



**FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 78 ENTRY YEAR: 2009

Compartment Acreage: 1540 County: Gladwin

Revision Date: 9-10-2007 DRAFT

Stand Examiner: Mark Reichel

Legal Description: T 17N, R 1E, Sec. 1, 12, 13, 24

Management Goals: Continue to manage aspen for deer/grouse and early seral nongame species. Manage swamp hardwoods on selection system where dry enough to manage. Promote increase of red and other oaks as pure stands or as a component of other stands. Manage density of red pine plantations to maximize yield. Aspen acreage decreased from 50% of total compartment acres to 34% mainly due to better mapping. The aspen component of many swamp hardwood stands is decadent; aspen removals in several of these stands should create regeneration openings and maintain aspen as a small component in these stands in the future. The swamp hardwood forest type increased from 28% to 31% of the compartment due to improved mapping. For the same reason, 95 acres were reclassified from swamp hardwoods to upland maple stands. Most of these M type stands have varying treatments prescribed, ranging from clearcuts reserving oak to selection. Two red pine stands need 3rd row thinnings; another 2 were thinned in 2000 but have high density and need a selection thinning.

Overall this is a diverse compartment with a wide continuum of soil conditions and timber types that required a wide variety of strategies even in similar forest types. As mentioned above, better aerial photos led to identification of 43 acres of tamarack, jack pine, birch and swamp aspen previously not mapped. A new, poor quality natural red pine stand created by seeding from stand 61 was mapped. Oak cover increased from 54 acres to 162 (11% of compartment). Much of this oak is average to better quality red oak, but much of the new oak acreage is failed aspen clearcuts that are sparse, in which oak regeneration is coming in better than aspen.

Soil and Topography: The compartment lies immediately east of Wixom Lake. Several creeks (No Name, Guernsey and Denton) drain into the lake through the compartment, and have fairly steep, short banks. Much of the compartment is flat to very gently sloping wetland (43%), dissected by narrow ridges.

Almost half of the compartments' soils are in the Croswell/Rubicon/Au Gres association. These deep, droughty sands are on mostly flat terrain and are well to somewhat poorly drained. They are productive for pines, and variably productive for aspen. Almost another half consists of Iosco, Au Gres and Ingalls sands and loamy sands. These somewhat poorly to poorly drained soils are nearly level with a high fluctuating seasonal water table, are saturated in the spring and can be hummocky in places. Their productivity is low for pines and hardwoods, and varies for aspen. Natural regeneration may be poor in these soils because of shrub competition. The remainder of the compartment is Roscommon and other minor soils, which are poor to very poorly drained level areas or depressions that are saturated for long periods. Vegetation on these soils ranges from marsh grasses to low productivity swamp aspen and swamp hardwoods. Windthrow is a concern in these areas and equipment access is limited to dry or frozen periods.

Ownership Patterns, Development, and Land Use in and Around the Compartment: This compartment consists of one narrow, contiguous block of state land just east of the Tittabawassee River/Wixom Lake. It is bounded by undeveloped private and state land to the east, and heavily developed residential area to the west, including the Whitney Beach subdivision and Albright Shores. These residential areas, with the exception of one inlet, separate the compartment from the lake. Estey Road and Whitney Beach/Jones Road dissect the compartment. Seven illegal hunting blinds were located during inventory, including an area where a large amount of trees were cut for a shooting

alley in stand 37. Numerous ORV trails come into the compartment from private property to the West, especially in sections 1 and 24. There are two small illegal ORV mixing areas; in stands 34 and 124 (old in 124). Trash is a problem in the compartment: 9 dumping locations were identified.

Unique, Natural Features: None per MNFI database.

Archeological, Historical, and Cultural Features: HAL database query indicated no concerns.

Special Management Designations or Considerations: None

Watershed and Fisheries Considerations: Wixom Lake is an important warm water fishery, and the slopes to the inlet of the lake in section 12 are steep. Stands 264 and 46 were both factor limited because of their influence on the lake. There are several informal fishing trails down to the lake in this area which should be inspected for erosion problems. They have potential to be a BMP issue and improvement/restoration project site in the future.

The following stands scheduled for treatments are adjacent to creeks in the compartment, which feed into Wixom Lake: Denton Creek: Stands 16 and 124, No Name Creek: Stand 256, Guernsey Creek: Stands 61, 161 and 64. None of these stands are in the creek bottoms or their side slopes. All of these stands have selection harvests prescribed, except stand 124, which is a shelterwood seed harvest reserving 30 BA of oak

Stands 61, 161 and 164 are all adjacent to stand 64, which is the Guernsey Creek creekbed. Stand 164 was broken out of this stand because it is not a true E type and not in the creek bottom. Similarly, stand 256 was broken out of stand 156 which comprises the bed of No Name Creek, because it is on a bench above the creekbed. These harvests should have no appreciable impact on these streams or on Wixom Lake. BMP's will be followed when marking these stands.

Wildlife Habitat Considerations: During the past 30 years, aspen acreage has decreased in this compartment for multiple reasons. This is true, not only in this compartment, but can include much of the public land mass immediately found within southeast Gladwin County. The process of forest succession and the lower success rates with aspen regeneration, post harvest, are certainly significant contributing factors to reduced aspen basal areas within many of the stands found throughout this compartment.

Diverse habitat conditions exist which accommodate a variety of avian species. Eagles are commonly observed in and around this compartment, as the Tittabawassee River lies just to the west. Merchantable timber stands should be monitored closely for active Bald Eagle nesting locations. Buteos, such as the Red- Shouldered Hawk, are certainly species that should also be considered as possible residents of this section, due to the volume of E and M types.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of lacustrine (lake) sand and gravel. The glacial drift thickness varies between 100 and 400 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. This area is predominantly sand, and gravel potential in the compartment is considered limited. Bentley Field is located in Sections 12 and 13. The field, discovered in 1937, has produced over 3 MBO from the Devonian Richfield Formation and still has active wells. There are a few old State oil and gas leases in the compartment.

Vehicle Access: Over 2 miles of paved county roads run through this compartment (Whitney Beach Rd., Estey Rd. and Oliver Rd.). Most desired road closures in the southern 1/3 of the compartment have been successfully completed. Several unneeded roads that intersect the road along the long North-South running red pine ridge in section 1 need to be closed or re-closed. Two roads at the East and North edge of this section will be bermed but will still provide ample access. Several small road segments will also be closed in the central part of the compartment either because they are unnecessary and/or through wet areas. Most of the desired closures can be addressed during nearby proposed timber sales. There is a problem with illegal ORV trails coming off private land to the West in Section 1 and 24.

Survey Needs: There is a moderate level of trespass issues in the compartment. There is one significant trespass in a stand that is prescribed that will require a survey.

Recreational Facilities and Opportunities: The primary recreational use in this compartment is hunting and some trapping. The small inlet of Wixom Lake in section 12 is used heavily for fishing. There are several small areas of illegal ORV use.

Additional Compartment Information:

The following 5 reports from the Operations Inventory System (OIPC) are attached:

- ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**
- **The following information is displayed, where pertinent, on the attached compartment maps:**
- ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

AUSABLE STATE FOREST

GLADWIN FOREST MGT UNIT

GLADWIN COUNTY

COMPARTMENT: 78

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not Coded	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150-159	All Aged	Total
Aspen			157	207	54		23	3		70								16	530
Bog or Marsh	4																		4
Grass	13																		13
Jack Pine				5		13													18
Lowlnd Brush	70			11															81
Lowlnd Poplr										8									8
Marsh	68																		68
Oak		9		37	34		43											39	162
Paper Birch																		4	4
Red Pine						32	9	13											54
Swamp Hrdwds		19		75	9			46	42	57	41							193	482
Tamarack			7						6										13
Upland Hdwds					12	16												67	95
Water	8																		8
Total	163	28	164	335	109	61	75	62	48	135	41							319	1540

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

AUSABLE STATE FOREST

GLADWIN FOREST MGT UNIT

GLADWIN COUNTY

COMPARTMENT: 78

Table 3A

(acres shown in boxes)

MANAGEMENT OBJECTIVE TYPE

COVER TYPE	A	S	V	C	G	H	J	I	L	P	N	Q	X	O	B	R	K	Y	F	E	T	D	U	M	Z	W	Total
A Aspen	515													3										12			530
V Bog or Marsh			4																								4
G Grass					13																						13
J Jack Pine							18																				18
L Lowlnd Brush									65											16							81
P Lowlnd Poplr																				8							8
N Marsh											68																68
O Oak							12							150													162
B Paper Birch																				4							4
R Red Pine	16															38											54
E Swamp Hrdwds																				482							482
T Tamarack																					13						13
M Upland Hdwds																								95			95
Z Water																									8		8
Total	531		4		13		30		65		68			153		38				510	13				107	8	1540

AUSABLE STATE FOREST

GLADWIN FOREST MGT UNIT

GLADWIN COUNTY

COMPARTMENT: **78**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	7260 Cds	Hardwood	1175 Cds
Hardwood	2017 Mbf	Hardwood	481 Mbf
Softwood	1807 Cds	Softwood	298 Cds
Softwood	84 Mbf	Softwood	47 Mbf
Sum TotVol	13269 Cds	Sum CutVol	2529 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	239
1540			

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
9	P6	8	81	57	swamp hardwoods	mature	selection	3	natural regeneration	
comnts Fmd : Site is low; was typed as E last YOE. Remove aspen during dry/frozen conditions. Portions of S end of stand may be inoperable (too wet). Leave all red oak and some aspen for retention (for pumps and seed source). Expect maple regen, good to fair aspen regen, and some red oak regen; maple component will increase somewhat. Any combination of aspen/maple is acceptable.										
13	A9	16		70	aspen (upland)	unevenaged	selection	2	natural regeneration	
comnts Fmd : Aspen removal, and mark other spp. To BA of 80. In mature R and W pine at S and E end of stand, mark pines for removal, retaining 30 BA. Stand mostly upland but has wet area S of road. Very diverse stand: white oak and tamarack present as well. Dense high bush vac grdnd cov. When marking, reserve all representative spp by BA for retention. Expect and desire diverse stand of aspen, pine, oak and tamarack; harvest should keep stand as A type but any combo of spp is acceptable.										
15	M6	16	47	75	northern hardwood	mature	seed tree	2	natural regeneration	
comnts Fmd : Clear cut during dry/frozen, reserving all Red O and W pine, plus other representative spp, for retention, mast and visual along Estey Rd. N 1/2 of stand is lower and wetter (few ash, no sensitive fern). 17 ft of moderate quality Red O. Stand will come back as fairly evenly mixed aspen, M, or oak type; all 3 types are acceptable.										
16	E6	16	93	70	swamp hardwoods	mature	selection	1	natural regeneration	
comnts Fmd : Small portion of old stand was clearcut in about 2000. Cut portion is now part of stand 217. Portions of remainder are still operable. Remove aspen and mark other spp to resid BA of 90. Harvest dry/frozen. Paint out cedar/hemlock drainage in S Central portion of stand for retention. Leave other representative spp by BA for retention. Expect stand to remain E6: cutting will preserve aspen component in stand. Should get mostly maple and some aspen/ash regen. Any combination is acceptable; stand will remain E type regardless..										
24	A8	23	49	60	aspen (upland)	mature	final harvest	1	natural regeneration	
comnts Fmd : Decadent stand with very little regen and dense upland brush. Final harvest aspen during dormant season (non-negotiable). Retain all oak, r and w pine plus other representative spp for retention by BA or area. Retention will preserve mast and help with visual along Jones Rd. If regen inadequate, interplant w/ red pine. Illegal ORV trails in stand.										
30	E9	76		64	swamp hardwoods	unevenaged	selection	1		
comnts Fmd : Selection cut in dryer portions of stand. Mark all spp except oak and elm to target BA of 80. Retain red and white oak and elm, as well as all representative spp for retention by BA. Favor aspen removal over other spp when possible, but mark stand to uniform density, with priority on making stand operable for equipment. Harvest dry/frozen or use rutting spec. Clearcut long strip at SE end of stand along Fornier rd, which is dryer. 90% "upland". Aspen BA 60, range 10-130. Road between Stands 68 and 167 under water: water flowing between these 2 L types. W oak and Elm present. Expect stand to remain a diverse E type; harvest will preserve aspen component in stand. Any level of aspen regen is acceptable.										
39	R6	2	48	61	aspen (upland)	immature	shelterwood-seed	2	natural regeneration	stand with fdf potential
comnts Fmd : Remove every 2nd and 3rd rows as shelterwood to convert stand to pine/hardwood mix, per Unit Mgr at pre-review. Ave to low quality trees and small size make stand uneconomical to manage for pine. 3rd row thinned in 02, but needs thinning again. Almost pure stand; leave any hardwoods or other pine spp for retention.										
42	R6	5	48	61	aspen (upland)	immature	shelterwood-seed	1	natural regeneration	stand with fdf potential
comnts Fmd : Remove 2 of every 3 rows as shelterwood to convert to pine/hardwood mix, per Unit Mgr at pre-review. Stand is moderate quality and SI and small, thus uneconomical to manage as red pine. Stand has excellent access. Was thinned 2002 (cut 2 rows, leave 5), and already needs thinning again. Skid trails are 14 ft wide. Almost pure stand: leave any hardwoods or other pine spp for retention.										
44	A9	16	85	75	aspen (upland)	two aged	final harvest	2		
comnts Fmd : Operable (75% upland). A lot of stand harvestable w/ dry frozen spec. 2" spec on aspen/birch and ash (ash for pre-salvage). For all other spp except ash cut all trees that will yield a pulp stick. Reserve 1 large oak per acre for mast/seed source and retention. Mark all other representative spp except ash for retention by area. South boundary of stand has been incorrectly posted by adjacent landowner. Line is correct at W end but veers north as it runs E. Expect aspen/maple mix with some oak. Any combination of Aspen/Maple acceptable.										
58	O1	12	27	46	jack pine	sparse		0	planting	
comnts Fmd : Plant to Jack pine except western end near red pine. Habitat clearcut '80- failed regen, almost no A in stand. O and Red M slowly seeding in. Ground cover Bracken fern N and S ends (CG soil assn), blueberry center (II soil assn), more E type W end. TMS should evaluate.										

GLADWIN FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 78

Entry Year: 2009

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
61	R6	4	47	60	aspen (upland)	immature	shelterwood-seed	2	natural regeneration	prescribed for fdf treatment
<p>comnts Fmd : Remove every 2nd and 3rd row as shelterwood to convert to pine/hardwood stand, per Unit Mgr at pre-review. Harvest adjacent stand 11, comp 79 out of YOE with this stand. Stand is too small and wood quality too low to warrant managing as pine. 3rd row thinned in 2002 but needs to be thinned again. Live crown 35-40%. Crowns not severely crowded. Very few sawlogs. Gets sparser, smaller and more variable diameters and more understory at N end of stand. Formerly same stand as 161. Leave non red pine spp by BA for retention.</p>										
124	O6	9	49	62	oak	mature	shelterwood-seed	2		
<p>comnts Fmd : 30 ft of ave. qual red O. Aspen is rotation age. Remove aspen/maple and retain all oak (final harvest w/ reserves). Mark all representative spp by BA for retention. Use regen protection spec and oak wilt spec. Stand is a little sparse now; cut aspen while vigorous. Should get good aspen/maple regen, and increase red oak component. Any combination of aspen, maple or oak regen acceptable. Formerly part of stand 24; broken off due to new mapping rules. Severe trash dumping in stand (old).</p>										
157	E1	15	1	64	swamp hardwoods	in process of regeneration		0	natural regeneration	
<p>comnts Fmd : SI from previous OI for S57. Survey in 2010 for regen success per regen timeclock. Expect to regen to an E2 or E3. Clearcut '06. Part of stand in C79, Guernsey Aspen Pockets sale. GC marsh grass, sensitive fern, seedlings. 10-20% windthrow in resid pole sized oak.</p>										
161	R6	5	47	60	aspen (upland)	immature	shelterwood-seed	3	natural regeneration	prescribed for fdf treatment
<p>comnts Fmd : Remove every 2nd and 3rd row as shelterwood to convert to hardwood/pine, per Unit Mgr at pre-review. 3rd row thinned in 2002 but needs thinning again. Formerly part of St 61: Same Rx. Very few sawlogs. Leave hardwood spp by BA for retention.</p>										
164	M6	13		65	northern hardwood	unevenaged	selection	2		
<p>comnts Fmd : New stand split off from s 64. 64 a true E along Guernsey Crk. Remove aspen and mark additional trees where dense to a BA of 75. Concentrate on maple removal when marking. Should be easy to move around in. Upland but a little wet and hummocky: lot of bracken fern in stand. South portion formerly included in S 65 and is sparser. Aspen BA 20 to 50. ASPEN GETTING DECADENT. Retention: Leave all representative spp when marking (by BA).</p>										
256	M9	30		75	northern hardwood	unevenaged	final harvest	1	natural regeneration	
<p>comnts Fmd : Final harvest, reserving 10% by BA of red oak and a few red pine, plus all other representative spp. Upland. A few draws dissect stand. Access from stand 51 and N end of stand: will have to have a N and S landing. Culvert may be required for stream crossing at S end. Will have maple, oak, aspen regen.</p>										
Total Acres.....		266								

**Proposed Treatments
With Limiting Factors**

Compartment: 78

Entry Year: 2009

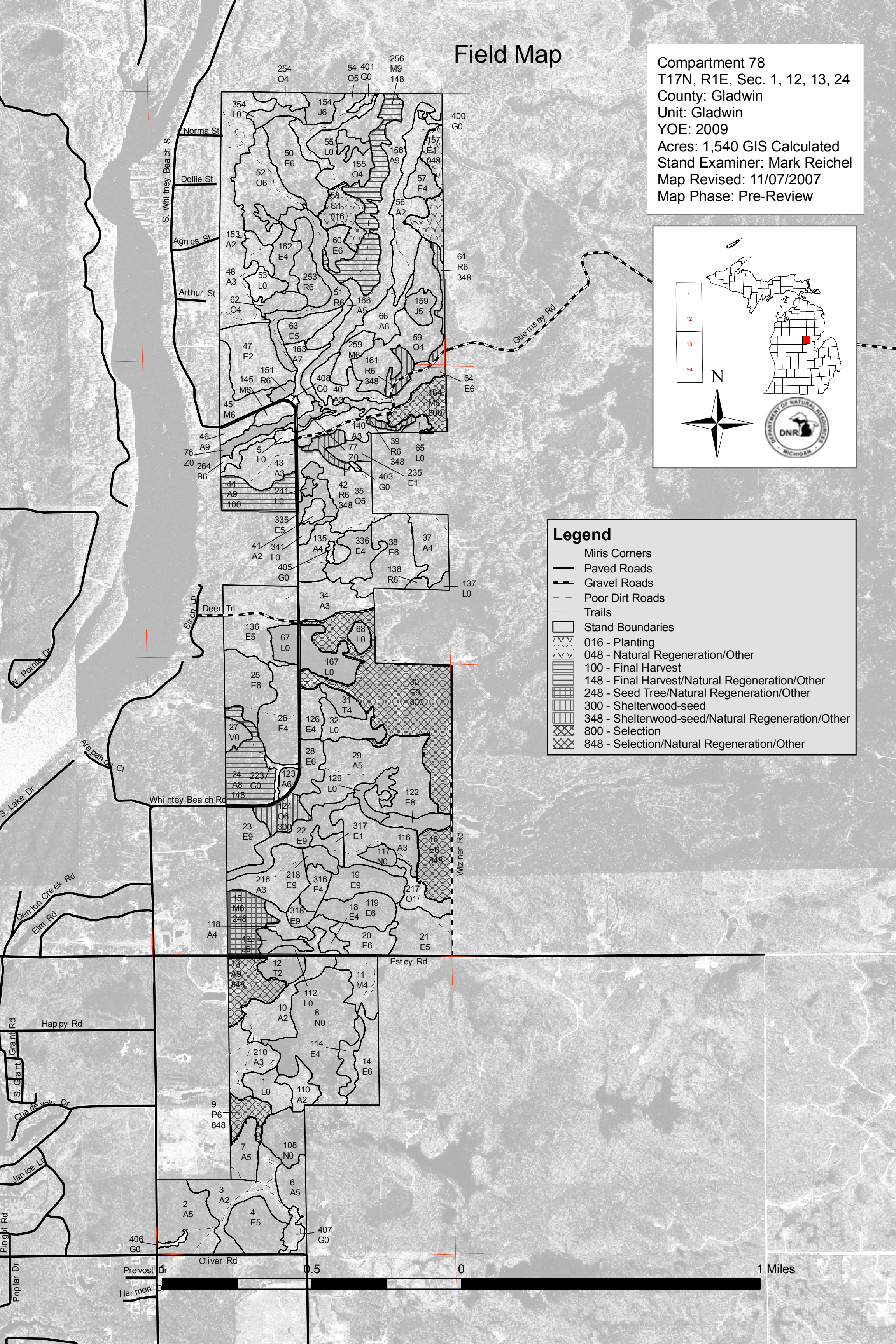
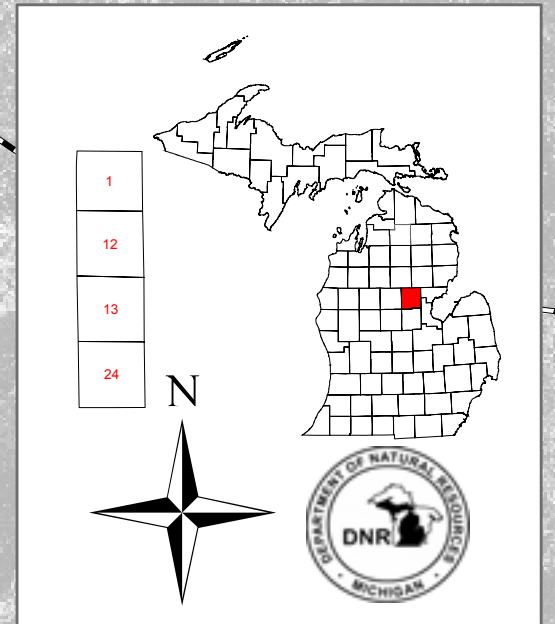
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

Total Acres..... 0

Field Map

Compartment 78
 T17N, R1E, Sec. 1, 12, 13, 24
 County: Gladwin
 Unit: Gladwin
 YOE: 2009
 Acres: 1,540 GIS Calculated
 Stand Examiner: Mark Reichel
 Map Revised: 11/07/2007
 Map Phase: Pre-Review



Legend

- Miris Corners
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Trails
- Stand Boundaries
- 016 - Planting
- 048 - Natural Regeneration/Other
- 100 - Final Harvest
- 148 - Final Harvest/Natural Regeneration/Other
- 248 - Seed Tree/Natural Regeneration/Other
- 300 - Shelterwood-seed
- 348 - Shelterwood-seed/Natural Regeneration/Other
- 800 - Selection
- 848 - Selection/Natural Regeneration/Other

