



TRAVERSE CITY FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 13 ENTRY YEAR: 2012

Compartment Acreage: 2538 **County:** Benzie

Stand Examiner: Timothy Webb

Legal Description: T26N R13W Sections 4, 5, 6, 7, 8, 16, 17, 18

Management Goals: Compartment 13 was previously managed under the Pere Marquette State Forest Plan as Resource Management Unit 109, designated for mixed use. Of primary concern is the Platte River State Fish Hatchery, which is situated within the compartment. The hatchery depends on cold, clean water from local streams, particularly Brundage Creek. Forest management within the compartment must not compromise the integrity of the Platte River or its tributaries. A potential old growth area, proposed in 1997, encompassed several state forest stands along the Platte River upstream from the hatchery. This area is being considered for expansion and reclassification as a special conservation area to protect water quality, riparian habitat, deer winter cover, and aesthetic values along the river and creeks throughout the compartment.

Beyond these riparian areas, the compartment will continue to be managed as a mix of forest types and age classes, including aspen, northern hardwood, plantation pine, and natural white pine stands. Also, several forest openings scattered throughout the compartment will continue to be managed for open habitat.

Soil and Topography: The compartment is entirely within an extensive outwash plain landscape, which covers a significant part of Benzie County. The compartment is topographically defined, however, by the valleys of the Platte River and several tributary streams. Outside of these valleys, the terrain is flat to gently rolling. Sandy soils predominate (Nessen, Kaleva, Covert-Pipestone, Benona, Grattan, Benzonia, and Shavenaugh sands), with some muck soils in lowlands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Areas to the south and west of compartment 13 are predominantly state forest land with some private inholdings. To the north are private rural parcels of 5 to 300+ acres, including some small farm operations and a small private airstrip. State lands in the compartment surround on three sides a large block of heavily subdivided, private rural-residential lots, typically 5 to 20 acres in size, which extends to the east and to the southwest of the compartment. U.S. Highway 31, a busy transportation corridor, divides the compartment north and south.

Unique, Natural Features: There are several water bodies within the compartment, including Bronson Lake, Platte River, Stanley Creek, Brundage Creek, and Kinney Creek. Numerous springs and seeps emerging from bluff bases feed into these creeks. Lake Louise and Belt Lake are also within the compartment on privately owned parcels.

A wetland basin in the northeast part of the compartment was long ago drained and had much of the marl removed, likely for fertilizer. This may present an opportunity for cedar restoration.

Archeological, Historical, and Cultural Features: Brundage Cemetery, a small, privately owned one-acre parcel, is surrounded by state land within section 17. The State Historical Preservation Office notes an

Indian burial mound somewhere in the vicinity, but the actual location is unknown. An old railroad grade crosses through the northern part of the compartment, with some old structural remnants in section 5. Brundage dam and pond are in section 17, with an adjacent old stone foundation.

Special Management Designations or Considerations: A potential old-growth area nominated in 1997 is being reconfigured and proposed as a Special Conservation Area. See “Management Goals” above.

Watershed and Fisheries Considerations: The Platte River, Stanley Creek, Brundage Creek, and Kinney Creek located in this compartment are all designated trout streams. All are considered very high quality streams with natural reproduction of brook and brown trout. No fish stockings are necessary in these streams due to natural reproduction, because of the excellent habitat. Fisheries Division currently operates and actively manages for the Platte River State Fish Hatchery in this compartment. No clear cuts should take place in riparian areas as the shading a recruitment of woody debris to trout streams is highly important. Clear cuts should be situated 300 feet back from stream banks in this compartment. Additionally, forest management for young aspen regeneration in the stream corridors should be avoided in order to discourage beaver activity in the area. Management in the stream corridors should instead be for old-growth coniferous species, or at least for coniferous species. The majority of riparian stands along the Platte River have already been designated as old-growth (Heather Seites, MDNRE Fisheries Division comments).

Wildlife Habitat Considerations: This compartment falls entirely within a broad, flat outwash plain with few wetlands and excessively drained sand (Land Type Association 5111). This compartment represents a small unique portion of this LTA, as the usually flat outwash plain is broken here by the valleys of the Platte River and its tributaries. Consequently, this compartment would have been less influenced by the historic large-scale fires that affected the rest of the LTA and therefore more successional advanced to white pine and northern hardwood types. Maintenance of large unfragmented tracts of northern hardwoods in association with the Platte River drainage will provide mature interior forest habitat for numerous forest songbirds and riparian associates, most notably the threatened red-shouldered hawk. Such management will complement goals to maintain water quality in the river and protect fragile banks. Maintaining diversity of hardwood species and retention of cavity trees and down logs should be a part of selection cutting. Upland areas away from the river should continue to be managed for a variety of successional stages and age classes of aspen-white pine forest, from grass and shrub openings to late-successional white pine forest. Where harvesting is to occur in these types, we should maintain within stand structural diversity by retaining various leave trees (particularly mast producers), snags, and down logs. If possible tops should be left unchipped and scattered around the sale area and under 24 inches in height. One of the larger openings has been scheduled for treatment to reduce bracken and exotics and to restore grasses and forbs for wildlife forage and cover. Lowland conifers should be maintained as much as possible. Patch cuts may be appropriate in some conifer swamps to replicate small naturally occurring blowdowns, to provide winter deer browse, and to attempt cedar and hemlock regeneration, but none are prescribed at this time.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Devonian Ellsworth and Antrim shales. The Antrim is quarried for cement products. The nearest gravel pit is within one mile to the east in the SW of Section 9. Gravel potential in the compartment is considered good. This area is located northwest of the Antrim Shale gas play. Most of the Compartment is leased for oil and gas development. The Antrim Shale appears to have potential.

Vehicle Access: Access for management and recreation is adequate throughout, except for the isolated 80-acre parcel in section 8. A private subdivision road ends near the northwest corner of this parcel, and an old 2-track through private land enters this parcel from the southwest. There is no public access. The Platte River and tributary streams restrict the approaches to various parts of the compartment.

Survey Needs: The compartment is well monumented; no survey needs anticipated.

Recreational Facilities and Opportunities: Trout fishing is popular along the Platte River and its tributaries. Deer and ruffed grouse hunting are also important recreational activities. The Platte River Snowmobile Trail runs north and south through the compartment. The Shore-to-Shore Trail crosses the northeast corner of the compartment along county roads. Veterans Memorial State Forest Campground is just west of the compartment off U.S. 31.

Fire Protection: VFD Fire Protection is from the newly formed Inland Twp. Fire Dept., and DNRE Fire Protection is from the Platte River Field Office. Travel time is excellent, as this compartment includes the Platte River Field Office. Access is acceptable, and urban interface is not much of a concern except for private residences scattered throughout the compartment.

Additional Compartment Information: The E½ SENE of section 5 would be a desirable acquisition, should it become available for sale or exchange.

****** Cover type details and proposed treatments are listed in the attached reports:**

Cover Type by Age Class

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 SCAs

Cover Type & Treatment Map

Compartment 13
 T26N, R13W, Sec. 4, 5, 6, 7, 8, 16, 17, 18
 County: Benzie
 Unit: Traverse City
 YOE: 2012
 Acres: 2,538 GIS Calculated
 Stand Examiner: Timothy Webb
 Map Revised: 5/22/2010
 Map Phase: Pre-Review

Stand #	Stocking Density
(4120) - A7	
Level 3	OI
Level 4	Code
Cover Type Code	

Legend

— Miris Corners

— Highway

— Paved Roads

- - Gravel Roads

- - Poor Dirt Roads

••• Pipe

--- Trails

🚙 Snowmobile Trails

🐎 Horse Trails

🚧 Culverts

~ Intermittent Stream/Drain

— Stream

🌊 Lakes and Rivers

Treatments

▨ Clearcut (w/Reserves, Patch/Strip)

▨ Thinning (Crown, Low, Systematic)

▨ Selection (Group, Single Tree)

▨ Site Preparation

▨ Other Treatment - See Comments

Forest Stands

Level 3

411 - Northern Hardwood

413 - Aspen Types

419 - Mixed Upland Deciduous

421 - Planted Pines

422 - Natural Pines

423 - Other Upland Conifers

431 - Upland Mixed Forest

611 - Lowland Deciduous Forest

612 - Lowland Coniferous Forest

613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

110 - Low Intensity Urban

122 - Road/Parking Lot

123 - Other High Intensity Urban

310 - Herbaceous Openland

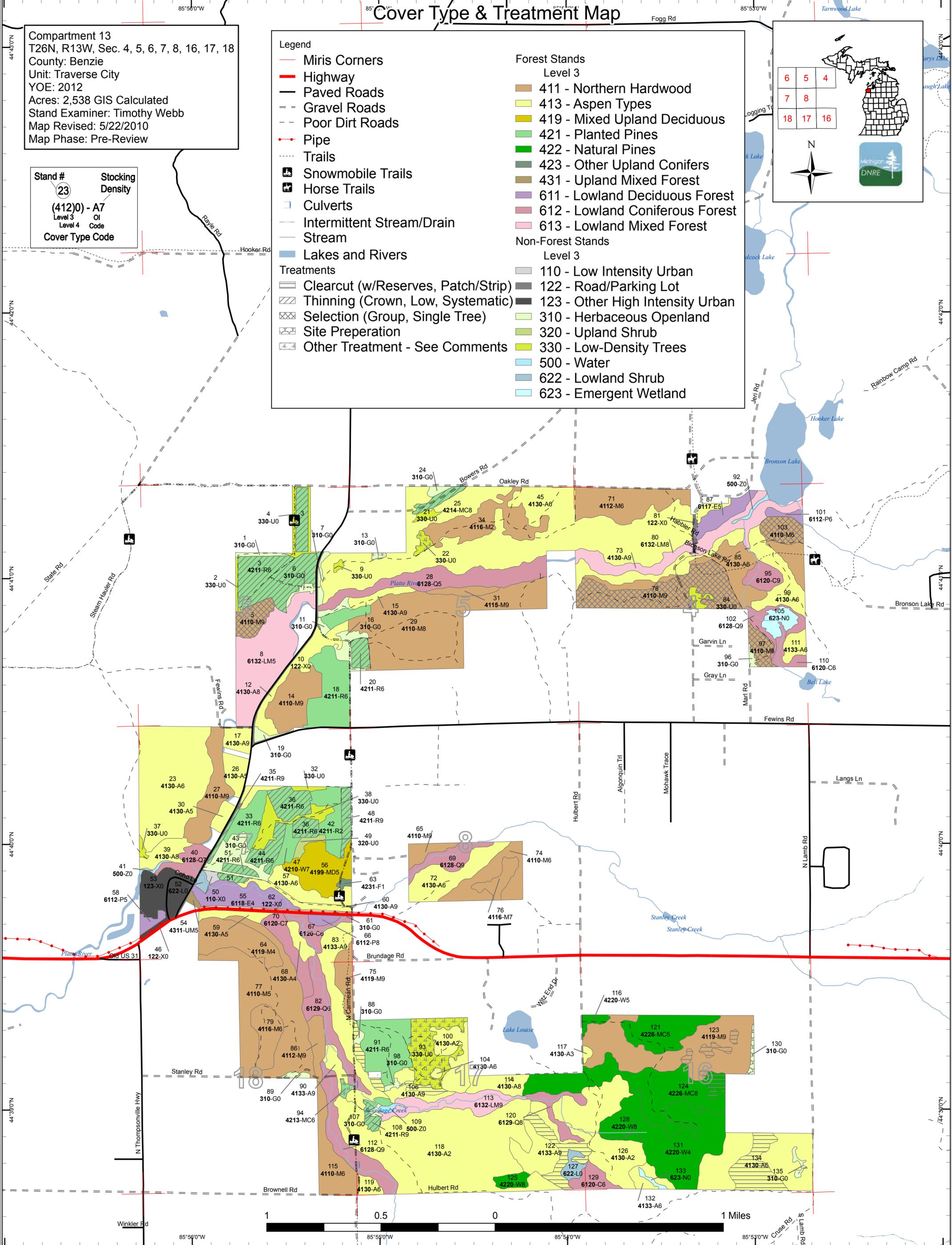
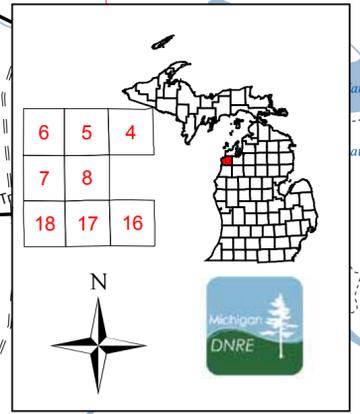
320 - Upland Shrub

330 - Low-Density Trees

500 - Water

622 - Lowland Shrub

623 - Emergent Wetland



Stand-Boundary Map

Compartment 13
 T26N, R13W, Sec. 4, 5, 6, 7, 8, 16, 17, 18
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Legend

- Miris Corners
- Highway
- Paved Roads
- Gravel Roads
- - Poor Dirt Roads
- Pipe
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers
- - - Trails
- Snowmobile Trails
- Horse Trails
- Culverts
- Stand Boundaries

Forest Stands

Level 3

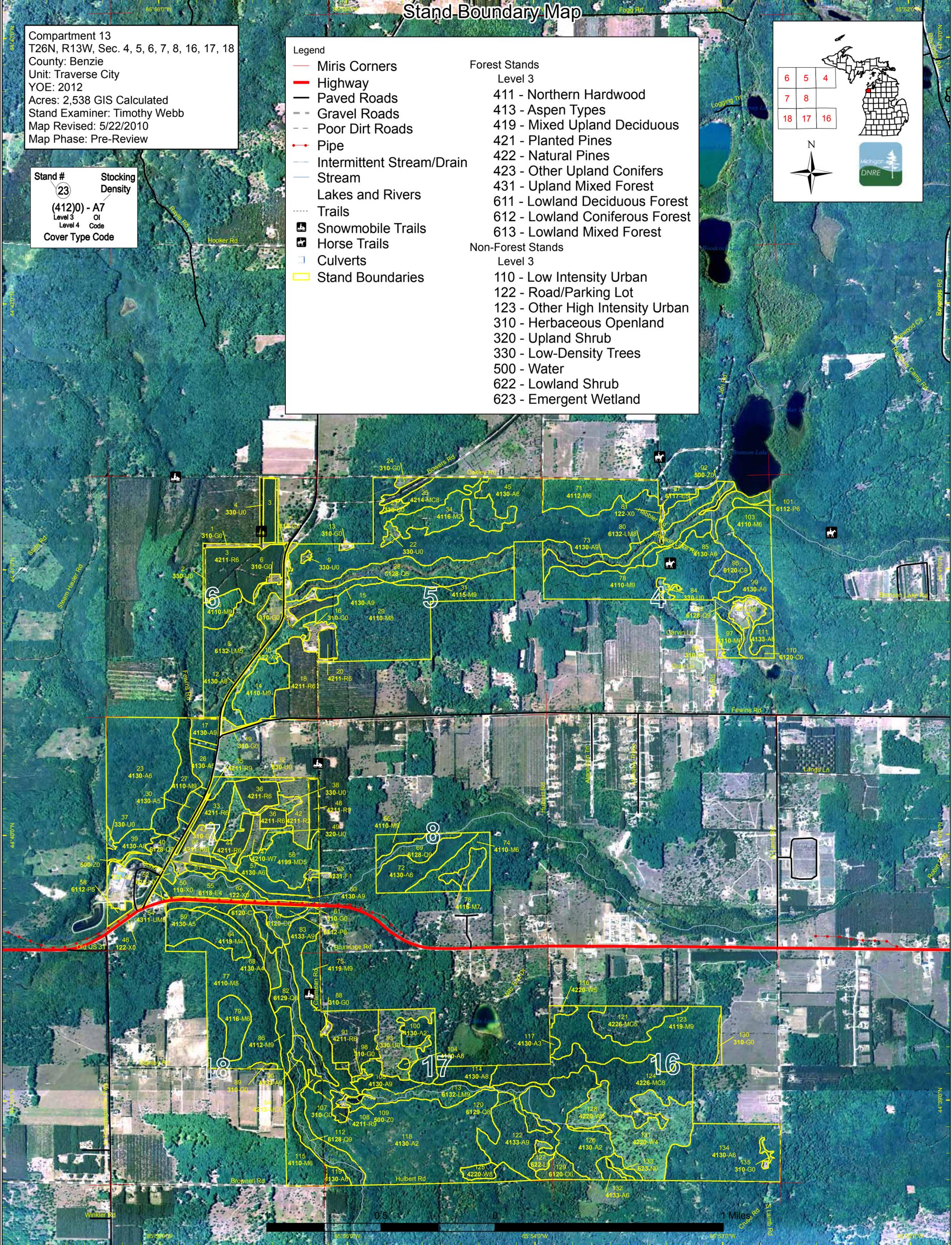
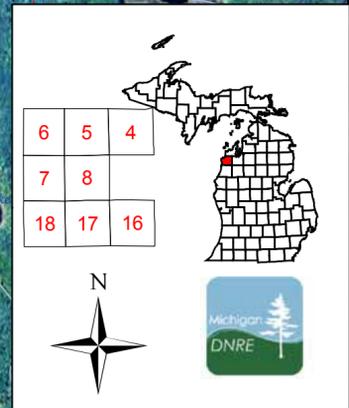
- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
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- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

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- 123 - Other High Intensity Urban
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- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

Stand #
23
 Stacking
 Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



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Dedicated & Proposed Special Conservation Area Map

Legend

- Miris Corners
- Stand Boundaries
- Proposed Special Conservation Areas
 - ▨ SCA - Special Conservation Area
 - ▩ SCA Removal
- Dedicated Special Conservation Areas
 - Cold Water Streams
 - ▲ Campgrounds

Forest Stands

- Level 3
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
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Non-Forest Stands

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Stand # Stacking
 Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

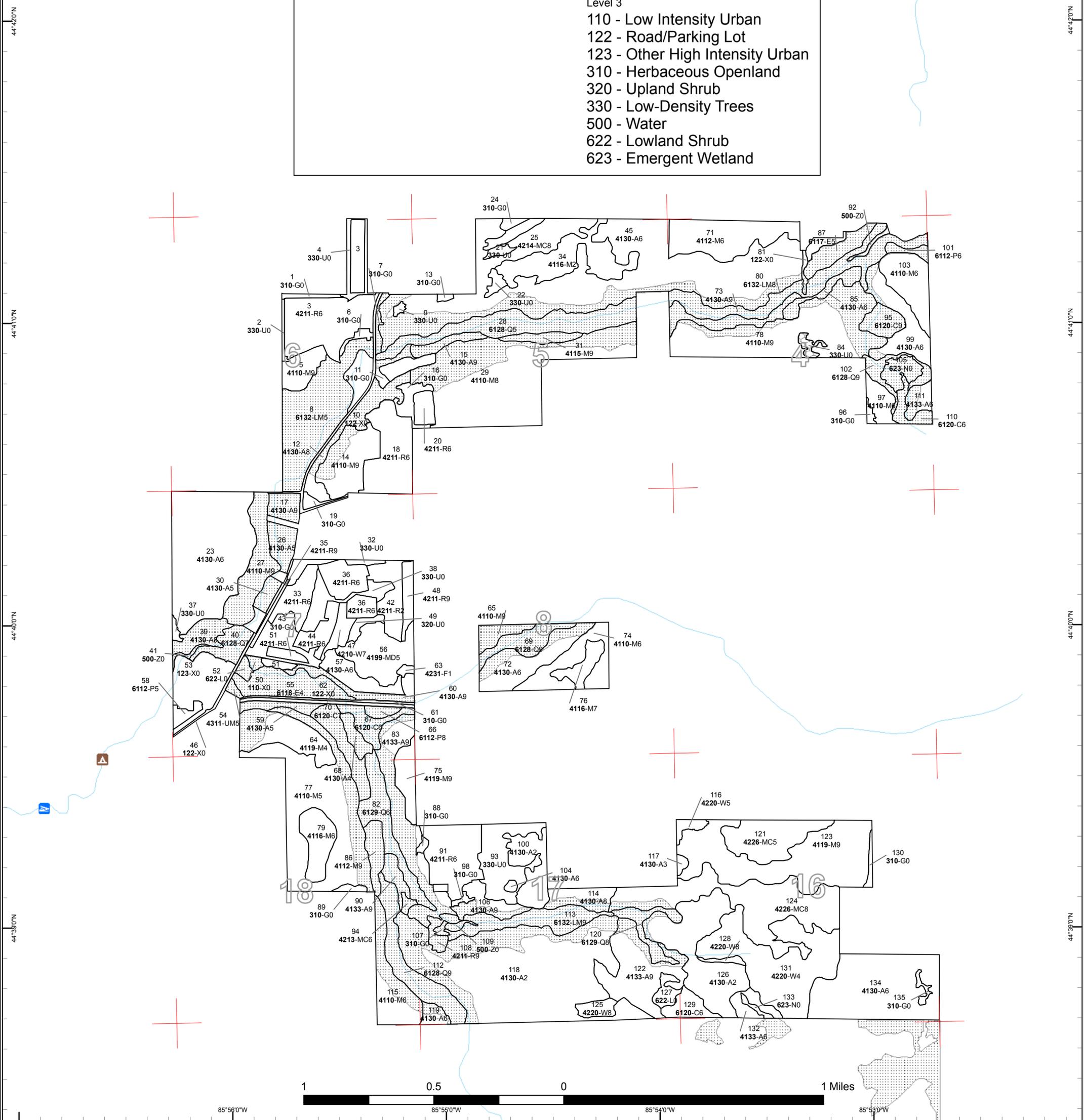
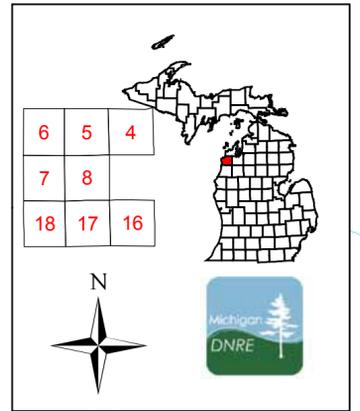


Table 1 – Total Acres by Cover Type and Age Class
(Level 3 Cover Type)



	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	0	0	239	326	160	82	6	13	0	0	0	0	0	80	906
Emergent Wetland	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Herbaceous Openland	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Low Intensity Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Low-Density Trees	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
Lowland Coniferous Forest	0	0	0	0	0	0	0	0	0	51	99	0	9	16	10	185
Lowland Deciduous Forest	0	0	0	12	0	27	0	3	0	0	0	0	0	0	4	46
Lowland Mixed Forest	0	0	0	0	0	0	57	0	23	0	0	0	0	0	37	117
Lowland Shrub	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Mixed Upland Deciduous	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	28
Natural Pines	0	0	0	0	0	0	71	0	2	0	0	5	0	0	104	183
Northern Hardwood	0	0	0	17	34	0	0	0	0	265	90	222	0	0	38	666
Other High Intensity Urban	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Other Upland Conifers	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Planted Pines	0	0	16	46	0	134	20	0	5	0	0	0	0	0	0	222
Road/Parking Lot	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Upland Mixed Forest	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Upland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Water	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	183	0	17	313	390	322	230	10	44	316	189	227	9	16	272	2538



Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 013
Total Compartment Acres: 2538

Acres by Treatment Type

Commercial Harvest - 233	Site Prep - 2	Tree Planting - 0	Prescribed Burn - 0	Other - 2
Habitat Cut - 19	Opening Maintenance - 31	Tree Seeding - 0	Pesticide - 0	

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	45	0	0	0	0	0	45
Natural Mixed Pines	5	0	0	0	0	0	5
Northern Hardwood	6	87	0	0	0	0	93
Planted Mixed Pines	0	0	0	0	5	0	5
Red Pine	0	0	0	0	105	0	105
Total	56	87	0	0	110	0	252



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	61013003-Cut	50.7	42110 - Planted Red Pine	High Density Pole	41	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> 3rd-row thin. May have to adjust in some sloped areas to marked swaths. Include specifications as needed to protect the snowmobile trail which traverses the stand.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
5	61013005-Cut	11.9	4110 - Sugar Maple Association	High Density Log	98	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark down to a residual BA of 80-90. Maintain species diversity post harvest. Create some CWD during harvest operations.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Stand is on a steep sided hill. Some slopes may be inoperable and may be excluded from the sale boundary.</p> <p><u>Next Steps:</u> Do regeneration checks at appropriate intervals after harvest.</p>									
20	61013020-Cut	6.2	42110 - Planted Red Pine	High Density Pole	41	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Cut every third row. Use appropriate specifications to protect snowmobile trail usage.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
25	61013025-Cut	5.2	42140 - Planted Mixed Pine	Medium Density Log	55	Harvest	Systematic Thinning	Planted Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Cut out middle row of the 5 rows on each side of the road. Also mark poorer quality individual trees to cut in adjacent rows, especially declining jack pines.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
35	61013035-Cut	2.2	42110 - Planted Red Pine	High Density Log	54	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Cut 3rd and 6th rows of this 8-row wide roadside plantation strip.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
36	61013036-Cut	19.3	42110 - Planted Red Pine	High Density Pole	47	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning down to a residual BA of about 120.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
44	61013044-Cut	10.0	42110 - Planted Red Pine	High Density Pole	47	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning down to a residual BA of about 110-120. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> None needed. <u>Steps:</u></p>									
48	61013048-Cut	7.0	42110 - Planted Red Pine	High Density Log	52	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for a thinning down to a residual BA of about 140. Use necessary specifications to protect snowmobile trail usage. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> None needed. <u>Steps:</u></p>									
51	61013051-Cut	5.6	42110 - Planted Red Pine	High Density Pole	52	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for a thinning down to a residual BA of about 140. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> None needed. <u>Steps:</u></p>									
78	61013078-cut	53.8	4110 - Sugar Maple Association	High Density Log	103	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark down to a residual BA of about 80-90. Leave some/all slash to help thwart illegal ORV use. Create some CWD during harvest. <u>Specs:</u> <u>Other</u> Beech scale was noted in stand during inventory. Use appropriate contract specs and marking guidelines to address BBD. <u>Comments:</u> <u>Next</u> Conduct regeneration checks at appropriate intervals after harvest. Mixed hardwood saplings are desired in regeneration gaps, although beech <u>Steps:</u> and ironwood are expected to dominate initially.</p>									
83	61013083-cut	4.8	4133 - Aspen, Mixed Pine	High Density Log	77	Harvest	Clearcut with Reserves	Aspen, Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut down to 2" diameter. Mark individual pine and maple trees for retention, especially next to cemetery. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> Conduct regeneration checks at appropriate intervals. <u>Steps:</u></p>									
97	61013097-Cut	8.8	4110 - Sugar Maple Association	High Density Pole	92	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark down to a residual BA of about 90. Avoid marking under-represented species to maintain diversity. <u>Specs:</u> <u>Other</u> Most of the stand is on a slope leading right up to a property line, so operability may be difficult; some parts may have to be excluded from the <u>Comments:</u> harvest area. <u>Next</u> None needed - not a regeneration cut. <u>Steps:</u></p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
103	61013103-Cut	12.2	4110 - Sugar Maple Association	High Density Pole	108	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning down to a residual BA of about 80-90. Create some CWD during harvest operations. Also create some regeneration gaps <u>Specs:</u> away from the trail. Leave all hemlock and some beech for mast. Consider likely EAB when marking.</p> <p><u>Other Comments:</u> South end of original stand was left out of the treatment area because it has a lower BA and to keep the treatment to one side of the Shore-to-Shore Trail.</p> <p><u>Next Steps:</u> Conduct regeneration surveys at appropriate intervals. Any mix of hardwood seedlings is desirable in gaps, although beech and ironwood are likely to dominate in the short term.</p>									
106	61013106-cut	3.5	4130 - Aspen	High Density Log	70	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut to 2" diameter limit. Mark individual trees/clumps of mixed species for retention. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Conduct regeneration checks at appropriate intervals. Aspen sprouts are expected to dominate the regeneration; a mixture of hardwoods and white pine are also acceptable in the mix.</p>									
108	61013108-thin	3.6	42110 - Planted Red Pine	High Density Log	71	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for a thinning down to a residual BA of about 120-130. <u>Specs:</u></p> <p><u>Other Comments:</u> Treatment is within a proposed SCA. Objective is to continue gradual thinnings of this red pine plantation to slowly convert the stand to a more natural mix of long-lived hardwoods and pines.</p> <p><u>Next Steps:</u></p>									
123	61013123-Cut	5.8	4119 - Mixed Northern Hardwoods	High Density Log	82	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Patch cuts within a larger hardwood stand: clearcut to a 2" diameter limit, marking a few scattered hardwoods for retention. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Conduct regeneration checks at appropriate intervals. Any mix of aspen, oak and hardwoods is acceptable, although aspen sprouts are expected to dominate.</p>									
124	61013124-cut	4.7	42260 - Natural Pine, Mixed Deciduous	Medium Density Log	69	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut to a 2" diameter limit, marking some individual trees/clumps of mixed species for retention. <u>Specs:</u></p> <p><u>Other Comments:</u> Proposed harvest area includes an unauthorized fence extending onto state land from adjacent private land that will have to be removed.</p> <p><u>Next Steps:</u> Conduct regeneration checks at appropriate intervals. Any mix of aspen, white pine, and hardwood regeneration is acceptable, although aspen sprouts are expected to dominate.</p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
134	61013134-Cut	21.8	4130 - Aspen	High Density Pole	44	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription Clearcut to a 2" diameter limit, leaving all oaks, selected mature pines, and 2 or 3 retention islands with multiple species.

Specs:

Other Although not fully mature, this portion of the parent stand is being cut to create local age class diversity. Create some (approximately 1 tree per
Comments: 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 Conduct regen checks at appropriate intervals. Stand should regenerate readily to aspen, with some white pine and red maple as an acceptable
Steps: part of the mix.

13	NF_61013013- Refuse Removal	1.0	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Remove trash

Specs:

Other
Comments:

Next
Steps:

22	NF_61013022- Forage	2.9	Unspecified		0	Non-Forest Management	Other - Specify	Low Density Deciduous Trees	Cmpt. Review Proposal
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Prescription Ground cover is mostly Degraded. Could remove some woody vegetation to facilitate planting. Recondition soil. Plant to herbaceous
Specs: vegetation. Could expand a little into stand 34.

Other Disk , plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) or appropriate native species.
Comments:

Next Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.
Steps:

93	NF_61013093- Forage	27.2	Unspecified		0	Non-Forest Management	Other - Specify	Low Density Deciduous Trees	Cmpt. Review Proposal
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Prescription Mow to remove/reduce bracken component. May need to treat for knapweed. No till in native grassed and forbs suitable to this site for wildlife
Specs: forage and cover.

Other
Comments:

Next Burn and or reseed as needed.
Steps:

94	61013094- release	1.7	42130 - Planted Scotch Pine	High Density Pole	45	Other	Unspecified	Sugar Maple Association	Cmpt. Review Proposal
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Prescription Cut all live Scotch pine and leave on site. Cut between July 1 and March 1 to avoid pine bark beetle buildups.

Specs:

Other Purpose is to eliminate a low-value non-native species and to release mixed hardwood seedling understory, which includes occasional oaks from
Comments: a previous planting project. Felled SP may help control deer browsing on hardwood seedlings.

Next Check for regeneration at appropriate intervals. Any mix of hardwoods and native pines is acceptable. If significant amounts of Scotch pine
Steps: come up, consider manual cutting for control.

**Total Treatment
Acreage Proposed: 270.1**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
122 61013122-cut	15.1	4133 - Aspen, Mixed Pine	High Density Log	49	Harvest	Clearcut with Reserves	Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Clearcut to a 2" diameter limit. Mark individual trees/clumps of mixed species for retention.

Specs:

Other Comment: 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 of its stump.

Next Steps: Conduct regeneration checks at appropriate intervals following harvest. Aspen sprouts are expected to dominate the regeneration, with some amount of white pine seedlings also acceptable in the mix.

Limiting Factor and No. Treatment Reason 3B: T & E or special concern (name)
A stick nest is present, quite possibly and active red-shouldered hawk nest. Check for occupancy and set up sale only if unoccupied by T/E/SC species.

Total Treatment Acreage Proposed: 15.1

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 013	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
3	42110 - Planted Red Pine	High Density Pole	50.7	41	141-170		
5	4110 - Sugar Maple Association	High Density Log	11.9	98	111-140		
8	6132 - Mixed Lowland Forest with Cedar	Medium Density Pole	57.0	55	111-140		Stand is in the Platte River floodplain, very hummocky. Some springs /feeder streams in stand. Stand has some open areas, some very dense areas. Good deer winter cover, but little browse. Mixed fruiting shrubs were planted in 1968-69. Narrow upland areas along the highway with bigtooth aspen.
12	4130 - Aspen	Medium Density Log	19.7	57			Powerline R.O.W. runs through most of the stand.
14	4110 - Sugar Maple Association	High Density Log	27.9	82	81-110		
15	4130 - Aspen	High Density Log	6.4	67			Stand is in the Platte River floodplain, has high water table.
17	4130 - Aspen	High Density Log	7.7	50			Riparian area along Platte River.
18	42110 - Planted Red Pine	High Density Pole	39.7	41	141-170		
20	42110 - Planted Red Pine	High Density Pole	6.2	41	171-200		
23	4130 - Aspen	High Density Pole	88.8	35			Stand has juneberry, hawthorn in understory.
25	42140 - Planted Mixed Pine	Medium Density Log	5.2	55	200+		
26	4130 - Aspen	Medium Density Pole	13.8	50			Riparian area along Platte River; some low, wet areas.
27	4110 - Sugar Maple Association	High Density Log	27.0	80	111-140		Steep hillside along Platte River.
28	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	42.0	86			Stand is in the floodplain of the Platte River, with numerous seeps and springs emerging from the base of the adjacent bluff and flowing into the river. Deer winter cover.
29	4110 - Sugar Maple Association	Medium Density Log	111.6	101	51-80		
30	4130 - Aspen	Medium Density Pole	5.0	50			Riparian area along Platte River; some low, wet areas.
31	4115 - Y.Birch, Hemlock NH	High Density Log	6.3	101	111-140		Stand is on the steep north-facing bluff on the south side of the Platte River.



S t a n d	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 013	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
33	42110 - Planted Red Pine	High Density Pole	13.8	28	111-140		
34	4116 - Mixed N. Hardwood - Aspen	Medium Density	34.3	33	1-50		Some hawthorn and juneberry in understory.
35	42110 - Planted Red Pine	High Density Log	2.2	54	200+		
36	42110 - Planted Red Pine	High Density Pole	19.3	47	141-170		
39	4130 - Aspen	Medium Density Log	11.0	50			Riparian area on bluff, floodplain along Platte River.
40	6128 - Lowland Coniferous, Mixed Deciduous	Low Density Log	10.5	Uneven Age			Stand is in the Platte River flood plain. A hatchery residence is within the stand.
42	42110 - Planted Red Pine	Medium Density	16.1	15			
44	42110 - Planted Red Pine	High Density Pole	10.0	47	141-170		Scattered black cherry poles.
45	4130 - Aspen	High Density Pole	209.3	35			
47	42100 - Planted White Pine	Low Density Log	6.6	46	81-110		
48	42110 - Planted Red Pine	High Density Log	7.0	52	200+		
51	42110 - Planted Red Pine	High Density Pole	5.6	52	200+		
54	4311 - Pine, Aspen Mix	Medium Density Pole	1.5	34			Mich-Con gas facility within stand.
55	6118 - Lowland Deciduous with Cedar	Low Density Pole	23.7	44			Riparian area along creek.
56	4199 - Other Mixed Upland Deciduous	Medium Density Pole	28.2	35	1-50		Shrubs include witch hazel, hawthorn, honeysuckle.
57	4130 - Aspen	High Density Pole	13.3	35			
58	6112 - Lowland Aspen	Medium Density Pole	3.6	Uneven Age			
59	4130 - Aspen	Medium Density Pole	6.2	36			Narrow stand between base of hill and U.S. 31. East end grades into lowland.



S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 013	Michigan DNRE
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
						General Comments:	
60	4130 - Aspen	High Density Log	10.6	48		Stand parallels Brundage Creek valley and U.S. 31.	
63	42310 - Planted Spruce	Low Density Sapling	1.3	17			
64	4119 - Mixed Northern Hardwoods	Low Density Pole	28.6	Uneven Age	1-50	Scattered honeysuckle and hawthorn.	
65	4110 - Sugar Maple Association	High Density Log	7.3	82	111-140		
66	6112 - Lowland Aspen	Medium Density Log	3.2	65	81-110	Riparian area between U.S. 31 and Stanley/Brundage creeks. Extreme browsing on hemlock/pine seedlings.	
67	6120 - Lowland Cedar	High Density Pole	10.2	98	171-200	Floodplain of Brundage and Stanley creeks. Deer yard. Super canopy white pine, small numbers of yellow birch, aspen, black cherry.	
68	4130 - Aspen	Low Density Pole	6.0	56		Stand is slightly elevated relative to surrounding swamp.	
69	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	13.5	98	200+	Stanley Creek floodplain. Numerous springs feed into the creek.	
70	6120 - Lowland Cedar	Low Density Log	15.2	98	111-140	Stand has a lot of unhealthy trees, snags, blowdown. Some winter deer use.	
71	4112 - Maple, Beech, Cherry Association	High Density Pole	36.3	99	81-110		
72	4130 - Aspen	High Density Pole	27.0	Uneven Age		Gradual slope down to the northwestern part of the stand; somewhat wet there. Conifers are clustered in that area.	
73	4130 - Aspen	High Density Log	12.7	Uneven Age		Stand is on the steep banks along the south side of the Platte River.	
74	4110 - Sugar Maple Association	High Density Pole	23.8	90	81-110		
75	4119 - Mixed Northern Hardwoods	High Density Log	11.7	82	81-110		
76	4116 - Mixed N. Hardwood - Aspen	Low Density Log	9.0	Uneven Age	51-80	Narrow, winding opening within stand.	
77	4110 - Sugar Maple Association	Medium Density Pole	86.7	86	111-140	The whole east side of the stand is on a steep slope with denser, unthinned timber.	
78	4110 - Sugar Maple Association	High Density Log	81.9	103	111-140		

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 013	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
79	4116 - Mixed N. Hardwood - Aspen	High Density Pole	16.9	28	51-80		
80	6132 - Mixed Lowland Forest with Cedar	Medium Density Log	36.7	Uneven Age			Stand is in the riparian area along the banks of the Platte River and south shore of Bronson Lake. Good winter deer cover. Stand boundary includes some of the steep bluffs along the river, with some large, old aspens.
82	6129 - Mixed Coniferous Lowland Forest	High Density Pole	23.0	98	171-200		Deer winter cover, but little if any browse. Stand is in the Brundage Creek valley.
83	4133 - Aspen, Mixed Pine	High Density Log	40.3	Uneven Age	111-140		
85	4130 - Aspen	High Density Pole	7.8	40			
86	4112 - Maple, Beech, Cherry Association	High Density Log	9.4	92	141-170		Transition area between conifer swamp along creek and hardwoods on bluff. Very heavily browsed seedling layer (hemlock, beech, etc).
87	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	11.6	27			Numerous seeps emerging from the base of the bluff, feed into the Platte River.
90	4133 - Aspen, Mixed Pine	High Density Log	6.3	54	171-200		Stand is between Brundage and Kinney creeks. Deer winter cover.
91	42110 - Planted Red Pine	High Density Pole	32.1	28	111-140		Semi-open inclusion in middle of stand in a small depression, with quaking aspen, elm, cherry, and honeysuckle.
94	42130 - Planted Scotch Pine	High Density Pole	1.7	45	81-110		
95	6120 - Lowland Cedar	High Density Log	9.7	128	200+		Stream flows through stand.
97	4110 - Sugar Maple Association	High Density Pole	8.8	92	111-140		
99	4130 - Aspen	High Density Pole	24.0	40			
100	4130 - Aspen	Medium Density	20.5	23			
101	6112 - Lowland Aspen	High Density Pole	3.3	40			Riparian area near shore of Bronson Lake.
102	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	8.6	86			Mixed lowland forest along a stream and edges of old marl pit. Stand has patches of considerably older, larger white pines.



S t a n d	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 013	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Inventory Method: IFMAP	
103	4110 - Sugar Maple Association	High Density Pole	22.2	108	111-140		
104	4130 - Aspen	High Density Pole	1.1	35			Isolated clone of aspen with a few red oaks.
106	4130 - Aspen	High Density Log	12.8	70			North lobe of stand is about 3 acres of younger, pole-sized hardwoods; mostly sugar maple, with some cherry and some old balsam poplar.
108	42110 - Planted Red Pine	High Density Log	5.5	71	171-200		Part of stand south of the pond was thinned in 2003; this area has a flush of red maple seedlings, heavily browsed.
110	6120 - Lowland Cedar	High Density Pole	6.4	150	200+		Small opening in SE corner of stand. Very dense cedar poles: good deer winter cover, but no browse within stand.
111	4133 - Aspen, Mixed Pine	High Density Pole	6.9	40	81-110		
112	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	27.0	98	171-200		Stand is in the Kinney Creek valley. Super-canopy white pines.
113	6132 - Mixed Lowland Forest with Cedar	High Density Log	23.3	78	171-200		Stand is along Brundage Creek. Numerous springs and seeps feed into the creek.
114	4130 - Aspen	Medium Density Log	12.3	50			South part of stand is on a bluff and creek bottom.
115	4110 - Sugar Maple Association	High Density Pole	25.6	80	81-110		
116	42200 - Natural White Pine	Medium Density Pole	3.5	Uneven Age	51-80		There are a few red and Scotch pines near the road. Small herbaceous opening in the NW part of the stand.
117	4130 - Aspen	High Density Sapling	1.5	23			
118	4130 - Aspen	Medium Density	158.1	23			Stand also has some scattered sugar maple, red maple, and ironwood poles.
119	4130 - Aspen	High Density Pole	4.6	23			Small opening at SW corner of stand with some Scotch pine and hardwood saplings.
120	6129 - Mixed Coniferous Lowland Forest	Medium Density Log	10.2	95	171-200		Numerous springs, headwaters of Brundage Creek.
121	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	28.9	Uneven Age	51-80		Scattered red oak, basswood within the stand.



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Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 013
Year of Entry: 2012

Inventory Method: IFMAP

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
122	4133 - Aspen, Mixed Pine	High Density Log	40.5	49	111-140	Terrain is variable with some low areas along drainages. Scattered basswood, sugar maple, red oak, and witch hazel present on ridges.
123	4119 - Mixed Northern Hardwoods	High Density Log	78.9	82	81-110	
124	42260 - Natural Pine, Mixed Deciduous	Medium Density Log	71.3	Uneven Age	141-170	Stand varies considerably in age, size, and density of white pine.
125	42200 - Natural White Pine	Medium Density Log	5.5	105	141-170	
126	4130 - Aspen	Medium Density	53.8	23		Many small open, shrubby areas.
128	42200 - Natural White Pine	Medium Density Log	2.0	75	111-140	Stand is mostly on a hillside. Aspen was removed in a 2004 harvest.
129	6120 - Lowland Cedar	High Density Pole	8.9	111	200+	
131	42200 - Natural White Pine	Low Density Pole	71.5	54	1-50	Stand is more or less two-storied, with remnant multi-aged white pine over aspen regeneration resulting from a 2004 cut. Stand will have a mixed pine-aspen canopy in the future as aspen catches up in height.
132	4133 - Aspen, Mixed Pine	High Density Pole	7.4	38	81-110	Scattered white and red oak, paper birch. Wintergreen and blueberry ground cover.
134	4130 - Aspen	High Density Pole	70.6	44		



Stand	Cover Type	Acres	Gen Cmts:
1	3102 - Grass	2.2	
2	3303 - Mixed Low Density Trees	1.6	
4	3303 - Mixed Low Density Trees	5.9	Scattered apple, hawthorn, and juneberry.
6	3102 - Grass	2.2	
7	3102 - Grass	3.0	
9	3301 - Low Density Deciduous Tree	1.0	
10	122 - Road/Parking Lot	6.7	Maple City Hwy. (Co. Rd. 669) & Fewins Rd.
11	3102 - Grass	3.9	
13	3102 - Grass	1.0	Clean up junk!
16	3102 - Grass	6.9	Hawthorn, apple, juneberry scattered throughout stand.
19	3103 - Rubus-Fern	2.2	
21	3301 - Low Density Deciduous Tree	2.1	
22	3301 - Low Density Deciduous Tree	2.9	Scattered black cherry and juneberry. Some hawthorn. Scattered white pine saps. Cladonia, SJW, SKW, some strawberry, grass. Mostly degraded. Would make nice location for food plot. Could maybe expand a little into adjacent M2 stand 34 without cutting anything in 34.
24	3102 - Grass	1.9	
32	3303 - Mixed Low Density Trees	1.7	Narrow opening along property line, open field to north on private property.
37	3301 - Low Density Deciduous Tree	1.3	
38	3301 - Low Density Deciduous Tree	12.7	



Stand	Cover Type	Acres	Gen Cmts:
41	50 - Water	1.2	Platte River
43	3102 - Grass	15.7	"Cottonwood" listed may be some sort of planted hybrid.
46	122 - Road/Parking Lot	4.3	County Rd. 669
49	3204 - Mast Producing Shrub	3.3	
50	11 - Low Intensity Urban	1.6	Platte hatchery residence.
52	6220 - Alder/willow	2.4	
53	123 - Other High Intensity Urban	26.2	Platte River State Fish Hatchery
61	3102 - Grass	3.5	cleared R.O.W. of U.S. 31
62	122 - Road/Parking Lot	5.0	U.S. Hwy. 31
81	122 - Road/Parking Lot	1.5	Burnt Mill Road, including Platte River crossing.
84	3301 - Low Density Deciduous Tree	2.8	Stand is mostly in a low area/frost pocket.
88	310 - Herbaceous Openland	1.1	About 1/2 of stand is an old borrow pit, now covered with stumps to stop ORV abuse. Planted with red pine seedlings in spring 2009.
89	3103 - Rubus-Fern	1.8	Stanley Rd. and a roadside row of mature maples bisect the stand.
92	50 - Water	1.6	Platte River
93	3301 - Low Density Deciduous Tree	27.2	Scattered aspen, red oak, sugar maple.
96	3102 - Grass	1.3	
98	3103 - Rubus-Fern	1.2	
105	6233 - Wet Meadow	8.7	Old marl pits.



Stand	Cover Type	Acres	Gen Cmts:
107	3102 - Grass	1.2	Small opening adjacent to Brundage Pond.
109	50 - Water	1.5	Brundage Pond - managed by Fisheries Division for Platte River Hatchery water source.
127	6220 - Alder/willow	5.2	
130	3103 - Rubus-Fern	2.1	
133	6233 - Wet Meadow	1.6	Grades from open wetland with patches of willow at north end to conifer swamp at south end.
135	3103 - Rubus-Fern	1.8	Stand includes a small old gas well pad plus an adjacent winding forest opening.



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
80	Unique Site - SCA	61013080	806.2	This Area of Interest is comprised of all or parts of numerous stands within compartment 13, merged to create a proposed Special Conservation Area. The primary intention is to maintain forest cover to protect water quality in the Platte River and several tributary streams, particularly with regard to the needs of the Platte River State Fish Hatchery. Additional values include protection of riparian plant and animal habitats, protection of soils on steep bluffs, recreational and aesthetic values along roadways and waterways, maintenance of deer winter cover, and possible development of old growth forest characteristics. Limit timber management to specific habitat needs, biodiversity enhancement, pest control, recreation enhancement, etc.
84	SCA Removal	NF_61013084	2.8	Remove from SCA/potential old growth designation along with surrounding stand 78. See notes for that stand/AOI.



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.
SCA	Potential Old Growth Areas	This category contains stands were identified for a broad range of reasons and were coded in the OI database as stand condition 8 as potential old growth (POG). Approximately 310,000 acres have been identified through the Operations Inventory (OI)/Compartment Review process. For stands in Year of Entry 2008 and forward, potential old growth is managed for the identified objective until it is: 1) vetted through the Biodiversity Conservation Planning Process (BCPP) and given a specific designation and objective (as an ERA, HCVA, or other type of SCA) and is released from the potential old growth designation; or 2) it is released from the potential old growth designation via the Compartment Review process.