



**Gwinn Forest Management Unit
Compartment Review Presentation
Compartment 023 Entry Year: 2014
Compartment Acreage: 3,011 County: Marquette**

Revision Date: 8/20/12

Stand Examiner: Theresa Sysol

Legal Description: T44N R25W Section(s) 21-27, 36

RMU (if applicable): Cyr Swamp Management Area

Management Goals: Long term goal should be to develop permanent access into State lands. Access has been restricted from the south this entry by private landowner; access was denied last entry also (in 2004). From the north, numerous stream crossings and drainages, and a narrow, high ground riverbank along the Escanaba River would create water quality and soil compaction issues with a road being built.

Soil and Topography: Ranges from extensive level bog and small wetland drainages to rolling or only slightly hilly upland terrain. Some steep moraine or old dune ridges in Section 23. Major soils are Carbondale and Tawas, Tawas-Deford mucks, Croswell-Deford complex, Rubicon sands, Greenwood-Croswell complex, Evart-Pelkie-Sturgeon complex, Emmet fine sandy loam, Emmet-Escanaba complex, Shoepac-Ensley and AuGres-Deford.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Multiple, large private land ownerships along the south side of compartment. These private lands are generally held for recreational use of hunting, with production of forest products as a secondary objective. During the last 10 year treatment cycle (2002), access was denied to the State for removal of timber products on State lands. This resulted in ~39 acres of incomplete selection cutting of northern hardwoods. This would still be the case in 2012. Access from the north would be extremely difficult due to many stream crossings and the narrowness of the high ground between the Escanaba River and the large bog complex. Access from the east would be difficult, also, as this would require crossing Sawmill Creek and /or Mud Creek as well as additional drainages.

Unique, Natural Features: None identified with MNFI. Potential for english sundew and narrow leaved gentian in bogs. Potential for canada rice grass in open wetlands. Potential for calypso orchid, limestone oak fern, round leaved orchid and ram's head orchid. Compartment contains Escanaba River, numerous large bogs and treed bogs with potential for Frigga fritillary. Potential for wood turtle along Escanaba River and Blanding's turtle.

Archeological, Historical, and Cultural Features: None listed with HAL, although old logging camp sites are present.

Special Management Designations or Considerations: Large bog complex at the north end is part of the Cyr swamp.

Watershed and Fisheries Considerations: Escanaba River, Sawmill Creek, Mud Creek and numerous unnamed tributaries

Wildlife Habitat Considerations: Featured species include white-tailed deer, red-shouldered hawk, and snowshoe hare.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of peat and muck and an end moraine of medium-textured till. There is insufficient data to determine the glacial drift thickness. The Cambrian Trempealeau Formation and Ordovician Prairie du Chien Group subcrop below the glacial drift. These formations could be used for stone. The nearest gravel pit is located four miles to the east and there may be some potential on the upland areas. Abandoned iron mines are located three miles to the north and part of this compartment was previously leased for metallic exploration. There is no economic oil and gas production in the UP.

Vehicle Access: Access from the south is off the end of the Escanaba River Road through gated private lands. Access from the east is off the end of the Swampbuck Road and then across Sawmill Creek. Access from the north is off the end of the Iron Pin Road and then primarily by foot traffic only. Right now, most of this compartment is only accessible by walk-in.

Survey Needs: If access is granted, corners in section(s) 25, 26 and 36 may be needed

Recreational Facilities and Opportunities: No formal facilities, although there are dispersed campsites along the Escanaba River. Opportunity for hunting, fishing, and scenic viewing.

Fire Protection: Relatively low fire frequency; mainly lightning caused. Due to the remoteness and lack of roads, suppression would be difficult. Should consider other tactics for suppression other than mechanical.

Additional Compartment Information:

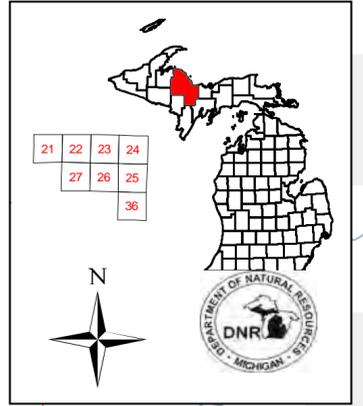
- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
 - ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**

- **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**

Compartment: 023
 T44N R25W Sec. 21-27, 36
 County: Marquette
 Unit: Gwinn
 YOE: 2014
 Acres: 3,011 GIS Calculated
 Examiner: Theresa Sysol
 Map Revised: 08/29/2012
 Map Phase: Pre-Review

Cover Type & Treatment Map

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



Legend

- Remunented Section Corners
- PLSS Corner
- Iron Post
- Wood Post
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Gate
- Access Site
- Structures
- Stream
- Intermittent Stream
- Power
- Lakes and Rivers
- State Forest Land

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)

Forest Stands

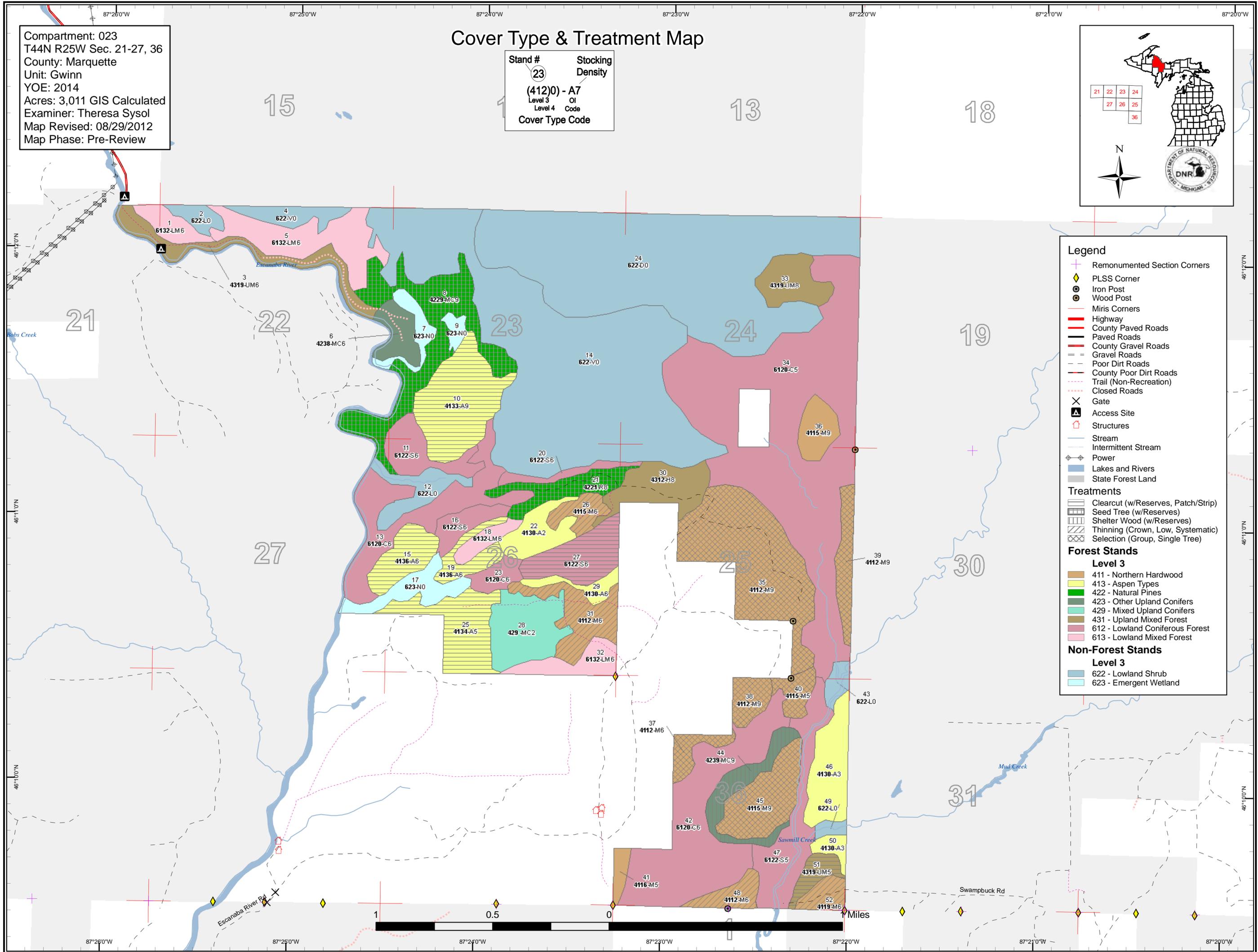
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

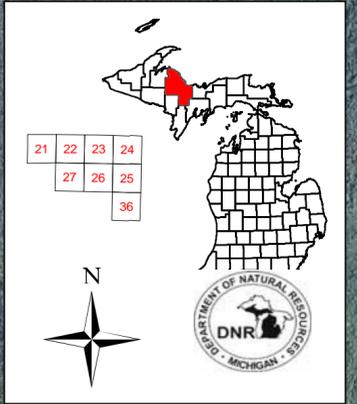
- 622 - Lowland Shrub
- 623 - Emergent Wetland



Compartment: 023
 T44N R25W Sec. 21-27, 36
 County: Marquette
 Unit: Gwinn
 YOE: 2014
 Acres: 3,011 GIS Calculated
 Examiner: Theresa Sysol
 Map Revised: 07/03/2012
 Map Phase: Pre-Review

Stand Boundary Map

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



Legend

- ✚ Remonumented Section Corners
- ◆ PLSS Corner
- Iron Post
- Wood Post
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- ✕ Gate
- ▲ Access Site
- Structures
- Lakes and Rivers
- Stream
- Intermittent Stream
- Power
- Stand Boundaries

Forest Stands

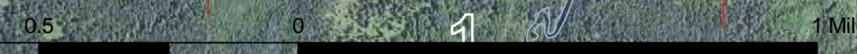
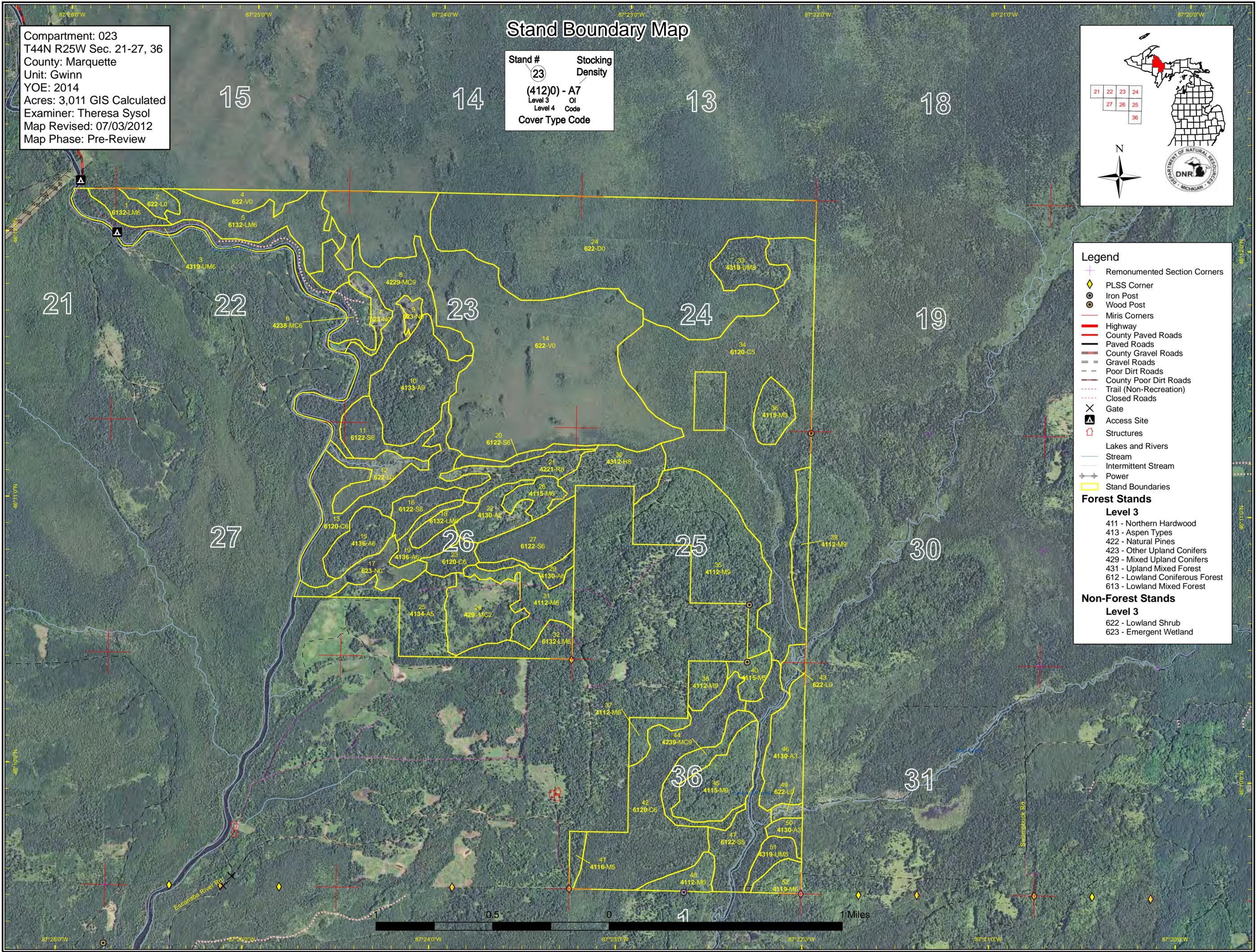
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

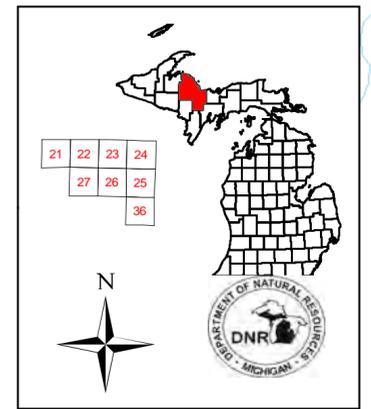
- 622 - Lowland Shrub
- 623 - Emergent Wetland



Dedicated & Proposed Special Conservation Area Map

Compartment: 023
 T44N R25W Sec. 21-27, 36
 County: Marquette
 Unit: Gwinn
 YOE: 2014
 Acres: 3,011 GIS Calculated
 Examiner: Theresa Sysol
 Map Revised: 08/29/2012
 Map Phase: Pre-Review

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



- Legend**
- ✚ Remonumented Section Corners
 - ✚ Miris Corners
 - ▭ Stand Boundaries
 - ▭ Proposed Special Conservation Areas
 - ▭ SCA - Special Conservation Area
 - ▭ Dedicated Special Conservation Areas
 - Cold Water Streams
- Forest Stands**
- Level 3**
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 429 - Mixed Upland Conifers
 - 431 - Upland Mixed Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
- Non-Forest Stands**
- Level 3**
- 622 - Lowland Shrub
 - 623 - Emergent Wetland

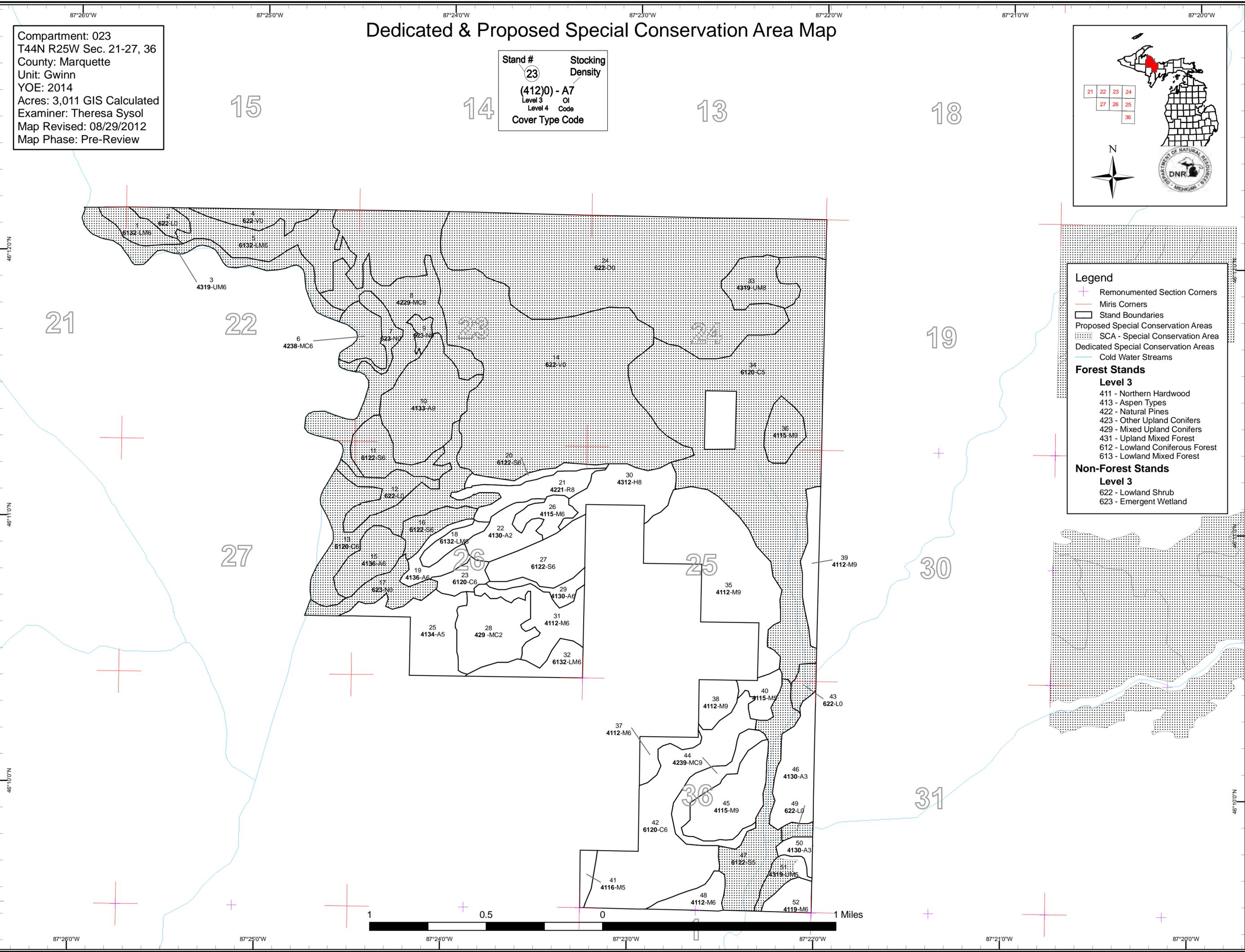


Table 1 – Total Acres by Cover Type and Age Class



	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	30	71	0	0	56	0	52	87	0	0	0	0	0	296
Bog	480	0	0	0	0	0	0	0	0	0	0	0	0	0	480
Cedar	0	0	0	0	0	0	0	0	88	0	542	0	0	0	629
Hemlock	0	0	0	0	0	0	0	0	0	0	0	0	0	46	46
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	70	13	0	0	44	127
Lowland Shrub	55	0	0	0	0	0	0	0	0	0	0	0	0	0	55
Lowland Spruce/Fir	0	0	0	0	0	0	0	115	65	0	0	0	0	0	180
Marsh	53	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Natural Mixed Pines	0	0	0	0	0	0	0	0	103	0	0	0	0	0	103
Northern Hardwood	0	0	0	0	0	0	0	61	0	0	0	0	0	338	399
Red Pine	0	0	0	0	0	0	0	0	0	32	0	0	0	0	32
Treed Bog	405	0	0	0	0	0	0	0	0	0	0	0	0	0	405
Upland Conifers	0	0	57	0	0	0	0	0	0	0	0	0	0	55	112
Upland Mixed Forest	0	0	0	0	0	0	15	0	0	0	0	0	0	78	93
Total	992	30	127	0	0	56	15	229	343	102	555	0	0	561	3011



Table 2 – Proposed Treatment Summaries

Gwinn Mgt. Unit
Year of Entry 2014

Compartment 023
Total Compartment Acres: 3011

Acres by Treatment Type

Commercial Harvest - 792	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	196	0	0	0	0	0	0	196
Lowland Spruce/Fir	46	0	0	0	0	0	0	46
Natural Mixed Pines	0	0	103	0	0	0	0	103
Northern Hardwood	0	274	0	0	94	0	0	368
Red Pine	0	0	32	0	0	0	0	32
Upland Conifers	0	0	0	32	0	0	0	32
Upland Mixed Forest	15	0	0	0	0	0	0	15
Total	257	274	136	32	94	0	0	792

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
52 32023052-Cut	15.1	4119 - Mixed Northern Hardwoods	High Density Pole	79	81-110	Harvest	Crown Thinning	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal

Prescription: Thin stand, where heavier to northern hardwoods, to a residual of 70-90 BA using marking guidelines. Maples which are in decline should be targeted first. Retain any wildlife supercanopy trees, as well as all cedar, hemlock and white pine which may be present. Elsewhere, remove all aspen, spruce and balsam fir, except for snags/potential snag trees.

Other Comments: --Theresa Sysol : 08/20/2012 comments: per WLD at pre-review - leave windfirm white spruce and high density F/S pockets for snowshoe hare
Avoid harvesting in vernal areas (which contain more black ash and cedar). See Stage 1 management considerations. Stand may be difficult to treat, due to heavy soils - winter harvest with road improvements necessary.

Next Steps: Monitor regeneration until adequate stocking is achieved per work instructions. Desired regeneration of northern hardwoods, with a component of hemlock and mixed conifers, is acceptable.

Proposed Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 15.1**

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
8 32023008-Cut	103.2	42290 - Natural Mixed Pine	High Density Log	82		Harvest	Seed Tree with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription Specs:</u> Harvet all jack pine, spruce, fir, aspen, and mark heavier red and /or white pine concentrations leaving ~50-70 BA to avoid windthrow and provide seed source. Avoid harvesting within any vernal areas and along the Escanaba River corridor, applying a riparian buffer as specified by fisheries division.									
<u>Other Comment:</u> Treatment would require futher assessment, depending on co-management goals for management area. See Stage 1 management consideration notes.									
<u>Next Steps:</u> After harvest, use mechanical treatment or other methods to prepare mineral seedbed for natural regeneration to occur. Plant only if unsuccessful with natural methods. Monitor regeneration success, per work instructions, and follow regeneration guidelines.									
<u>Proposed Start Date:</u> 10/01/2013									
<u>Limiting Factor and No Treatment Reason</u> 3J: Water quality / BMPs (stream, river, or lake) Contains Sawmill Creek and tributary. Part of Cyr Swamp. Escanaba River watershed.									
10 32023010-Cut	86.8	4133 - Aspen, Mixed Pine	High Density Log	82		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<u>Prescription Specs:</u> Harvest all aspen, fir, spruce, and paper birch, if present. Most red and white pine will be left, marking only to release established understory regeneration (WP, RP) and/or improve residual stand.									
<u>Other Comment:</u> Treatment may require futher assessment, depending on co-management goals for management area. Time constraints and access issues prevented this from occuring. Some steep slopes. Natural conversion to pine should occur over time if no commercial treatment were to occur. See Stage 1 management consideration notes.									
<u>Next Steps:</u> Monitor regeneration success, per work instructions, and follow regeneration guidelines. Acceptable regeneration of aspen, birch, and conifers.									
<u>Proposed Start Date:</u> 10/01/2013									
<u>Limiting Factor and No Treatment Reason</u> 3J: Water quality / BMPs (stream, river, or lake) Contains Sawmill Creek and tributary. Part of Cyr Swamp. Escanaba River watershed.									
15 32023015-Cut	32.3	4136 - Aspen, Mixed Conifer	High Density Pole	74		Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<u>Prescription Specs:</u> Harvest all aspen, fir, spruce, paper birch.									
<u>Other Comment:</u> Extremely poor access - marsh, stream, beaver flooding adjacent, as well as private landowner issues. See Stage 1 management consideration notes.									
<u>Next Steps:</u> Monitor the success of regeneration the next entry period. Acceptable regeneration mix of aspen, conifers and upland deciduous species.									
<u>Proposed Start Date:</u> 10/01/2013									
<u>Limiting Factor and No Treatment Reason</u> 3J: Water quality / BMPs (stream, river, or lake) Contains Sawmill Creek and tributary. Part of Cyr Swamp. Escanaba River watershed.									



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19	32023019-Cut	20.1	4136 - Aspen, Mixed Conifer	High Density Pole	74		Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<u>Prescription</u> Harvest all aspen, fir, spruce. Leave any white and red pine, cedar, hemlock, if present, and paper birch seed trees if desired.										
<u>Specs:</u>										
<u>Other</u> Narrow ridge of upland surrounded by lowland cedar/spruce. Use to access adjacent stands. See Stage 1 management consideration notes.										
<u>Comment:</u>										
<u>Next</u> Monitor the success of regeneration the next entry period. Acceptable regeneration mix of aspen, conifers and upland deciduous species.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
<u>Limiting Factor and No</u> 2A: Adjacent landowner denied										
<u>Treatment Reason</u> access										

21	32023021-Cut	32.4	42210 - Natural Red Pine	Medium Density Log	93		Harvest	Seed Tree with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription</u> Mark red and white pine to ~10-30 BA, targeting areas to release natural WP,RP regeneration and/or prepare a seedbed for new regeneration.										
<u>Specs:</u> Leave any hemlock, cedar within.										
<u>Other</u> Last cut in 1998; evaluate stand condition for further treatment needs if private access is obtained. Consider allowing chipping of										
<u>Comment:</u> unmerchantable S/F, A to reduce competition to pines. See Stage 1 management consideration notes.										
<u>Next</u> Monitor the success of regeneration before the next entry period, per work instructions. Regeneration mix of pine, hemlock is desired, although										
<u>Steps:</u> upland deciduous and mixed conifers would be acceptable, in various amounts. Mechanical treatment of the site may benefit seedling establishment.										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
<u>Limiting Factor and No</u> 2A: Adjacent landowner denied										
<u>Treatment Reason</u> access										
3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.										

25	32023025-Cut	56.4	4134 - Aspen, Spruce/Fir	Medium Density Pole	52		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<u>Prescription</u> Cut all aspen, paper birch, balsam fir which may be present. Retain any white spruce which may exist and/or use stump diameter cut.										
<u>Specs:</u>										
<u>Other</u> See Stage 1 management consideration notes.										
<u>Comment:</u>										
<u>Next</u> Monitor until adequate regeneration is achieved per work instructions. Aspen, mixed spruce/fir is desired.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
<u>Limiting Factor and No</u> 2A: Adjacent landowner denied										
<u>Treatment Reason</u> access										
3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
26	32023026-Cut	17.5	4115 - Y.Birch, Hemlock NH	High Density Pole	79		Harvest	Crown Thinning	4115 - Y.Birch, Hemlock NH	Cmpt. Review Proposal
<p><u>Prescription</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). <u>Specs:</u> Retain all hemlock. Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other</u> See Stage 1 management considerations. <u>Comment:</u></p> <p><u>Next</u> Monitor for potential new regeneration following harvest per work instructions. Desired regeneration of upland northern hardwoods with a <u>Steps:</u> component of conifers, aspen is acceptable.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										
27	32023027-Cut	46.5	6122 - Black Spruce	High Density Pole	72		Harvest	Clearcut with Reserves	6122 - Black Spruce	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all black spruce and tamarack, if present. Retain all cedar and some retention pockets/patches of black spruce. <u>Specs:</u></p> <p><u>Other</u> <u>Comment:</u></p> <p><u>Next</u> Monitor for regeneration following harvest at appropriate intervals. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access</p>										
31	32023031-Cut	43.6	4112 - Maple, Beech, Cherry Association	High Density Pole	79		Harvest	Crown Thinning	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). <u>Specs:</u> Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other</u> See Stage 1 management considerations.. <u>Comment:</u></p> <p><u>Next</u> Monitor for potential new regeneration following harvest per work instructions. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35	32023035-Cut	144.1	4112 - Maple, Beech, Cherry Association	High Density Log	79		Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (i.e. yellow birch, cherry). Look for opportunities to retain supercanopy wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other Comment:</u> See Stage 1 management considerations.</p> <p><u>Next Steps:</u> Regeneration survey to follow harvesting at appropriate intervals per work instructions. Desired regeneration is northern hardwoods.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No Treatment Reason</u> 2A: Adjacent landowner denied access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										
37	32023037-Cut	15.0	4112 - Maple, Beech, Cherry Association	High Density Pole	79		Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other Comment:</u></p> <p><u>Next Steps:</u> Monitor for regeneration following harvest at appropriate intervals per work instructions. Regeneration of northern hardwoods is desired.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No Treatment Reason</u> 2A: Adjacent landowner denied access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										
38	32023038-Cut	18.7	4112 - Maple, Beech, Cherry Association	High Density Log	79		Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Lightly thin hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Leave hemlock. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other Comment:</u> See Stage 1 management considerations.</p> <p><u>Next Steps:</u> Monitor for regeneration following harvest at appropriate intervals per work instructions. Regeneration of northern hardwoods is desired with of component of conifers acceptable.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No Treatment Reason</u> 2A: Adjacent landowner denied access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	32023039-Cut	24.9	4112 - Maple, Beech, Cherry Association	High Density Log	79		Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). <u>Specs:</u> Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other</u> See Stage 1 management considerations. <u>Comment:</u></p> <p><u>Next</u> Monitor for regeneration following harvest at appropriate intervals per work instructions. Regeneration of northern hardwoods is desired. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2C: Engineered Bridge Needed <u>Treatment Reason</u> (Dept. portable bridge not available or inadequate) Part of larger hardwood block, which should be prescribed and treated with adjacent compartment.</p>										
40	32023040-Cut	15.8	4115 - Y.Birch, Hemlock NH	Medium Density Pole	79		Harvest	Single Tree Selection	4115 - Y.Birch, Hemlock NH	Cmpt. Review Proposal
<p><u>Prescription</u> Lightly thin hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). <u>Specs:</u> Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Leave hemlock also. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other</u> See Stage 1 management considerations. <u>Comment:</u></p> <p><u>Next</u> Monitor for regeneration following harvest at appropriate intervals per work instructions. Regeneration of northern hardwoods with a component of mixed conifers is desired. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										
44	32023044-Cut	32.2	42390 - Mixed Non- Pine Upland Conifers	High Density Log	94		Harvest	Shelterwood	42390 - Mixed Non- Pine Upland Conifers	Cmpt. Review Proposal
<p><u>Prescription</u> Encourage hemlock regeneration by removing balsam fir, black spruce and some white spruce. Leave hemlock, cedar and mark red maple, <u>Specs:</u> yellow birch to cut.</p> <p><u>Other</u> Provide access to adjacent stand while sheltering established hemlock and/or white pine, if present. Also see Stage 1 management <u>Comment:</u> considerations.</p> <p><u>Next</u> Monitor for regeneration following harvest at appropriate intervals per work instructions. Mixed upland regeneration is desired. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
45	32023045-Cut	54.9	4115 - Y.Birch, Hemlock NH	High Density Log	79		Harvest	Single Tree Selection	4115 - Y.Birch, Hemlock NH	Cmpt. Review Proposal
<p><u>Prescription</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry, white pine). Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Leave all hemlock. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Specs:</u></p> <p><u>Other</u> See Stage 1 management considerations. <u>Comment:</u></p> <p><u>Next</u> Monitor for regeneration following harvest at appropriate intervals per work instructions. Regeneration of northern hardwoods with a conifer <u>Steps:</u> component is desired.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access</p>										

48	32023048-Cut	17.8	4112 - Maple, Beech, Cherry Association	High Density Pole	79		Harvest	Crown Thinning	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark hardwoods to 80-90 BA, using hardwood marking guidelines. Retention will include the under-represented species (yellow birch, cherry). <u>Specs:</u> Look for opportunities to retain supercanopy YB and RM wildlife trees. Efforts can be made to try and regenerate these species also. Maintain species diversity. Leave some white spruce for seed trees if they exist. Create regeneration openings, where appropriate, and enhance existing regeneration areas.</p> <p><u>Other</u> See Stage 1 management considerations. <u>Comment:</u></p> <p><u>Next</u> Monitor for potential northern hardwoods regeneration establishment with next treatment. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 2A: Adjacent landowner denied <u>Treatment Reason</u> access 3 major landowners - 1 landowner along Escanaba River, with gate, controls access which was denied.</p>										

51	32023051-Cut	15.0	4319 - Mixed Upland Forest	Medium Density Pole	62		Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Remove all aspen, balsam poplar, balsam fir and use stump diameter cut for white spruce. A few WP noted should be left, as well as any/all <u>Specs:</u> cedar. Consider leaving maple for diversity. Leave adequate buffer (~200') for Sawmill Creek.</p> <p><u>Other</u> See Stage 1 management considerations. <u>Comment:</u></p> <p><u>Next</u> Monitor until adequate regeneration is achieved. Mixed aspen and conifers are desired. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p> <p><u>Limiting Factor and No</u> 3J: Water quality / BMPs (stream, <u>Treatment Reason</u> river, or lake) Contains Sawmill Creek and tributary. Part of Cyr Swamp. Escanaba River watershed.</p>										

**Total Treatment
Acreage Proposed: 777.3**

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2014



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

Other
Comments:

Next
Steps:

Proposed
Start Date: #Error

**Total Treatment
Acreage Proposed: 0**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6132 - Mixed Lowland Forest with Cedar	High Density Pole	18.1	Uneven Age		Lowland stand with numerous drainages.
3	4319 - Mixed Upland Forest	High Density Pole	43.9	Uneven Age	51-80	Mainly high ground along Escanaba River. Old trail is badly rutted by ORV traffic and growing in with tagalder/saplings. Rustic campsite on river.
5	6132 - Mixed Lowland Forest with Cedar	High Density Pole	69.8	91		Primarily cedar interior (3 - 8") with mixed areas of spruce, tamarack, fir, ash, birch and aspen. Scattered large white pine.
6	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Pole	23.0	Uneven Age		Mix of spruce/fir and aspen.
8	42290 - Natural Mixed Pine	High Density Log	103.2	82		More RP, WP along riverbank with mixed deciduous and RP, JP mix along interior ridges with swales of black spruce.
10	4133 - Aspen, Mixed Pine	High Density Log	86.8	82		Isolated stand surrounded by lowlands within Escanaba River zone.
11	6122 - Black Spruce	High Density Pole	33.6	81		Primarily black spruce with trace of cedar and white pine.
13	6120 - Lowland Cedar	High Density Pole	87.7	81		Mix of cedar and black spruce, heavier along river corridor, with scattered deciduous within interior portions.
15	4136 - Aspen, Mixed Conifer	High Density Pole	32.3	74		Semi-open aspen, due to beaver feeding. Heavier conifers along edges.
16	6122 - Black Spruce	High Density Pole	19.9	82		Contains small stream.
18	6132 - Mixed Lowland Forest with Cedar	High Density Pole	13.1	104		Spruce/cedar swamp in middle of narrow aspen ridges.
19	4136 - Aspen, Mixed Conifer	High Density Pole	20.1	74		Narrow upland ridge surrounding lowland spruce/cedar.
20	6122 - Black Spruce	High Density Pole	11.8	83		Well-stocked upland, dropping into smaller type as transitions into bog.
21	42210 - Natural Red Pine	Medium Density Log	32.4	93		Cut in 1998 under permit #13-94 "Larson Camp Sale" (unit 9 - all RP, WP and hemlock left).
22	4130 - Aspen	Medium Density	30.2	13		T. sale #013-94 "Larson Camp sale" (unit 8) - cut in 1999.
23	6120 - Lowland Cedar	High Density Pole	15.0	104		cedar/spruce swamp with small drainage which feeds into adjacent lowland stand.

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Gwinn Mgt. Unit

5 – Forested Stands

Compartment: 023

Year of Entry: 2014



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	4134 - Aspen, Spruce/Fir	Medium Density Pole	56.4	52		Part of stand was harvested in 1984-85 (t sales #020-84-2 and #24-84-2). Patchy stand with mature clones and scattered larger trees.
26	4115 - Y.Birch, Hemlock NH	High Density Pole	17.5	79		Last thinned under timber sale #013-94 "Larson Camp Sale" (unit 7).
27	6122 - Black Spruce	High Density Pole	46.5	72		Nearly pure black spruce with cedar fringe.
28	429 - Mixed Upland Conifers	Medium Density	56.7	23		Planted (red pine and white spruce both) 3 times, with limited success (heavy sod; grubs). More spruce noted in the NW and SE.
29	4130 - Aspen	High Density Pole	12.7	26		Cut fall, 1985 under permit #040-84-2. Some spruce and fir mixed within.
30	4312 - Hemlock, Mixed Deciduous	Medium Density Log	45.9	Uneven Age		Cut under permit #013-94 "Larson Camp Sale" (unit 5,6). Cedar, pine and hemlock were left.
31	4112 - Maple, Beech, Cherry Association	High Density Pole	43.6	79		Stand was last thinned in 1985, permit #030-84-2, removing marked maple, basswood and yellow birch.
32	6132 - Mixed Lowland Forest with Cedar	High Density Pole	26.2	Uneven Age		Mostly small cedar with fringes of upland types - stand was treated under permit #29-77A (1977-1982).
33	4319 - Mixed Upland Forest	Medium Density Log	33.9	Uneven Age		Hardwood island within swamp, fringed with conifers.
34	6120 - Lowland Cedar	Medium Density Pole	377.2	100		Cedar with spruce, tamarack and some white pine within. Some pine islands. Unnamed tributary/creek within which flows into Sawmill Creek.
35	4112 - Maple, Beech, Cherry Association	High Density Log	144.1	Uneven Age		Thinned under permit #013-94 "Larson Camp Sale" (unit 2-5) in 1999. Some good regeneration in gaps (1-2" dbh) noted last inventory cycle.
36	4115 - Y.Birch, Hemlock NH	High Density Log	23.0	Uneven Age		Remote stand of timber within swamp.
37	4112 - Maple, Beech, Cherry Association	High Density Pole	15.0	Uneven Age		TSI completed in 1982.
38	4112 - Maple, Beech, Cherry Association	High Density Log	18.7	Uneven Age		Thinned in 1999 under permit #013-94 "Larson Camp Sale" (unit 1).
39	4112 - Maple, Beech, Cherry Association	High Density Log	24.9	Uneven Age		Should be treated with adjacent compartment to the east (C. 024) when possible due to access and marketability. Many large overmature trees - wildlife quality.

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Gwinn Mgt. Unit

5 – Forested Stands

Compartment: 023
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	4115 - Y.Birch, Hemlock NH	Medium Density Pole	15.8	Uneven Age		Heavier conifer component than adjacent upland stand.
41	4116 - Mixed N. Hardwood - Aspen	Medium Density Pole	8.3	Uneven Age		Previously thinned in 1977 (#33-74) and 1997 - understocked stand as residual with aspen patches.
42	6120 - Lowland Cedar	High Density Pole	149.3	104		Contains stream headwaters. Mixed spruce and cedar with trace amounts of birch, tamarack noted.
44	42390 - Mixed Non- Pine Upland Conifers	High Density Log	32.2	Uneven Age		Conifer transition stand around upland hardwood island.
45	4115 - Y.Birch, Hemlock NH	High Density Log	54.9	Uneven Age		A lot of defect, although there is timber potential. Remote stand.
46	4130 - Aspen	High Density Sapling	49.1	21		Cut in 1990-91 with adjacent compartment (C. 024). Some wetter, poorly stocked areas.
47	6122 - Black Spruce	Medium Density Pole	68.5	78		Low, wet stand with plenty of regeneration filling in. Aspen being replaced by spruce/fir. Contains Sawmill Creek.
48	4112 - Maple, Beech, Cherry Association	High Density Pole	17.8	Uneven Age		
50	4130 - Aspen	High Density Sapling	8.9	21		Cut 1990-91; some lowland aspen, tagalder mixed.
51	4319 - Mixed Upland Forest	Medium Density Pole	15.0	62		Wet areas within stand and low density areas (aspen dead). Some larger spruce and aspen present.
52	4119 - Mixed Northern Hardwoods	High Density Pole	15.1	Uneven Age	81-110	Small stand, which had been thinned under permit #13-67A (1967-1970) and then marked again and re-sold twice, but never cut. Numerous vernal pockets of ash and some cedar within and heavy, young BF fringe. Slight ridges contain more red and sugar maple dominance - low quality, but potential.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	6220 - Alder/willow	12.1	No	Low (NonForested)	some scattered timber within; drainage
4	6225 - Bog	20.7	No	Unspecified	
7	6239 - Mixed Emergent Wetland	15.9	No	Unspecified	flooded timber, due to beaver activity, and drainage into Escanaba River.
9	6239 - Mixed Emergent Wetland	6.8	No	Unspecified	flooded timber due to beaver activity
12	6220 - Alder/willow	27.9	No	Unspecified	contains unnamed drainage/creek
14	6225 - Bog	459.1	No	Unspecified	Black spruce and tamarack bog. Contains isolated ridges of timber (red and jack pine).
17	6239 - Mixed Emergent Wetland	30.0	No	Unspecified	Beaver ponds and creek with surrounding tagalder - drains into Escanaba River.
24	6224 - Treed Bog	404.8	No	Unspecified	Denser bog (tamarack, spruce) with scattered islands of larger timber - some heavier cedar pockets noted. W. portion of stand was logged in the mid-late 1930's, as old 1939 photos indicate and remainder was logged in the early 50's as 1954 photos indicate. Low productivity, but still productive.
43	6220 - Alder/willow	10.0	No	Unspecified	Contains Sawmill Creek and tributary
49	6220 - Alder/willow	5.2	No	Unspecified	Contains Mud Creek



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
multiple - see	Unique Site - SCA	32023_SCA	2024.7	SCA - south end of Cyr Swamp Management Area, which is unfragmented and primarily inaccessible, with potential to develop old forest characteristics. Riparian corridor(s) for - Sawmill Creek: no treatments within a minimum of 200' to protect cold water stream. Escanaba River: no treatment within 300' to protect river corridor, prevent erosion and sedimentation, and maintain/enhance visual influence for recreationalists



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.