



**TRAVERSE CITY FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 58 ENTRY YEAR: 2011

Compartment Acreage: 2156 County: Grand Traverse

Stand Examiner: Patrick Ruppen

Legal Description: T25N R9W Sec's. 30, 31 T25N R10W Sec's. 26, 35, 36

Management Goals: Habitat/Vegetative-intensive timber RMU Unit 122. This compartment is generally represented by three LTA (land type associations) subsections.

The westernmost part of the compartment is represented by LTA 2-2-2-1. This section in pre-settlement times hosted forests dominated by northern hardwood forests dominated by beech and sugar maple. The physical features are generally coarse textured end moraines with deep well drained loamy sands. Much of this LTA currently hosts crop fields and pine plantations. Kotar type is ParVVb/AFO. Some good quality hardwood stands are present in this part of the compartment and these stands should be managed long term toward uneven aged northern hardwoods.

The mid-section of this compartment is on LTA 5-2-1-1. This is a loamy sand –sandy loam. Clay lenses or banding results in higher nutrient or moisture levels. 47% of this LTA supported forests of red pine mixed with white pine, jack pine or oak in pre-settlement times. Oak/pine barrens were also found on 25% of this LTA. High quality pine plantations are currently found in this part of the compartment. These were some of the early plantations established on the Fife Lake State Forest. Some of these stands have been thinned several times. Some opportunities exist to harvest these stand and re-establish new pine plantations. The new stands will likely have a much more diverse mix of pine, oaks, maples and aspen due to the amounts of advanced natural regeneration present in parts of these stands. Large aspen stands established in the 1970's are also in this part of the compartment and an effort should be made to start regenerating part of this acreage.

The eastern portion of this compartment transitions on to LTA 5.1.1.1 which describes sites on deep excessively drained sandy soils. These sites were dominated by fire dependant species-jack pine, red pine and white pine and oaks. Pine barrens were common on the more fire prone sites. The east side of this compartment contains high quality remnant pine barrens in both the southeast and northeast corners. Treatments in these areas should be done so as to enhance and maintain the barrens characteristics.

Soil and Topography: Rubicon and Roscommon sands with Lupton muck and Rifle peat

Ownership Patterns, Development, and Land Use in and Around the Compartment:
Agricultural and residential to the north and west. Mostly state ownership to the south and east.

Unique, Natural Features: Headwaters of Sands Creek.

Archeological, Historical, and Cultural Features: None

Special Management Designations or Considerations: High quality oak/pine barrens in southeast of compartment. Recommend as a Biological Stewardship Area-oak/pine barrens. Quality red pine can be grown in compartment and some red pine stands remain from early plantations on the Fife Lake State Forest.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations: This compartment offers diversity in that it incorporates portions of three different land type associations, several flowages, and a variety of wetlands. The west end supports mature quality northern hardwoods. Care should be taken to maintain age and tree species diversity within the hardwoods, and treatments should retain a component of mature mast producing trees and protect/create snags, den, cavity, and downed trees. Aspen stands should be maintained to promote age class diversity and should include components of oak, pine, or fir as appropriate to the site. Abundant pine forest should be managed for mixed tree species, including components of aspen, oak, or maple, as well as within-stand structure such as coarse woody debris and snags. Some pine stands can be moved toward uneven-aged, mixed species conditions. A portion of the oak-pine region exhibits characteristics of Oak/Pine Barrens once found on this fire-driven landscape. Management here should include thinning of pine and oak stands to basal areas appropriate of barrens communities, and prescribed burning to set back woody encroachment, increase herbaceous species diversity, promote berry production, and recycle nutrients. Overall, stand management should conform as much as possible to the predominant northeast/southwest topography. Swamp conifers should be maintained for breeding bird habitat and winter cover for deer, hares, bobcat, etc. Most openings should be maintained on the fire prone outwash plain found within the majority of the compartment. Wildlife species typically found in these habitats include aquatic species such as beaver, otter, mallard, wood duck, Canada goose, and great blue heron; oak-pine forest associates such as scarlet tanager, hog-nosed snake, and gray squirrel; northern hardwood associates such as black throated blue warbler and white-breasted nuthatch; aspen-fir forest associates such as ruffed grouse and red-backed vole; and conifer swamp associates such as white-tailed deer and winter wren.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of an end moraine of coarse-textured till and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Mississippian Coldwater Shale and Marshall Sandstone. These rocks do not have a current economic use. A gravel pit is located in Section 23 and there is good potential. The Compartment is located south of the prolific Guelph (Niagaran) reef trend. None of the State land is leased currently. The Antrim Shale has not been developed in this area and may be too deep.

Vehicle Access: Access via county roads and forest roads/trails. Some forest roads/trails have bad spots that should be improved as possible. Resource damage reports completed for road issues.

Survey Needs: None known at this time

Recreational Facilities and Opportunities: Connector for MCCCT Trail runs through the compartment.

Fire Protection: DNR fire protection is from the Traverse City Field Office, but because of the distance from the TC Office, Manton DNR also typically responds with units. Sections 30 and 31 of T25N R9W, and the east half of section 36 T25N R10W are located in Zone 6. Fuel types in these sections have the potential for catastrophic fires. The remaining sections are not located within Zone 6. VFD Fire protection is from Battalion 6 (Fife Lake) Grand Traverse Rural Fire Department. Urban interface is not an issue in this compartment. Access is acceptable.

Additional Compartment Information:

****** Cover type details, proposed treatments and stands designated as FDF are listed in the attached reports:**

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 on the attached compartment maps:**

Base feature information, stand numbers, cover types

Proposed treatments

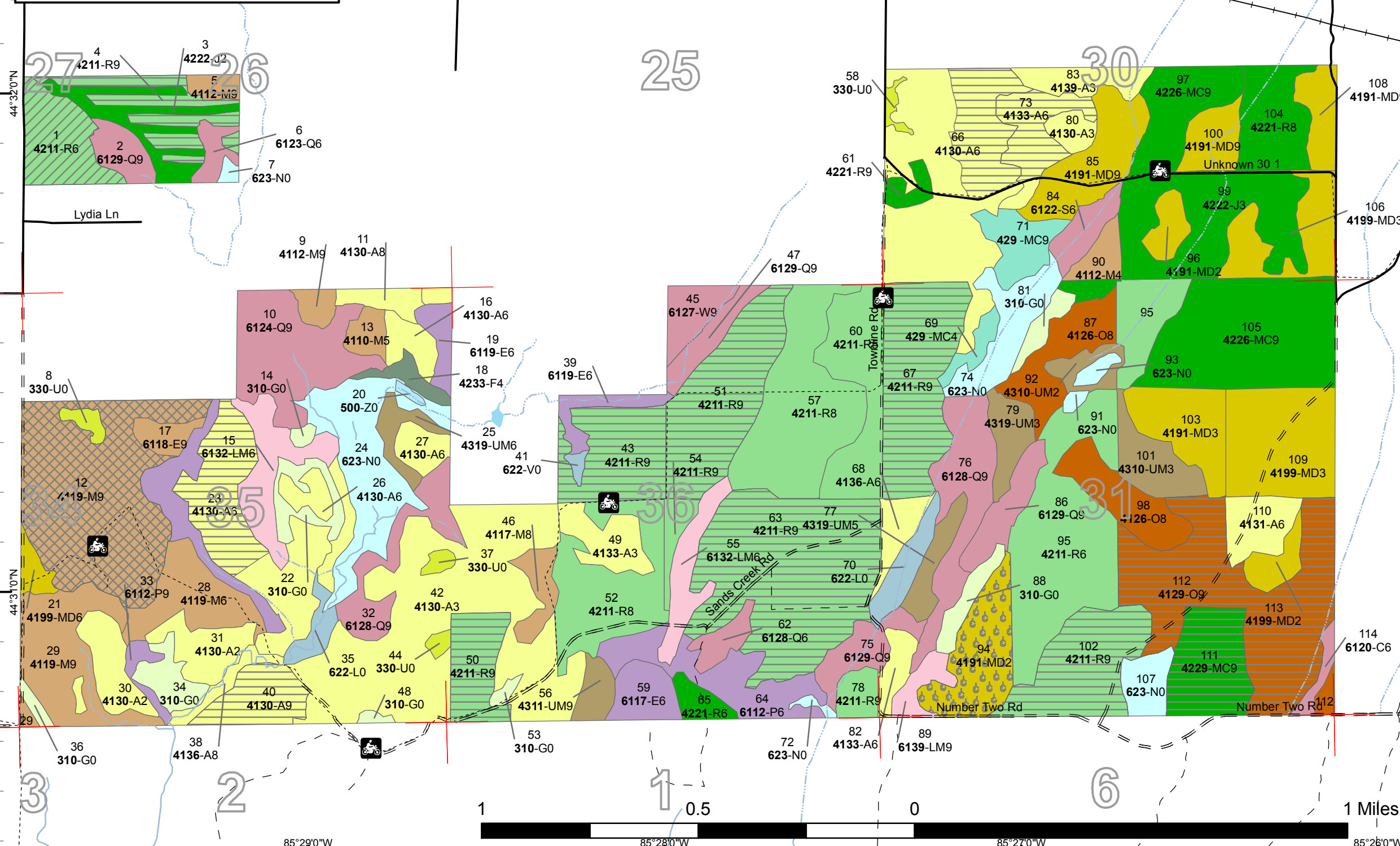
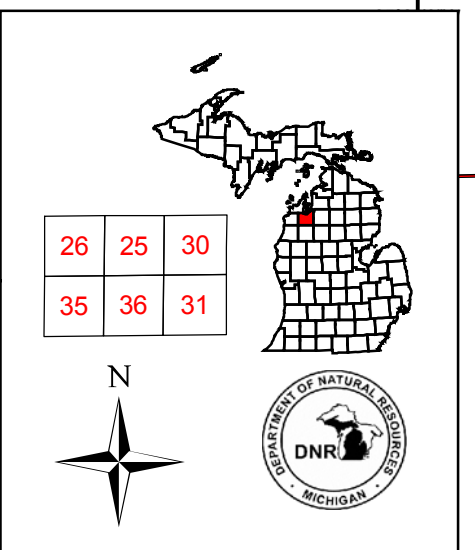
Proposed road access system

Suggested potential old growth

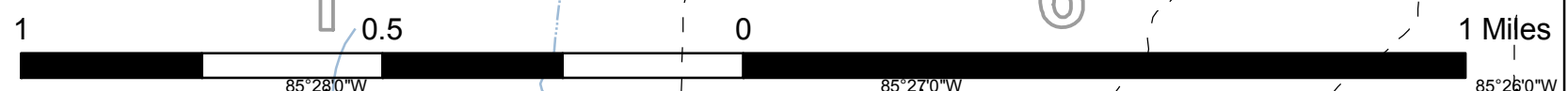
Compartment 58
 T25N, R10W, Sec. 25, 26, 35, 36
 T25N, R09W, Sec. 30, 31
 County: Grand Traverse
 Unit: Traverse City
 YOE: 2011
 Acres: 2,156 GIS Calculated
 Stand Examiner: Patrick Ruppen
 Map Revised: 5/26/2009
 Map Phase: Pre-Review

Cover Type & Treatment Map 19

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



- Legend**
- Miris Corners
 - Railroads
 - Paved Road
 - Gravel Road
 - Poor Dirt Road
 - Intermittent Stream/Drain
 - Stream
 - Trails
 - 🚲 MCCCT Trails
 - 🌊 Lakes and Rivers All
- Treatments**
- ▨ Clearcut (w/Reserves, Patch/Strip)
 - ▨ Thinning (Crown, Low, Systematic)
 - ▨ Selection (Group, Single Tree)
 - 🔥 Prescribed Burn
- Forest Stands**
- 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 429 - Mixed Upland Conifers
 - 430 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
- Non-Forest Stands**
- 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland



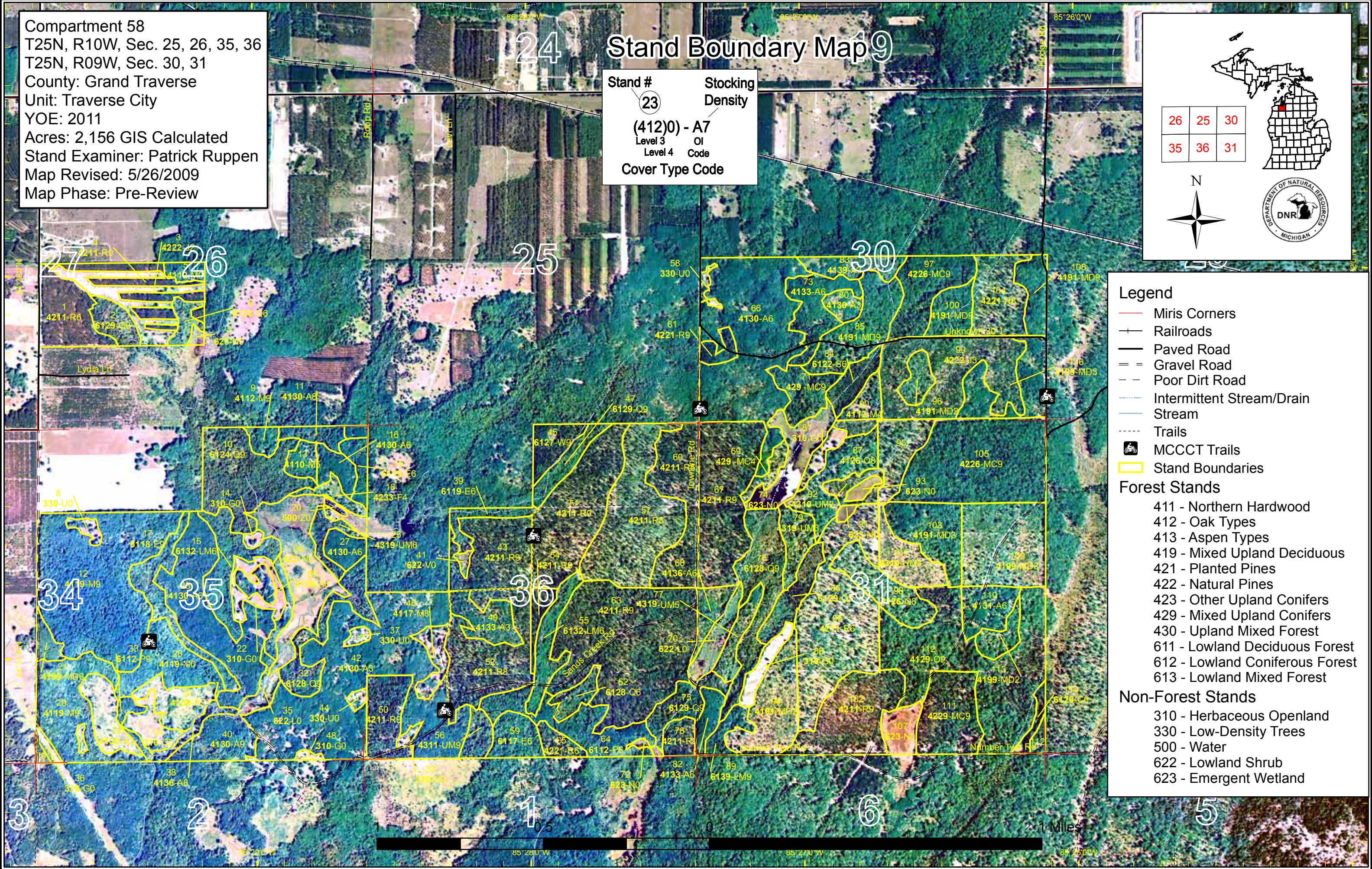
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24 Stand Boundary Map 9

Stand # 23
 (412)0 - A7
 Level 3 OI
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26	25	30
35	36	31

N



Legend

- Miris Corners
- Railroads
- Paved Road
- Gravel Road
- Poor Dirt Road
- Intermittent Stream/Drain
- Stream
- Trails
- MCCCT Trails
- Stand Boundaries

Forest Stands

- 411 - Northern Hardwood
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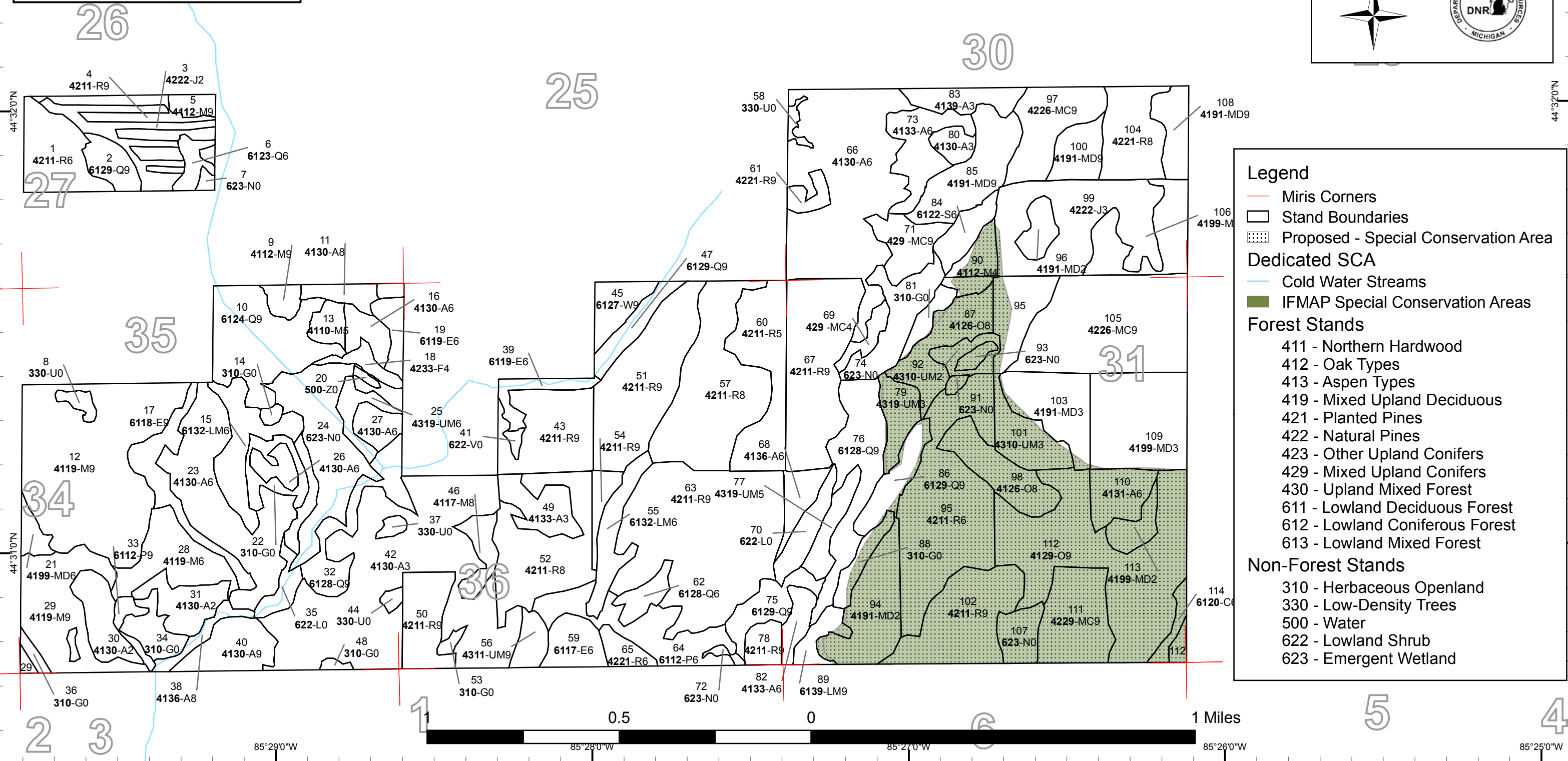
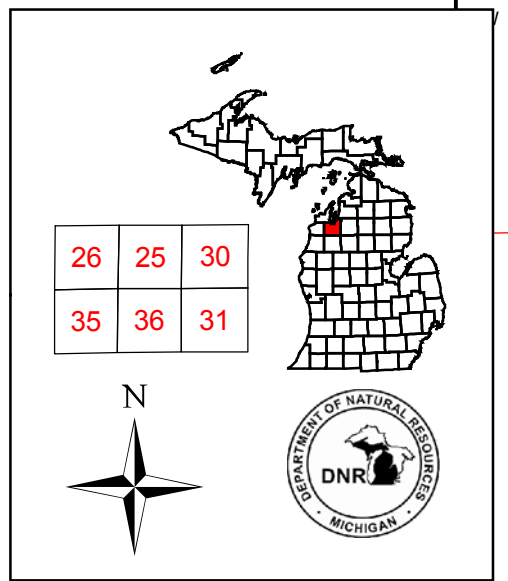
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Dedicated & Proposed Special Conservation Area Map

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



- Legend**
- Miris Corners
 - Stand Boundaries
 - ▨ Proposed - Special Conservation Area
 - Cold Water Streams
 - IFMAP Special Conservation Areas
- Dedicated SCA**
- Forest Stands**
- 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
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Traverse City Mgt. Unit

Covertypes, Acres, and Age summary
(Level 3 Cover Type)

Compartment 058 Year of Entry 2011

Report Date: 05/27/2009



	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 +	Uneven Age	
Aspen Types	0	28.5	16.4	115.7	189.5	0	11.2	16.8	0	11.6	0	0	0	0	20.6	410.3
Emergent Wetland	76.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76.5
Herbaceous Openland	37.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37.1
Low-Density Trees	8.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.7
Lowland Coniferous Forest	0	0	0	0	5.5	0	10.4	6.8	9.2	12.6	30.4	23.1	31.4	0	40.0	169.4
Lowland Deciduous Forest	0	0	0	0	0	0	0	27.0	28.3	11.1	0	0	0	0	6.5	72.9
Lowland Mixed Forest	0	0	0	0	6.9	0	0	0	20.6	0	0	14.1	0	0	0	41.7
Lowland Shrub	17.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.5
Mixed Upland Conifers	0	0	0	0	0	0	0	0	4.9	0	13.8	0	0	0	0	18.7
Mixed Upland Deciduous	0	0	0	34.9	23.4	0	4.7	0	0	22.9	26.7	0	0	0	69.9	182.5
Natural Pines	0	0	17.3	52.7	0	0	5.8	4.9	73.8	0	0	0	0	0	65.0	219.4
Northern Hardwood	0	0	0	0	5.8	6.9	0	0	4.6	153.9	0	0	0	0	8.3	179.4
Oak Types	0	0	0	0	0	0	0	0	83.8	20.8	0	0	0	0	19.5	124.2
Other Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.1	5.1
Planted Pines	0	0	0	0	0	0	41.9	0	264.9	0	6.5	0	0	0	223.1	536.4
Upland Mixed Forest	0	0	0	21.8	9.0	0	7.1	0	0	0	0	0	0	0	17.5	55.3
Water	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0
Total	140.8	28.5	33.7	225.0	240.1	6.9	81.1	55.4	490.2	232.9	77.4	37.2	31.4	0	475.6	2156.1

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
1 61058001-Cut	23.0	42110 - Planted Red Pine	High Density Pole	54	Harvest	Crown Thinning	Planted Red Pine
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Remove suppressed and poor formed trees. Release crowns of well formed trees.							
<u>Next Steps:</u> This stand will gradually go to hardwoods. Thin heavily next time.							
4 61058004-Cut	18.9	42110 - Planted Red Pine	High Density Log	54	Harvest	Clearcut	Planted Red Pine
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Final harvest red pine strips							
<u>Next Steps:</u> trench and replant red pine.							
12 61058012-Cut	85.0	4119 - Mixed Northern Hardwoods	High Density Log	86	Harvest	Single Tree Selection	Sugar Maple Association
<u>Rev Cmnt:</u> Low area in northe east part of stand should be left out of treated area.							
<u>Rev Spec:</u> Mark hardwood stand following hardwood management guiselines. See "Complete Marker"							
<u>Next Steps:</u>							
23 61058023-Cut	28.7	4130 - Aspen	High Density Pole	38	Harvest	Clearcut with Reserves	Aspen
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Harvest all species but mark representative trees to keep for retention. Create CWD per WLD specifications. Harvest part of stand north of old rail grade.							
<u>Next Steps:</u>							
40 61058040-Cut	16.8	4130 - Aspen	High Density Log	69	Harvest	Clearcut with Reserves	Aspen
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Mark some well formed trees for retention and final harvest stand.							
<u>Next Steps:</u> Regeneration of aspen, maples, pines should be expected. Heavier concentration of aspen along perimeters with red maple interior. There are a few sugar maples that could be retained for seed source. Use old opening in adjacent compartment for landing if possible.							
43 61058043-Cut	30.7	42110 - Planted Red Pine	High Density Log	79	Harvest	Clearcut	Planted Red Pine
<u>Rev Cmnt:</u> Some areas have aspen growing thick in understory.							
<u>Rev Spec:</u> Final harvest and replant red pine.							
<u>Next Steps:</u> trench and replant red pine.							

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
50 61058050-Cut	18.5	42110 - Planted Red Pine	High Density Log	79	Harvest	Clearcut with Reserves	Maple, Beech, Cherry Association

Rev Cmnt:
Rev Spec: Remove most red pine to release advancing maple and aspen understory. Mark some pine to retain.
Next Steps: Expect regeneration to developed from advanced regeneration-oaks, maples, cherry, jack pine, aspen.

51 61058051-Cut	47.6	42110 - Planted Red Pine	High Density Log	59	Harvest	Clearcut	Planted Red Pine
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Rev Cmnt: Some advanced aspen and maple regen in spots.
Rev Spec: Final harvest red pine to prep site for replanting.
Next Steps: Trench and replant red pine. May need herbicide in spots to prep for planting.

63 61058063-Cut	91.5	42110 - Planted Red Pine	High Density Log	79	Harvest	Clearcut with Reserves	Planted Red Pine, Mixed Deciduous
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Rev Cmnt:
Rev Spec: Remove all red pine in places without advanced hardwood regeneration. Remove most red pine in areas with more dense hardwood, pine and aspen regeneration.
Next Steps: Trench and plant areas that are more free from advanced regeneration. Some spots may need herbicide. Allow other areas with more advanced natural regeneration to convert to mix of pine, oak, maples, cherry, balsam fir.

66 61058066-Cut	23.4	4130 - Aspen	High Density Pole	34	Harvest	Clearcut with Reserves	Aspen, Spruce/Fir
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Rev Cmnt: Portion of the stand will be treated in this entry along with stand 73. Stand 73 is higher and drier and the new stand will have a nice mix of habitat in this younger age class.
Rev Spec: Harvest all merchantable within treated area. Create reserve islands and edges by locating low areas mapkring around them. Keep harvestein on higher surrounding ground.
Next Steps:

67 61058067-Cut	49.0	42110 - Planted Red Pine	High Density Log	79	Harvest	Clearcut with Reserves	Planted Red Pine
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Rev Cmnt:
Rev Spec: In areas with light to medium advanced regeneration remove all merchantable to prep site for replanting. Much of the area of this stand has only light to med jack pine and balsam growing in. These areas should be cleared and planted. Some areas have heavy advanced regeneration of aspen or other species. In these areas remove some red pine stems and allow this part to convert to other species.
Next Steps: Trench and plant red pine in areas that were cleared for new stand. Monitor regeneration success.

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
73 61058073-Cut	16.5	4133 - Aspen, Mixed Pine	High Density Pole	38	Harvest	Clearcut with Reserves	Aspen, Mixed Pine

Rev
Cmnt:

Rev Remove aspen and retain all or most pine and oak. This stand has a good bit of oak and pine left from last time the aspen was cut.

Spec:

Next expect regeneration of aspen, maples, oaks and pine.

Steps:

102 61058102-Cut	36.4	42110 - Planted Red Pine	High Density Log	75	Harvest	Clearcut with Reserves	Oak, Pine
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Rev
Cmnt:

Rev Remove most red pine but keep some along with well formed oak to begin restoration to barrens. This stand is part of a suggested BSA -oak pine barrens.

Spec:

Next Burn 2-3 years after harvest is complete then burn periodically to maintain and develop barrens characteristics.

Steps:

111 61058111-Cut	26.9	42290 - Natural Mixed Pine	High Density Log	75	Harvest	Clearcut with Reserves	Pine, Oak
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Rev
Cmnt:

Rev Stand has old pine oak barrens characteristics with younger age class grown in. Cut back to barrens look with healthy crowned oak and pine retained.

Spec: Look for good representatives from various age classes and species to retain. Stocking levels should vary over stand area.

Next Burn two to three years after harvest and then periodically after that to maintain and develop barrens.

Steps:

112 61058112-Cut	81.6	4129 - Mixed Oak	High Density Log	79	Harvest	Clearcut with Reserves	Pine, Oak
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Rev
Cmnt:

Rev Stand has pine and oak barrens characteristics with younger age class grown in. Cut back to barrens look with trees from assorted species and age classes retained.

Spec: Stocking and species mix retained will vary over acreage of stand.

Next burn 2-3 years after harvest and periodically thereafter to maintain barrens characteristics.

Steps:

**Total Treatment
Acreage Proposed: 594.5**

**PROPOSED TREATMENTS
WITH LIMITING FACTORS**



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Treatment Name	Acres	Stage1 Cover Type	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
94 61058094-Burn	27.7	4191 - Mixed Upland Deciduous with Conifer		21	Prescribed Burn	Unspecified	Oak, Pine

Limiting Factor and Comment: 3A: Potential old growth / biodiversity
Look at in future as part of larger biodiversity area-barrens.

Rev Cmnt: Burn if possible with stands 102,111,112 after harvest.

Rev Spec: Burn to maintain barrens characteristics. This stand looks like the heart of a larger barrens complex extending north and west.

Next Steps: Periodically burn.

No Treatment Reason: Look at in future as part of larger biodiversity area-barrens.

**Total Treatment
Acreage Proposed: 27.7**



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.

Inventory Method: IFMAP

Stand	SCA Name	Acres	Comments
79	61058079	10.7	has appearance oh high quality oak barrens htat has grown in some. Stand to ne is part of similar feature. First age is 35 from previous inventory but couls cut back open and burn with stand to ne. Look at true extent of feature and form management plan?
87	61058087	20.8	Consider burning to maintain oak barrens characteristics. Would be part of larger complex eventually.
94	61058094	27.7	Heart of barrens area. Consider running a fire through this if possible, of identify as SCA
multiple - see map	Comp 61058 Barrens	373.1	



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.