



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 15

Entry Year 2016

Acreage: 1,960

County Oscoda

Management Area: Avery Hills

Revision Date: 08/25/2014

Stand Examiner: Thomas Barnes

Legal Description:

T28N R3E Sections 19, 20, 21, 22, 27, 28, and 33
T28N R3E Sections 19, 20, 21, 22, 27, 28, and 33
Clinton Township, Oscoda County

Identified Planning Goals:

To maintain species and structural diversity while managing for health, productivity, and sustainability throughout the compartment. To provide multiple use opportunities and incorporate any visual management needed to optimize these uses.

Soil and topography:

Soils range from Grayling and Roselawn Sands in the compartment's west half, to Emmet and Kalkaska Sandy Loams and Rubicon-Roselawn Sand.

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

This compartment consists of solid state ownership with the exception of private lands located in section 19 & 22 and around the boundary of the compartment. Private lands range from farms and full time residences to seasonal cottages.

Unique Natural Features:

No Unique Natural Features known.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

None at this time.

Watershed and Fisheries Considerations:

This compartment contains a portion of a small, unnamed tributary to Boiling Springs Creek. Prescribed treatments are appropriate for the protection of this waterbody.

Wildlife Habitat Considerations:

With its mix of vernal ponds, northern hardwoods, some upland pine, oak and aspen cover types, this compartment supports a variety of wildlife species including hare, grouse, turkey and deer. Several vernal ponds exist in steep-sided potholes in the compartment.

Mineral Resource and Development Concerns and/or Restrictions

Antrim gas wells and pipelines have been developed in the compartment. There are seven active well sites. Surface sediments consist of glacial outwash sand and gravel and post glacial alluvium and an end moraine of medium-textured glacial till. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale Layer. Gravel pits are located in Section 27, including the State's Old Bailey Road Pit, and potential is good. The Compartment is leased for oil and gas and over half of it has been developed for the Antrim Shale.

Vehicle Access:

County roads include: Boiling Springs Road (seasonally maintained), Bailey Road, Cedar Run Road and Highway M-33. Access through Sections; 19 and 20 has been expanded by the existing flowlines. Gates have been installed at designated locations, currently the one blocking the access road to stand 405 is being driven around. The private property adjacent to State land in Section 33 is accessed only along a two track (old railroad grade) across State land.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

The compartment does contains one designated recreational trail called the (Hunt Creek Loop) an ORV trail located in Sections 19 and 20. The compartment does support dispersed recreation in the form of hunting, as evidenced by the abundant tree stands littering the compartment.

Fire Protection:

The compartment's limited road system will affect fire access and response times. The minimal roads and steep topography within Section 27 and 28 will limit any initial attack. Some roads are sandy and may hinder access for tankers. The closest body of water, that could be used as a water source is Second Lake, located 5.5 miles to the west.

Additional Compartment Information:

Past records have shown that harvests in this area have created controversy. More effort is needed to keep township officials apprised of proposed actions.

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**

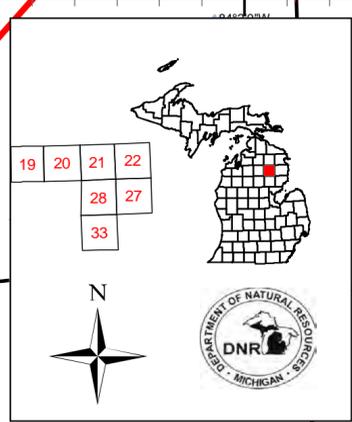
The following information is displayed, where pertinent, on the attached compartment maps:

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

Compartment: 015
 T28N R03E Sec. 19-22, 27,28,33
 County: Oscoda
 Unit: Grayling
 Management Area: Avery Hills
 YOE: 2016
 Acres: 1,960 GIS Calculated
 Examiner: Thomas Barnes
 Map Revised: 08/27/2014
 Map Phase: Pre-Review

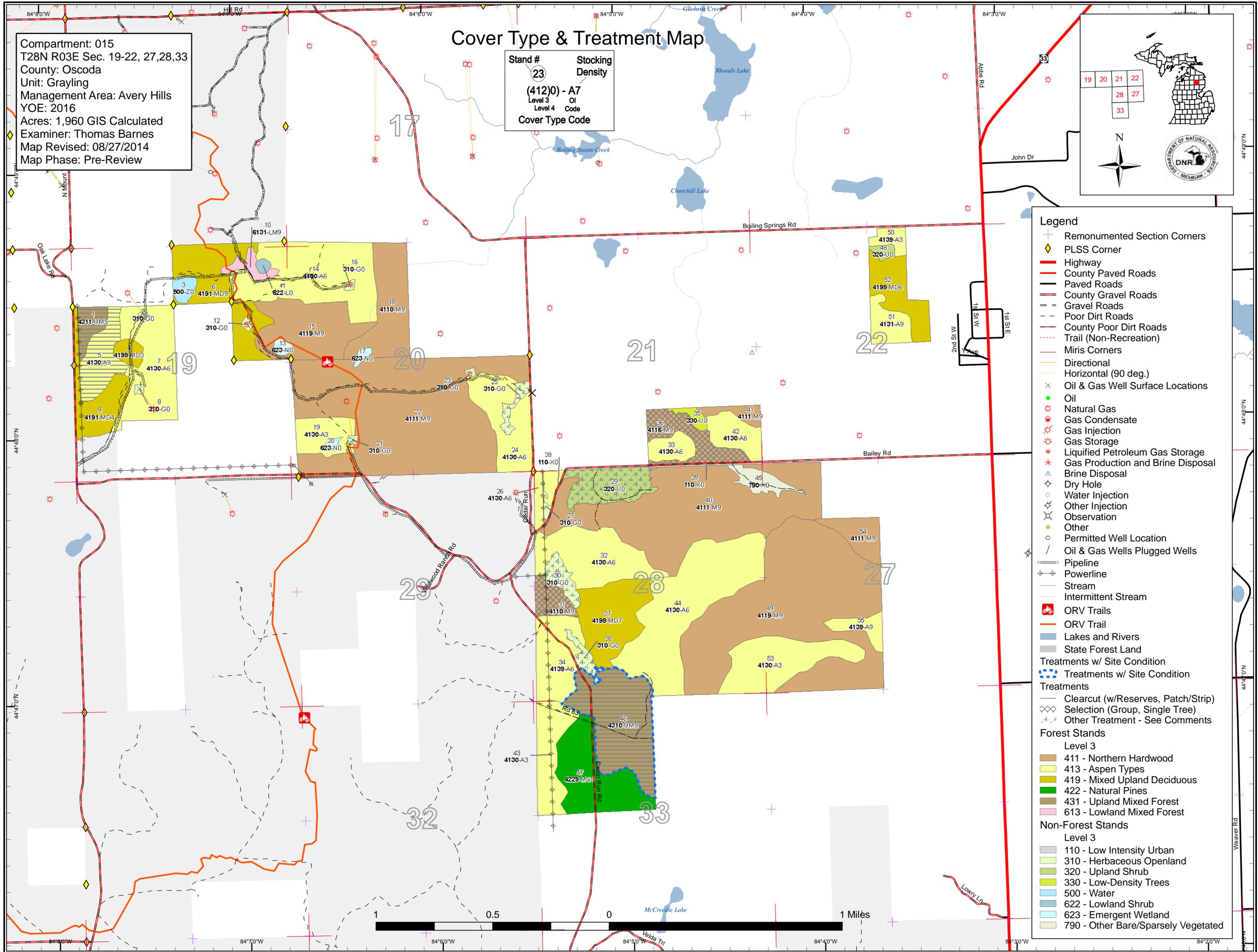
Cover Type & Treatment Map

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



Legend

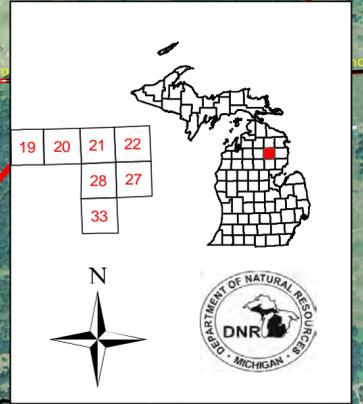
- + Remonumented Section Corners
- ◆ PLSS Corner
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- + Miris Corners
- Directional
- Horizontal (90 deg.)
- x Oil & Gas Well Surface Locations
- Oil
- * Natural Gas
- * Gas Condensate
- * Gas Injection
- * Gas Storage
- * Liquefied Petroleum Gas Storage
- * Gas Production and Brine Disposal
- * Brine Disposal
- x Dry Hole
- o Water Injection
- x Other Injection
- x Observation
- o Other
- o Permitted Well Location
- x Oil & Gas Wells Plugged Wells
- Pipeline
- Powerline
- Stream
- Intermittent Stream
- o ORV Trails
- ORV Trail
- Lakes and Rivers
- State Forest Land
- Treatments w/ Site Condition**
- ▨ Treatments w/ Site Condition
- Treatments**
- Clearcut (w/Reserves, Patch/Strip)
- ▨ Selection (Group, Single Tree)
- Other Treatment - See Comments
- Forest Stands**
- Level 3**
- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 613 - Lowland Mixed Forest
- Non-Forest Stands**
- Level 3**
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 790 - Other Bare/Sparsely Vegetated



Stand Boundary Map

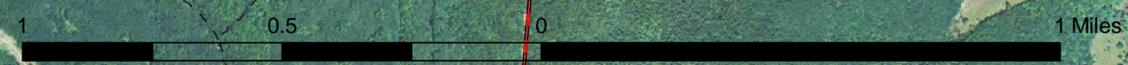
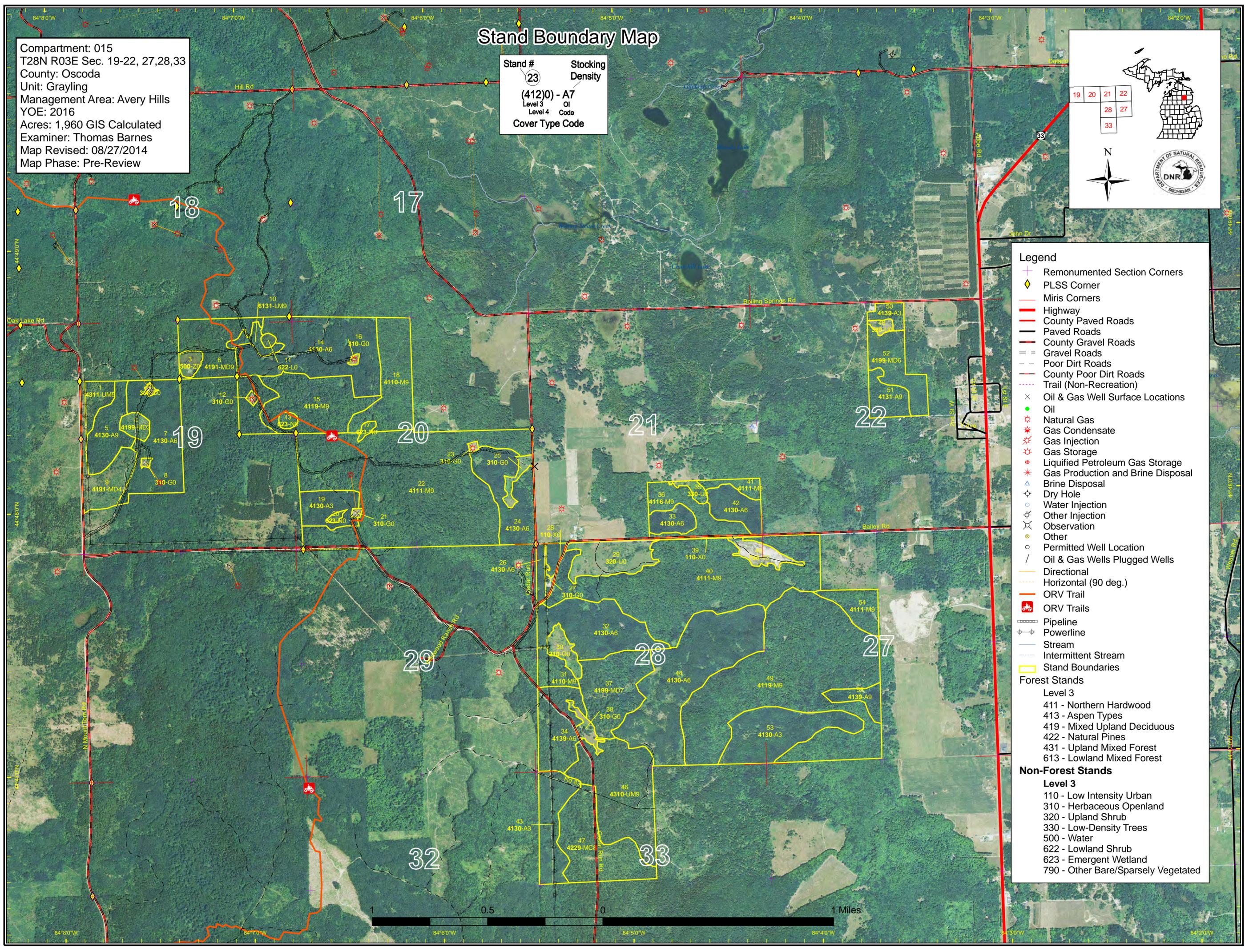
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Legend

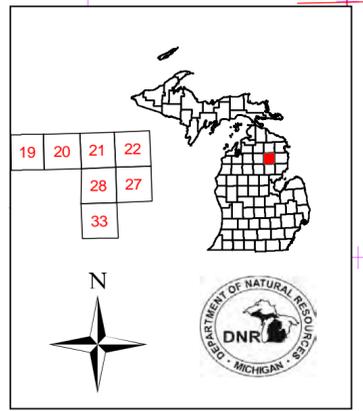
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 - Gas Condensate
 - Gas Injection
 - Gas Storage
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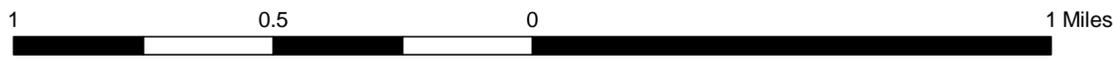
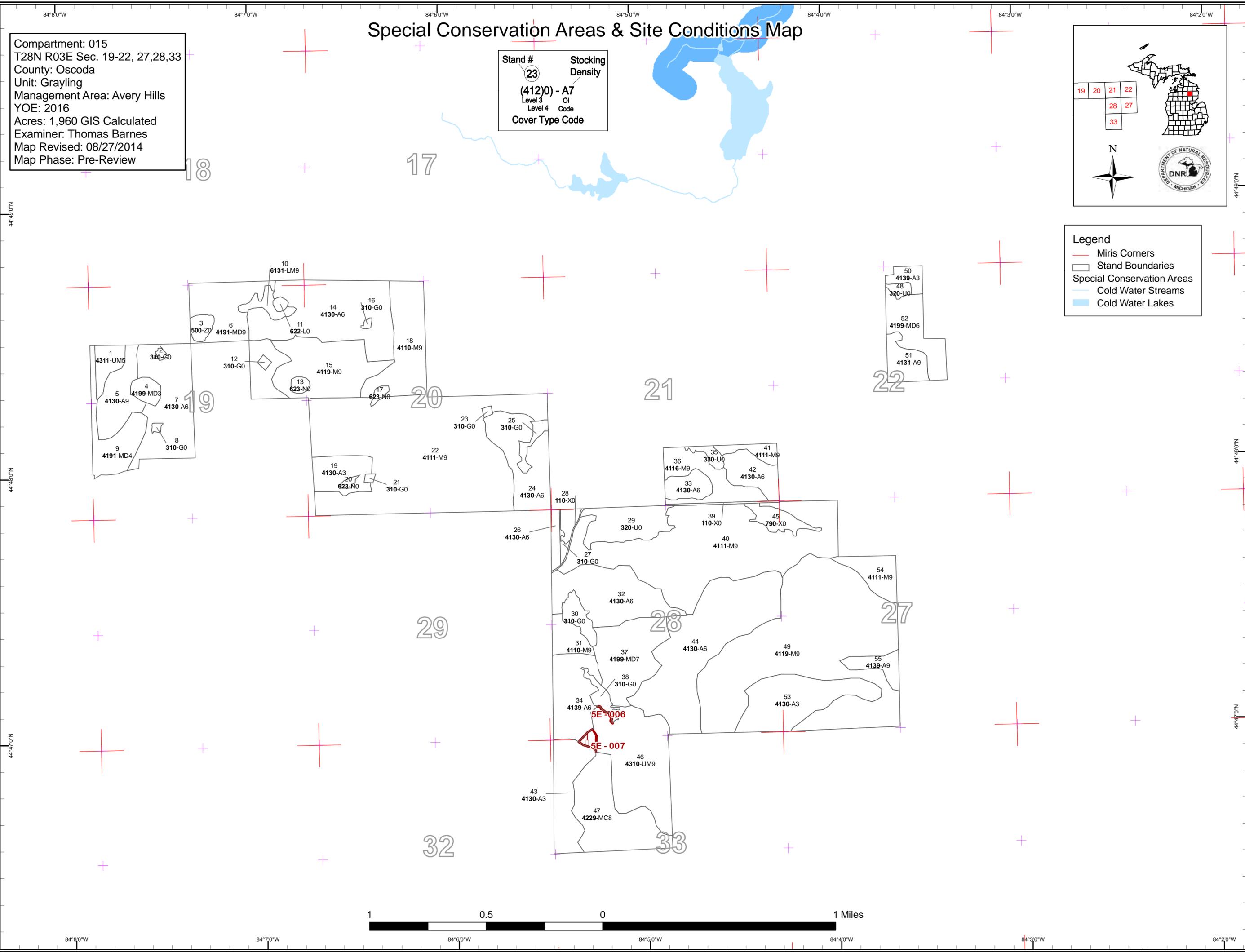
Special Conservation Areas & Site Conditions Map

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



- Legend**
- + Miris Corners
 - Stand Boundaries
 - Special Conservation Areas
 - Cold Water Streams
 - Cold Water Lakes



84°8'0"W 84°7'0"W 84°6'0"W 84°5'0"W 84°4'0"W 84°3'0"W 84°2'0"W

44°38'0"N 44°36'0"N 44°34'0"N

Report 1 – Total Acres by Cover Type and Age Class



	Age Class														Total
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	
Aspen	0	44	516	0	99	0	0	0	0	0	0	0	0	0	659
Bare/Sparsely Vegetated	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Herbaceous Openland	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31
Low-Density Trees	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
Lowland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Marsh	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Mixed Upland Deciduous	8	32	31	0	0	0	0	0	53	57	0	0	0	0	180
Natural Mixed Pines	0	0	0	0	0	0	62	0	0	0	0	0	0	0	62
Northern Hardwood	0	0	0	0	0	0	0	14	550	290	0	0	0	0	854
Upland Mixed Forest	0	0	0	0	0	12	83	0	0	0	0	0	0	0	95
Upland Shrub	36	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Urban	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Water	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	109	76	546	0	99	0	12	145	14	603	355	0	0	0	1960



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2016

Compartment 015
Total Compartment Acres: 1,960

Acres by Treatment Type

Commercial Harvest - 168	Tree Planting - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 55	

Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
Aspen Types	29	0	0	0	0	0	29
Northern Hardwood	0	43	0	0	0	0	43
Upland Mixed Forest	95	0	0	0	0	0	95
Total	124	43	0	0	0	0	168



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1 72015001-Cut	11.7	4311 - Pine, Aspen Mix	Medium Density Pole	60		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Clearcut without reserves to maximize aspen regeneration. Consider restricting harvest to dormant season again to maximize regeneration.
Specs: Include drumming log spec.

Other Looking to expand the aspen component of this stand.

Comments:

Next Monitor success of natural regeneration during the next treatment cycle. Acceptable regen is moderately stocked stand of aspen with associated
Steps: hardwood and conifer species. If natural regen fails site prep, trench and plant to jack pine.

Proposed
Start Date: 10/01/2015

5 72015005-Cut	29.2	4130 - Aspen	High Density Log	44		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Clearcut with reserves, harvest with stand one. Follow standard retention and woody biomass guidelines. Consider dormant season harvest and
Specs: chipping is optional. Included drumming log spec.

Other
Comments:

Next Monitor success of natural regeneration during the next inventory cycle. Acceptable regen is an aspen stand with a mixture of associated
Steps: hardwood species, moderately to fully stocked.

Proposed
Start Date: 10/01/2015

31 72015031-Cut	13.7	4110 - Sugar Maple Association	High Density Log	86	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
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Prescription Single tree selection harvest, maintain species diversity. Remove all poorly formed, multiple stemmed and beech. Target BA is between 70 -80
Specs: BA. Shortwood only and no chipping of tops. Adequately sized regen gaps, approximately 100 ft in diameter, should be created 1 per acre.

Other Currently the beech appears to be free of BBD, however, there is BBD in other stands in the area.

Comments:

Next Regeneration survey will be needed.

Steps:

Proposed
Start Date: 10/01/2015

36 72015036-Cut	29.7	4116 - Mixed N. Hardwood - Aspen	High Density Log	97	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
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Prescription Single treeselection harvest. Create adequate regeneration gaps, approximately 100 ft in diameter, 1 per acre. BA target of 70 - 80. Consider
Specs: removing all aspen, beech and ash before they die from BBD or EAB. Shortwood only no chipping of tops.

Other Concerned that beech will dominate the understory, currently high stem density in the subcanopy.

Comments:

Next Regen survey will be needed.

Steps:

Proposed
Start Date: 10/01/2015

25 NF_72015025-NonFor	5.9	3102 - Grass				Non-Forest Management	Other - Specify	310 - Herbaceous Openland	Cmpt. Review Proposal
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Prescription Periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing,
Specs: brushing, burning and herbicide application.

Other Currently, access is gated by oil/gas company.

Comments:

Next Continue wildlife opening maintenance.

Steps:

Proposed
Start Date: Unspecified



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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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29 NF_72015029-NonFor	32.3	3205 - Mixed Upland Shrub				Non-Forest Management	Other - Specify	320 - Upland Shrub	Cmpt. Review Proposal
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Prescription Remove autumn olive from this site by effective measures. In the southeast corner maintain as a periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing, brushing, burning and herbicide application.

Other Comments:

Next Steps: monitor success of autumn olive removal and continue maintenance opening measures.

Proposed Start Date: Unspecified

30 NF_72015030-NonFor	10.4	3102 - Grass				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal
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Prescription Periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing, brushing, burning and herbicide application.

Other Comments:

Next Steps: Continue to maintain opening in a condition that is beneficial to wildlife.

Proposed Start Date: Unspecified

38 NF_72015038-NonFor	6.4	3102 - Grass				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal
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Prescription Periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing, brushing, burning and herbicide application.

Other Comments:

Next Steps: Continue to maintain opening in a condition that is beneficial to wildlife.

Proposed Start Date: Unspecified

Total Treatment Acreage Proposed: 139.4



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
46 72015046-Cut	83.2	4310 - Pine, Oak Mix	High Density Log	76	81-110	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves, follow standard retention and woody biomass guidelines. Harvest everything else 2" and up. Portion of stand west of Cedar Run Rd could be used as part of the retention.

Other Comment: Adjacent stands have had similiar prescriptions leaving red and white pine. Regen is a mixture of hardwood and some pine. Believe similar results will happen with this stand.

Next Steps: Monitor success of regeneration during the next inventory cycle. Acceptable regeneration is a mixture of the parent stand with a stocking level of moderate to fully stocked. Should natural regen fail site prep, trench and plant to red pine.

Proposed Start Date: 10/01/2015

Limiting Factor 5E: Long Term Retention

Total Treatment Acreage Proposed: 83.2

Report 5 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment 015

Year of Entry 2016

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5E
	Available	Not Available			
659	659		Aspen	659	
8	8		Lowland Mixed Forest	8	
180	180		Mixed Upland Deciduous	180	
62	62		Natural Mixed Pines	62	
854	854		Northern Hardwood	854	
95	92	3	Upland Mixed Forest	92	3
1,858	1,855	3	Total Forested Acres	1,855	3
	100%	0%	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 Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
006	Not Available	5E: Long Term Retention	0				
Comments: Retention to buffer wildlife opening as per wildlife's request.							
007	Not Available	5E: Long Term Retention	3				
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 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4311 - Pine, Aspen Mix	Medium Density Pole	11.7	60		Another open grown stand of poor form and quality trees. The entire stand is PARVHa/PARVVb.
4	4199 - Other Mixed Upland Deciduous	High Density Sapling	7.5	6		Young regenerating stand of Aspen and Red maple, few larger stems (3-4") were left of oak and r maple. Stand is looking good. Stand failed the regen survey for MO of jack pine, however, stand passes with mixed species, recommend accepting current regeneration.
5	4130 - Aspen	High Density Log	29.2	44		Mature stand of aspen that could be harvested. Stand is on hill side that should be operational. The entire stand is PARVHa/PARVVb.
6	4191 - Mixed Upland Deciduous with Conifer	High Density Log	57.0	102	81-110	Stand was harvested during the time of 2008-2010. Because of some unique features found in or adjacent to the stand there are small areas that were not treated, however, these areas are not large enough to be delineated out as individual stands. On the Northside of the small lake/pond Stand 3, there is a private gate roughly 40-60 on state land. There are also ORV/MCCT trails, pipelines and gas well in this stand as well. The stand is AFO, except the eastern 1/3 is PARVVb/AFO.
7	4130 - Aspen	High Density Pole	64.6	26		Nice young stand of aspen w/mixed associated species. Flat to rolling terrain. Gas well in stand noted as stand 2. Lower end of pole size. The stand is PARVHa/PARVVb, except for the eastern 1/3 that is AFO.
9	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	30.7	27	1-50	Open stand of pole/sapling sized material. Good diversity of species, however, poor form and quality.
10	6131 - Hemlock, White Pine, Maple, Birch	High Density Log	8.1	102	81-110	Small hemlock on the north and east side slope leading to marsh. Hemlock looks healthy no dead tops or visible insect or fungus attacking the trees. Stand is surrounded by a northern hardwood stand. Very dark under the canopy very little ground cover some false ferns on edge. Stand was buffered from previous treatment of neighboring stands.
14	4130 - Aspen	High Density Pole	93.7	23		Young stand of aspen regenerating very well, high stem density with a nice mixture of species. Rolling to steep terrain, stand was harvest in 1990. The entire stand is PARVVb/AFO.
15	4119 - Mixed Northern Hardwoods	High Density Log	60.2	97	81-110	Stand was harvested in the winter of 2009. There is a small wet area that has been delineated out as well as an ephemeral stream running thru the stand. Dense subcanopy in areas with ash, striped maple, ironwood and raspberry. Typical ground cover associated with good hardwood stand is present. The entire stand is PARVVb/AFO. Site index 56.
18	4110 - Sugar Maple Association	High Density Log	51.7	100	81-110	Rolling terrain, very nice site. More conifer component as you move south in stand. Fair amount of bigtooth in stand however, it was captured in the BA swings and large DBH. Ground cover ash, bass, trout lily, trillium etc. The stand is primarily PARVVb/AFO, there are pockets of AFO. Site index 65
19	4130 - Aspen	High Density Sapling	23.0	26		The stand is PARVVb/AFO, there is a small pocket of unclassified lowlands in the nw corner.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	4111 - S.Maple, Hard Mast Association	High Density Log	249.7	96	51-80	Stand thinned 1996 - 1998 and then an EAB salvage in 2010. Some areas were not cut due to steep slopes. Ground vegetation solomon seal, gold thread, trillium etc. Subcanopy heavy to beech and pockets heavy to ash, not a whole lot of hard maple in the sub canopy. Striped maple was also present. Rolling to steep terrain. This site was also part of the Oscoda County Timber Theft case. Ten BA swings were taken with a stand average of 79. Individual species were 49 for S Maple, 7 Basswood, 1 P Birch, 8 Beech, 11 Red Oak, 1 B Aspen. The stand is primarily PARVVb/AFO, there is a pocket of AFO in NE Corner.
24	4130 - Aspen	High Density Pole	46.3	26		Stand harvested in 1987, young aspen with some log sized stems, mixture of big and quaking aspen. Hilly terrain w/potholes. stand is on the sap/pole line going w/pole. too much snow for ground cover. The stand is half PARVVb/AFO and AFO.
26	4130 - Aspen	High Density Pole	11.6	25		Young aspen stand doing very well just at the edge of sapling/pole, enough pole sized stems to classify stand at pole but at the low end of the DBH range. Terrain is rolling to steep. There are areas of standing water along Cedar Run Rd which could be considered vernal ponds. A powerline also runs along the ridge of this stand. The entire stand is PARVVb/AFO.
31	4110 - Sugar Maple Association	High Density Log	13.7	86	111-140	Nice site good diversity, old OI notes indicated that all aspen was removed from stand in 1971. There are some pole sized ash still living but vast majority have died. Beech in the stand looks to be free of BBD. Ground cover was grass, ash, maple and ironwood regen. Four BA swings were taken with stand average of 114, individual BA's are 82 sugar maple, 2 aspen, 20 basswood, 10 red oak. The stand is PARVHa/PArVVb and AFO.
32	4130 - Aspen	High Density Pole	60.5	25		Young aspen stand doing very well, small end of pole size right on fence of either pole or sapling. Rolling to steep terrain. The entire stand is PARVHa/PArVVb.
33	4130 - Aspen	High Density Pole	13.2	25		Nice stand of sapling to pole size stems, high enough percentage of poles to call overall size pole. Ground cover was trillium, lily of the valley, dutchman britches, etc. Entire stand is PARVHa/PArVVb.
34	4139 - Aspen, Mixed Deciduous	High Density Pole	40.6	42		Stand has a well developed advance regen layer of mixed hardwood species, nice looking pole stand. Scattered Red Oak of log size left from previous treatment. Not much for ground cover what was present was sugar maple, basswood seedlings under bracken fern. There is a small grassy opening in valley west of powerline. Stand has a powerline running thru the stand. Rolling to steep terrain. The stand is PARVHa/PArVVb and AFO.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4116 - Mixed N. Hardwood - Aspen	High Density Log	29.7	97	111-140	Small hardwood stand of decent quality and species diversity. Buts up against private land with rolling terrain. Beech in this stand does not show signs of BBD, however, over half the white ash in the stand were dead, primarily stems in the co dominant canopy position. Regeneration layer was fairly heavy to beech with sugar maple. Ground cover was trillium, trout lily, D Britches etc. Four BA swings were taken and stand average was roughly 130, BA for individual species recorded were Sugar maple 57, B Aspen 33, Beech 28 and ash 2. Entire stand is PARVHA/PArVVb and site index was 52.
37	4199 - Other Mixed Upland Deciduous	Low Density Log	53.0	92	1-50	Featuring the overstory trees that were left from the previous treatment in 1999, BA roughly 30. Sub Canopy heavy in areas of aspen and maple. Sub Canopy is well developed and would allow canopy to continue to up thru the residual trees. Ground cover maple, oak, some ironwood. Five BA swings were taken with stand average at 32. Individual species 16 oak, 8 beech, 2 sugar maple, and 6 basswood. Stand is PARVHa/PArVVb.
40	4111 - S.Maple, Hard Mast Association	High Density Log	183.0	98	81-110	Stand was treated between 2008 and 2010 under contract number 72-045-06-01. Stand has scattered residual tops from sale as it was not chipped. Understory is heavy to beech and ash with very little sugar maple. Striped maple is heavy in areas as well. Ground cover is the usual hardwood variety of trillium, trout lily etc. Rolling to very steep with a few open areas. There is evidence of illegal cutting of ash along stand perimeter there is also a 55 gallon barrell leaking a tar substance out. The stand is a mixture of PARVVb/AFO, AFO, and PARVHa/PArVVb. Site Index of 55.
41	4111 - S.Maple, Hard Mast Association	High Density Log	8.3	98	81-110	Stand very similar to stand 35 just not as high of a BA. Beech looks to be BBD free while larger ash stems were dead or dying. Pole size ash still holding their own. There was a wet area holding water and could be treated as a vernal pond. Ground cover is similar to other stands in this area, trillium, trout lily and so on. Stand is AFO and site index is 57.
42	4130 - Aspen	High Density Pole	21.4	25		Nice stand of sapling to pole size stems, high enough percentage of poles to call overall size pole. Ground cover was trillium, lily of the valley, dutchman britches, etc. Entire stand is AFO.
43	4130 - Aspen	High Density Sapling	35.9	15		Stand was harvested in 1998 and is coming back very dense with good regeneration. Rolling to steep terrain with powerline running thru the stand. The stand is PARVHa/PArVVb and AFO.
44	4130 - Aspen	High Density Pole	122.9	25		Fairly young stand just entering the pole size category, Appears to be an old railroad grade in this stand, also rolling to steep terrain. There are a few small grassy openings in this stand that were not separated out. Stand harvested in 1988. The entire stand is PARVHa/PArVVb.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
46	4310 - Pine, Oak Mix	High Density Log	83.2	76	81-110	Mixed stand with pockets of pure red and white pine. Aspen and jack pine not looking real good, aspen has cankers and jack pine dying off. Other stands in immediate area have been treated by removing all species except pole to small log size red and white pine, regenerating back as mixed hardwood species. Portion of stand west of Cedar Run Rd should be left as retention. Eight BA swings were taken with a BA of roughly 99, individual species were 18 oak, 26 white pine, 18 red pine, 15 jack pine, 16 aspen, 6 red maple. West half of stand is AFO, East half is PARVHa/PArVVb.
47	42290 - Natural Mixed Pine	Medium Density Log	61.8	75	51-80	Old OI Stand 35 passes the regen survey with very good hardwood regen of mixed species. Recommend accepting current regeneration in this old oi stand. Pockets of oak regen along with white pine. Portion of stand east of rd less regeneration with a little bit higher BA. Old OI stand 36 Aspen regeneration survey fails, but passes when combined with all other species. Good natural red and white pine regen in areas. Stand was treated in 1998 and 2008, first harvest left all red and white pine second harvest targeted 16"+ pine trees. Six BA swings were taken for this stand with a stand average of 60, BA for individual species are red pine 20, white pine 37 and red maple 3. Stand is split AFO west of Cedar Run Rd and PArVVb east of rd.
49	4119 - Mixed Northern Hardwoods	High Density Log	238.3	101	81-110	Portion of the stand was treated between 2008 and 2010. Rolling to steep terrain with some slopes being inoperable especially on the western side of stand. Good site, however, beech is taking over from last treatment, understory/subcanopy is almost all beech, very little maple in sub or ground cover. BBD in the western portion of stand on pole size and up, not present on east side. Some girdled snags still standing. As with all the hardwood stands in this compartment 99% of all ash is dead. Ground cover (sarsaprilla, beech, white ash, ironwood, did find some sweet cicely) overall little ground cover. Stand is PArVHa/PArVVb. Site index 55
50	4139 - Aspen, Mixed Deciduous	High Density Sapling	8.1	15		There are scattered pole/log sized trees within this stand however, the featured stand size is the sapling size. This stand appears to have been impacted by the tornado that swept thru this area back in 1998. Local trash collection site is located in the NW corner, fenced off. Stand was listed as non-forested upland last year of entry. Entire stand is PARVHa/PArVVb.
51	4131 - Aspen, Oak	High Density Log	17.7	41		This area received damage from the 1998 tornado, however, damage was not as great as the area to the north. Surviving stems must of been in the pole size category at the time of the storm. Stand just entering log size. Understory is well established and dense from the storm. Site has heavy slash as a result from the storm. This is a nice site. Site index around 56.
52	4199 - Other Mixed Upland Deciduous	High Density Pole	31.8	15		Regenerating from damage from tornado in 1998. Mixture of Red maple and aspen with some oak. Heavy slash from storm damage. Appears to be an old RR grade running thru the stand as well. Little to no understory. Stand is half PARVHa and PARVHa/PArVVb.
53	4130 - Aspen	High Density Sapling	58.3	26		Stand is on the border of pole, however, going to keep this stand in the sapling size. Steep terrain on the western edge of stand, mixture of aspen both Bigtooth and quaking. The entire stand is PARVHa/PArVVb.

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Grayling Mgt. Unit

Report 8 – Forested Stands

Compartment: 015
Year of Entry: 2016



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	4111 - S.Maple, Hard Mast Association	High Density Log	19.4	94	81-110	Nice northern hardwood stand good site, there is a fair amount of autumn olive in the stand. Rolling to steep terrain. Very little maple is coming back in the sub-canopy. Three BA swings were taken with a stand average of 90 and individual BA's 53 for sugar maple, 17 for basswood, and 20 for beech. Stand is half AFO and PArVHa/PArVvb. Site index of 56.
55	4139 - Aspen, Mixed Deciduous	High Density Log	11.9	43		Stand is just entering the log size, good mixture of large pole small sawlogs. Rolling to steep slope and litter better quality of stems on eastern side of stand. Decent amount of pole sized ash that is struggling to survive. Good regen of ash, also high numbers of beech and ironwood regen. Stand is PArVHa/PArVvb.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	3102 - Grass	1.2	No	Unspecified	Merit Energy Well Site Permit# 53662 Clinton B2-19 The entire stand is PARVHa/PArVVb.
3	50 - Water	6.1	No	Unspecified	Small woodland pond
8	3102 - Grass	1.0	No	Unspecified	Well site Merit Energy Permit # 53646 State Clinton C2-19 The entire stand is PARVHa/PArVVb.
11	6229 - Mixed lowland shrub	1.9	No	Unspecified	Black ash, Flowing dogwood, and a few other wetland species. On the edge of a hemlock to west and aspen to the east. Stand is a Tawas Muck soil.
12	3102 - Grass	1.3	No	Unspecified	Merit Energy Well Site Permit# 53909 Clinton B4-19
13	6230 - Cattail	3.1	No	Unspecified	Very wet area with cattails and some standing water
16	3102 - Grass	1.0	No	Unspecified	Merit Energy Well Site Permit# 53912 Clinton A2-20 1-800-328-7430
17	6239 - Mixed Emergent Wetland	2.2	No	Unspecified	Small wet area, some water, cattails, lady fern and a few bugs.
20	6230 - Cattail	1.4	No	Unspecified	Small marsh area within a aspen stand with standing water, cattails, dogwood and ferns.
21	3102 - Grass	1.0	No	Unspecified	Merit Energy Well Site Permit # 53685 Clinton D1-20 The entire stand is PARVVb/AFO.
23	3102 - Grass	1.0	No	Low	Merit Energy gas well Permit #53910 Clinton O3-20
25	3102 - Grass	5.9	No	Unspecified	Open grassy area. The stand is mixture of PARVVb/AFO and AFO.
27	3102 - Grass	2.2	No	Unspecified	Small opening with grass and bare soil. Has powerline corridor and grassy opening at top of hill. Right next to Bailey Rd looks like a turn around area. The entire stand is PARVVb/AFO.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
28	11 - Low Intensity Urban	1.0	No	Unspecified	Bailey Road
29	3205 - Mixed Upland Shrub	32.3	No	Unspecified	Upland opening not sure if it is a wildlife opening. Vegetative cover is grass and upland shrub (cherry) and mixed with conifer. Rolling terrainThe stand is primarily PArVVb/AFO.
30	3102 - Grass	10.4	Yes	Medium	Grass opening with scattered trees. The entire stand is PArVHa/PArVVb.
35	3301 - Low Density Deciduous Tree	4.5	No	Unspecified	Open area with a small wet area in the middle this area is marginal as whether to be non forested or forested, certainly not merchant able and majority of area is covered the shrubbery.
38	3102 - Grass	6.4	No	Unspecified	Appears to be a wildlife opening. The entire stand is PArVHa/PArVVb.
39	11 - Low Intensity Urban	2.3	No	Unspecified	Bailey Road
45	790 - Other Bare/Sparsely Vegetate	12.2	No	Low	This used to be the old Bailey Gravel Pit, area has very little vegetation with exposed sand and rock, waste land that has alot of wood debris dumped along the perimeter, Good place for decking wood when treating adjacent stands.
48	3205 - Mixed Upland Shrub	3.3	No	Unspecified	Old county landfill reclaimed with grassy opening, knapweed and some deciduous shrubs mixed in.