



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

COMPARTMENT # 146 ENTRY YEAR: 2012

Compartment Acreage: 1759 County: Kalkaska

Stand Examiner: Donna Hagan

Legal Description: T25N,R6W, Sections 28, 29, & 30

Management Goals: Maintaining a variety of cover types and age class diversity which favor a variety of game and nongame species.

Soil and Topography: Rubicon sand and Lupton muck. Mostly flat with some relief near the wet areas.

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

The ownership pattern is mainly state, with sections 28 and 29 under a 10 year lease to the Department of Military and Veterans Affairs . The private holdings within the compartment are mostly swamp. A number of structures are located on the upland next to South Sharon Road in section 30. Land use is mainly hunting.

Unique, Natural Features (include only non-site specific and non-sensitive information):

Wood turtle, Kirtland's warbler and Red-shouldered hawk are all found in this compartment. Big Cannon and Little Cannon Creeks with tributaries both flow through this compartment.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Two historical features are located in this compartment.

Special Management Designations or Considerations: Big and Little Cannon Creeks are tributaries to the Manistee River, and is a Designated Trout Stream. It is also protected by the Manistee River Natural Rivers Designation. There is a 100' – 155' buffer along these streams.

Watershed and Fisheries Considerations: Big Cannon Creek, Little Cannon Creek, and several unnamed tributaries to Little Cannon Creek flow through Compartment 146. All are Designated Trout Streams. Big Cannon Creek hosts self-sustaining populations of brown trout, brook trout, and rainbow trout, while Little Cannon Creek and its tributaries host self-sustaining populations of brown and brook trout. Big Cannon Creek in particular is heavily fished by trout anglers. Both Big and Little Cannon Creeks are protected under the Upper Manistee River Natural Rivers Designation. For the proposed aspen clearcut in Stand 94 along Big Cannon Creek, sufficient buffer should be left so as to discourage excessive beaver colonization and damming of the stream. The same strategy should be applied for Stand 19 along Little Cannon Creek.

Wildlife Habitat Considerations: This compartment falls across three landforms: 1) a very poorly drained outwash plain occupies the middle third of the compartment; 2) an ice contact ridge touches the eastern edge; 3) an excessively drained outwash plain fills in the remainder. Low areas currently harbor shrub wetlands and mixed lowland forest. Beaver activity and periodic blowdown events provide sufficient natural disturbance in these areas. Some limited brush regeneration may be implemented to recycle rank alder and fruiting shrubs along upland edges. Lowland conifer habitat should be maintained, and is especially

important as winter cover for deer. A large stand of mature oak coincides with the ice contact ridge in this compartment. Harvest in this stand should incorporate variable retention methods, with some patches reserved from cutting, some small clearcut patches, and everything between. An element of pine should be retained as well. Upland outwash plain areas should be managed for an array of conditions, including open grassy habitat and a variety of age classes of oak-pine-aspen forest. One stand on the west side of section 28 will be prescribed for opening maintenance and herbaceous planting. Final harvests of aspen types should retain snags and pockets of residual live trees as well as some down logs for intra-stand habitat structure. If possible tops should be left unchipped and scattered around the sale area and kept under 24 inches in height. Efforts should be made to increase tree species diversity within some of the red pine plantations as they reach maturity and are regenerated. Also, incorporating small (2-5 acre) islands that are left relatively unthinned within mature pine stands would provide winter roosting cover for turkeys.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum, elsewhere in the state. The nearest gravel pit is one-half mile to the southeast in Section 33. Gravel potential in the compartment is considered good, especially the southeast corner. The abandoned Cannon Creek Field lies to the southwest. The field produced over 850,000 mcf gas from the Traverse Limestone. Most of the State land is currently leased for oil and gas development and the rest has been nominated for the May 2010 lease auction.

Vehicle Access: Lots of vehicle access into compartment.

Survey Needs: No survey needs at this time.

Recreational Facilities and Opportunities: Unorganized camping along Big Cannon Creek. A special use permit, group camping, is issued each year for the Northmen, a church group. They have been holding a week long camp outing in this area, including the NW part of section 27, for many years. Additional camping by others is taking place in this area. Efforts need to be made to insure compliance with state land use rules and control site deterioration as a result of use. Loop # 1 of the North Missaukee ORV Trail runs through the west half of Section 30. Three ORV Routes are located in the east part of Section 28.

Fire Protection:

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 146
 T25N, R06W, Sec. 28, 29, 30
 County: Kalkaska
 Unit: Traverse City
 YOE: 2012
 Acres: 1,759 GIS Calculated
 Stand Examiner: Donna Hagan
 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

Cover Type & Treatment Map

Legend

- Miris Corners
- Trails
- M ORV Routes
- J Motorcycle Trails
- Lakes and Rivers
- ▨ Clearcut (w/Reserves, Patch/Strip)
- ▩ Seed Tree (w/Reserves)
- ▧ Shelter Wood (w/Reserves)
- ▨ Thinning (Crown, Low, Systematic)
- ▩ Selection (Group, Single Tree)

Forest Stands

Level 3

- 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
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

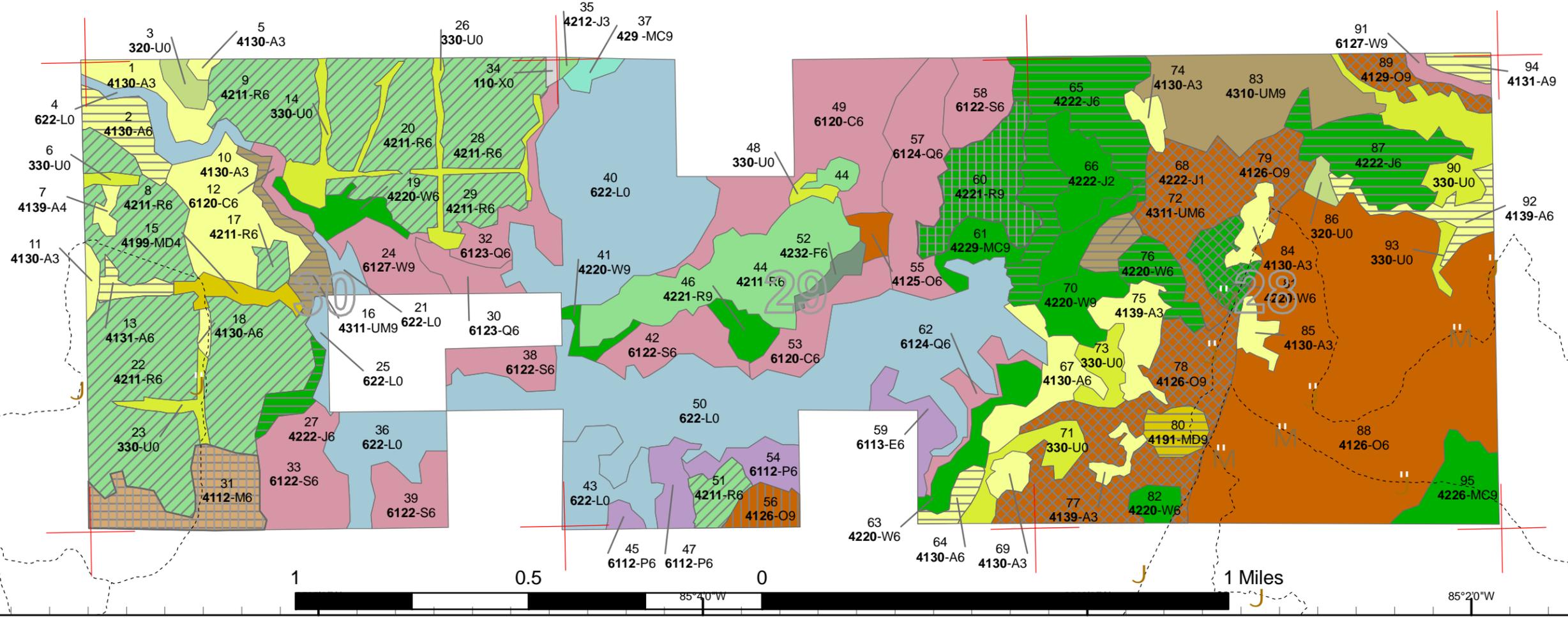
Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 622 - Lowland Shrub

30 29 28

N



Stand Boundary Map

Compartment 146
 T25N, R06W, Sec. 28, 29, 30
 County: Kalkaska
 Unit: Traverse City
 YOE: 2012
 Acres: 1,759 GIS Calculated
 Stand Examiner: Donna Hagan
 Map Revised: 5/24/2010
 Map Phase: Pre-Review

Legend

- Miris Corners
- Paved Roads
- - County Gravel Roads
- - Poor Dirt Roads
- + + Pipe
- - Intermittent Stream/Drain
- Stream
- Lakes and Rivers
- - - Trails
- M** ORV Routes
- J** Motorcycle Trails
- Stand Boundaries

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
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Non-Forest Stands

Level 3

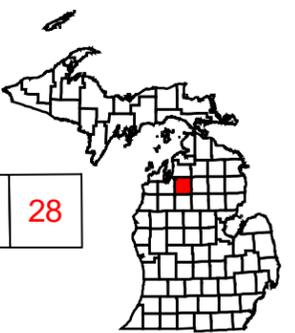
- 110 - Low Intensity Urban
- 320 - Upland Shrub
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- 622 - Lowland Shrub

Stand #
23

Stocking Density
(412)0 - A7

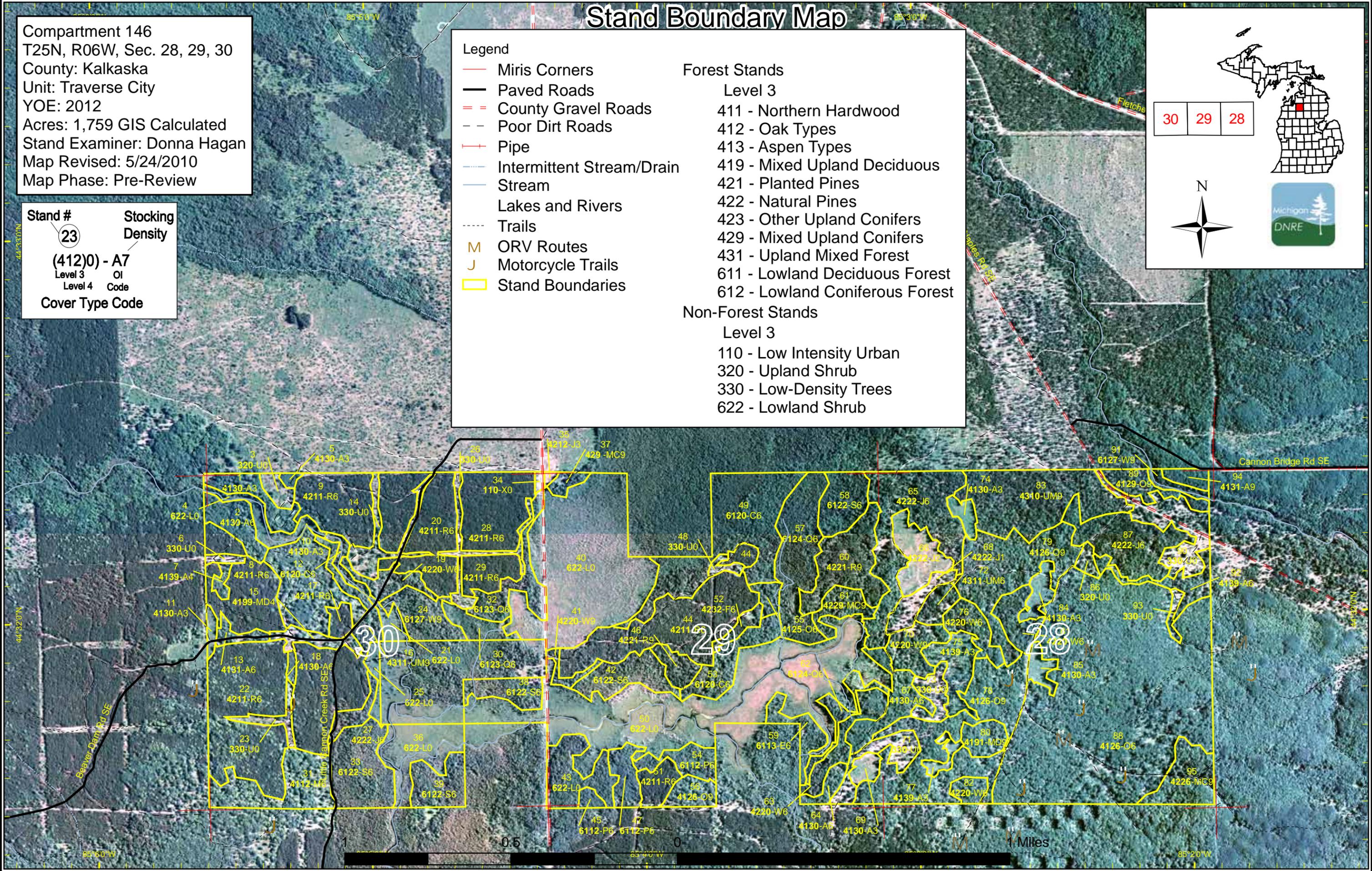
Level 3 OI
Level 4 Code

Cover Type Code



30 29 28

N

Dedicated & Proposed Special Conservation Area Map

Compartment 146
 T25N, R06W, Sec. 28, 29, 30
 County: Kalkaska
 Unit: Traverse City
 YOE: 2012
 Acres: 1,759 GIS Calculated
 Stand Examiner: Donna Hagan
 Map Revised: 5/24/2010
 Map Phase: Pre-Review

- Legend**
- Miris Corners
 - Stand Boundaries
 - Dedicated Special Conservation Areas
 - Cold Water Streams
 - Natural Rivers Vegetative Buffer
 - Natural Rivers Zoning District
 - Kirtland Warbler Habitat
 - Research, Development, and Military Lands

Forest Stands

- Level 3**
- 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
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest

Non-Forest Stands

- Level 3**
- 110 - Low Intensity Urban
 - 320 - Upland Shrub
 - 330 - Low-Density Trees
 - 622 - Lowland Shrub

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

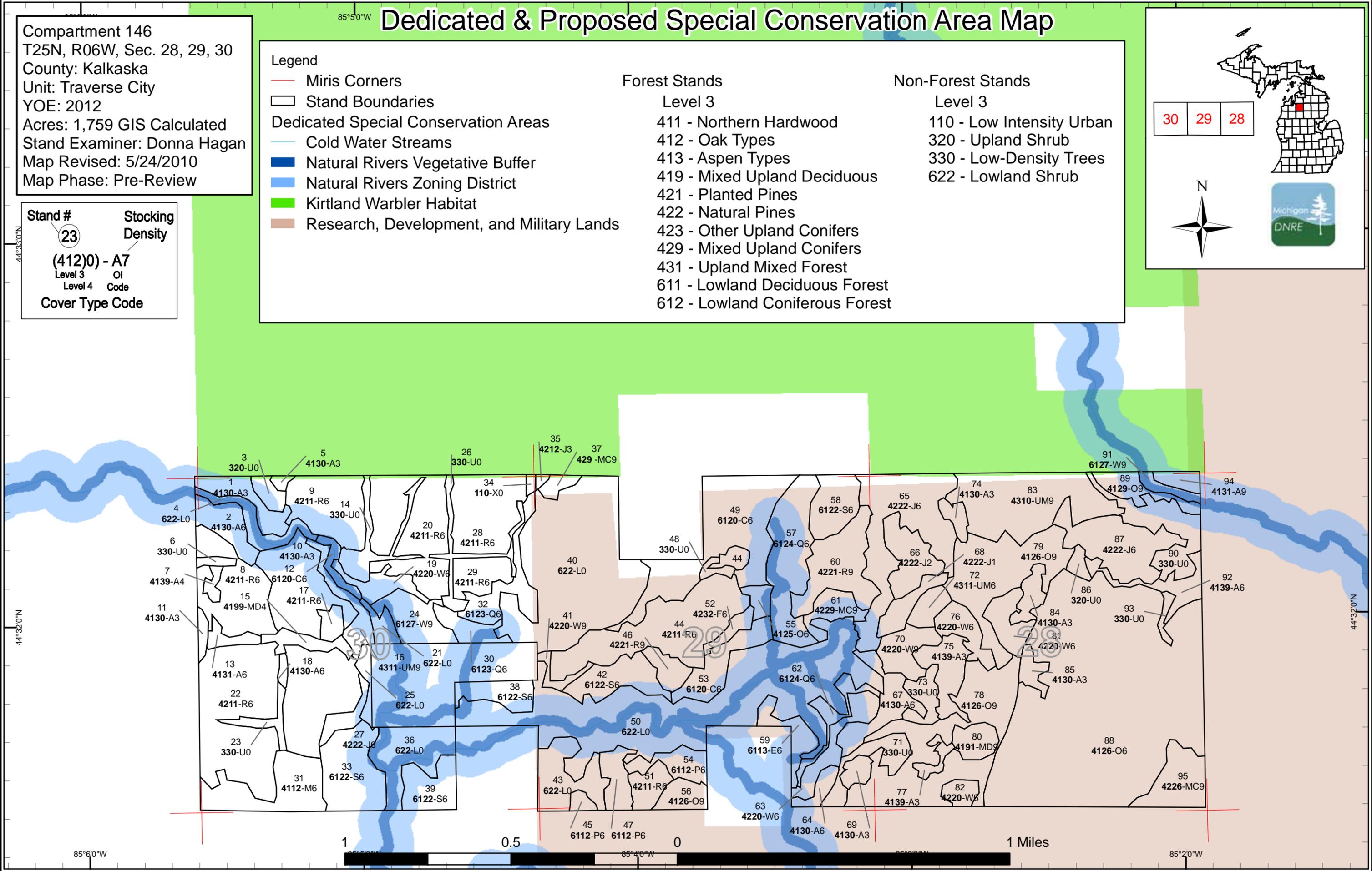
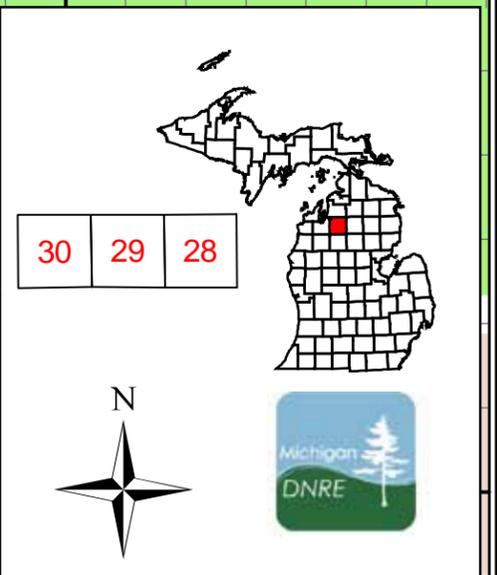


Table 1 – Total Acres by Cover Type and Age Class
(Level 3 Cover Type)



	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	40	0	13	32	24	0	31	0	0	0	0	0	0	0	140
Low Intensity Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Low-Density Trees	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Lowland Coniferous Forest	0	0	0	0	0	0	41	7	176	11	4	0	0	0	0	239
Lowland Deciduous Forest	0	0	0	0	0	21	0	9	0	0	0	0	0	0	0	30
Lowland Shrub	287	0	0	0	0	0	0	0	0	0	0	0	0	0	0	287
Mixed Upland Conifers	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Mixed Upland Deciduous	0	0	0	0	0	7	0	0	0	8	0	0	0	0	0	15
Natural Pines	0	24	0	0	0	9	67	30	95	3	0	0	0	0	0	227
Northern Hardwood	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	26
Oak Types	0	0	0	0	0	0	0	0	4	327	0	9	0	0	0	340
Other Upland Conifers	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
Planted Pines	0	1	0	0	0	304	0	0	0	0	0	0	0	0	0	305
Upland Mixed Forest	0	0	0	0	0	10	6	0	0	47	0	0	0	0	0	63
Upland Shrub	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Total	366	65	0	13	32	374	145	78	275	395	7	9	0	0	0	1759



Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 146
Total Compartment Acres: 1759

Acres by Treatment Type

Commercial Harvest - 583	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 11	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	36	0	0	0	0	0	36
Jack Pine	81	0	0	0	0	0	81
Mixed Upland Deciduous	8	0	0	0	0	0	8
Northern Hardwood	0	0	26	0	0	0	26
Oak	0	111	0	8	0	0	119
Red Pine	0	0	27	0	251	0	277
Upland Mixed Forest	16	0	0	0	0	0	16
White Pine	10	10	0	0	0	0	21
Total	151	121	53	8	251	0	583



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	61146002-Cut	11.9	4130 - Aspen	High Density Pole	68	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription Clearcut with retention. Leave retention along Cannon Creek
Specs:

Other Comments: Aspen in bad shape. SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

8	61146008-Cut	30.0	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription Third row thin.
Specs:

Other Comments:

Next Steps:

9	61146009-Cut	26.9	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription Third row thin.
Specs:

Other Comments:

Next Steps:

13	61146013-Cut	4.2	4131 - Aspen, Oak	High Density Pole	45	Harvest	Clearcut	Aspen, Oak	Cmpt. Review Proposal
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Prescription Clearcut leaving some oak for mast. Too small for retention.
Specs:

Other Comments: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

16	61146016-Cut	9.5	4311 - Pine, Aspen Mix	High Density Log	43	Harvest	Clearcut with Reserves	Pine, Aspen Mix	Cmpt. Review Proposal
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Prescription Final harvest, leaving retention along creek.
Specs:

Other Comments: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

**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
17	61146017-Cut	4.1	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									
20	61146020-Cut	44.2	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									
22	61146022-Cut	96.1	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									
27	61146027-Cut	5.6	42220 - Natural Jack Pine	High Density Pole	64	Harvest	Clearcut with Reserves	Natural Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leaving small finger along L type as retention. <u>Specs:</u></p> <p><u>Other Comments:</u> Jack pine is in bad shape.</p> <p><u>Next Steps:</u></p>									
28	61146028-Cut	30.1	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									
29	61146029-Cut	11.3	42110 - Planted Red Pine	High Density Pole	40	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									

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



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31	61146031-Cut	26.0	4112 - Maple, Beech, Cherry Association	High Density Pole	55	Harvest	Seed Tree with Reserves	Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Cut leaving oak as seed sources.

Specs:

Other

Comments:

Next

Steps:

51	61146051-Cut	7.9	42110 - Planted Red Pine	High Density Pole	41	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription Third row thin.

Specs:

Other

Hold and thin with compartment to the south - 152.

Comments:

Next

Steps:

56	61146056-Cut	7.7	4126 - White, Black, N. Pin Oak	High Density Log	88	Harvest	Shelterwood	White, Black, N. Pin Oak	Cmpt. Review Proposal
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Prescription

Specs:

Other

Comments:

Next

Steps:

60	61146060-Cut	26.7	42210 - Natural Red Pine	High Density Log	76	Harvest	Seed Tree with Reserves	Natural Red Pine	Cmpt. Review Proposal
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Prescription Seed tree with reserves with emphasis on leaving large butt and crown red and white pine trees as seed for natural regeneration. Leave all oak.

Specs:

Other

This is a natural stand of red pine. It has been thinned twice before with emphasis on removing utility poles. There is some regeneration of red

Comments: and white pine.

Next

Steps:

64	61146064-Cut	4.6	4130 - Aspen	High Density Pole	60	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription Final harvest with retention. Leave oak by road. Younger aspen in west end of stand, may leave that for retention.

Specs:

Other

SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs.

Comments: CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet of its stump.

Next

Steps:



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
65	61146065-Cut	46.4	42220 - Natural Jack Pine	High Density Pole	70	Harvest	Clearcut with Reserves	Natural Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leaving red and white pine. <u>Specs:</u> <u>Other</u> Jack pine in bad shape. <u>Comments:</u> <u>Next Steps:</u></p>									
72	61146072-Cut	6.4	4311 - Pine, Aspen Mix	High Density Pole	51	Harvest	Clearcut with Reserves	Pine, Aspen Mix	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest leaving oak. <u>Specs:</u> <u>Other</u> SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. <u>Comments:</u> CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump. <u>Next Steps:</u></p>									
76	61146076-Cut	10.3	42200 - Natural White Pine	High Density Pole	51	Harvest	Clearcut with Reserves	Natural White Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leaving areas of pure pine pockets as retention. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next Steps:</u></p>									
78	61146078-Cut	59.9	4126 - White, Black, N. Pin Oak	High Density Log	86	Harvest	Single Tree Selection	White, Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Take out aspen and maple and mark oak. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next Steps:</u></p>									
79	61146079-Cut	41.7	4126 - White, Black, N. Pin Oak	High Density Log	86	Harvest	Single Tree Selection	White, Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Take out aspen, red maple and jack pine. Mark oak to take. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next Steps:</u></p>									



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
80	61146080-Cut	7.9	4191 - Mixed Upland Deciduous with Conifer	High Density Log	86	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest. Mark some oak to leave. <u>Specs:</u></p> <p><u>Other</u> More aspen in west part of stand. <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
81	61146081-Cut	10.5	42200 - Natural White Pine	High Density Pole	51	Harvest	Single Tree Selection	Natural White Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Take out aspen, jack pine and red maple. <u>Specs:</u></p> <p><u>Other</u> Aspen heavier in East 1/2 of stand. <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
87	61146087-Cut	29.1	42220 - Natural Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	Natural Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leaving red and white pine. <u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
89	61146089-Cut	9.3	4129 - Mixed Oak	High Density Log	102	Harvest	Single Tree Selection	Mixed Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Take out aspen, maple and jack pine. <u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
92	61146092-Cut	10.5	4139 - Aspen, Mixed Deciduous	High Density Pole	60	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leaving red and white pine and oak. <u>Specs:</u></p> <p><u>Other</u> SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. <u>Comments:</u> CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet of its stump.</p> <p><u>Next</u> <u>Steps:</u></p>									

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



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	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
94	61146094-Cut	4.4	4131 - Aspen, Oak	High Density Log	65	Harvest	Clearcut with Reserves	Aspen, Oak	Cmpt. Review Proposal

Prescription: Final harvest, leaving retention along stream. Also leave some oak and pine.

Specs:

Other: SG-Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs.

Comments: CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet of its stump.

Next Steps:

**Total Treatment
Acreage Proposed: 583.2**

Table 4 -- Treatments Prescribed with a Limiting Factor



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

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 146	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
1	4130 - Aspen	High Density Sapling	11.4	20			
2	4130 - Aspen	High Density Pole	11.9	68			
5	4130 - Aspen	High Density Sapling	1.4	20			
7	4139 - Aspen, Mixed Deciduous	Low Density Pole	2.5	40			
8	42110 - Planted Red Pine	High Density Pole	30.0	40	171-200		
9	42110 - Planted Red Pine	High Density Pole	26.9	40	200+		
10	4130 - Aspen	High Density Sapling	31.5	31			
11	4130 - Aspen	High Density Sapling	2.5	8			Cut from an adjacent compartment (244) Silver Creek Aspen #40-00.
12	6120 - Lowland Cedar	High Density Pole	4.1	70			Along creek.
13	4131 - Aspen, Oak	High Density Pole	4.2	45			
15	4199 - Other Mixed Upland Deciduous	Low Density Pole	7.0	45			
16	4311 - Pine, Aspen Mix	High Density Log	9.5	43			
17	42110 - Planted Red Pine	High Density Pole	4.1	40	200+		
18	4130 - Aspen	High Density Pole	1.6	45			
19	42200 - Natural White Pine	High Density Pole	8.6	43			
20	42110 - Planted Red Pine	High Density Pole	44.2	40	200+		
22	42110 - Planted Red Pine	High Density Pole	96.1	40	200+		
24	6127 - Lowland Pine	High Density Log	15.1	70			



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 146	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
27	42220 - Natural Jack Pine	High Density Pole	5.6	64			
28	42110 - Planted Red Pine	High Density Pole	30.1	40	171-200		
29	42110 - Planted Red Pine	High Density Pole	11.3	40	171-200		
30	6123 - Lowland Fir	High Density Pole	8.1	70			
31	4112 - Maple, Beech, Cherry Association	High Density Pole	26.0	55			
32	6123 - Lowland Fir	High Density Pole	15.4	70			
33	6122 - Black Spruce	High Density Pole	26.8	55			
35	42120 - Planted Jack Pine	High Density Sapling	0.8	7			Extension of Warbler planting from compartment to the North.
37	429 - Mixed Upland Conifers	High Density Log	3.5	90			
38	6122 - Black Spruce	High Density Pole	10.8	89			
39	6122 - Black Spruce	High Density Pole	14.1	55			
41	42200 - Natural White Pine	High Density Log	3.3	80			
42	6122 - Black Spruce	High Density Pole	16.3	72			
44	42110 - Planted Red Pine	High Density Pole	53.6	40	111-140		Thinned last time, sale # 47-00, during Jan/Feb of 2000.
45	6112 - Lowland Aspen	High Density Pole	2.4	40			Hold for 10 more years.
46	42210 - Natural Red Pine	High Density Log	6.8	65	111-140		
47	6112 - Lowland Aspen	High Density Pole	9.2	40			Hold for 10 more years.
49	6120 - Lowland Cedar	High Density Pole	52.0	72			



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 146	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
51	42110 - Planted Red Pine	High Density Pole	7.9	41	200+		
52	42320 - Upland Spruce	High Density Pole	4.2	58			
53	6120 - Lowland Cedar	High Density Pole	15.8	72			
54	6112 - Lowland Aspen	High Density Pole	9.8	43			
55	4125 - Black, N. Pin Oak	High Density Pole	4.1	70			
56	4126 - White, Black, N. Pin Oak	High Density Log	7.7	88	81-110		
57	6124 - Lowland Spruce-Fir	High Density Pole	34.3	72			Stream runs through stand.
58	6122 - Black Spruce	High Density Pole	14.9	72			
59	6113 - Lowland Maple	High Density Pole	9.1	65			
60	42210 - Natural Red Pine	High Density Log	26.7	76	171-200		Sharon Cabin Logs Sale #050-99-01. Thinning was marked with the heavy emphasis on removing utility pole size trees.
61	42290 - Natural Mixed Pine	High Density Log	9.1	76			
62	6124 - Lowland Spruce-Fir	High Density Pole	7.4	65			
63	42200 - Natural White Pine	High Density Pole	12.4	50	141-170		
64	4130 - Aspen	High Density Pole	4.6	60			
65	42220 - Natural Jack Pine	High Density Pole	46.4	70			Aspen in southern end of stand.
66	42220 - Natural Jack Pine	Medium Density	15.7	6			Naples Gravel Pit Sale #008-02.
67	4130 - Aspen	High Density Pole	15.6	40			
68	42220 - Natural Jack Pine	Low Density Sapling	8.0	6			Naples Gravel Pit Sale #008-02.



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 146	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
69	4130 - Aspen	High Density Sapling	4.3	6			Naples Gravel Pit Sale #008-02.
70	42200 - Natural White Pine	High Density Log	12.2	70			
72	4311 - Pine, Aspen Mix	High Density Pole	6.4	51			
74	4130 - Aspen	High Density Sapling	4.2	6			Naples Gravel Pit Sale #008-02.
75	4139 - Aspen, Mixed Deciduous	High Density Sapling	14.4	6			Naples Gravel Pit Sale #008-02.
76	42200 - Natural White Pine	High Density Pole	10.3	51	111-140		Heavier to aspen in south end.
77	4139 - Aspen, Mixed Deciduous	High Density Sapling	3.5	6			Naples Gravel Pit Sale #008-02.
78	4126 - White, Black, N. Pin Oak	High Density Log	59.9	86	111-140		
79	4126 - White, Black, N. Pin Oak	High Density Log	41.7	86	81-110		
80	4191 - Mixed Upland Deciduous with Conifer	High Density Log	7.9	86	171-200		More aspen in west part of stand.
81	42200 - Natural White Pine	High Density Pole	10.5	51	111-140		
82	42200 - Natural White Pine	High Density Pole	4.7	51	51-80		
83	4310 - Pine, Oak Mix	High Density Log	46.7	84			Dead oak in this stand.
84	4130 - Aspen	High Density Sapling	6.4	6			Naples Gravel Pit Sale #008-02.
85	4130 - Aspen	High Density Sapling	4.9	6			Naples Gravel Pit Sale #008-02.
87	42220 - Natural Jack Pine	High Density Pole	29.1	52			
88	4126 - White, Black, N. Pin Oak	High Density Pole	217.4	86	81-110		Sale #8-02.
89	4129 - Mixed Oak	High Density Log	9.3	102	51-80		Camping area of the Northmen.



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Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 146

Inventory Method: IFMAP

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
91	6127 - Lowland Pine	High Density Log	3.8	90		Big Cannon Creek runs through stand.
92	4139 - Aspen, Mixed Deciduous	High Density Pole	10.5	60	81-110	
94	4131 - Aspen, Oak	High Density Log	4.4	65	111-140	Old railroad grade runs through stand.
95	42260 - Natural Pine, Mixed Deciduous	High Density Log	17.3	65	141-170	



Stand	Cover Type	Acres	Gen Cmts:
3	3205 - Mixed Upland Shrub	4.5	
4	6220 - Alder/willow	9.7	
6	3301 - Low Density Deciduous Tree	2.0	
14	3303 - Mixed Low Density Trees	11.1	
21	6220 - Alder/willow	4.7	
23	3301 - Low Density Deciduous Tree	4.9	
25	6220 - Alder/willow	4.0	
26	3301 - Low Density Deciduous Tree	8.5	
34	11 - Low Intensity Urban	1.0	
36	6220 - Alder/willow	22.6	
40	6220 - Alder/willow	95.1	Tag alder with standing dead trees.
43	6229 - Mixed lowland shrub	19.3	
48	3301 - Low Density Deciduous Tree	2.3	
50	6229 - Mixed lowland shrub	131.7	
71	3205 - Mixed Upland Shrub	10.8	Scattered oak, white pine, red pine. Some red maple, black cherry, juneberry, clad, sedge, poverty, blueberry, sweet fern, moss.
73	3303 - Mixed Low Density Trees	7.7	
86	3204 - Mast Producing Shrub	2.9	
90	3303 - Mixed Low Density Trees	21.3	



Stand	Cover Type	Acres	Gen Cmts:
93	3303 - Mixed Low Density Trees	2.2	



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.
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.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.