



Compartment Review Presentation

Gladwin Forest Management Unit

Compartment 123

Entry Year 2015

Acreage: 1,646

County Arenac

Management Area: Gladwin Lake Plain

Revision Date: 05/22/2013

Stand Examiner: Mark Reichel

Legal Description:

T20N R3E Sec 13, 22-24; T20N R4E Sec 7, 8, 17, 18

Identified Planning Goals:

The planning goals of this compartment are: 1) To regenerate some large oak stands to a pine/oak mix via machine planting red pine, regenerate a few aspen stands to help achieve management unit level regulation, and to conduct intermediate thinnings in several red pine stands. Visual management is a priority in the vicinity of the Forest Lake subdivision. 2) These harvests and plantings are part of co-managing for wildlife with Wildlife Division. 3) To identify a permanent road system, and to close or improve roads to that end. 4) To control a severe trash dumping problem in section 22: an Adopt-a-Forest request has been filled out..

Soil and topography:

The majority of this compartment is Kotar PARVHa habitat type, with the exception of section 22 and the eastern parcel north of Maple Ridge Rd., which is a mixture of PARVCo and unclassified lowland. There are soils within the PARVHa type that are droughty and have reindeer moss and upland sedge. The Rifle River runs between the two main parcels of this compartment. The center of the western parcel (T20N R3E) is upland. From the highest area in the SW 1/4 of section 23, the land grades down toward the Rifle River to the East, and toward a low, swampy area to the west. The east end is dissected by a few short creeks that run down to the river. The eastern parcel in Clayton TWSHP (T20N R4E) is a dry upland dissected by Hettinger and Cursten Creeks, both short creeks that empty into the Rifle River nearby. There is wetland area in the northwest corner.

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

The east end of the large parcel in sections 22 - 24 is surrounded by the Forest Lake Subdivision, one of the largest communities in Arenac County. There is a trailer park near the west edge of the same parcel, off Old Highway 76. The south edge of the same parcel is state forest land. Seven private parcels border the northwest end of this parcel. The private land immediately surrounding the compartment, stretching north into Ogema County is forested. Most of the land to the southeast is farmed, and there is a large area of state forest to the southwest. The west edge of the large parcel in T20N R4E is adjacent to ten ten-acre residential parcels that stretch from state land to the Rifle River. The rest of this parcel is bordered by 14 larger properties, mostly "80's" and some "40's".

Unique Natural Features:

There is an MNFI polygon for an organism called Doll's merolonche, but it has "historical" status (collected once in 1968, no rating for rarity or endangerment), and doesn't require any mitigation action. There were no other occurrences in the MNFI database and GDSE layer.

Archeological, Historical, and Cultural Features:

There were no HAL concerns in this compartment, according to the HAL database.

Special Management Designations or Considerations:

The Rifle River where it runs between the two main parcels of this compartment has Michigan Natural Rivers designation. The river is not adjacent to the compartment except for the roughly 20 acre parcel with the boat ramp, which has no treatments scheduled. There is an archeological site polygon on private land just south of the eastern parcel of the compartment. No treatments on state land will affect this area.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

This compartment is immediately adjacent to the Forest Lake Subdivision. Upland systems are dominant in this compartment. Oak and upland-conifer make up the majority of cover types. A limited number of lowland cover types are found in this compartment. Species such as fox, squirrel, wild turkey and white-tailed deer are quite common. Furbearers

including black bear, bobcat, and coyote use the lowlands as corridors as well as year-round habitat. Other game species likely to be present in this compartment include ruffed grouse and American woodcock. Many bird species stand to benefit from the juxtaposition of lowland and upland habitats present in the compartment. These include common yellowthroat, yellow-rumped warbler, gray catbird, redbellied vireo, white-throated sparrow, hermit thrush and red-breasted nuthatch. The compartment is easily accessible to hunters via Jack Pine Trail or Maple Ridge Road.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of lacustrine (lake) sand and gravel and minor end moraine of fine-textured glacial till. The glacial drift thickness varies between 100 and 400 feet. Beneath the glacial drift are the Mississippian Michigan Formation and Marshall Sandstone. The Michigan is quarried for gypsum and the Marshall was previously used as a building stone. Many gravel pits are located in this area and potential appears to be good. Several dry holes have been drilled in the compartment. Clayton Field, discovered in 1936, is located to the northeast. The field has produced nearly 7 Million BO from the Richfield and over 5 Bcf gas from the Berea. The parcels in T20N-R3E are leased for oil and gas development.

Vehicle Access:

Access is good in this compartment; There is potential for a very good road system. There is a large percentage of upland, and in most of the compartment there are a lot of roads to choose from in designating a permanent road system. A lot of roads will have to be closed and rehabilitated to achieve this end. Section 22 is mostly lowland and would require a prohibitive investment to construct a good road. There is also a severe dumping problem at the west end of the compartment. Access can be provided in this area by constructing a good parking lot on Kindig Rd. and closing the current poor quality road. Similarly, the two track running east off Bunyak Rd. is not needed and should be closed, and a parking lot installed.

Survey Needs:

All treatments can be executed without a survey. The boundaries with Forest Lake subdivision have all been well surveyed. Other than this, according to the Gladwin FMU survey corner records book, there are only monuments for 6 of the 24 remaining corners, or a total, including the Forest Lake survey, of 10 of 28 monuments. Three treatments (one a planting) this year of entry will be against private line; two of these treatments have one monument to establish line (and one of these can use old blue line), the other has all needed monuments.

Recreational Facilities and Opportunities:

There are no designated recreational facilities within this compartment, however, hunting and other dispersed recreational activities do occur within this portion of State land. (TMN 5/6). There is an improved DNR boat ramp nearby on the Rifle River off Maple Ridge Rd. (MR 5/22).

Fire Protection:

There are a large amount of dense and continuous young pine/oak stands in the compartment, and some large areas will be regenerated to the same in the next decade. Under the right conditions these stands could carry a crown fire with potential for a fast rate of spread, and a large amount of timber could be damaged. Fast response to this area is important. Fortunately there is a good road system.

Additional Compartment Information:

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**

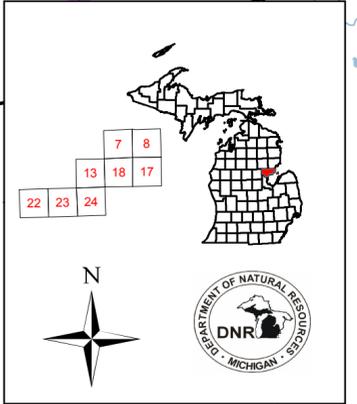
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

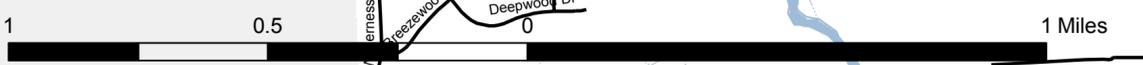
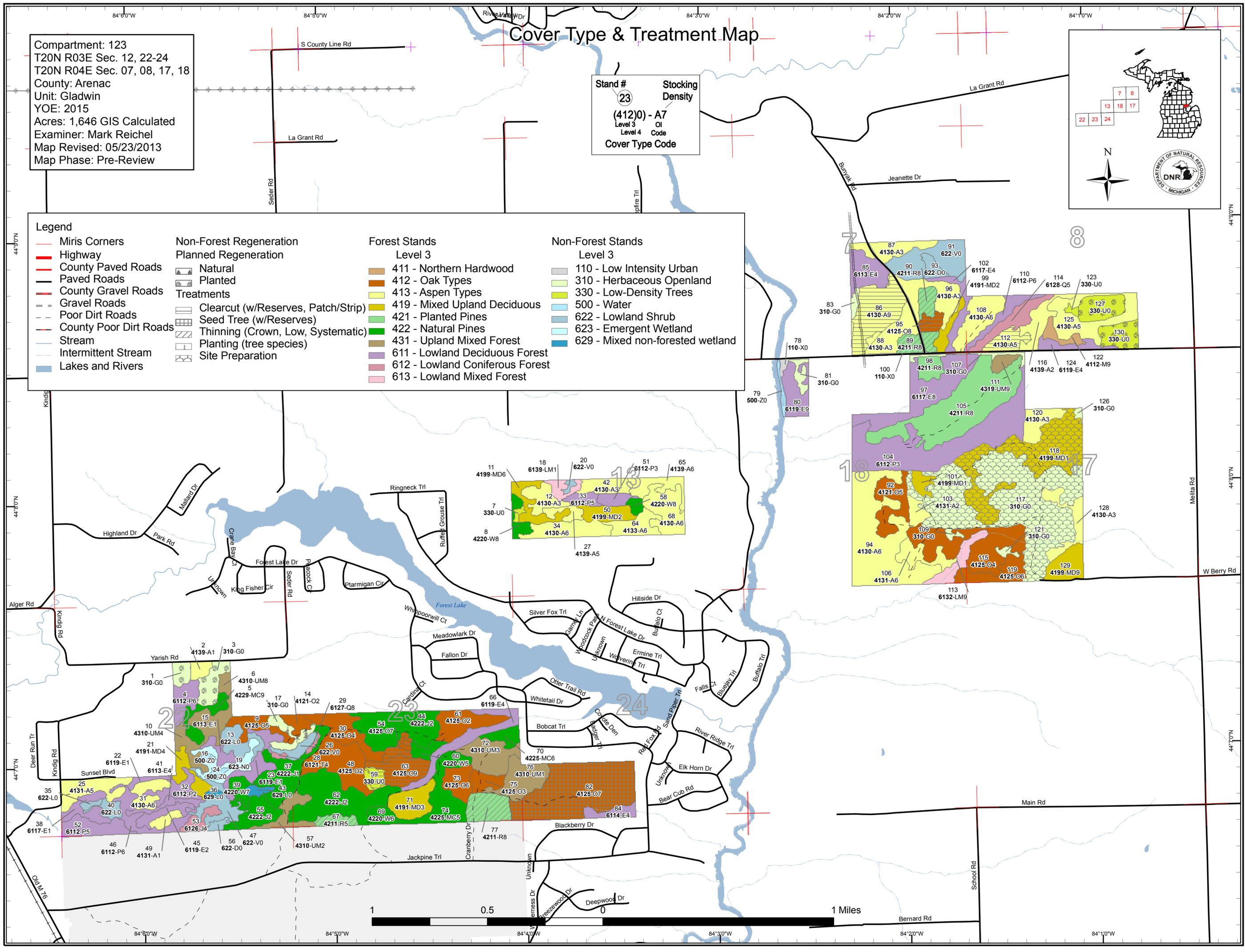
Compartment: 123
 T20N R03E Sec. 12, 22-24
 T20N R04E Sec. 07, 08, 17, 18
 County: Arenac
 Unit: Gladwin
 YOE: 2015
 Acres: 1,646 GIS Calculated
 Examiner: Mark Reichel
 Map Revised: 05/23/2013
 Map Phase: Pre-Review

Stand #
 23
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

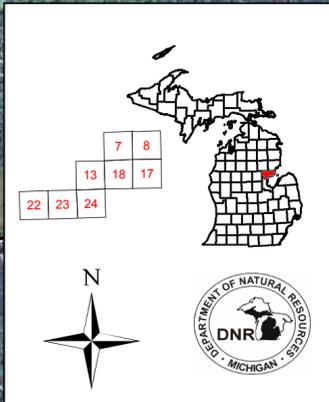
<ul style="list-style-type: none"> — Miris Corners — Highway — County Paved Roads — Paved Roads — County Gravel Roads — Gravel Roads — Poor Dirt Roads — County Poor Dirt Roads — Stream — Intermittent Stream — Lakes and Rivers 	<h4>Non-Forest Regeneration</h4> <h5>Planned Regeneration</h5> <ul style="list-style-type: none"> ▲ Natural ▲ Planted <h5>Treatments</h5> <ul style="list-style-type: none"> ▨ Clearcut (w/Reserves, Patch/Strip) ▨ Seed Tree (w/Reserves) ▨ Thinning (Crown, Low, Systematic) ▨ Planting (tree species) ▨ Site Preparation 	<h4>Forest Stands</h4> <h5>Level 3</h5> <ul style="list-style-type: none"> 411 - Northern Hardwood 412 - Oak Types 413 - Aspen Types 419 - Mixed Upland Deciduous 421 - Planted Pines 422 - Natural Pines 431 - Upland Mixed Forest 611 - Lowland Deciduous Forest 612 - Lowland Coniferous Forest 613 - Lowland Mixed Forest 	<h4>Non-Forest Stands</h4> <h5>Level 3</h5> <ul style="list-style-type: none"> 110 - Low Intensity Urban 310 - Herbaceous Openland 330 - Low-Density Trees 500 - Water 622 - Lowland Shrub 623 - Emergent Wetland 629 - Mixed non-forested wetland
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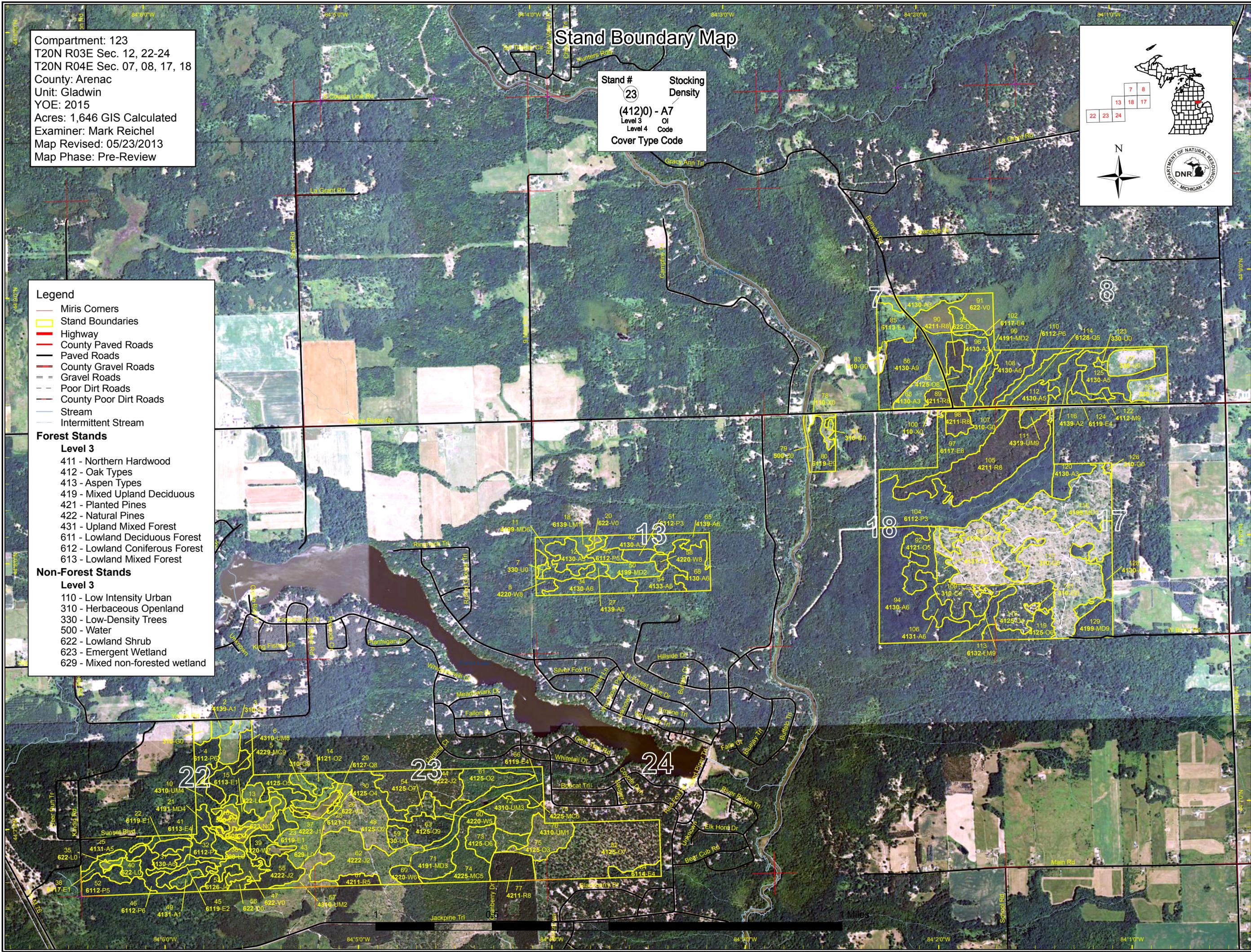
Stand Boundary Map

Compartment: 123
 T20N R03E Sec. 12, 22-24
 T20N R04E Sec. 07, 08, 17, 18
 County: Arenac
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 Stocking
 Density
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 Level 3 OI
 Level 4 Code
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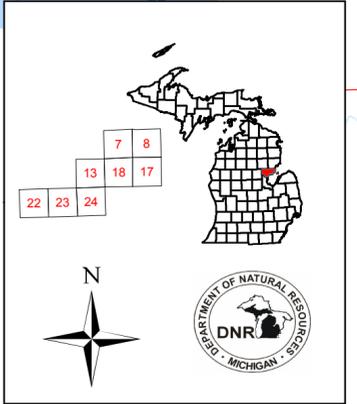
- Legend**
- Miris Corners
 - Stand Boundaries
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Stream
 - Intermittent Stream
- Forest Stands**
- Level 3**
- 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
- Non-Forest Stands**
- Level 3**
- 110 - Low Intensity Urban
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland



Special Conservation Areas & Site Conditions Map

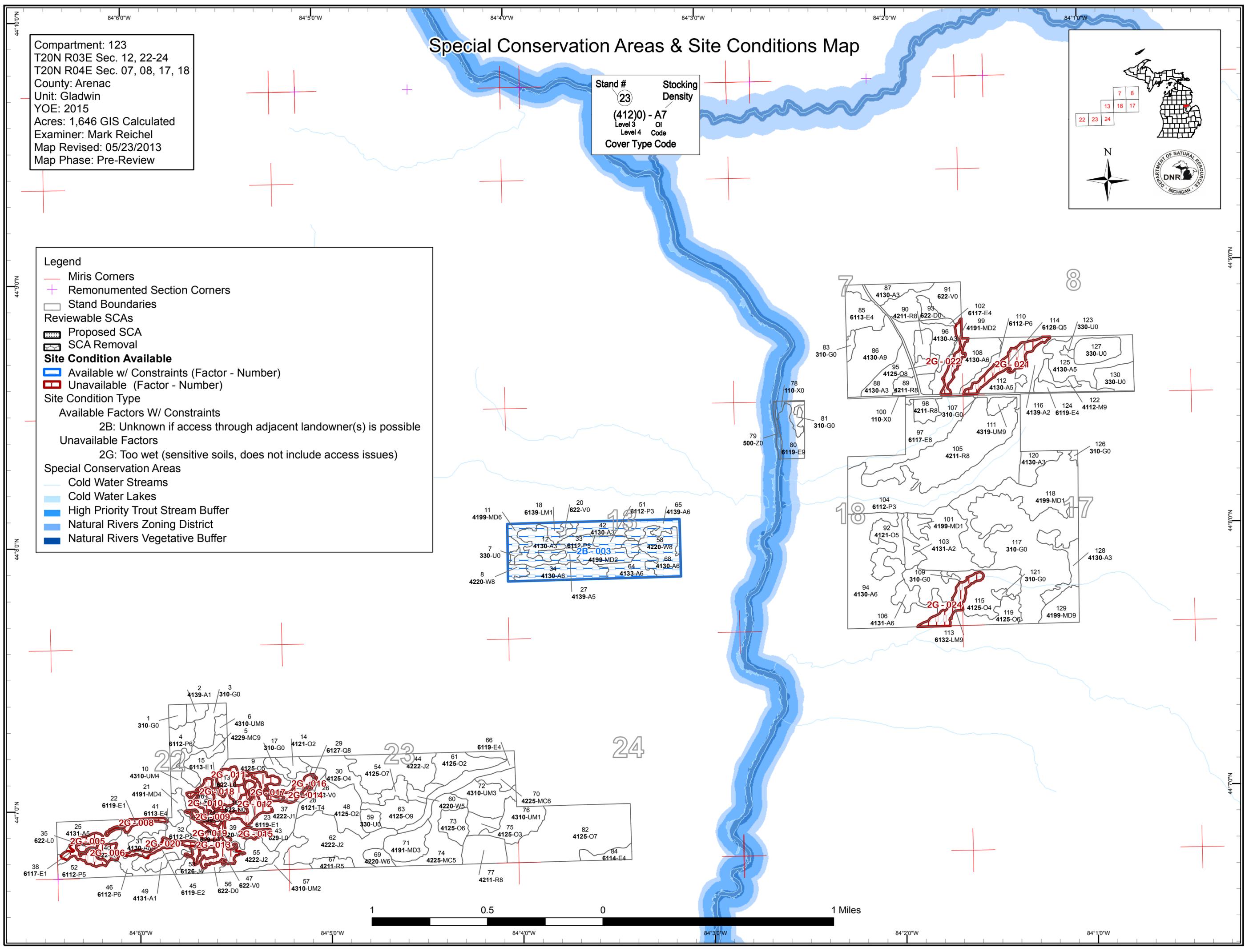
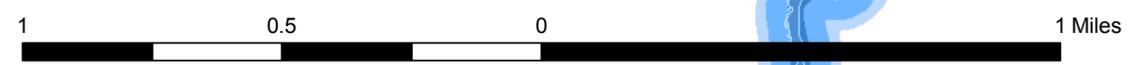
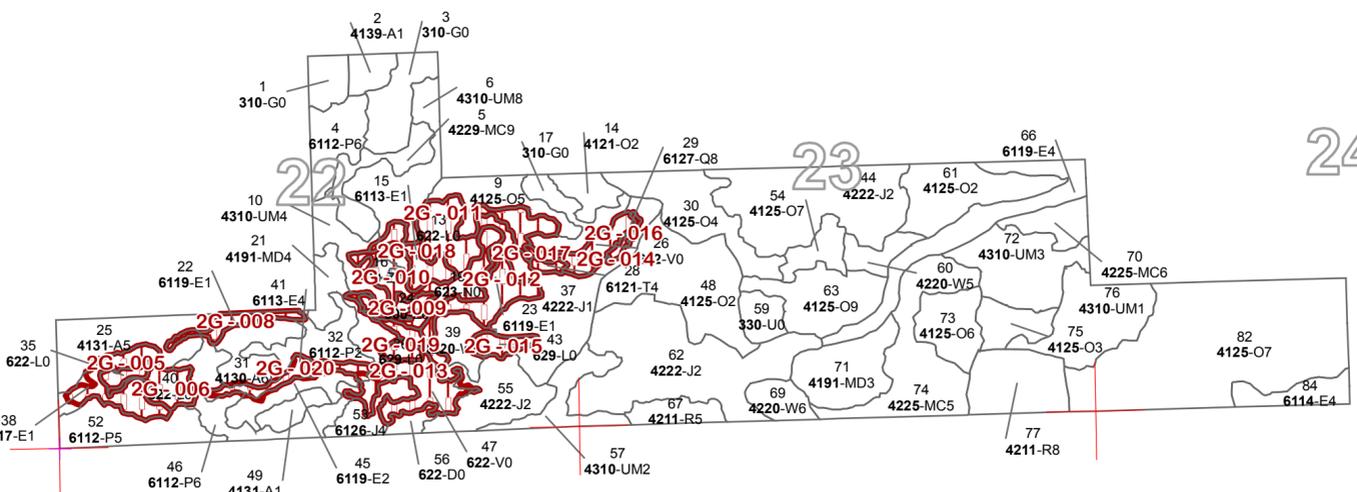
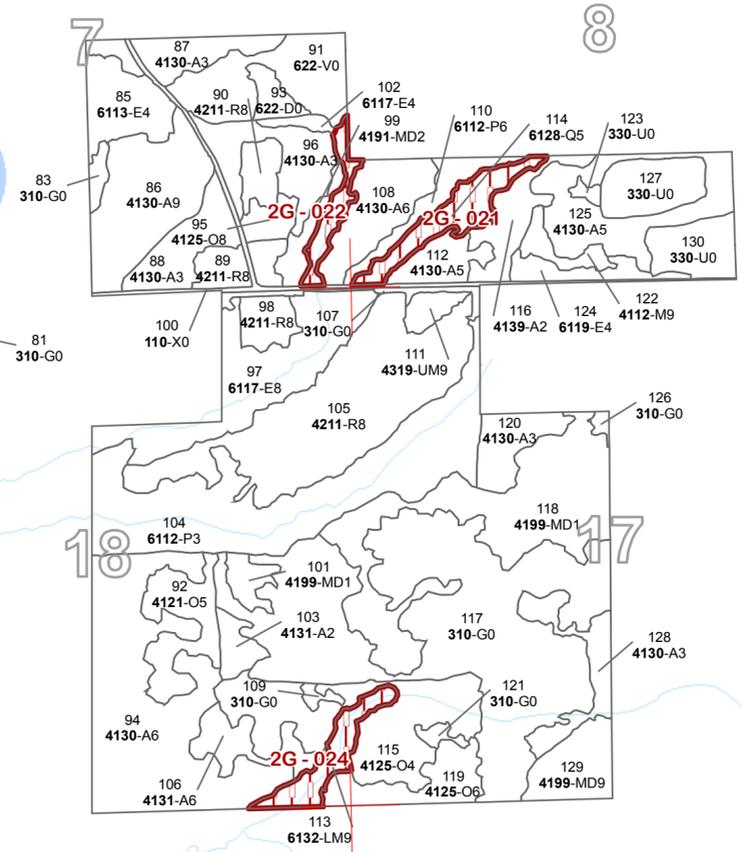
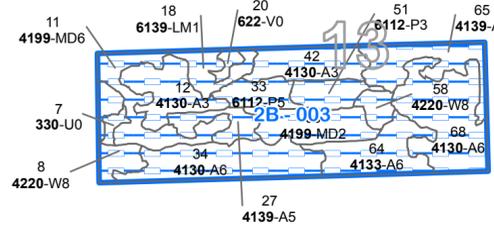
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Stand #
 23
 Stocking
 Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

- Miris Corners
- Remonumented Section Corners
- Stand Boundaries
- Reviewable SCAs
- Proposed SCA
- SCA Removal
- Site Condition Available**
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Site Condition Type**
- Available Factors W/ Constraints
- 2B: Unknown if access through adjacent landowner(s) is possible
- Unavailable Factors
- 2G: Too wet (sensitive soils, does not include access issues)
- Special Conservation Areas**
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer





	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	29	67	28	192	0	31	0	0	0	0	0	0	0	0	347
Bog	41	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Herbaceous Openland	159	0	0	0	0	0	0	0	0	0	0	0	0	0	159
Jack Pine	61	0	19	32	0	0	0	0	0	0	0	0	0	0	112
Low-Density Trees	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31
Lowland Aspen/Balsam Poplar	0	9	68	51	0	0	0	0	0	0	0	0	0	0	129
Lowland Conifers	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13
Lowland Deciduous	0	0	0	39	0	0	8	0	0	0	0	0	0	91	139
Lowland Mixed Forest	0	5	0	0	0	0	0	0	0	0	0	0	0	10	14
Lowland Shrub	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Marsh	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Mixed Upland Deciduous	5	84	0	9	13	0	0	10	0	0	0	0	0	0	121
Natural Mixed Pines	0	0	0	29	0	9	0	0	0	0	0	0	0	0	38
Northern Hardwood	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Oak	30	32	0	94	0	0	0	0	5	86	0	0	0	0	247
Red Pine	0	0	0	0	0	105	0	0	0	0	0	0	0	0	105
Tamarack	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Treed Bog	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Upland Mixed Forest	9	36	0	7	0	0	14	0	0	0	0	0	0	4	70
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Water	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
White Pine	0	0	0	10	0	0	0	8	0	0	0	0	0	5	23
Total	418	233	116	463	13	144	37	23	5	86	0	0	0	110	1646



Report 2 – Proposed Treatment Summaries

Gladwin Mgt. Unit
Year of Entry 2015

Compartment 123
Total Compartment Acres: 1,646

Acres by Treatment Type

Commercial Harvest - 164	Tree Planting - 8	Other - 178
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	38	0	0	0	0	0	38
Oak Types	27	0	65	0	0	0	92
Planted Pines	0	0	0	0	34	0	34
Total	65	0	65	0	34	0	164



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
63	73123063_FH	22.7	4125 - Black, N. Pin Oak	High Density Log	90	51-80	Harvest	Clearcut with Reserves	42250 - Pine, Oak	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Mark with green paint 2 or 3 large oak per acre for mast, additional seed source, and visual.										
<u>Specs:</u>										
<u>Other</u> Shelterwood harvested '99 leaving large oak. 90 yr old oak didn't stump sprout when cut 14 yrs ago. Tr of WO (canopy); M, SVCB, J										
<u>Comments:</u> (subcanopy). Sparser at west end. BA based on 10 plots.										
<u>Next Steps:</u>										
<u>Proposed Start Date:</u> 10/01/2014										
67	73123067_Thinn	5.2	42110 - Planted Red Pine	Medium Density Pole	58	141-170	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Reduce BA to 120 by individual tree marking. Mark trees to remove. Shortwood only. Oak in stand will be retention.										
<u>Specs:</u>										
<u>Other</u> 3rd row thinned '97. BA 158 from 5 plots (1/ac). Stand doesn't meet silvicultural criteria but would benefit from a thinning, which will maximize growth over rest of rotation. Crowns in remaining rows are touching or close to touching. Adequate volume to be commercially viable. Thinning will produce both pulpwood and sawlogs.										
<u>Comments:</u>										
<u>Next Steps:</u> None.										
<u>Proposed Start Date:</u> 10/01/2014										
77	73123077_Thinn	14.3	42110 - Planted Red Pine	Medium Density Log	58	141-170	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Reduce BA to 120. Individual tree mark for removal. Shortwood only. Mark any oak on edges of stand that can be removed without damaging residual trees. Residual oak in stand will serve as retention.										
<u>Specs:</u>										
<u>Other</u> Row thinned in 1997. BA 152 from 6 plots (almost 1 per 2 ac). BA Range from 100 to 220. Stand doesn't meet silvicultural criteria but would benefit from a thinning and maximize growth over rest of rotation. Crowns in remaining rows are touching or close to touching. Adequate volume to be commercially viable.										
<u>Comments:</u>										
<u>Next Steps:</u> None.										
<u>Proposed Start Date:</u> 10/01/2014										
82	73123082_ST	65.1	4125 - Black, N. Pin Oak	Low Density Log	90	1-50	Harvest	Seed Tree with Reserves	42250 - Pine, Oak	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Do not cut any white pine. Mark with green to retain 2 or 3 oak per acre, as much white oak as possible, for retention (visual). In addition, mark 1 to 3 retention islands totaling 3 acres in area (5% of stand area). Harvest between October 1 and April 1 for visual and to increase the chances of stump sprouting in this old oak.										
<u>Specs:</u>										
<u>Other</u> NOTE: STAND IS SURROUNDED BY FOREST LAKE SUBDIVISION. Shelterwood harvested spring 2009. Has not adequately regenerated. Eastern half has almost no regen, western half about 20% oak seedlings but only 25% of oak is above deer browse line (there is light deer browse). Canopy is 90 years old and stump sprouting will not be vigorous, and significant new oak from acorns cannot be counted on. If nothing is done, oak regen cover may decrease, not increase, due to deer browse. Nearby stand 54 is same Greyling series soil, and trenching and planting successfully stimulated oak sprouting, and pine seedling survival was almost 100%. Very good access over upland state forest dirt roads. Trace of jack pine, black cherry, red maple, choke cherry, white pine, and red pine. Basal area based on 15 plots.										
<u>Comments:</u>										
<u>Next Steps:</u> Trench and plant red pine. Trenching will have added benefit of scarifying for oak and may yield additional oak regen from acorns.										
<u>Proposed Start Date:</u> 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
86 73123086_FH	29.2	4130 - Aspen	High Density Log	53		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Final harvest dormant. Cut all oak UNDER 8 inches diameter. Put retention island, including some upland, around small cedar drain. Limit skid trail crossings through drain, which is passable. Leave all birch and white pine, as well as some green marked black cherry, for retention by BA. Write spec to specify harvest of all aspen and red maple.

Other Comments: Meets greenup requirements for stand 97 to south (will be 6 years old when sale set up, and over 5 ft high now).

Next Steps: Evaluate regeneration next inventory cycle if less than 6 years after harvest, or at TCR + 4 years if more.

Proposed Start Date: 10/01/2014

89 73123089_Thinn	8.3	42110 - Planted Red Pine	Medium Density Log	52	141-170	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Thin to 130 BA by marking individual trees to remove. Do not harvest any aspen or oak; these trees will serve as retention. Shortwood only. Rows are narrow and created difficulty when third-row thinned: ensure equipment access when marking.

Other Comments: 3rd row thinned 1997. Crowns grown together in rows. Current BA 158. Tr of M, CC, W in sub from '97 harvest.

Next Steps:

Proposed Start Date: 10/01/2014

90 73123090_Thinn	5.9	42110 - Planted Red Pine	Medium Density Log	52	171-200	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Reduce BA to 130. Mark individual trees for removal. Do not mark any oak: leave for retention. Shortwood only. Rows are narrow and created difficulty when third-row thinned: ensure equipment access when marking.

Other Comments: 3rd row thinned '97. Crowns are touching within rows. Trace of black oak in canopy and subcanopy.

Next Steps:

Proposed Start Date: 10/01/2014

95 73123095_FH	4.7	4125 - Black, N. Pin Oak	Medium Density Log	85	81-110	Harvest	Clearcut with Reserves	4125 - Black, N. Pin Oak	Cmpt. Review Proposal
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Prescription Final harvest oak overstory. Mark 9 SF for retention, favoring white oak and jack pine (leave all), and good amount of white pine (about 3 BA).
Specs: Cut all maple and aspen and black oak as spp. removal, except for green marked black/red oak. VERY IMPORTANT TO PROTECT OAK ADVANCED REGENERATION: USE AND ENFORCE REGEN PROTECTION SPEC., AND USE SHORTWOOD ONLY SPEC, NON-NEGOTIABLE.

Other Comments: Trace of red pine, red maple in subcanopy.

Next Steps: Evaluate regeneration next inventory cycle, or TCR + 4 years if next inventory is >6 years.

Proposed Start Date: 10/01/2014



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
112	73123112_FH	8.4	4130 - Aspen	Medium Density Pole	37		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Final harvest, designating aspen and red maple removal only in specs. Retention will be residual white pine, black oak, red pine and black cherry.
Specs:

Other Early harvest to even aspen age class distribution in compartment. There is spike in 31-40 year old age class, but not enough to restart this year
Comments: of entry. Tr of M, BC, B, SVCB, BO, CC in subcanopy.

Next Evaluate regeneration next inventory cycle, or at TCR + 4 years if next inventory is > 6 years.
Steps:

Proposed
Start Date: 10/01/2014

117	NF_73123117 _PLNT	178.1	3105 - Mixed Upland Herbaceous				Site Prep	Trenching		Cmpt. Review Proposal
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Prescription Trench, and plant red pine concurrently with other red pine plantings in compartment. Leave approximately 25% of stand unplanted to encourage oak regeneration. Site prep as necessary, mostly in stand 118, including options to burn, roller chop, or herbicide. Plant through all old skid trails and roads not identified as open roads per compartment road plan.
Specs:

Other Stand was harvested in spring 2012. TCR for the harvest and red pine planting in stand 82 will occur between Oct 1, 2014 and Oct 1, 2018,
Comments: which will meet work instruction requirements (next inventory or TCR plus 4 years).

Next
Steps:

Proposed
Start Date: 10/01/2014

17	NF_73123017- PLT	7.5	3105 - Mixed Upland Herbaceous				Tree Planting	Machine Plant		Cmpt. Review Proposal
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Prescription Trench and plant red pine.
Specs:

Other Portion of 2005 harvest that either didn't regenerate, or was excluded from tree planting. Exact specifications to be determined by TMS. Au
Comments: Gres and/or Grayling soils. Portions are wet during some of year, but water is very shallow and stand is dry most of year.

Next
Steps:

Proposed
Start Date: 10/01/2014

**Total Treatment
Acreage Proposed: 349.4**



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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

Gladwin Mgt. Unit
Mark Reichel : Examiner

Compartment 123
Year of Entry 2015

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	2G	2B
	Available	Not Available				
347	347	0	Aspen	270	0	77
112	112	0	Jack Pine	112	0	
129	129		Lowland Aspen/Balsam Poplar	120		9
13		13	Lowland Conifers		13	
138	101	38	Lowland Deciduous	101	38	
14	5	10	Lowland Mixed Forest		10	5
121	121		Mixed Upland Deciduous	101		19
38	38		Natural Mixed Pines	38		
5	5		Northern Hardwood	5		
247	247		Oak	247		
105	105		Red Pine	105		
1		1	Tamarack		1	
70	70		Upland Mixed Forest	70		
23	23		White Pine	15		8
1,363	1,301	62	Total Forested Acres	1,183	62	118
	95%	5%	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
003	Available	2B: Unknown if access through adjacent landowner(s) is possible	120				
Comments: Parcel is disposal candidate							
005	Not Available	2G: Too wet (sensitive soils, does not include access issues)	8				
Comments:							

Report 5 – Site Conditions

Gladwin Mgt. Unit
Mark Reichel : Examiner

Compartment 123
Year of Entry 2015

006	Not Available	2G: Too wet (sensitive soils, does not include access issues)	4	
Comments:				
007	Not Available	2G: Too wet (sensitive soils, does not include access issues)	2	
Comments:				
008	Not Available	2G: Too wet (sensitive soils, does not include access issues)	3	
Comments:				
009	Not Available	2G: Too wet (sensitive soils, does not include access issues)	2	
Comments:				
010	Not Available	2G: Too wet (sensitive soils, does not include access issues)	12	
Comments:				
011	Not Available	2G: Too wet (sensitive soils, does not include access issues)	10	
Comments:				

Report 5 – Site Conditions

Gladwin Mgt. Unit
Mark Reichel : Examiner

Compartment 123
Year of Entry 2015

012	Not Available	2G: Too wet (sensitive soils, does not include access issues)	12
Comments:			
013	Not Available	2G: Too wet (sensitive soils, does not include access issues)	12
Comments:			
014	Not Available	2G: Too wet (sensitive soils, does not include access issues)	5
Comments:			
015	Not Available	2G: Too wet (sensitive soils, does not include access issues)	3
Comments:			
016	Not Available	2G: Too wet (sensitive soils, does not include access issues)	1
Comments:			
017	Not Available	2G: Too wet (sensitive soils, does not include access issues)	1
Comments:			

Report 5 – Site Conditions

Gladwin Mgt. Unit
Mark Reichel : Examiner

Compartment 123
Year of Entry 2015

018	Not Available	2G: Too wet (sensitive soils, does not include access issues)	5
Comments:			
019	Not Available	2G: Too wet (sensitive soils, does not include access issues)	2
Comments:			
020	Not Available	2G: Too wet (sensitive soils, does not include access issues)	4
Comments:			
021	Not Available	2G: Too wet (sensitive soils, does not include access issues)	12
Comments:			
022	Not Available	2G: Too wet (sensitive soils, does not include access issues)	6
Comments:			
024	Not Available	2G: Too wet (sensitive soils, does not include access issues)	10
Comments:			



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
Comments				



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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
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.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.

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Gladwin Mgt. Unit

Report 8 – Forested Stands

Compartment: 123
Year of Entry: 2015

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4139 - Aspen, Mixed Deciduous	Low Density Sapling	4.0	4		
6112 - Lowland Aspen	High Density Pole	9.6	37		
42290 - Natural Mixed Pine	High Density Log	8.5	58	51-80	
4310 - Pine, Oak Mix	Medium Density Log	14.4	67	51-80	
42200 - Natural White Pine	Medium Density Log	5.3	75		
4125 - Black, N. Pin Oak	Medium Density Pole	9.3	37	1-50	
4310 - Pine, Oak Mix	Low Density Pole	7.5	37	1-50	
4199 - Other Mixed Upland Deciduous	High Density Pole	9.9	75		
4130 - Aspen	High Density Sapling	9.2	19		
4121 - Oak, Aspen	Medium Density	4.9	8		
6113 - Lowland Maple	Low Density Sapling	4.7	37		
6139 - Mixed Lowland Forest	Low Density Sapling	4.8	19		
4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	8.8	37	1-50	
6119 - Mixed Lowland Deciduous Forest	Low Density Sapling	3.1	37		
6119 - Mixed Lowland Deciduous Forest	Low Density Sapling	11.7	37		
4131 - Aspen, Oak	Medium Density Pole	15.8	37		
4139 - Aspen, Mixed Deciduous	Medium Density Pole	4.6	19		
6121 - Tamarack	Low Density Pole	1.0	66		

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Gladwin Mgt. Unit

Report 8 – Forested Stands

Compartment: 123
Year of Entry: 2015

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	6127 - Lowland Pine	Medium Density Log	1.0	66	1-50	
30	4125 - Black, N. Pin Oak	Low Density Pole	16.3	37	1-50	
31	4130 - Aspen	High Density Pole	8.4	37		
32	6112 - Lowland Aspen	Medium Density	8.8	37		
33	6112 - Lowland Aspen	Medium Density Pole	4.8	19		
34	4130 - Aspen	High Density Pole	15.6	35		
37	42220 - Natural Jack Pine	Low Density Sapling	21.7	8		
38	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Sapling	8.8	37		
39	42200 - Natural White Pine	Low Density Log	5.5	Uneven Age	111-140	
41	6113 - Lowland Maple	Low Density Pole	4.6	37		
42	4130 - Aspen	High Density Sapling	8.8	19		
44	42220 - Natural Jack Pine	Medium Density	31.9	37	1-50	PVCd Kotar. Low SI.
45	6119 - Mixed Lowland Deciduous Forest	Medium Density	6.1	37		
46	6112 - Lowland Aspen	High Density Pole	12.2	37		
48	4125 - Black, N. Pin Oak	Medium Density	25.6	5		
49	4131 - Aspen, Oak	Low Density Sapling	3.7	37		
50	4199 - Other Mixed Upland Deciduous	Medium Density	9.2	19		
51	6112 - Lowland Aspen	High Density Sapling	4.7	19		



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
52	6112 - Lowland Aspen	Medium Density Pole	12.7	37		
53	6126 - Lowland Jack Pine	Low Density Pole	5.5	29		
54	4125 - Black, N. Pin Oak	Low Density Log	5.4	90	1-50	Trench and plant red pine, which should stimulate oak sprouting as well (scarify). Shelterwood harvest in '99 but little regen. Total understory cover 13% small saplings/seedlings. Oak seedlings not above deer browse line. Should get good, dense new R/O stand. Do not harvest remaining 28 S.F. of oak: reserve for age class diversity because a lot has been cut in compartment in last 20 yrs. Also will serve as mast. Trace of black cherry in understory.
55	42220 - Natural Jack Pine	Medium Density	13.8	29		
57	4310 - Pine, Oak Mix	Medium Density	8.8	8		Regenerated well: excellent red pine survival. Red pine is 1 to 2.5 ft tall. Red pine % will increase in future. Final harvested 2005, red pine planted 2007. Tr of SVCB, BTA (can). Far W and E ends sparser with more cherry, aspen, bracken ground cover. E end looks older.
58	42200 - Natural White Pine	Medium Density Log	2.6	75		
60	42200 - Natural White Pine	Medium Density Pole	4.6	37	51-80	
61	4125 - Black, N. Pin Oak	Medium Density	15.7	14		Bearberry, sedge understory. WP supercanopy. Tr of WO (canopy), J (sub)
62	42220 - Natural Jack Pine	Medium Density	39.6	8		
63	4125 - Black, N. Pin Oak	High Density Log	15.0	90	51-80	Shelterwood harvested '99 leaving large oak. Not adequately regenerated. Sparse oak regen not above deer browse line. Best to clearcut leaving 15 BA lg oak for retention, mast and visual, then trench and plant Red (1) or jack pine. 90 yr old oak didn't stump sprout when cut 14 yrs ago. But may want to hold for age class diversity; there's was a lot of cutting in compartment last year of entry. Red oak may be phenotype, not genotype. Tr of WO (canopy); M, SVCB, J (subcanopy). Sparser at west end. BA based on 10 plots.
64	4133 - Aspen, Mixed Pine	High Density Pole	10.6	35		
65	4139 - Aspen, Mixed Deciduous	High Density Pole	9.8	25		
66	6119 - Mixed Lowland Deciduous Forest	Low Density Pole	17.1	Uneven Age	1-50	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
67	42110 - Planted Red Pine	Medium Density Pole	5.2	58	141-170	3rd row thinned '97. Stand doesn't meet silvicultural criteria but would benefit from a thinning and maximize growth over rest of rotation. Crowns in remaining rows are touching or close to touching. Adequate volume to be commercially viable. Stand is mostly in comp 124 to south.
68	4130 - Aspen	High Density Pole	18.1	25		
69	42200 - Natural White Pine	High Density Pole	5.1	35	51-80	Tr of BTA, BC, M, J (sub)
70	42250 - Pine, Oak	High Density Pole	6.0	35	1-50	
71	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	14.4	14		Kotar PVCd. Bearberry in ground cover. Trace of chokecherry in subcanopy.
72	4310 - Pine, Oak Mix	High Density Sapling	17.6	14		PVCd Kotar: bearberry in grnd cover. Trace of R, W in subcanopy.
73	4125 - Black, N. Pin Oak	High Density Pole	9.9	18	1-50	
74	42250 - Pine, Oak	Medium Density Pole	23.1	35	1-50	
75	4125 - Black, N. Pin Oak	High Density Sapling	6.6	14		
76	4310 - Pine, Oak Mix	Low Density Sapling	18.0	14		Bearberry, cladina, sedge ground cover (Kotar PVCd). Trace of Chokecherry in subcanopy.
77	42110 - Planted Red Pine	Medium Density Log	14.3	58	141-170	Row thinned in 1997. Stand doesn't meet silvicultural criteria but would benefit from a thinning and maximize growth over rest of rotation. Crowns in remaining rows are touching or close to touching. Adequate volume to be commercially viable.
80	6119 - Mixed Lowland Deciduous Forest	High Density Log	12.7	Uneven Age		
82	4125 - Black, N. Pin Oak	Low Density Log	65.1	90	1-50	Shelterwood harvested spring 2009. Has not adequately regenerated. Harvest half of remaining trees, trench and plant red pine. Trenching will also scarify for oak and should get better oak regen from acorns. Eastern half has almost no regen, western half about 20% oak seedlings but only 25% of oak is above deer browse line (there is light deer browse). Canopy is 90 years old and stump sprouting will not be vigorous, and significant new oak from acorns cannot be counted on. If nothing is done, oak regen cover may decrease, not increase, due to deer browse. Nearby stand 54 is same Greyling series soil, and trenching and planting successfully stimulated oak sprouting, and pine seedling survival was almost 100%. Very good access over upland state forest dirt roads. Trace of jack pine, black cherry, red maple, choke cherry, white pine, and red pine. Basal area based on 15 plots.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
84	6114 - Lowland Oak	Low Density Pole	6.2	Uneven Age	1-50	Factor Limit: Visual buffer, blocked by phys obstacle, and too wet. Adjacent to major subdivision. Ground cover leatherleaf/blueberry. 40% upland, but much of upland is between bog and private line. Trace of white and jack pine, and serviceberry, in subcanopy.
85	6113 - Lowland Maple	Low Density Pole	14.4	Uneven Age		
86	4130 - Aspen	High Density Log	30.8	53		
87	4130 - Aspen	High Density Sapling	12.0	4		
88	4130 - Aspen	High Density Sapling	13.5	4		Final harvested early spring '09. Sale #2 - '05 Moffat Bridge. Successfully regenerated but lot of cherry.
89	42110 - Planted Red Pine	Medium Density Log	8.3	52	141-170	
90	42110 - Planted Red Pine	Medium Density Log	5.9	52	171-200	
92	4121 - Oak, Aspen	Medium Density Pole	15.8	39	51-80	
94	4130 - Aspen	High Density Pole	66.0	39		Fairly good site: SI about 65 (old OI says 71). Candidate for early harvest if needed. 30 % lowland, mostly at N end. Trace of W, BC, R, B in canopy, F, BC, Rose (sub)
95	4125 - Black, N. Pin Oak	Medium Density Log	4.7	85	81-110	
96	4130 - Aspen	High Density Sapling	16.9	15		
97	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Log	34.5	Uneven Age		
98	42110 - Planted Red Pine	Medium Density Log	6.5	52	111-140	
99	4191 - Mixed Upland Deciduous with Conifer	Medium Density	5.4	15		
101	4199 - Other Mixed Upland Deciduous	Low Density Sapling	4.7	1		
102	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Pole	8.2	69		



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
103	4131 - Aspen, Oak	Medium Density	5.0	15		
104	6112 - Lowland Aspen	High Density Sapling	68.4	27		Soil is Tawas Peat/Muck. Stream through middle of stand, moderate slopes on both sides. These slopes (even flatter and higher parts of stand) have sheet flow, fine soil and are subject to severe rutting. SI is low because of this. This is the classic soil type that supports hawthorne, elm and rose as indicator species; traces of these species are in stand. Trace of F, GA, C (canopy); W, F, BA, BO, Silv map, haw, E, Am Beech, BB (subcanopy)
105	42110 - Planted Red Pine	Medium Density Log	64.5	52	141-170	Ave BA = 146 from 15 plots.
106	4131 - Aspen, Oak	High Density Pole	10.0	39	81-110	Early harvest candidate if needed. Clearcut aspen and mark 3 to 5% of oak for retention. Much more mesic site than stand 120.
108	4130 - Aspen	High Density Pole	17.7	37		
110	6112 - Lowland Aspen	High Density Pole	8.1	37	51-80	
111	4319 - Mixed Upland Forest	High Density Log	3.9	Uneven Age	141-170	
112	4130 - Aspen	Medium Density Pole	8.4	37		Early harvest to even aspen age class distribution in compartment. There is spike in 31-40 year old age class, but not enough to restart this year of entry. Tr of M, BC, B, SVCB, BO, CC in subcanopy.
113	6132 - Mixed Lowland Forest with Cedar	High Density Log	9.6	Uneven Age	141-170	
114	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	12.1	69		
115	4125 - Black, N. Pin Oak	Low Density Pole	39.3	39	1-50	Very low SI; very low volume for age. Stand is still about 70% saplings. Kotar PVCd; grnd cov dense sedge. Hold until 2025 when adjacent aspen stands are harvested; will have more merchantable volume then. At that time clearcut, trench and plant J. Trenching would stimulate oak sprouting and worked very well in stands 48 and 62 (same soils) elsewhere in compartment. Some soils in this (Greyling) soil series support red pine, but this is jack pine site. Tr of F, J (sub)
116	4139 - Aspen, Mixed Deciduous	Medium Density	11.6	37		
118	4199 - Other Mixed Upland Deciduous	Low Density Sapling	55.2	15		Part of OI stand 15 clearcut 2012 that has already regenerated enough to classify as forested. Shelterwooded 1998. Yellow line along edge of stand indicates that this stand may have been separate cutting unit that had 4" spec. Oak advanced regen is from '98 shelterwood. Scattered supercanopy oak and pole sized white pine from retention.

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Gladwin Mgt. Unit

Report 8 – Forested Stands

Compartment: 123
Year of Entry: 2015



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
119	4125 - Black, N. Pin Oak	High Density Pole	13.1	39	1-50	
120	4130 - Aspen	High Density Sapling	10.4	15		
122	4112 - Maple, Beech, Cherry Association	High Density Log	4.8	78		
124	6119 - Mixed Lowland Deciduous Forest	Low Density Pole	6.5	Uneven Age		
125	4130 - Aspen	Medium Density Pole	24.1	37		
128	4130 - Aspen	High Density Sapling	11.8	15		
129	4199 - Other Mixed Upland Deciduous	High Density Log	13.0	47	111-140	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3103 - Rubus-Fern	4.9	Planted	Red Pine	Almost 100% seedling survival. Trees are 1 ft tall on average and should put on good candle growth this year if there is enough moisture.
3	3103 - Rubus-Fern	10.0	Planted	Red Pine	Red pine planted may 2010. 90 + % survival. Seedlings about 1/2 height of stand 1 (ave 9"). Trace of J, W, PO, M
7	3303 - Mixed Low Density Trees	1.2	No	Unspecified	
13	6220 - Alder/willow	9.8	No	Unspecified	
16	50 - Water	1.1	No	Unspecified	
17	3105 - Mixed Upland Herbaceous	7.5	Yes	Red Pine	Failed to regen in 2005. Trench and plant red pine if soil type is conducive to it. Otherwise plant jack pine. STAND IS DRY ENOUGH TO OPERATE EQUIPMENT (MOSTLY UPLAND).
19	6239 - Mixed Emergent Wetland	10.9	No	Unspecified	
20	6225 - Bog	1.2	No	Unspecified	
24	50 - Water	1.8	No	Unspecified	
26	6225 - Bog	5.0	No	Unspecified	
35	6220 - Alder/willow	1.6	N/A	Unspecified	
36	629 - Mixed non-forested wetland	1.5	N/A	Unspecified	
40	6220 - Alder/willow	4.3	No	Unspecified	17 ft tall (mature) moderate density TA w/ scattered M, B
43	629 - Mixed non-forested wetland	2.6	No	Unspecified	
47	6225 - Bog	11.2	No	Unspecified	Actually code should be 6220 but DISCO wont let me have a different pre-inv and cover type, regardless of what I change it to in the pre-inventory layer.
56	6224 - Treed Bog	2.2	No	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
59	3301 - Low Density Deciduous Tree	4.8	Yes	Red Pine	
78	11 - Low Intensity Urban	1.5	No	Unspecified	Now code in covertype dropdown for road/parking lot. This poly is parking lot for boat ramp on Rifle River.
79	50 - Water	2.2	No	Unspecified	Rifle River
81	3102 - Grass	3.8	No	Unspecified	<5 % white pine cover and few hardwood trees.
83	3102 - Grass	2.3	Yes	Unspecified	Flat high green field looks like adjacent landowner may be cultivating this stand (trespass). Includes part of utility clearing and narrow strip of timber.
91	6225 - Bog	23.9	No	Unspecified	Small amt of tamarack, willow and alder at east end. West end is pure leatherleaf.
93	6224 - Treed Bog	4.3	No	Unspecified	
100	11 - Low Intensity Urban	7.7	No	Unspecified	No code available in dropdown for Road/parking lot. Buryak road improved gravel county; Maple Ridge Rd. paved.
107	3105 - Mixed Upland Herbaceous	3.7	No	Unspecified	Road clearing for Maple Ridge road plus small clearings.
109	3101 - Poverty Grass, Cladonia	1.4	No	Unspecified	Sedge with reindeer moss and scattered trees.
117	3105 - Mixed Upland Herbaceous	122.8	Yes	Oak	Final harvested 2012; was shelterwooded in 1998. Prescribed for natural regen. Put on regen timeclock and evaluate regen in 2016. May want to trench and plant jack pine to achieve full stocking. Oak stands just to south are very sparse; trenching and planting J was very successful elsewhere in compartment. Ground cover dense sedge and Cladina. Total tree cover 5 to 10% Oak height 1 to 3 ft, ave 1.5 ft. Light deer browse. Trace of R, M, BTA, SVCB, CC, WO, F trees.
121	3101 - Poverty Grass, Cladonia	1.7	No	Unspecified	Sedge with reindeer moss and scattered trees.
123	3301 - Low Density Deciduous Tree	1.1	No	Unspecified	
126	3103 - Rubus-Fern	1.0	No	Unspecified	Shrub about 1 ft tall and looks like low shrub found on upland or transitional pine/bog areas.
127	3303 - Mixed Low Density Trees	12.9	Planted	Red Pine	Clearcut spring '09. Planted red pine May 2010. Excellent seedling survival. Total tree cover 18%. Lot of volunteer jack pine.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
130	3303 - Mixed Low Density Trees	11.3	Planted	Red Pine	Clearcut spring '09. Planted red pine May 2010. Excellent seedling survival. Total tree cover 18%. Lot of volunteer jack pine.