



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

COMPARTMENT # 110 ENTRY YEAR: 2012

Compartment Acreage: 2339 County: Kalkaska

Stand Examiner: Dave Johnson

Legal Description: T27N-R05W-Sections 1, 2, 3, 4 & 5

Management Goals: Maintain quality sawtimber management in Northern Hardwoods and in the eastern portion of Comp. encourage Mixed Pine cover types.

Soil and Topography: Blue Lake, Kalkaska and Rubicon Sands - flat to slightly rolling

Ownership Patterns, Development, and Land Use in and Around the Compartment:
Compartment is surrounded by a mixture of state and private land. Private is mostly recreational use.

Unique, Natural Features (include only non-site specific and non-sensitive information):
One special concern and one threatened specie and/or plant listed

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): None listed

Special Management Designations or Considerations: None

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations: This compartment is quite diverse in landform. Sections 3 and 4, the west ½ of section 2, and part of section 5 fall in an ice-contact ridge area. Mature northern hardwood forest occupies hills and ridges forming a large block of contiguous deciduous forest cover, which should be maintained as such. Selective harvests should incorporate maintenance of tree species diversity (particularly hemlock and beech), creation of canopy gaps, retention of some cavity trees, and creation of down logs as habitat structure. Conifer components present in the past are largely absent now, but a few spruce plantings complement the northern hardwoods dominated uplands. Grassy or brushy draws fall between the ridges and some have been planted to conifer. These draws can be maintained in semi-open habitat with a fruiting shrub component through periodic harvest or burning. Several Wildlife openings in these draws will be rehabbed and planted to herbaceous vegetation suitable for food and cover. Outwash channels along the Goose Creek Floodplain cover section 1 and the east ½ of section 2. Well-drained soils harbor oak-aspen-pine forest and upland brush openings. Diverse habitat conditions there should be maintained via periodic harvesting or burning. A prescribed burn was conducted in an upland brush stand here in 2000 and will be prescribed again for this entry period. Final harvests should retain residual trees and snags. Poorly drained soils along Goose Creek should be maintained in lowland conifer forest and wetlands. The Goose Creek Wildlife Flooding was de-commissioned during the previous entry period and has since been re-flooded by beavers, providing continued and additional habitat

Mineral Resource and Development Concerns and/or Restrictions: Sections 1 - 5, T27N – R5W, Kalkaska County

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is within one mile to the northwest in Section 31, T28N-R5W. Gravel potential in the compartment is considered good, especially the western uplands. This area is located south of the Niagaran reef trend and the Antrim Shale gas play. All the State's mineral rights are currently leased for oil and gas development.

Vehicle Access: No new access needed

Survey Needs: None

Recreational Facilities and Opportunities: Kalkaska ORV Route and Blue Bear Snowmobile trail run through this Comp. Upper portion of Goose Creek and the Goose Creek flooding in the eastern part of Comp. Wide range of hunting , fishing and outdoor recreation.

Fire Protection: VFD Fire protection is from the Bear Lake Fire Dept., and DNRE protection is from the Kalkaska Field Office. Section 1 is within Zone 9 which calls for additional DNRE equipment on Very High and Extreme fire days. Urban Interface is not too much of an issue, but there are scattered residences in some areas of Section 4 and 5. Travel times from the Kalkaska Field Office are adequate, and access is not an issue. Pine fuels particularly in Sec. 1 can be an issue.

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**

Cover Type & Treatment Map

Compartment 110
T27N, R05W, Sec. 1-5
County: Kalkaska
Unit: Traverse City
YOE: 2012
Acres: 2,354 GIS Calculated
Stand Examiner: David Johnson
Map Revised: 5/24/2010
Map Phase: Pre-Review

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

Legend

- Miris Corners
- County Paved Roads
- Paved Roads
- - - Poor Dirt Roads
- Power
- - - Intermittent Stream/Drain
- Stream
- - - Trails
- Lakes and Rivers

Treatments

- Selection (Group, Single Tree)

Forest Stands

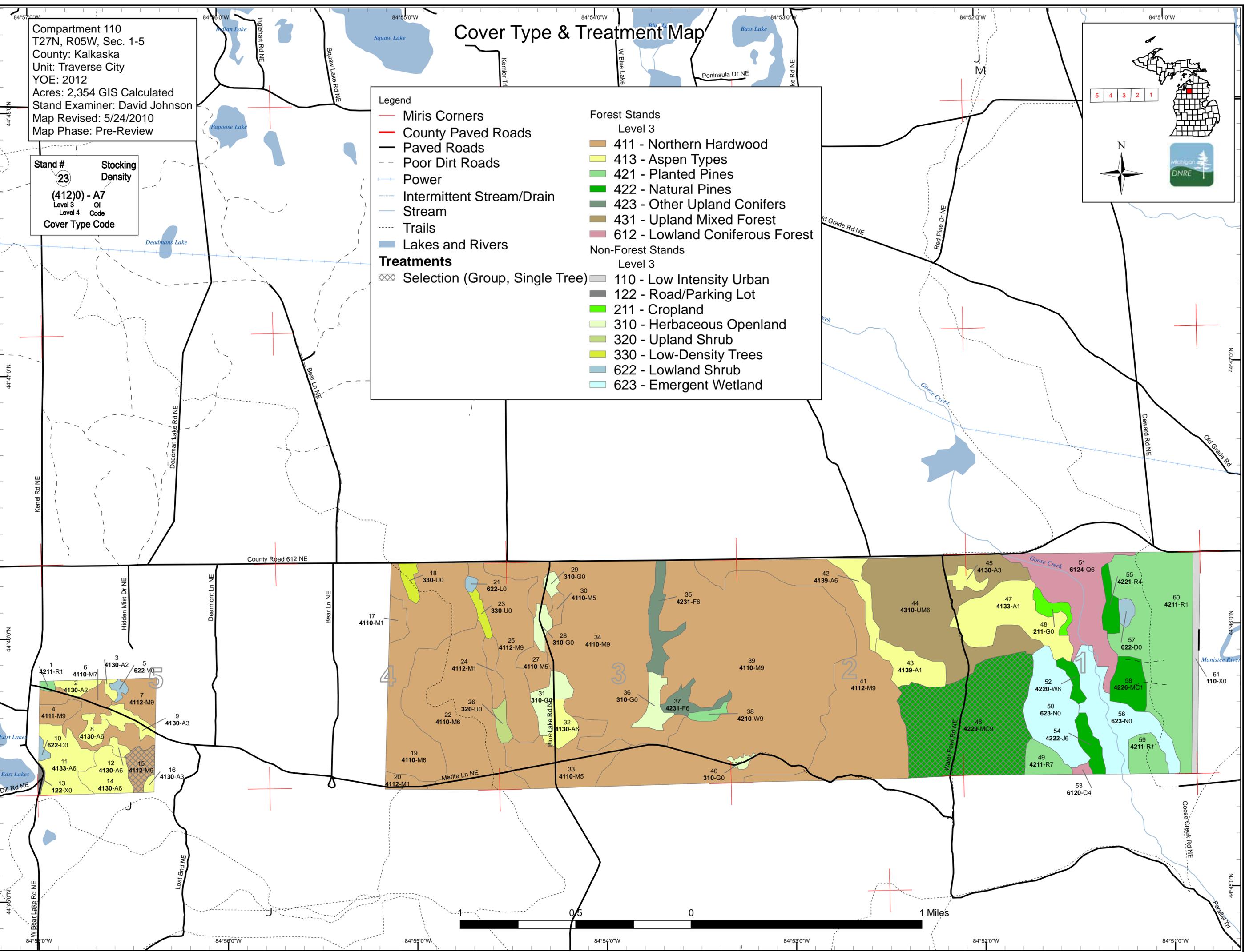
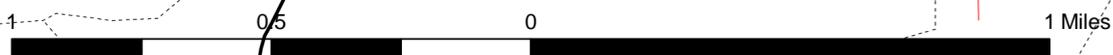
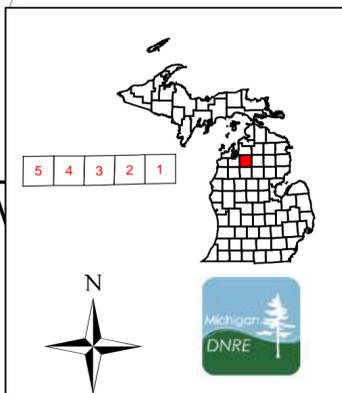
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 122 - Road/Parking Lot
- 211 - Cropland
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland

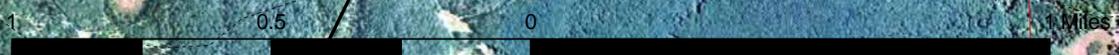
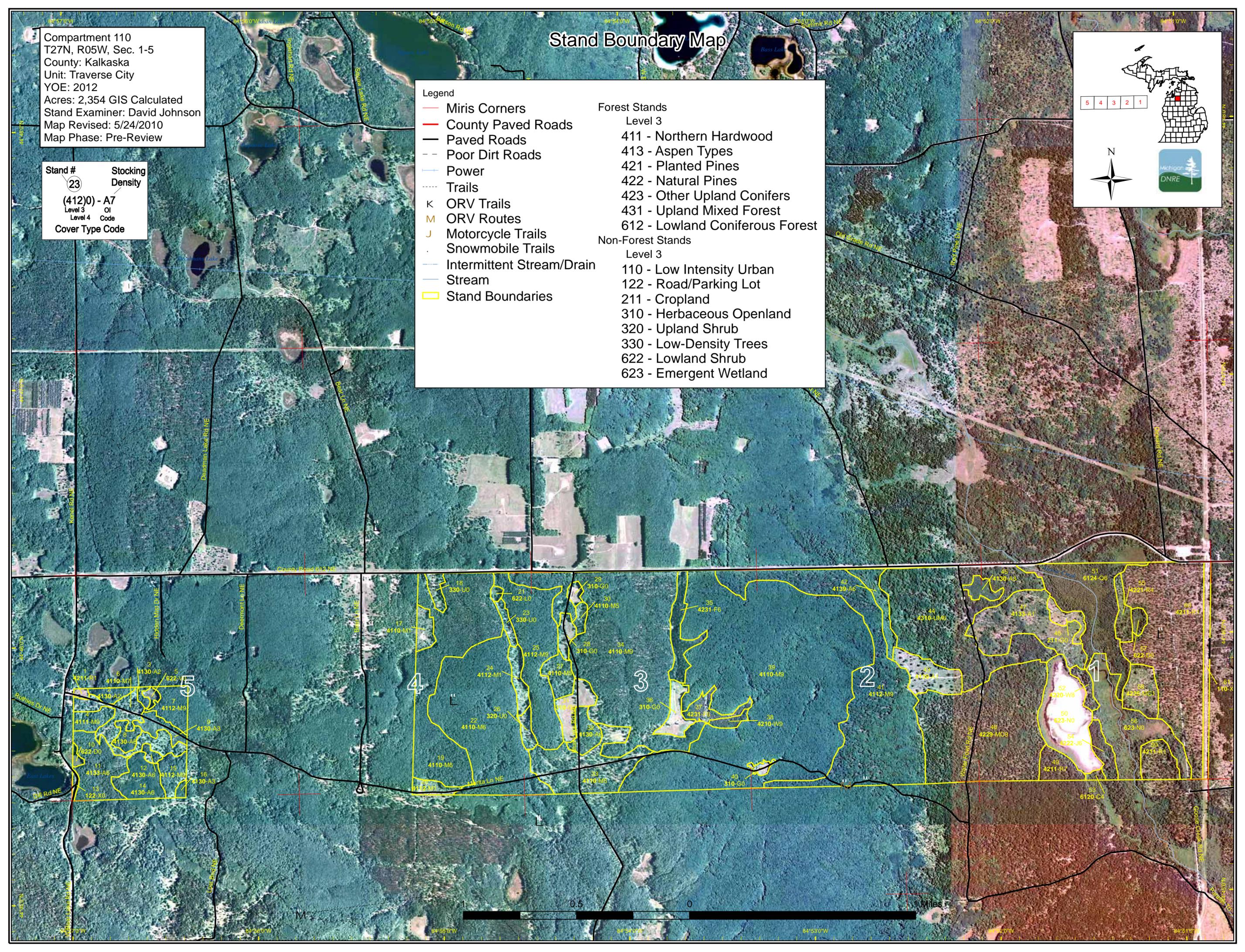
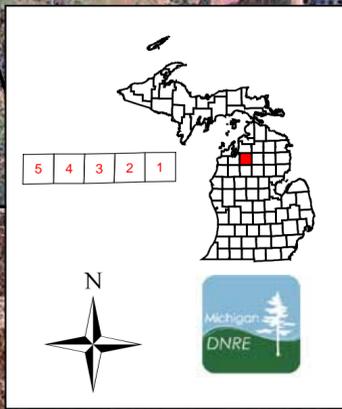


Stand Boundary Map

Compartment 110
 T27N, R05W, Sec. 1-5
 County: Kalkaska
 Unit: Traverse City
 YOY: 2012
 Acres: 2,354 GIS Calculated
 Stand Examiner: David Johnson
 Map Revised: 5/24/2010
 Map Phase: Pre-Review

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

Legend	
	Miris Corners
	County Paved Roads
	Paved Roads
	Poor Dirt Roads
	Power
	Trails
	ORV Trails
	ORV Routes
	Motorcycle Trails
	Snowmobile Trails
	Intermittent Stream/Drain
	Stream
	Stand Boundaries
Forest Stands	
Level 3	
411	- Northern Hardwood
413	- Aspen Types
421	- Planted Pines
422	- Natural Pines
423	- Other Upland Conifers
431	- Upland Mixed Forest
612	- Lowland Coniferous Forest
Non-Forest Stands	
Level 3	
110	- Low Intensity Urban
122	- Road/Parking Lot
211	- Cropland
310	- Herbaceous Openland
320	- Upland Shrub
330	- Low-Density Trees
622	- Lowland Shrub
623	- Emergent Wetland



Dedicated & Proposed Special Conservation Area Map

Compartment 110
 T27N, R05W, Sec. 1-5
 County: Kalkaska
 Unit: Traverse City
 YOY: 2012
 Acres: 2,354 GIS Calculated
 Stand Examiner: David Johnson
 Map Revised: 5/24/2010
 Map Phase: Pre-Review

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

Legend	
	Miris Corners
	Stand Boundaries
Dedicated Special Conservation Areas	
	Cold Water Streams
	Natural Rivers Vegetative Buffer
	Natural Rivers Zoning District
	Kirtland Warbler Habitat
	Wildlife Management Areas
Forest Stands	
Level 3	
	411 - Northern Hardwood
	413 - Aspen Types
	421 - Planted Pines
	422 - Natural Pines
	423 - Other Upland Conifers
	431 - Upland Mixed Forest
	612 - Lowland Coniferous Forest
Non-Forest Stands	
Level 3	
	110 - Low Intensity Urban
	122 - Road/Parking Lot
	211 - Cropland
	310 - Herbaceous Openland
	320 - Upland Shrub
	330 - Low-Density Trees
	622 - Lowland Shrub
	623 - Emergent Wetland

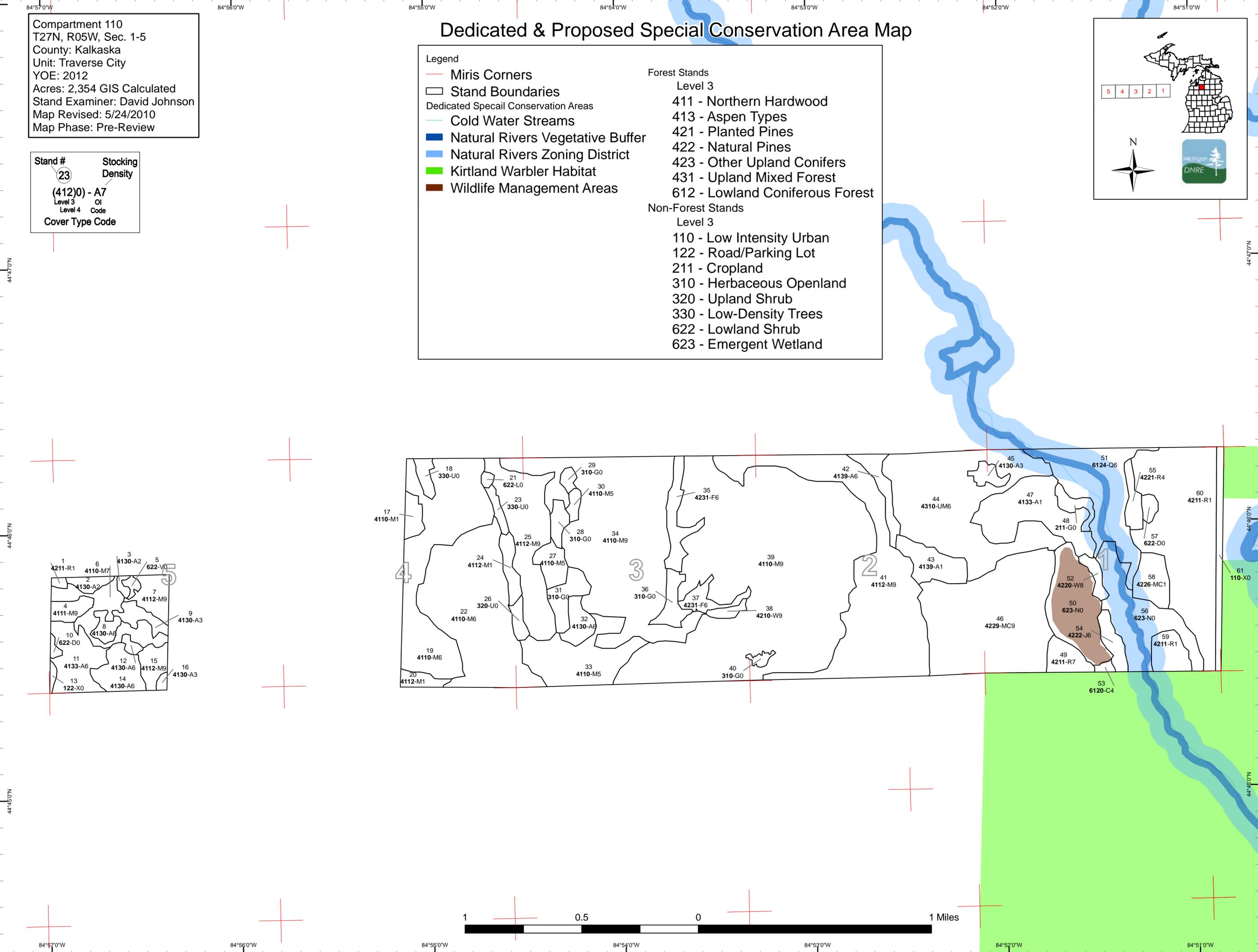
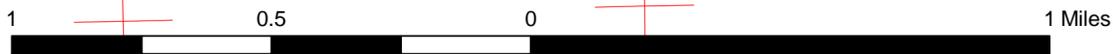
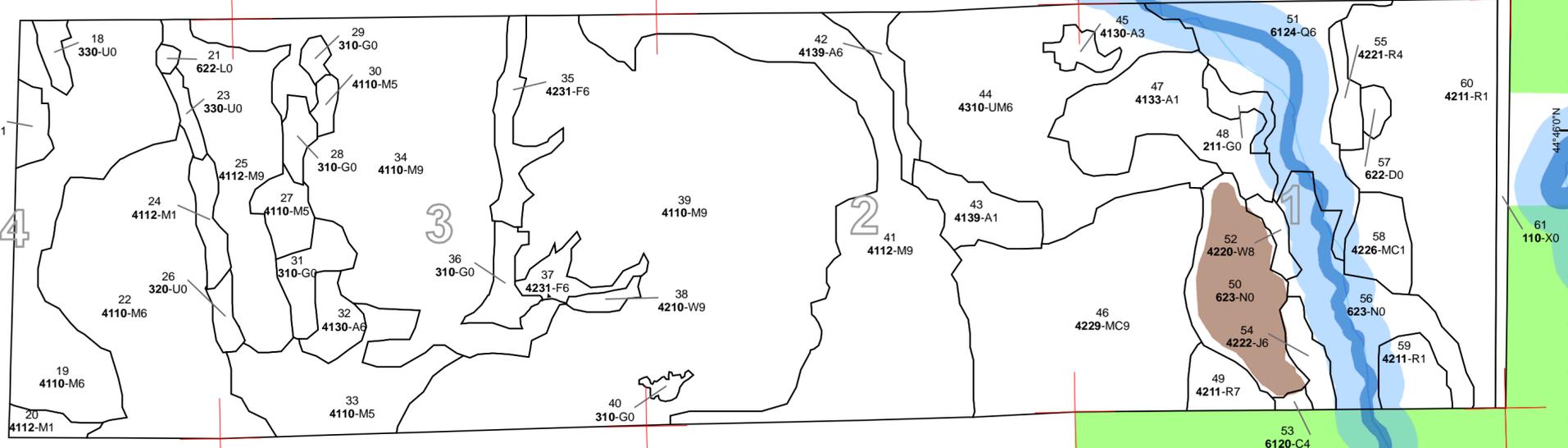
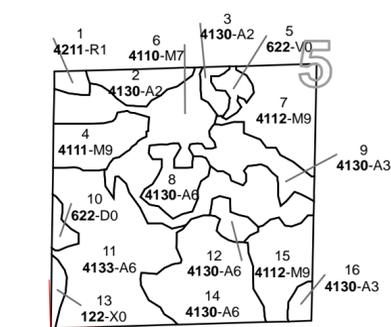
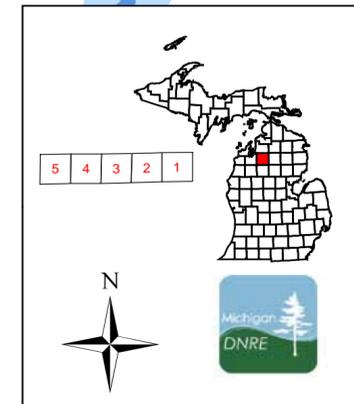


Table 1 – Total Acres by Cover Type and Age Class
(Level 3 Cover Type)



	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	32	19	74	43	0	0	0	0	0	0	0	0	0	34	202
Cropland	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Emergent Wetland	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115
Herbaceous Openland	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Low Intensity Urban	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Low-Density Trees	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Lowland Coniferous Forest	0	0	0	0	0	0	0	0	0	75	0	0	0	0	0	75
Lowland Shrub	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Natural Pines	0	0	19	0	0	0	21	6	156	0	0	0	0	0	0	202
Northern Hardwood	0	18	0	0	0	0	106	0	1174	0	0	0	0	0	8	1306
Other Upland Conifers	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	30
Planted Pines	0	161	0	0	0	5	0	0	14	0	0	0	0	0	0	180
Road/Parking Lot	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	147
Total	212	210	38	74	43	34	127	6	1344	75	0	0	0	0	190	2354



Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 110
Total Compartment Acres: 2354

Acres by Treatment Type

Commercial Harvest - 167	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 65	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Natural Mixed Pines	0	156	0	0	0	0	0	156
Northern Hardwood	0	12	0	0	0	0	0	12
Total	0	167	0	0	0	0	0	167

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



S
t
a
n
d

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
15 61110015-Cut	11.8	4112 - Maple, Beech, Cherry Association	High Density Log	70	Harvest	Single Tree Selection	Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Remove poor form and open canopy for regen
Specs:

Other Comments:

Next Steps:

46 61110046-Cut	155.6	42290 - Natural Mixed Pine	High Density Log	78	Harvest	Single Tree Selection	Natural Mixed Pine	Cmpt. Review Proposal
-----------------	-------	----------------------------	------------------	----	---------	-----------------------	--------------------	-----------------------

Prescription Remove maturing along with poor form red and white pine
Specs:

Other Comments:

Next Steps:

**Total Treatment
Acreage Proposed: 167.4**

Table 4 -- Treatments Prescribed with a Limiting Factor



S
t
a
n
d

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
----------------	-------	------------------	--------------	-----------	----------------	------------------	----------------------	-----------------

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Stand	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 110	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
1	42110 - Planted Red Pine	Low Density Sapling	1.8	9			
2	4130 - Aspen	Medium Density	6.2	5			
3	4130 - Aspen	Medium Density	2.2	5			
4	4111 - S.Maple, Hard Mast Association	High Density Log	9.3	75	81-110		
6	4110 - Sugar Maple Association	Low Density Log	31.5	50	1-50		
7	4112 - Maple, Beech, Cherry Association	High Density Log	15.6	72	81-110		
8	4130 - Aspen	High Density Pole	7.0	31	1-50		
9	4130 - Aspen	High Density Sapling	9.8	16			
11	4133 - Aspen, Mixed Pine	High Density Pole	33.9	Uneven Age	51-80		
12	4130 - Aspen	High Density Pole	2.9	31	1-50		
14	4130 - Aspen	High Density Pole	20.8	31	1-50		
15	4112 - Maple, Beech, Cherry Association	High Density Log	11.8	70	81-110		Selection thinning
16	4130 - Aspen	High Density Sapling	1.9	16			
17	4110 - Sugar Maple Association	Low Density Sapling	8.4	Uneven Age	1-50		pole size black cherry over sapling sugar maple - Upland area converting to maple -beech- cherry
19	4110 - Sugar Maple Association	High Density Pole	116.6	73	81-110		Thinned in 2005 Sale # 11-02 Blue Lake West Hdwd
20	4112 - Maple, Beech, Cherry Association	Low Density Sapling	7.2	6			Part of Blue Lake West Hdwd sale # 11-02
22	4110 - Sugar Maple Association	High Density Pole	139.9	75	81-110		thinning completed in 1997 #66-93 Yellow Jacket Hdwd
24	4112 - Maple, Beech, Cherry Association	Low Density Sapling	10.3	6			



S t a n d	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 110
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
25	4112 - Maple, Beech, Cherry Association	High Density Log	71.5	76	81-110	Thinning completed in 1997 , Berry Hdwd #71-93
27	4110 - Sugar Maple Association	Medium Density Pole	12.9	59	1-50	
30	4110 - Sugar Maple Association	Medium Density Pole	4.1	56	1-50	Upland Brush (Cherry) and scattered maple turning into low stocked hardwood.
32	4130 - Aspen	High Density Pole	12.3	32	1-50	
33	4110 - Sugar Maple Association	Medium Density Pole	57.8	59	1-50	Open grown Cherry and scattered Maple - frost pockets
34	4110 - Sugar Maple Association	High Density Log	216.1	76	81-110	Thinned in 2005 , sale # 10-02 East Blue Lake Hdwd
35	42310 - Planted Spruce	High Density Pole	18.9	49	81-110	Good cover type diversity - maintain stand
37	42310 - Planted Spruce	High Density Pole	10.7	46	81-110	Good cover type diversity - maintain stand
38	42100 - Planted White Pine	High Density Log	4.5	49	111-140	
39	4110 - Sugar Maple Association	High Density Log	421.1	76	81-110	Sale # 13-93 and 55-93 - selection thinning completed in 1996 &1998 - BA nearing treatment range but there are still many canopy gaps not closed in. Hold treatment until next entry.
41	4112 - Maple, Beech, Cherry Association	High Density Log	172.3	76	51-80	Thinning completed in 2004- Sale # 9-02 - 612 South Hdwd
42	4139 - Aspen, Mixed Deciduous	High Density Pole	14.6	26	1-50	Harvested in 1984 - heavy deer browse in past . Scattered Oak and Pine were left-moving from sapling size to small pole size stand
43	4139 - Aspen, Mixed Deciduous	Low Density Sapling	23.4	6	1-50	Harvested in 2004 - heavy deer browse in past - scattered oak and pine left.
44	4310 - Pine, Oak Mix	High Density Pole	147.3	Uneven Age	51-80	Multi-storied stand from sap-pole-saw. Red, White Pine, Red and White Oak with scattered aspen and red maple.
45	4130 - Aspen	High Density Sapling	7.1	17		
46	42290 - Natural Mixed Pine	High Density Log	155.6	78	51-80	Remove some mature red and white pine- good scattered aspen regen with spotty jack pine saplings. Stand also has some good pockets of white and red pine regeneration.
47	4133 - Aspen, Mixed Pine	Low Density Sapling	59.6	20	1-50	Sattered aspen clones with Red Pine saw and poles. Area started as upland brush and is slowly converting to pine/ aspen



S
t
a
n
d

Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 110

Inventory Method: IFMAP

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
49	42110 - Planted Red Pine	Low Density Log	14.0	72	1-50	Jack Pine was removed during a sale in Comp to the south. Waterfowl Rd Warbler Sale. 2008
51	6124 - Lowland Spruce-Fir	High Density Pole	73.3	84		Black Spruce, Balsam Fir, Cedar, Hemlock, Paper Birch, Red Maple. Goose Creek runs thru stand
52	42200 - Natural White Pine	Medium Density Log	6.4	68	51-80	Nice visual mgt stand and buffer around Goose Creek Flooding
53	6120 - Lowland Cedar	Low Density Pole	2.1	84	1-50	
54	42220 - Natural Jack Pine	High Density Pole	11.1	52	51-80	
55	42210 - Natural Red Pine	Low Density Pole	9.9	51	1-50	upland brush with scattered Red Pine - blueberry
58	42260 - Natural Pine, Mixed Deciduous	Low Density Sapling	19.1	14		
59	42110 - Planted Red Pine	Low Density Sapling	16.2	5		Area harvested and trenched/ partial repainted to red pine
60	42110 - Planted Red Pine	Low Density Sapling	143.1	4		Area was understory planted in 2006 with red pine . The overstory (red pine) was removed in 2009, 138 acres were treated with approx. 86,000 red pine being planted. There are pocket of scatterd white pine in the southern part of this stand.



Stand	Cover Type	Acres	Gen Cmts:
5	6225 - Bog	2.6	
10	6224 - Treed Bog	1.9	
13	122 - Road/Parking Lot	1.8	
18	330 - Low-Density Trees	6.4	
21	622 - Lowland Shrub	1.9	
23	3301 - Low Density Deciduous Tree	5.0	
26	31021 - Cool Season Grass	5.8	Rubus. Did not see any leafy spurge here.
28	310 - Herbaceous Openland	7.3	
29	31021 - Cool Season Grass	3.5	CSG, spotted knapweed, poverty grass, cladonia, strawberry, leafy spurge, rubus,
31	31022 - Warm Season Grass	15.8	Leafy spurge, spotted knapweed, csg, rubus.
36	31021 - Cool Season Grass	12.3	CSG, leafy spurge, rubus, occassional boulder, bracken, skw, poverty, pussytoes. Will need to be herbicided.
40	310 - Herbaceous Openland	2.8	
48	2113 - Forage Crops	8.2	
50	6239 - Mixed Emergent Wetland	55.0	
56	623 - Emergent Wetland	60.3	
57	6224 - Treed Bog	4.4	leatherleaf bog with scattered black spruce
61	11 - Low Intensity Urban	17.1	Gas pipeline



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 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.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
SCA	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.