single Tree)
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- Non-Forest Stands**
- 122 - Road/Parking Lot



Stand Boundary Map

Compartment: 275
 T46N R25W Sec. 01, 02, 10, 12, 15, 22
 County: Marquette
 Unit: Gwinn
 YOY: 2015
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 Examiner: Dean Wilson
 Map Revised: 08/05/2013
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Stand # 23
 (412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

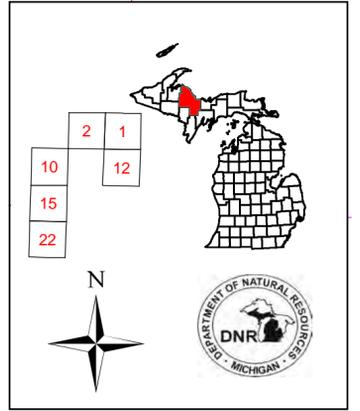


- Legend**
- ◆ GPS Point
 - Miris Corners
 - Highway
 - County Paved Roads
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 - 422 - Natural Pines
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- Non-Forest Stands**
- 122 - Road/Parking Lot

Special Conservation Areas & Site Conditions Map

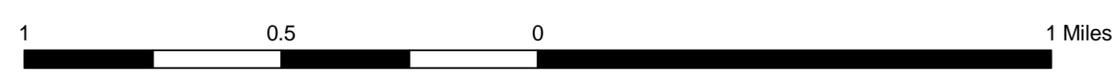
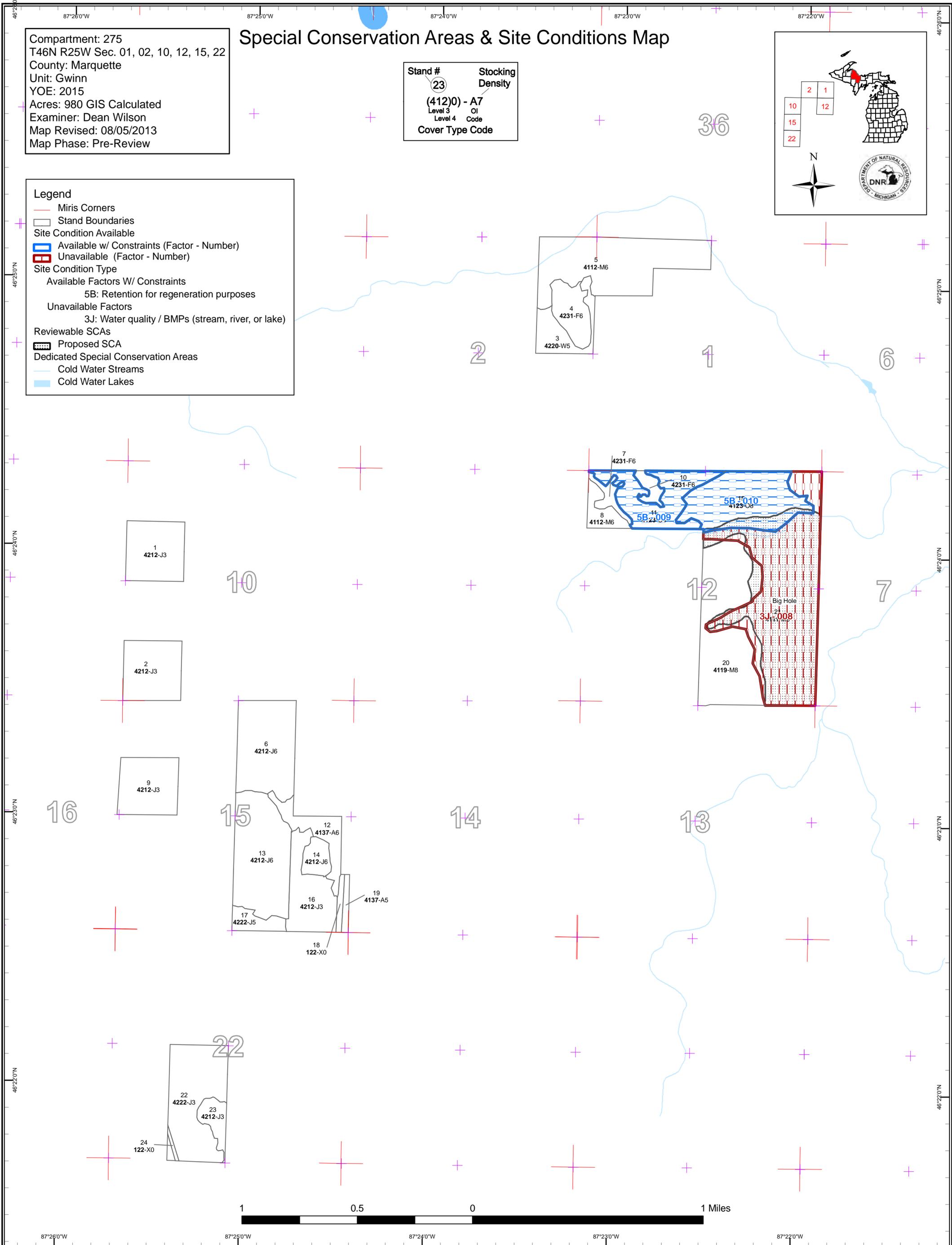
Compartment: 275
 T46N R25W Sec. 01, 02, 10, 12, 15, 22
 County: Marquette
 Unit: Gwinn
 YOY: 2015
 Acres: 980 GIS Calculated
 Examiner: Dean Wilson
 Map Revised: 08/05/2013
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- Stand Boundaries
- Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Site Condition Type
 - Available Factors W/ Constraints
 - 5B: Retention for regeneration purposes
 - Unavailable Factors
 - 3J: Water quality / BMPs (stream, river, or lake)
- Reviewable SCAs
 - Proposed SCA
- Dedicated Special Conservation Areas
 - Cold Water Streams
 - Cold Water Lakes



87°26'0"W 87°25'0"W 87°24'0"W 87°23'0"W 87°22'0"W

Report 1 – Total Acres by Cover Type and Age Class



	Age Class														Total
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	
Aspen	0	0	0	0	0	0	27	0	0	0	0	0	0	0	27
Jack Pine	12	162	151	68	0	11	0	0	0	0	0	0	0	0	404
Northern Hardwood	0	0	0	0	0	0	0	0	107	99	163	0	0	0	369
Oak	0	0	0	0	0	0	0	0	116	0	0	0	0	0	116
Upland Spruce/Fir	0	0	0	0	0	37	0	0	0	0	0	0	0	0	37
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
White Pine	0	0	0	0	0	0	21	0	0	0	0	0	0	0	21
Total	17	162	151	68	0	49	48	0	223	99	163	0	0	0	980



Report 2 – Proposed Treatment Summaries

Gwinn Mgt. Unit
Year of Entry 2015

Compartment 275
Total Compartment Acres: 980

Acres by Treatment Type

Commercial Harvest - 145 Tree Planting - 11 Other - 0
 Habitat Cut - 0 Opening Maintenance - 0

Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
Aspen Types	27	0	0	0	0	0	27
Natural Pines	11	0	0	0	0	0	11
Northern Hardwood	0	107	0	0	0	0	107
Total	38	107	0	0	0	0	145

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
5 32275005-Cut	95.1	4112 - Maple, Beech, Cherry Association	High Density Pole	85	81-110	Harvest	Single Tree Selection	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal

Prescription Mark individual trees for harvest to reduce the basal area down to 70 to 90 square feet per acre. Favor the oak and black cherry for retention.
Specs:

Other Portions of this stand were salvage cut in 2002. Look to release desired advanced regeneration. Maintain a conifer component in the stand.
Comments: Include the hardwood stand in the compartment to the north in this harvest.

Next Steps: Check regeneration per work instructions.

Proposed Start Date: 10/01/2014

8 32275008-Cut	12.2	4112 - Maple, Beech, Cherry Association	High Density Pole	85	81-110	Harvest	Single Tree Selection	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal
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Prescription Mark individual trees for harvest to achieve a basal area of 70 to 90 square feet per acre.
Specs:

Other Favor oak and black cherry for retention. Maintain a conifer component in the stand. Look to release advanced regeneration resulting for salvage cut in 2002.
Comments:

Next Steps: Check regeneration per work instructions.

Proposed Start Date: 10/01/2014

12 32275012-Cut	22.8	4137 - Aspen, Birch	High Density Pole	63	51-80	Harvest	Clearcut with Reserves	4137 - Aspen, Birch	Cmpt. Review Proposal
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Prescription Clearcut this stand retaining one quarter acre patch of big tooth aspen and 5 to 10 oak trees per acre where possible. Harvest is to be restricted to the period of September 1 to April 30 due to Kirkland Warbler concerns.
Specs:

Other Focus on leaving oaks along the highway. Not including oak and conifer, cut all stems with a dbh of 2 inches and larger.
Comments:

Next Steps: Check regeneration per work instructions.

Proposed Start Date: 10/01/2014

17 32275017-Cut	11.2	42220 - Natural Jack Pine	Medium Density Pole	51	1-50	Harvest	Clearcut	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription Clearcut this stand followed by planting jack pine.
Specs: Harvest is to be restricted to the period of September 1 to April 30 due to Kirkland Warbler concerns.

Other Red pine can be considered for retention if there are any.
Comments:

Next Steps: Check regeneration per work instructions.

Proposed Start Date: 10/01/2014

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	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19	32275019-Cut	4.1	4137 - Aspen, Birch	Medium Density Pole	63	51-80	Harvest	Clearcut with Reserves	4137 - Aspen, Birch	Cmpt. Review Proposal

Prescription Clearcut reserving all oak, white pine, and any red pine if it occurs. Harvest is to be restricted to the period of September 1 to April 30 due to
Specs: Kirkland Warbler concerns.

Other With the exception of oak and conifers, cut all stems with a dbh of 2 inches and greater.

Comments:

Next Check regeneration per work instructions.

Steps:

Proposed

Start Date: 10/01/2014

**Total Treatment
Acreage Proposed: 145.4**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type!

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

**Total Treatment
Acreage Proposed: 0**

Report 5 – Site Conditions

Gwinn Mgt. Unit
Dean Wilson : Examiner

Compartment 275
Year of Entry 2015

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5B	3J
	Available	Not Available				
27	27		Aspen	27		
403	403		Jack Pine	403		
369	206	163	Northern Hardwood	206		163
116	116		Oak		116	
37	37		Upland Spruce/Fir	37		
21	21		White Pine	21		
975	812	163	Total Forested Acres	696	116	163
	83%	17%	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
008	Not Available	3J: Water quality / BMPs (stream, river, or lake)	163	2F: Too steep			
Comments:							
009	Available	5B: Retention for regeneration purposes	46				
Comments: Cut in 2002 and again in 2005.							
010	Available	5B: Retention for regeneration purposes	70				
Comments: Cut in 2002 and again in 2005.							

**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
Big Hole	Potential Old Growth		SCA	160.3
Comments RUGGED TERRAIN AND ACCESS. POTENTIAL OLD GROWTH. Portions of stand (up to 10 acre pockets) leveled by the storm of 7/21/02.				



Report 7 – 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42120 - Planted Jack Pine	High Density Sapling	41.2	17		Harvested in 1993: TS# 18-93. Planted in 1995.
2	42120 - Planted Jack Pine	High Density Sapling	41.1	18		
3	42200 - Natural White Pine	Medium Density Pole	21.3	60	1-50	Partially cut in 2007: TS# 121-05-01. White pine, red pine, and oak were retained.
4	42310 - Planted Spruce	High Density Pole	22.7	52	111-140	Planted in 1961. Mark rows to this as well as can.
5	4112 - Maple, Beech, Cherry Association	High Density Pole	95.1	85	81-110	Thin this stand were needed. Portions of stand subjected to salvage of windthrown trees in 2002.
6	42120 - Planted Jack Pine	High Density Pole	64.5	23	1-50	Harvested in 1987: TS# 18-85. Planted in 1992.
7	42310 - Planted Spruce	High Density Pole	7.7	50	111-140	Planted in 1963-includes some red pine. Try to remove every thire row and miscellaneous tree species.
8	4112 - Maple, Beech, Cherry Association	High Density Pole	12.2	85	81-110	Conduct a selection harvest. Portions of stand were salvage cut in 2002.
9	42120 - Planted Jack Pine	High Density Sapling	40.0	17		Harvested in 1994: TS# 16-93. Planted in 1995.
10	42311 - Planted Spruce, Mixed Deciduous	High Density Pole	7.1	50	111-140	Try to remove every third row and miscellaneous tree species.
11	4123 - Red Oak	Low Density Pole	46.0	85	1-50	Salvage cut in 2002 and 2004.
12	4137 - Aspen, Birch	High Density Pole	22.8	63	51-80	Clearcut with reserves. Cut all stems 2 inches and up excluding oak. Retain oak, white pine and one 1/4 acre patch that is heavy to bigtooth aspen.
13	42120 - Planted Jack Pine	High Density Pole	75.8	28	1-50	Machine planted in 1984.
14	42120 - Planted Jack Pine	High Density Pole	11.0	28	1-50	Machine planted in 1984.
15	4123 - Red Oak	Medium Density Log	70.1	85	51-80	Portions salvage cut in 2002. Variable stocking due to wind throw evet in 2002.
16	42120 - Planted Jack Pine	High Density Sapling	39.3	16		Harvested in 1996: TS# 19-95. Planted in 1995.
17	42220 - Natural Jack Pine	Medium Density Pole	11.2	51	1-50	40 to 50 percent of stand salvage cut in 2002. Harvest and replant jack pine. In 1961 a few acres on the west side were planted to scotts pine.

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Gwinn Mgt. Unit

Report 8 – Forested Stands

Compartment: 275
Year of Entry: 2015

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4137 - Aspen, Birch	Medium Density Pole	4.1	63	51-80	Clearcut with reserves. Excluding oak cut all stems 2 inches dbh and up. Retain oak and white pine.
20	4119 - Mixed Northern Hardwoods	Medium Density Log	99.1	90	51-80	Subjected to heavy salvage cutting in 2002 nad 2003. Big gaps and widely variable stocking due to storm damage.
21	4111 - S.Maple, Hard Mast Association	High Density Log	163.1	100	111-140	SCA = Riparian zone protection for the Big Creek. Severe terrain consisting mostly of long very steep slopes down to the Big Creek. Many spring drainages and seeps the are part of the creek's headwaters. Could be considered as type 2 old growth. Some large gaps occur in the northern part of this stand as a result of storm damage in 2002.
22	42220 - Natural Jack Pine	High Density Sapling	67.7	37	1-50	Harvested in 1974: TS# 19-74A. Scarified and broadcast seeded in 1975.
23	42120 - Planted Jack Pine	High Density Sapling	11.7	7		Harvested in 2003. Trenched and direct seeded in 2005.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
18	122 - Road/Parking Lot	3.7	No	Unspecified	
24	122 - Road/Parking Lot	1.2	No	Unspecified	