



**Gladwin Forest Management Unit
Compartment Review Presentation
Compartment # 2 - Entry Year: 2013
Compartment Acreage: 2844 GIS Calculated - County: Clare**

Revision Date: November 7, 2011.

Stand Examiner: Tim Gallagher, Forest Technician.

Legal Description: T20N R3W Sections 4, 5, 6, 8, 17, 18, 19, 30, 32 and 33.

Identified Planning Goals: None.

Management Goals: Manage the aspen, oak and red pine stands to maintain a variety of age classes to support forest sustainability and to enhance wildlife habitat.

Soil and Topography: The area varies from medium drained soils to well drained soils and is level to gently rolling hills. The major soil types are Moncalm-Menominee-Nester. And Graycalm-Montcalm associations. Overall the compartment is on excellent ground with site indices well above average.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The state land in this compartment is spread out over half of a township. An area three miles wide by six miles long. The state and private lands are intermixed resulting in miles of private property lines. Private holdings range from small (less than 15 acres) subdivided lots to larger (greater than 40 acres) forested single holdings with absentee landowners. Forest management activity occurs on the larger private holdings. There are numerous permanent residences scattered throughout the entire compartment as well. The proximity of Dodge City to this compartment concentrates use on State Land within this compartment. There is also some farmland within the compartment and two small subdivisions that are adjacent to state land.

Unique, Natural Features: MNFI records indicate the following; high-quality pine barrens to W. Box turtle and osprey two miles to W. Red shouldered hawk further W. Bald eagle, wood turtle to E. Kirtland's warbler two miles to N. Loon to S. Historical record for bigmouth shiner (fish) to E in tributary to Muskegon River. Potential for blanding's turtle and massasauga. Hill's thistle to NE. Potential for red-shouldered hawk and goshawk. Potential for eagle, osprey, and great blue heron rookery. Potential for loons in lakes. Slight potential for secretive locust in bogs, especially if surrounded by jack pine. Potential for hill's thistle and alleghany plum in grassy openings within oak and pine stands. Slight potential for calypso and ram's head lady's slipper in conifer swamps.

Archeological, Historical, and Cultural Features: There are two documented sites within the compartment.

Special Management Designations or Considerations: None known.

Watershed and Fisheries Considerations: Popple Creek and several unnamed drainage's flow through the compartment. There are many scattered low areas that are seasonally flooded and support populations of waterfowl and many non-game species.

Wildlife Habitat Considerations: This compartment contains a variety of habitat types suitable for many wildlife species. The combination of older and younger forest age classes provides year-round habitat for many wildlife species that require various conditions throughout the year. Some game species that use this compartment include white-tailed deer, black bear, ruffed grouse, wild turkey, and american woodcock. Many other wildlife species likely use this compartment, including wood turtle, blanding's turtle, pileated wood pecker, red shouldered hawk, goshawk, wood thrush, northern bat, and woodland vole.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial sand and gravel and postglacial alluvium and dune sand (southeast). The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift are the Pennsylvanian Grand River and Saginaw Formations. The Saginaw Formation is used for clay/shale in other areas of the State. A gravel pit is located in Section 8 and gravel potential appears to be good, especially the upland areas. Minor oil and gas development has occurred in the compartment. Headquarters Field is located in the northeast portion. Discovered in 1941, it has produced more than 11 Million BO from four Devonian formations, primarily the Richfield. All state mineral rights are leased for oil and gas development in the Compartment.

Vehicle Access: Access to most of the compartment is good via the county road system and state two tracks that are in place.

Survey Needs: None. DNR survey completed in 2003 for the entire compartment.

Recreational Facilities and Opportunities: No official facilities. The area receives moderate hunting pressure most of which is for deer, grouse and turkey.

Fire Protection: A potential fire control problem exists due to the rural/urban interface within this compartment.

Additional Compartment Information: There are numerous old railroad grades criss-crossing the area, remnants from the white pine logging era.

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

Table 1 – Total Acres by Cover Type and Age Class

Gladwin Mgt. Unit

Compartment 002 Year of Entry 2013

Timothy Gallagher : Examiner



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Uneren Age
Aspen	0	194	178	241	276	241	0	27	0	0	0	0	0	0	0	1156
Bog	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76
Cedar	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
Herbaceous Openland	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
Lowland Deciduous	0	0	0	0	28	0	10	22	0	0	0	0	0	0	0	59
Lowland Shrub	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
Mixed Upland Deciduous	0	228	0	80	23	0	9	0	0	0	0	0	0	0	21	361
Natural Mixed Pines	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	23
Northern Hardwood	0	0	0	0	28	0	0	0	0	0	10	0	0	0	28	66
Oak	0	0	73	0	0	24	0	0	143	138	72	0	0	0	0	450
Planted Mixed Pines	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Red Pine	0	0	0	0	0	102	238	0	176	0	0	0	0	0	0	516
Water	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
White Pine	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	15
Total	178	422	252	321	354	367	277	72	319	138	82	15	0	0	49	2844



Table 2 – Proposed Treatment Summaries

Gladwin Mgt. Unit
Year of Entry 2013

Compartment 002
Total Compartment Acres: 2844

Acres by Treatment Type

Commercial Harvest - 838	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	201	0	0	0	0	0	201
Oak	101	44	0	5	0	72	222
Red Pine	0	131	0	0	284	0	415
Total	302	175	0	5	284	72	838



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	73002003-Cut	32.6	4130 - Aspen	High Density Pole	45	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves 2" spec all species. Manage for a mix of natural regeneration of aspen, red maple and mixed oak. A mix of natural regeneration is expected. To meet retention guidelines, mark to leave scattered pockets of mixed oak and leave narrow buffer along stand 1. Expand sale boundary into stand 2 if possible.</p> <p><u>Specs:</u></p> <p><u>Other</u> Upland aspen site with mature mixed oak, red maple and cherry mixed in. Access will be through state forest land in Roscommon County. NW & NE survey corners are in did not find any corners at south end of stand. Records indicate some type of harvest in 1966, looks like a selective clearcut.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and oak regeneration is acceptable.</p>									
12	73002012-Cut	25.5	4124 - Red with White Oak	High Density Log	80	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves followed by treanching and planting red pine. All reserve trees should be in groups (small pockets or islands of leave trees). Site prep to control red maple (Rx-burn or roller chop post harvet). A mixed stand of oak and red pine is expected. Require chip harvest. Leave all white pine (trace).</p> <p><u>Specs:</u></p> <p><u>Other</u> All birch and aspen removed in 1995. Decent quality oak sawlogs with red maple poles/sawlogs mixed in. Not much in the understory has the park type look. Oak is mature however, looks healthy.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Following harvest site prep to control red maple, (post harvest roller chop or Rx-burn) trench and plant red pine. Monitor regeneration until adequate regeneration is achieved. A mix of red pine and oak regeneration is acceptable.</p>									
17	73002017-Cut	25.0	42110 - Planted Red Pine	High Density Pole	55	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Thinning - remove every third row. Leave all mixed hardwood and white pine that is not in cut rows.</p> <p><u>Specs:</u></p> <p><u>Other</u> Red pine plantation, planted 1956. Has not been thinned yet. Scattered hardwood and white pine mixed in (aspen and oak).</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u></p>									
22	73002022-Cut	37.1	4123 - Red Oak	High Density Log	76	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves - followed by trenching and planting red pine. All reserve trees should be in groups (small pockets or islands of leave trees). Site prep to control red maple. A mixed stand of red pine and mixed oak is expected. Require chip harvest. Leave all white pine (trace).</p> <p><u>Specs:</u></p> <p><u>Other</u> Selection harvest in 1994. Red maple / oak understory.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Following harvest site prep to control red maple (post harvest roller chop or Rx-burn) trench and plant red pine. Monitor regeneration until adequate regeneration is achieved. A mix of red pine and oak regeneration is acceptable.</p>									
25	73002025-Cut	38.2	4123 - Red Oak	High Density Log	72	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves - followed by trenching and planting red pine. All reserve trees should be in groups (small pockets or islands of leave trees). Site prep to control red maple. A mixed stand of red pine and mixed oak is expected. Require chip harvest. Leave all white pine (trace).</p> <p><u>Specs:</u></p> <p><u>Other</u> Thinned in 1994. All live oak was left. Red maple/ mixed oak understory. Stand has componant of oak that is 72 yrs old and componant that is 87 yrs old. Decant quality oak.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Following harvest site prep to control red maple (post harvest roller chop or Rx-burn) trench and plant red pine. Monitor regeneration until adequate regeneration is achieved. A mix of red pine and oak regeneration is acceptable.</p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
38	73002038-Cut	69.3	4130 - Aspen	High Density Pole	40	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves 2" spec - manage for a mix of natural regeneration of aspen, red maple and oak. Natural regen is fully expected. Possible to harvest 1/2 stand this YOE and 1/2 the next yr of entry. If 1/2 of stand is harvested this YOE the south 1/2 should go first. To meet retention guidelines leave buffer along stand 44. Harvesting to keep aspen age class even. At pre-review decided to harvest south half and leave north half to help balance aspen age class.</p> <p><u>Specs:</u></p> <p><u>Other</u> Clearcut 1971. Stand would hold very well for 10 yrs. Corners are in for blue line work (1/2 mile apart)</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and oak regeneration is acceptable.</p>									
40	73002040-Cut	32.0	4123 - Red Oak	High Density Log	88	Harvest	Single Tree Selection	4129 - Mixed Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Single tree selection harvest - individual tree mark down to 70 sq ft. cut all red pine less than 10" DBH (suppressed red pine). Maintain species diversity with harvest. Create regen holes 100' ft in diameter crown to crown 1/very 2 acres.</p> <p><u>Specs:</u></p> <p><u>Other</u> Decent quality red oak. Lots of species diversity here. Scattered red pine pockets planted in 1939. There is a fair amount of suppressed red pine in the understory. For the most part the understory at the sapling level is pretty open. Red maple and red oak poles in the understory. Scattered big diameter aspen. Witch hazel in understory.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of oak, red maple and oak regeneration is acceptable.</p>									
44	73002044-Cut	11.9	4123 - Red Oak	High Density Log	70	Harvest	Single Tree Selection	4129 - Mixed Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Single tree selection harvest - individual tree mark down to 70 sq ft. maintain species diversity.</p> <p><u>Specs:</u></p> <p><u>Other</u> Very nice red oak - high quality sawlogs. Heavy to red oak with red maple and n. pin oak mixed in. Wide transition zone between this stand and stand 47. Survey corner at NW corner of stand is in, I found no corner to the south.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of oak and red maple regeneration is acceptable.</p>									
48	73002048-Cut	26.8	4131 - Aspen, Oak	High Density Pole	66	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with reserves 2" spec. Manage for a mix of natural regeneration of aspen, red maple and oak. Stand is expected to regenerate naturally.</p> <p><u>Specs:</u> To meet retention guidelines mark to leave scattered oak and red maple in small groups or islands.</p> <p><u>Other</u> Upland mature aspen stand. High quality aspen, scattered high quality red oak mixed in as well.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and oak regeneration is acceptable.</p>									
52	73002052-Cut	3.1	42110 - Planted Red Pine	High Density Pole	51	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Thinn - remove 1/3 of total volume. May need to make rows - hap hazard rows.</p> <p><u>Specs:</u></p> <p><u>Other</u> Red pine planted in 1960, never been thinned yet.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u></p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
54	73002054-Cut	131.3	42211 - Natural Red Pine, Mixed Deciduous	High Density Log	72	Harvest	Single Tree Selection	42211 - Natural Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Single tree selection harvest - mark to cut down to 70 BA/AC. Focus on leaving single stem red maple and thin red pine to meet the residual target of 70 sq ft. Do not cut any oak, cherry or sugar maple. Possible to mark regeneration holes in stand.</p> <p><u>Specs:</u></p> <p><u>Other</u> Red pine planted in 1939. Red maple sawlogs mixed in - red maple understory that is reaching pole size. Pockets of pure red maple and pockets of dense red pine. Most of the larger red maple are growing in stump sprouts (3 - 6 stems per clump). 18" DBH 90' to 100' tall red pine all over the place. Trace of older jack pine and aspen all but gone. Co-dominate red maple is 69 yrs old (core samples).</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of red maple, oak, white pine and red pine regeneration is acceptable.</p> <p><u>Steps:</u></p>									
59	73002059-Cut	72.2	4125 - Black, N. Pin Oak	Low Density Log	91	Harvest	Other - Specify in Comments	4125 - Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Shelterwood harvest in 2005 - 35 sq ft of oak was left. Possible oak wilt about 1/3 of the trees that were left are standing dead. 2003 YOE stand sheet notes indicate poor over mature oak with lots of dead and dying oak. 2005 harvest has produced a nice mix of regeneration. Inclusion of a strip of planted red pine running n/s in center of stand. Very dense oak/aspen understory only a trace of red maple in understory.</p> <p><u>Specs:</u></p> <p><u>Other</u> Overstory removal with reserves. 4" DBH spec on oak. (Salvage cut - possible to move this stand up on POW and harvest asap). Leave all red pine, white pine and white oak.</p> <p><u>Comments:</u></p> <p><u>Next</u> Natural oak and aspen regeneration is in place at this time.</p> <p><u>Steps:</u></p>									
67	73002067-Cut	5.4	4125 - Black, N. Pin Oak	High Density Log	87	Harvest	Shelter Wood with Reserves	4125 - Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Possible to remove all aspen and poor quality oak reducing residual oak BA/AC down to 60 to 70 sq ft. Survey corners are in for blue line work.</p> <p><u>Specs:</u></p> <p><u>Other</u> Small stand - between private and larger managed stand to the south. Visual concerns with this stand.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of oak, aspen and red maple regeneration is acceptable.</p> <p><u>Steps:</u></p>									
72	73002072-Cut	160.4	42110 - Planted Red Pine	High Density Pole	52	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Thinn - individual tree mark reducing 1/3 of the total volume, removing on average of 60 sq ft. red pine density varies from north and south ends of stand. Leave all mixed hardwood.</p> <p><u>Specs:</u></p> <p><u>Other</u> Red pine planted in 1959 - third row thinned in 1995 - all hardwood left in 1995 thinning. Stand has understory of red maple in places - 10 to 20 sq ft of mixed hardwood mixed in, most of the mixed hardwood is in the north half of stand. South half of stand is more of a pure red pine stand. Survey corners are in for blue line work (1/2 mile apart).</p> <p><u>Comments:</u></p> <p><u>Next</u></p> <p><u>Steps:</u></p>									
79	73002079-Cut	13.4	42110 - Planted Red Pine	High Density Pole	52	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Thinn - individual tree mark reducing 1/3 of the total volume, removing on average of 70 sq ft. red pine density varies. Leave all mixed hardwood. (Possible shelterwood with reserves - reducing red pine BA/AC down to 50 sq ft. Converting to a mixed hardwood stand. Leave all mixed hardwood)</p> <p><u>Specs:</u></p> <p><u>Other</u> Red pine planted in 1959 - third row thinned in 1995 - all hardwood left in 1995 thinning. Stand has understory of red maple in places - 10 to 20 sq ft of mixed hardwood mixed in. Stand could be converted to hardwood</p> <p><u>Comments:</u></p> <p><u>Next</u></p> <p><u>Steps:</u></p>									

**Table 3 -- Treatments Prescribed
with No Limiting Factor**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
97 73002097-Cut	81.8	42110 - Planted Red Pine	High Density Log	42	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Thinning - remove 1/3 of the red pine volume. Possible to have logger remove every third tree instead of marking. Very uniform red pine stand.

Specs: Leave all scattered hardwood and apple trees.

Other Red pine plantation - very uniform stand - strait rows has good loggability. First time third row thinned in 1995. Scattered mixed hardwood, apple trees and small grassy openings within stand. Scattered areas of red maple in understory.

Next Steps:

101 73002101-Cut	72.1	4130 - Aspen	High Density Log	48	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription Clearcut with reserves 2" spec. manage for a mix of natural regeneration of aspen, red maple and mixed hardwood species. Natural regeneration is expected. Leave scattered hardwood species that were left in 1963 harvest, this will add diversity to the stand and help meet retention guidelines. Stay off short steep bank that leads down to stand 101. Buffer stands 93 and 102 to meet retention guidelines. Buried gas pipeline at east end of stand running north and south along Athey Ave.

Other Stand had selective clearcut in 1963. Very good growth and quality. Scattered northern hardwood species left when stand was harvested in 1963.

Comments: Scattered hemlock, hard maple and ash. All survey corners are in to run private lines.

Next Steps: Monitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and mixed hardwood species is acceptable.

**Total Treatment
Acreage Proposed: 838.1**

Table 4 -- Treatments Prescribed with a Limiting Factor



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

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013



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

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 0**



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	High Density Pole	7.2	100		Lowland conifer stand with mixed hardwood. To wet for commercial harvest.
2	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	16.9	67		Wet site with scattered upland pockets. Most of stand is to wet for commercial harvest.
3	4130 - Aspen	High Density Pole	32.6	45		Upland aspen site with mature mixed oak, red maple and cherry mixed in. Access will be through state forest land in Roscommon County. NW & NE survey corners are in did not find any corners at south end of stand. Records indicate some type of harvest in 1966, looks like a selective clearcut.
5	4126 - White, Black, N. Pin Oak	Medium Density	49.1	15	1-50	Harvest in 1996 - 10 to 20 sq ft of oak was left. Decent understory of oak, maple and aspen. Coding stand for the understory not the seed trees that were left. The seed trees that were left are not worth harvesting (low volume and poor quality). They will provide seed / mast for yrs to come and future course woody deries.
6	4199 - Other Mixed Upland Deciduous	Medium Density	16.2	6		Clearcut 2005. All white pine and 1 -2 mature oak/ac were left.
7	4130 - Aspen	High Density Sapling	14.5	6		Clearcut 2005 - very nice regeneration. Inclusion of cedar drainage within stand.
8	4130 - Aspen	High Density Sapling	23.5	17		Clearcut 1994.
9	4130 - Aspen	High Density Pole	31.4	26		Clearcut 1985.
10	4123 - Red Oak	Medium Density Log	13.9	76	1-50	Harvest 2005. All red maple, aspen and marked oak cut. Cruised residual from 2005 timber sale was 50 sq ft. Very dense understory of aspen and red maple. Healthy good quality red oak.
11	4126 - White, Black, N. Pin Oak	High Density Log	35.8	81	51-80	Selection harvest in 2005. Cruised residual from 2005 timber sale was 65 sq ft. Areas of red maple poles (pockets of Mr6). Oak regen is decent. Hold 10 yrs.
12	4124 - Red with White Oak	High Density Log	25.5	80	81-110	All birch and aspen removed in 1995. Decent quality oak sawlogs with red maple poles/sawlogs mixed in. Not much in the understory has the park type look. Oak is mature however, looks healthy.
13	4130 - Aspen	High Density Sapling	18.5	17		Clearcut 1994.
14	4199 - Other Mixed Upland Deciduous	Low Density Sapling	23.7	6		Clearcut 2005. 1- 2 live oak trees left/ac. All white pine left.

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Gladwin Mgt. Unit

5 – Forested Stands

Compartment: 002
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	4126 - White, Black, N. Pin Oak	High Density Sapling	24.0	15	1-50	Harvest in 1996. 25 - 35 sq ft of oak sawlogs were left. Red maple and oak regeneration is coming in nice. Many areas of the stand look like a seed tree harvest and other areas look like a shelterwood (residual BA/AC varies). All seed trees that were left are bigger older trees. Do not go back in for the seed trees - low volume and value with a well established understory.
17	42110 - Planted Red Pine	High Density Pole	25.0	55	141-170	Red pine plantation. Has not been thinned yet. Scattered hardwood and white pine mixed in (aspen and oak).
18	4130 - Aspen	High Density Sapling	30.6	6		Clearcut 2005. Scattered white pine left.
19	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	4.8	60		Wet drainage. Too wet for commercial harvest.
20	4130 - Aspen	High Density Pole	83.2	26		Clearcut 1985.
21	4139 - Aspen, Mixed Deciduous	High Density Pole	18.1	35		Selective clearcut 1976. Fair amount of larger diameter timber that was residual from 1976 cut. East end of stand has more mixed hardwood. Scattered red pine left (18" DBH red pine)
22	4123 - Red Oak	High Density Log	37.1	76	81-110	Selection harvest in 1994. Red maple / oak understory.
24	4130 - Aspen	High Density Sapling	59.6	15		Clearcut 1996.
25	4123 - Red Oak	High Density Log	38.2	72	111-140	Thinned in 1994. All live oak was left. Red maple/ mixed oak understory. Stand has component of oak that is 72 yrs old and component that is 87 yrs old. Decant quality oak.
26	42200 - Natural White Pine	High Density Log	15.1	55	81-110	White pine composition ranges from saps to poles to scattered log sized trees. Red pine was interplanted in 1939. Aspen is all but gone. Dense white pine understory saps - poles. N pin oak sawlog sized trees scattered through out stand. Hold until white pine saps - poles get bigger.
27	4130 - Aspen	High Density Pole	54.3	34		Clearcut 1977. Moving along very good. All red pine was left in 1977 harvest. Residual red pine has added diversity to the stand. Scattered red pine was planted in 1939. When stand is cut leave all red pine, residual red pine did not affect regeneration.
28	4191 - Mixed Upland Deciduous with Conifer	Medium Density	151.2	6		Clear cut 2005 followed by trenching and planting to red pine. Also had herbicide application to control pin cherry. Lots of mixed hardwood competition for the red pine. It appears the stand is moving to a mixed hardwood stand with red pine mixed in.
30	4125 - Black, N. Pin Oak	High Density Log	11.3	84	51-80	Oak mortality. Larger older oak are in rough shape. Pole sized maple understory that is younger than the oak overstory. Low oak volume and quality. Hold off on any treatment until understory better develops. Older oak are producing seed/mast and add diversity to the area.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4126 - White, Black, N. Pin Oak	High Density Log	41.9	76	81-110	Thinned in 1994 - all live oak left. Dense understory of red maple aspen and oak. Let understory develop before next treatment. Will be difficult to set back the maple and aspen in this stand. Less BA/AC and lower quality in this stand than the oak stands to the north.
33	42210 - Natural Red Pine	Medium Density Log	44.7	72	81-110	Harvest in 2005 - red pine residual reduced to 75 sq ft. to establish an oak understory. Oak understory is in the process of becoming well established. Oak understory is 18" to 10' tall that is both stump sprouts and seed source. Scattered mature n. pin oak was left. White pine saps and poles are present throughout entire stand. No treatment - hold 10 yrs for red pine to add diameter growth and let oak understory better establish itself under the overstory red pine.
34	42260 - Natural Pine, Mixed Deciduous	High Density Pole	23.2	60	51-80	Species composition varies - pockets of oak, aspen and white pine.
35	4130 - Aspen	High Density Sapling	20.0	17		Clearcut 1994.
37	4133 - Aspen, Mixed Pine	High Density Pole	26.3	35		Clearcut 1976 - all red pine was left. Residual red pine has increased diversity within the stand. Red pine was planted in 1939 and is in pockets for the most part. When cut consider leaving some red pine.
38	4130 - Aspen	High Density Pole	136.0	40	1-50	Clearcut 1971. Stand would hold very well for 10 yrs. Corners are in for blue line work (1/2 mile apart)
39	4130 - Aspen	High Density Pole	44.1	35		Clearcut 1976 - all red pine was left. Scattered red pine was planted in 1939. When cut consider leaving red pine again - red pine residual did not affect regeneration.
40	4123 - Red Oak	High Density Log	32.0	88	111-140	Decent quality red oak. Lots of species diversity here. Scattered red pine pockets planted in 1939. There is a fair amount of suppressed red pine in the understory. For the most part the understory at the sapling level is pretty open. Red maple and red oak poles in the understory. Scattered big diameter aspen. Witch hazel in understory.
41	42210 - Natural Red Pine	Medium Density Pole	19.3	51	1-50	Cut in 1995 - 40 to 50 sq ft of red and white pine left. Oak regen is present. Areas of stand are semi open.
42	4125 - Black, N. Pin Oak	High Density Pole	24.1	40		Clearcut 1971.
43	4133 - Aspen, Mixed Pine	High Density Pole	22.6	26		Clearcut 1985 - all red and white pine left.
44	4123 - Red Oak	High Density Log	11.9	70	111-140	Very nice red oak - high quality sawlogs. Heavy to red oak with red maple and n. pin oak mixed in. Wide transition zone between this stand and stand 47. Survey corner at NW corner of stand is in, I found no corner to the south.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
46	4130 - Aspen	High Density Pole	7.6	35		Clearcut 1976. Scattered residual red pine planted in 1939. Narrow strip between n/s two track and private that was not cut in 1976, this narrow strip has big diameter timber. No treatment - hold 10 yrs - leave all pine when cut. Survey corners are in.
47	4130 - Aspen	High Density Pole	43.6	25		Clearcut 1986
48	4131 - Aspen, Oak	High Density Pole	26.8	66		Upland mature aspen stand. High quality aspen, scattered high quality red oak mixed in as well.
50	4130 - Aspen	High Density Sapling	5.7	6		Clearcut 2005.
51	4133 - Aspen, Mixed Pine	High Density Pole	15.9	26		Clearcut 1985
52	42110 - Planted Red Pine	High Density Pole	3.1	51	171-200	Red pine planted in 1960, never been thinned yet.
54	42211 - Natural Red Pine, Mixed Deciduous	High Density Log	131.3	72	141-170	Red pine planted in 1939. Red maple sawlogs mixed in - red maple understory that is reaching pole size. Pockets of pure red maple and pockets of dense red pine. Most of the larger red maple are growing in stump sprouts (3 - 6 stems per clump). 18" DBH 90' to 100' tall red pine all over the place. Trace of older jack pine and aspen all but gone. Co-dominate red maple is 69 yrs old (core samples).
55	4125 - Black, N. Pin Oak	High Density Log	22.2	89	51-80	Selection harvest in 2005 - all aspen, red maple and oak were cut. Red maple, aspen and oak in understory as a result from harvest.
56	42110 - Planted Red Pine	High Density Pole	3.9	51	111-140	Red pine planted in 1960. Narrow stand between private and hardwood stands to the west. Hap hazard rows - many other species mixed in n. pin oak, white pine, jack pine and aspen. Half of actual plantation is on private. Manage with stand 50.
57	4199 - Other Mixed Upland Deciduous	High Density Sapling	26.7	26	1-50	Shelterwood/seed tree harvest 1985 - 20 sq ft of residual seed tree oak from 1985 harvest. Do not remove overstory - poor quality wolf trees. Good mix of regeneration in understory, coding stand for understory.
58	4130 - Aspen	High Density Sapling	8.5	6		Clearcut 2005.
59	4125 - Black, N. Pin Oak	Low Density Log	72.2	91	1-50	Shelterwood harvest in 2005 - 35 sq ft of oak was left. Possible oak wilt about 1/3 of the trees that were left are standing dead. 2003 YOE stand sheet notes indicate poor over mature oak with lots of dead and dying oak. 2005 harvest has produced a nice mix of regeneration. Inclusion of a strip of planted red pine running n/s in center of stand. Very dense oak/aspen understory only a trace of red maple in understory.
60	4130 - Aspen	High Density Sapling	20.6	6		Clearcut 2005.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
61	4130 - Aspen	High Density Sapling	23.9	25		Clearcut 1986.
63	4129 - Mixed Oak	High Density Log	5.3	88		Good quality red oak. Access is issue with this stand. Only way in is across several private parcels. Did not visit stand this YOE.
67	4125 - Black, N. Pin Oak	High Density Log	5.4	87	81-110	Small stand - between private and larger managed stand to the south. Visual concerns with this stand. Possible to remove all aspen and poor quality oak reducing residual oak BA/AC down to 60 to 70 sq ft. Survey corners are in for blue line work.
68	4199 - Other Mixed Upland Deciduous	High Density Pole	22.5	38	51-80	Clearcut 1973.
69	4116 - Mixed N. Hardwood - Aspen	High Density Pole	28.3	38	51-80	Clearcut 1973. Lots of red maple stump sprouts. Inclusion of small strip of red pine.
71	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	18.6	27		Clearcut 1984. Inclusion of a small red pine pocket within stand.
72	42110 - Planted Red Pine	High Density Pole	160.4	52	171-200	Red pine planted in 1959 - third row thinned in 1995 - all hardwood left in 1995 thinning. Stand has understory of red maple in places - 10 to 20 sq ft of mixed hardwood mixed in most of the mixed hardwood is in the north half of stand. South half of stand is more of a pure red pine stand.
75	4199 - Other Mixed Upland Deciduous	High Density Sapling	37.4	6		Clearcut 2005 followed by interplanting to red pine.
76	4130 - Aspen	High Density Pole	25.0	37		Clearcut in 1974.
77	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	9.6	51	81-110	Wet site . Scattered mixed hardwood. Inclusion of small pockets of lowland brush. very mixed, wet stand along county road.
79	42110 - Planted Red Pine	High Density Pole	13.4	52	200+	Red pine planted in 1959 - third row thinned in 1995 - all hardwood left in 1995 thinning. Stand has understory of red maple in places - 10 to 20 sq ft of mixed hardwood mixed in. Stand could be converted to hardwood
80	4130 - Aspen	High Density Pole	66.8	36		Clearcut 1975 - excellent growth and quality.
81	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	9.1	55	81-110	Red pine interplanted in 1956. Lots of hardwood mixed in as well. Adjacent stands are being managed for aspen and have been clearcut. Access is an issue with this stand. Stand is on a nob. No treatment maintain for species diversity at this time.
83	4130 - Aspen	High Density Sapling	56.7	18		Clearcut 1993.
84	4130 - Aspen	High Density Sapling	82.7	7		Clearcut 2004.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
86	4130 - Aspen	High Density Sapling	31.2	6		Clearcut in 2005.
87	4130 - Aspen	High Density Pole	20.0	26		Clearcut in 1985.
88	4112 - Maple, Beech, Cherry Association	Medium Density Log	2.5	91	1-50	Small open stand with scattered big wolfy sugar maple. Manage with stand 91.
90	4199 - Other Mixed Upland Deciduous	High Density Pole	34.7	26		Clearcut in 1985. Scattered low areas with cattails and tag alder.
91	4199 - Other Mixed Upland Deciduous	High Density Log	21.1	Uneven Age	81-110	Selection harvest in 2005. Residual BA/AC was reduced to 95 sq ft. Many pole size trees in stand. Just thinned to 95 sq ft 6 yrs ago, hold 10 yrs.
92	4130 - Aspen	High Density Pole	33.5	36	81-110	Cut in 1975. 10' to 20' sq ft of scattered mature hardwood left when stand was cut. Hold 10 yrs to rotation age. Scattered wet pockets at SE corner of stand.
94	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	22.7	35		Wet mucky soils. Beaver activity down along Popple Creek. Evidence of patch habitat cuts within stand in the 70's.
95	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	12.6	51	111-140	Records indicate red pine planted in 1960. Lots of hardwood mixed in - smaller stand with irregular rows.
96	42210 - Natural Red Pine	Medium Density Pole	20.1	44	1-50	Semi open red pine stand. Scattered open areas all over the place. Apple trees scattered through-out. (Old homsted area)
97	42110 - Planted Red Pine	High Density Log	81.8	42	200+	Red pine plantation - very uniform stand - strait rows has good loggability. First time third row thinned in 1995. Scattered mixed hardwood, apple trees and small grassy openings within stand. Scattered areas of red maple in understory.
98	4119 - Mixed Northern Hardwoods	High Density Pole	7.0	91	1-50	Long narrow stand between managed red pine stand and managed aspen stand. 30' to 40' sq ft of very large wolfy beech, red oak and hard maple with nice understory of beech, hard maple and red oak that is reaching pole size. The understory has moved into the crown. Small acerage, low volume and value. Habitat and diversity outway all others to leave stand un-cut at this time. (Sap/pole understory has moved into the crown and dose not need releasing at this time)
99	6119 - Mixed Lowland Deciduous Forest	Low Density Pole	5.0	36		Narrow strip of wet ground timber along county road. Manage with adjacent stands 91 or 94.
100	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	7.4	104		To wet for commercial harvest. Popple Creek bi-sects stand.
101	4130 - Aspen	High Density Log	72.1	48	111-140	Stand had selective clearcut in 1963. Very good growth and quality. Scattered northern hardwood species left whan stand was harvested in 1963. Scattered hemlock, hard maple and ash.

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Gladwin Mgt. Unit

5 – Forested Stands

Compartment: 002
Year of Entry: 2013



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
104	4112 - Maple, Beech, Cherry Association	High Density Log	28.1	Uneven Age	81-110	Uneven aged beech stand. Selection harvest in 1995. Very dense beech understory. Scattered hemlock, aspen and ash. Stand would be difficult to mark in the summer due to the dense beech understory. Average BA/AC is 100 sq ft.
106	42140 - Planted Mixed Pine	High Density Log	5.3	55	141-170	All the strips have mixed species. No rhyme or reason to the way the trees are planted. Spacing is wide - never been thinned before - stand is between old Amble School and the Township Hall and is along county road. Each strip is too narrow to manage. Stand is a valued buffer. Autumn olive planted around edges.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	50 - Water	3.4	No	Unspecified	Water
16	50 - Water	12.7	No	Unspecified	Flooded Q type all trees are dead.
23	3102 - Grass	3.2	No	Unspecified	Hillclimb area. Open and sandy.
29	3102 - Grass	2.2	No	Unspecified	Scattered white pine, oak and red pine.
31	6225 - Bog	9.0	No	Unspecified	
36	50 - Water	1.0	No	Unspecified	North end of Rollway Lake
45	6225 - Bog	3.1	No	Unspecified	
49	3102 - Grass	1.4	No	Unspecified	
53	3102 - Grass	9.2	No	Unspecified	
62	6225 - Bog	31.6	No	Unspecified	
64	6225 - Bog	12.2	No	Unspecified	
65	50 - Water	1.2	No	Unspecified	
66	3102 - Grass	6.2	No	Unspecified	
70	6225 - Bog	2.8	No	Unspecified	
73	50 - Water	1.1	No	Unspecified	
74	6225 - Bog	11.1	No	Unspecified	
78	3102 - Grass	1.7	No	Unspecified	
82	6229 - Mixed lowland shrub	12.2	No	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
85	6229 - Mixed lowland shrub	15.3	No	Unspecified	Popple Creek floodplain stand. Entire stand floods from time to time.
89	3102 - Grass	1.2	No	Unspecified	
93	6220 - Alder/willow	21.4	No	Unspecified	Popple Creek floodplain stand.
102	6225 - Bog	5.7	No	Unspecified	Bog with steep banks.
103	3102 - Grass	4.7	No	Unspecified	
105	3102 - Grass	4.6	No	Unspecified	



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Stand	SCA Type	SCA Name	Acres	Comments



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.

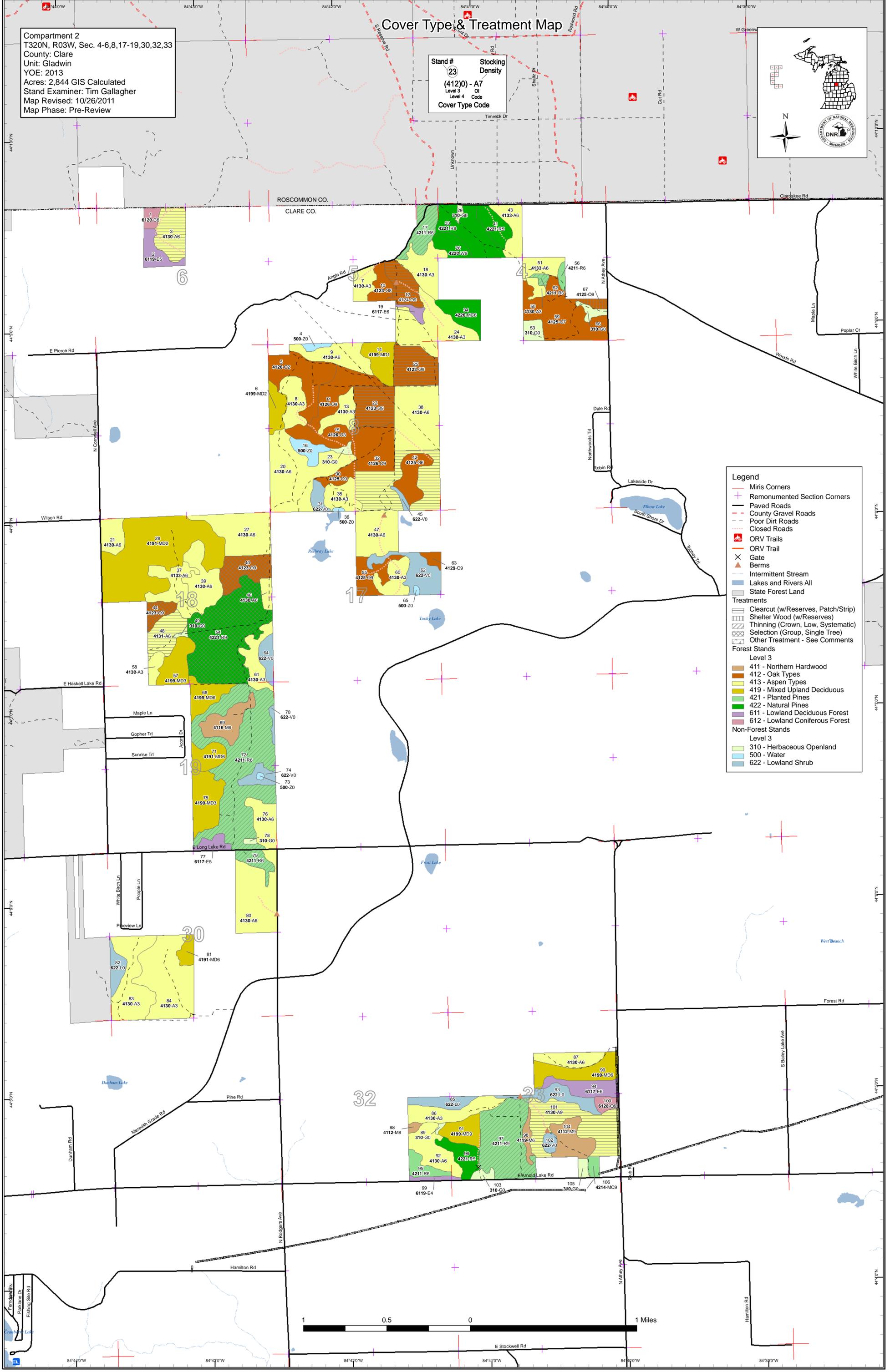
ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

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.

Cover Type & Treatment Map

Compartment 2
 T320N, R03W, Sec. 4-6,8,17-19,30,32,33
 County: Clare
 Unit: Gladwin
 YOY: 2013
 Acres: 2,844 GIS Calculated
 Stand Examiner: Tim Gallagher
 Map Revised: 10/26/2011
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- Remonumented Section Corners
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Closed Roads
- ORV Trails
- ORV Trail
- Gate
- Berms
- Intermittent Stream
- Lakes and Rivers All
- State Forest Land

Treatments

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

Forest Stands

Level 3

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

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub



Ferris Rd
 Parklane Dr
 Fishing Site Rd

84°40'W 84°30'W 84°20'W 84°10'W 84°00'W

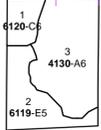
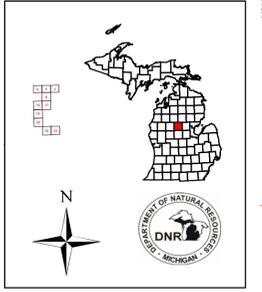
84°40'W 84°30'W 84°20'W 84°10'W 84°00'W

44°30'N 44°20'N 44°10'N 44°00'N

Dedicated & Proposed Special Conservation Area Map

Compartment 2
 T320N, R03W, Sec. 4-6,8,17-19,30,32,33
 County: Clare
 Unit: Gladwin
 YOE: 2013
 Acres: 2,844 GIS Calculated
 Stand Examiner: Tim Gallagher
 Map Revised: 10/26/2011
 Map Phase: Pre-Review

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



6

18

19

30

32

23

Legend	
+	Miris Corners
+	Remonumented Section Corners
Dedicated Special Conservation Areas	
—	Cold Water Streams
—	Stand Boundaries
Forest Stands	
Level 3	
411	Northern Hardwood
412	Oak Types
413	Aspen Types
419	Mixed Upland Deciduous
421	Planted Pines
422	Natural Pines
611	Lowland Deciduous Forest
612	Lowland Coniferous Forest
Non-Forest Stands	
Level 3	
310	Herbaceous Openland
500	Water
622	Lowland Shrub

