



TRAVERSE CITY FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 3 ENTRY YEAR: 2012

Compartment Acreage: 1810 County: Leelanau

Stand Examiner: Timothy Webb

Legal Description: T28N R14W Sections 33, 34, 35, 36

Management Goals: Compartment 3 was previously managed under the Pere Marquette State Forest Plan as Resource Management Unit 102, designated for intensive timber management. Past emphasis was on development of high quality northern hardwoods and maintaining red pine production in existing plantations.

This compartment is primarily on a sandy outwash plain which was historically subject to periodic stand-replacing fires. However, this relatively narrow arm of the plain is situated between moraine landscapes and is relatively close to Lake Michigan, and is thus much less fire-prone. More successional advanced types likely typified this area pre-settlement and are still ecologically appropriate today. Management for long-lived species or uneven aged stands is also aesthetically beneficial along the recreational trails that traverse the compartment.

Hardwood stands are of medium to good quality and should continue to be managed on an uneven-aged basis via periodic selection harvest. Numerous old farm fields and orchards, typed as upland brush on previous inventories, are returning to forested cover. Such a concentration of immature hardwood stands is unusual in this forest management unit. Most are dominated by sugar maple saplings and poles, with lesser amounts of other hardwoods, and various amounts of mixed pine regeneration depending on adjacent seed sources. These stands should be allowed to continue reverting to forest cover, but may benefit from removal of jack and Scotch pine encroachment at some point.

Also unusual is the wide age class spread of pine plantations within the compartment, with current ages of 28, 42, 55/56, and 61. One recently completed red pine clearcut should be regenerated in the next year or two, adding still another age class to the mix. These plantations are predominantly red pine, with some having intermixed rows, strips, or blocks of jack pine. Jack pine is likely not indigenous in this area, and so should be considered for gradual reduction or elimination, unless desired for wildlife cover. Most of the red pine stands should continue to be thinned as they gradually mature. There may be some opportunity to start converting some red pine to hardwoods.

Soil and Topography: The compartment is predominantly on an outwash plain landscape with level to rolling topography, with some steeper moraine landscape along the far east side. Soils are almost entirely Kalkaska sand, with some small areas of East Lake loamy sand in the northeast corner.

Ownership Patterns, Development, and Land Use in and Around the Compartment: There is a large area of state forest land to the south of compartment 3. To the east, north, and west are low intensity rural residential development, forest, and some agricultural use on private lands. A small airport and campground abut the northwest corner of the compartment. The Village of Empire and the Sleeping Bear Dunes National Lakeshore are just a couple miles to the northwest and west.

Unique, Natural Features: There are some seeps in the southeast corner of the compartment flowing into Garey Lake just to the south.

Archeological, Historical, and Cultural Features: There is evidence throughout the compartment of abandoned fields and homesteads, including old foundations, apple trees, and other exotic trees and shrubs. Bland Cemetery is on Oviatt Road in section 34. An old rail grade traverses part of the compartment.

Special Management Designations or Considerations: Past experimental red oak and hybrid aspen plantings within the compartment have had variable success (see compartment files for details).

Watershed and Fisheries Considerations: As there is no water in this compartment, there are currently no concerns (Heather Seites, MDNRE Fisheries Division comments).

Wildlife Habitat Considerations: This compartment falls almost entirely within a broad, flat outwash plain with few wetlands and excessively drained sand (Land Type association 5111). However, this compartment lies in the northern tip of this expansive LTA between two hilly landscapes. Consequently, this compartment may have been less influenced by the historic large-scale fires that affected the rest of the LTA and therefore might be more successional advanced. Maintenance of some northern hardwoods will provide mature interior forest habitat for numerous forest species like blue-spotted salamander, gray fox, white-breasted nuthatch, and gray squirrel. Maintaining diversity of hardwood species and retention of cavity trees and down logs should be a part of selection cutting in such stands. Much of this compartment has been intensively cultured in the past, including pine plantations, shrub plantings and remnant orchards. Uplands should continue to be managed for a variety of successional stages and age classes of mixed aspen, pine, and hardwood, from grass and shrub openings to late successional hardwood-conifer forest, consistent with the mosaic historically created by fire. Where final harvest is to occur we should maintain within-stand structural diversity by retaining various leave trees, snags, and down logs. Species associated with various age classes of mixed aspen/pine forests include broad-winged hawk, red squirrel, black-and-white warbler, ruffed grouse, and hog-nosed snake. As red pine plantations approach final harvest, conversion of a few stands to more natural mixes of forest vegetation should be considered. Also, consider incorporating small (2-5 acre) pine islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Some supplemental planting of native fruiting shrubs may be prescribed in openings, and perhaps some maintenance of remnant apple trees for bear and deer food. The establishment of several herbaceous stands in this compartment will benefit many species such as eastern bluebird, wild turkey, white-tail deer, badger, and smooth green snake.

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 600 and 800 feet. Beneath the glacial drift is the Devonian Traverse Group. The Traverse is quarried for limestone and cement products. The nearest gravel pit is within one mile to the west. Gravel potential in the compartment is considered good. This area is located northwest of the Antrim Shale gas play. The Antrim Shale appears to be pinched out and there would be no potential.

Vehicle Access: Nearly all stands are accessible by existing roads and trails. A hardwood stand in the extreme northeast corner of the compartment is accessible only via adjacent private land.

Survey Needs: The compartment is adequately monumented, except for the north half of the northeast quarter of section 36.

Recreational Facilities and Opportunities: The Shore-to-Shore Trail and a spur of the Platte River Snowmobile Trail pass through the compartment. The Garey Lake Trail Camp is just south across Oviatt Road. Deer and turkey hunting and mushrooming are important dispersed recreational activities.

Fire Protection: VFD Fire protection is the Glen Arbor/Empire Fire Dept., and DNRE Fire Protection is from the Platte River Field Office. Access is sufficient in this compartment, travel time is acceptable, and there is no real urban interface concern with the possible exception of some private residences scattered around the perimeter. Cover type does not lend itself to large catastrophic fires.

Additional Compartment Information: There is a 12' x 12' deer enclosure near the middle of section 35, erected in 1976. Hardwood seedling survival appears to be slightly better within the enclosure.

Acquisition of the NWNE of section 36 would be beneficial, should it become available for purchase 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 3
 T28N, R14W, Sec. 34, 35, 36
 County: Leelanau
 Unit: Traverse City
 YOE: 2012
 Acres: 1,810 GIS Calculated
 Stand Examiner: Timothy Webb
 Map Revised: 5/21/2010
 Map Phase: Pre-Review

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

Legend

- Miris Corners
- Highway
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Airports
- Trails
- Snowmobile Trails
- Horse Trails
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments

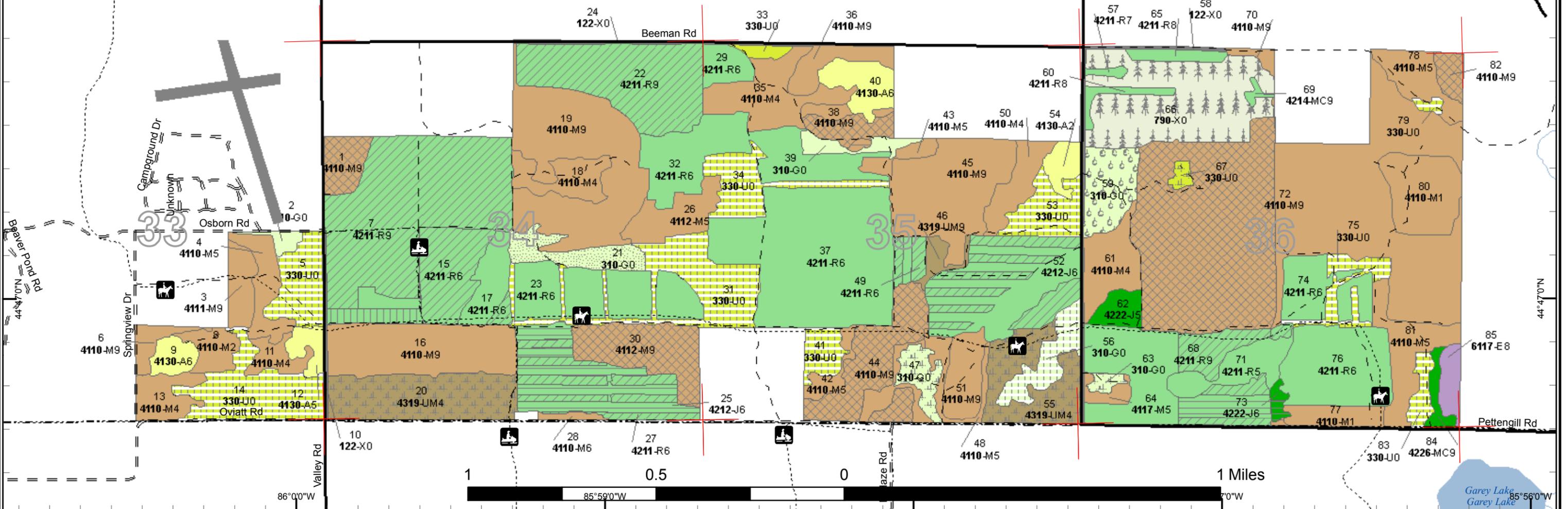
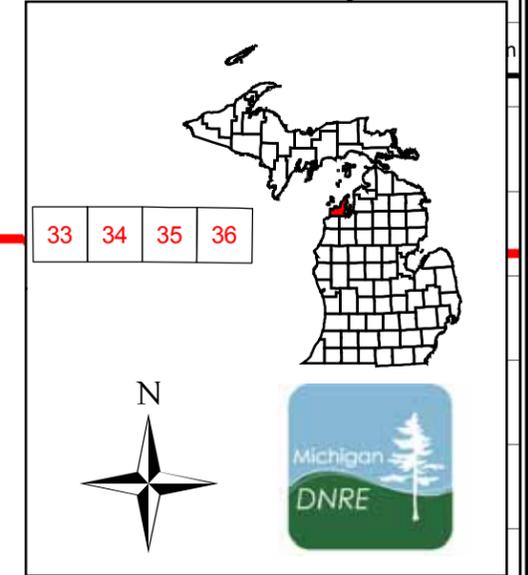
- Clearcut (w/Reserves, Patch/Strip)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Planting (tree species)
- Prescribed Burn
- Mowing
- Opening Maintenance
- Other Treatment - See Comments

Forest Stands

- Level 3
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest

Non-Forest Stands

- Level 3
- 122 - Road/Parking Lot
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 790 - Other Bare/Sparsely Vegetated



Stand Boundary Map

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

Legend

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

Forest Stands

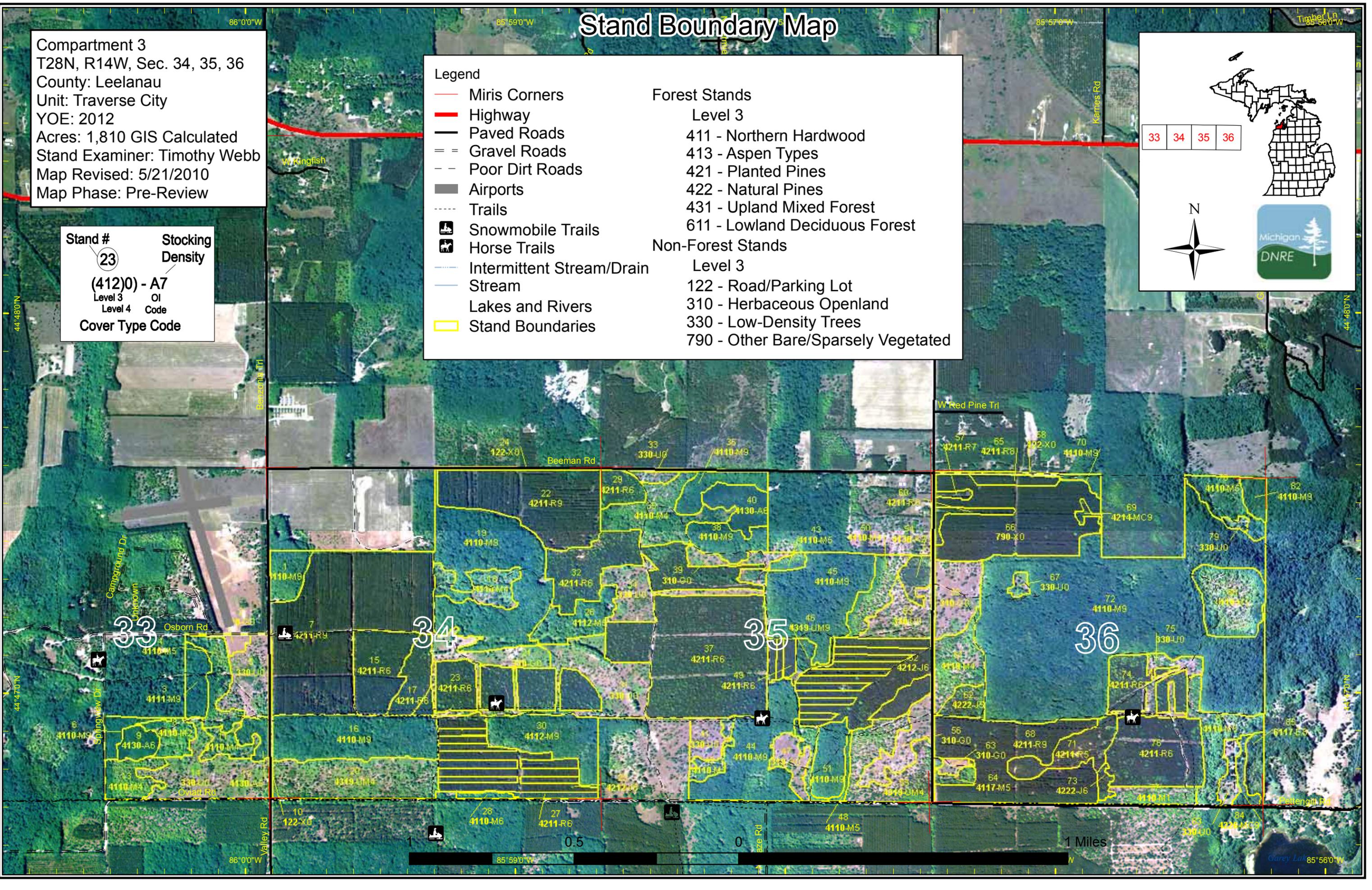
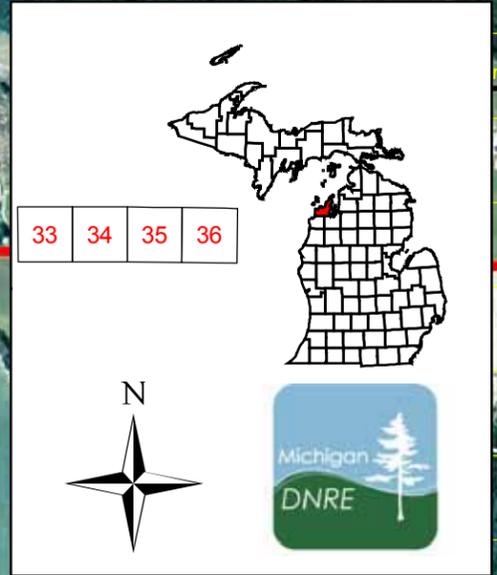
Level 3

- 411 - Northern Hardwood
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Non-Forest Stands

Level 3

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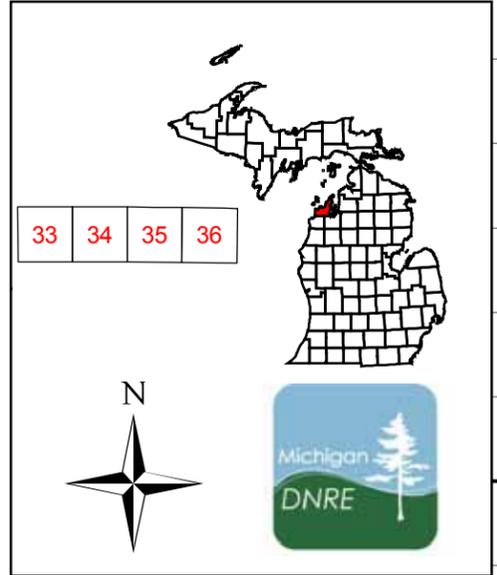


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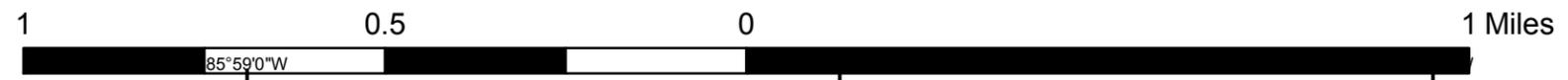
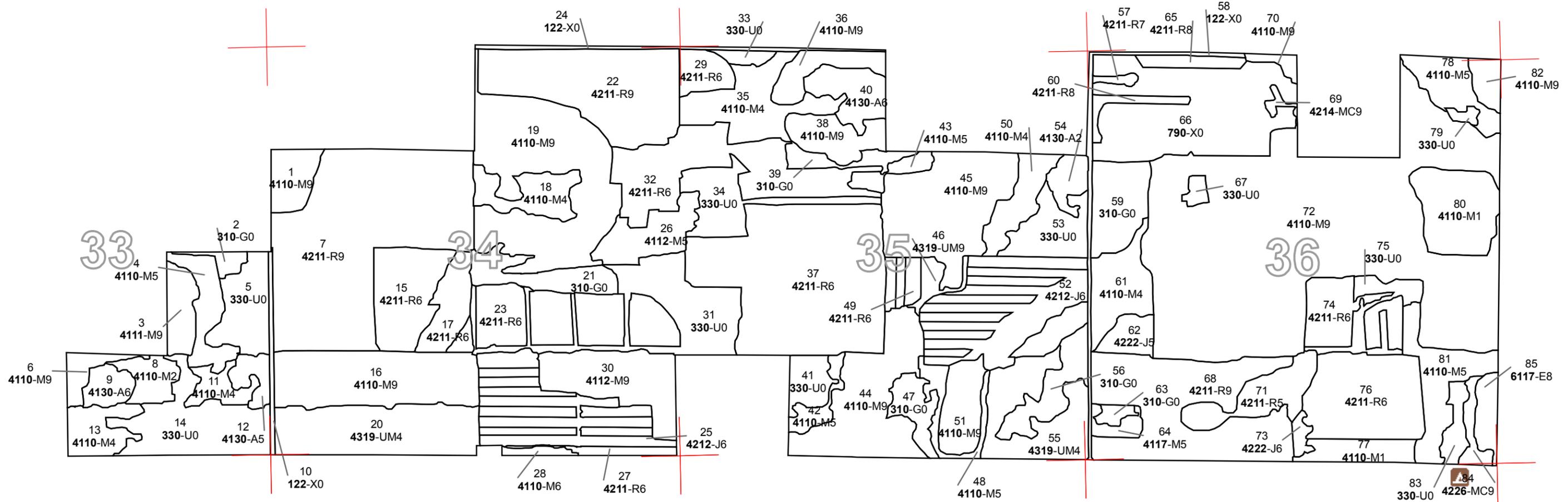
Dedicated & Proposed Special Conservation Area Map

Legend

- Miris Corners
 - Stand Boundaries
 - ▲ Campgrounds
- | | |
|---|-------------------------------------|
| Dedicated Special Conservation Areas | Non-Forest Stands |
| | Level 3 |
| | 122 - Road/Parking Lot |
| | 310 - Herbaceous Openland |
| | 330 - Low-Density Trees |
| | 790 - Other Bare/Sparsely Vegetated |
| Forest Stands | |
| Level 3 | |
| 411 - Northern Hardwood | |
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| 421 - Planted Pines | |
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| 431 - Upland Mixed Forest | |
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Stand #	Stocking Density
23	
(4120) - A7	
Level 3	OI
Level 4	Code
Cover Type Code	



44°48'0"N

44°47'0"N

44°47'0"N

86°0'0"W

85°59'0"W

85°58'0"W

85°57'0"W

85°56'0"W

86°0'0"W

85°59'0"W

85°56'0"W

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	7	26	0	0	0	0	0	0	0	0	0	0	0	32
Herbaceous Openland	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
Low-Density Trees	149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	149
Lowland Deciduous Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Natural Pines	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14
Northern Hardwood	0	0	0	0	50	78	33	0	0	280	168	81	0	0	56	745
Other Bare/Sparsely Vegetated	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63
Planted Pines	0	0	0	255	0	43	123	223	0	0	0	0	0	0	0	644
Road/Parking Lot	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Upland Mixed Forest	0	0	0	0	0	0	0	5	0	0	0	0	0	0	67	72
Total	296	0	7	280	64	121	157	228	0	280	168	81	0	0	129	1810



Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 003
Total Compartment Acres: 1810

Acres by Treatment Type

Commercial Harvest - 496	Site Prep - 0	Tree Planting - 63	Prescribed Burn - 18	Other - 67
Habitat Cut - 0	Opening Maintenance - 18	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>
Jack Pine	28	0	0	0	0	0	28
Northern Hardwood	1	203	0	0	0	0	204
Red Pine	9	0	0	6	248	0	264
Total	39	203	0	6	248	0	496



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	61003001-Cut	10.3	4110 - Sugar Maple Association	High Density Log	92	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Thin to 90 BA. Leave some beech for mast. Create CWD away from road. Begin creating some regeneration holes. --WLD 05/07/2010</p> <p><u>Specs:</u> comments: favor retention of mast bearing species, potential den trees (esp. beech), and all hemlock. Avoid whole tree harvesting to manage for scattered CWD.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Conduct regeneration checks at prescribed intervals. Any mixture of northern hardwood seedling regeneration is acceptable, although beech and ironwood might dominate initially.</p>									
7	61003007-shelterwood	6.3	42110 - Planted Red Pine	High Density Log	61	Harvest	Shelter Wood with Reserves	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark to retain about 60% canopy coverage of red pine; harvest the remainder. Scarification via timber harvesting or by other means post-harvest is desirable for a hardwood seedbed.</p> <p><u>Other Comments:</u> This treatment is to begin conversion of part of a red pine plantation to hardwoods where there is an adjacent hardwood seed source. This will eventually restore this area to historic northern hardwood habitat using existing red pine for partial shading.</p> <p><u>Next Steps:</u> Conduct regeneration surveys at appropriate intervals. Mixed hardwood regeneration, including maple, cherry and beech is desired. Some red pine regeneration is also acceptable in the mix. There is some non-native black locust in the adjacent hardwood stand. Regeneration of this species in the treatment area is not desirable.</p>									
7	61003007-thin	97.2	42110 - Planted Red Pine	High Density Log	61	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark down to 130-140 BA, focusing removal on poor form, limby, large diameter, or damaged trees. Include one or two retention areas centered on parts of the stand with irregular pine stocking for wildlife habitat diversity. Taking these areas out of the treatment might also make feasible a systematic cutting prescription instead of individual marking.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
15	61003015-Cut	26.1	42110 - Planted Red Pine	High Density Pole	42	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> 3rd row thin.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
22	61003022-Cut	54.2	42110 - Planted Red Pine	High Density Log	61	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning down to about 120-130 BA.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25 61003025-Cut	26.7	42120 - Planted Jack Pine	High Density Pole	56	Harvest	Clearcut	Natural Jack Pine	Cmpt. Review Proposal

Prescription Clearcut jack pine greater than 2" in diameter.

Specs:

Other Comments: No retention desired: stand is almost 100% jack pine, any retention would likely die or blowdown, and would be detrimental to regeneration or adjacent red pine stand.

Next Steps: Monitor for natural regeneration to jack pine; check 2 to 3 years post-harvest. If failure is documented at that point, consider trenching and replanting to mixed red pine & red oak.

27 61003027-Cut	21.0	42110 - Planted Red Pine	High Density Pole	55	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription Mark for thinning, reduce to residual BA of about 120.

Specs:

Other Comments: Rows adjacent to jack pine strips may not need to be thinned much if adjacent jack pine strips are clearcut.

Next Steps: None needed.

30 61003030-Cut	28.2	4112 - Maple, Beech, Cherry Association	High Density Log	90	Harvest	Single Tree Selection	Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for thinning down to a residual BA of about 90. Create some regeneration holes and CWD. Modify marking as needed along the Shore-to-Shore Trail for aesthetics. --WLD 05/07/2010 comments: favor retention of mast bearing species, potential den trees (esp. beech), and all hemlock. Avoid whole tree harvesting to manage for scattered CWD.

Other

Comments:

Next Steps: Conduct regeneration checks at prescribed intervals. Any mixture of northern hardwood seedling regeneration is acceptable, although beech and ironwood might dominate initially.

38 61003038-Clearcut	0.9	4110 - Sugar Maple Association	High Density Log	99	Harvest	Clearcut	Aspen	Cmpt. Review Proposal
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Prescription Clearcut small patch of aspen at south end of hardwood stand 38 for habitat diversity.

Specs:

Other Comments: Small patch, about an acre - no retention needed.

Next Steps: Regen check at appropriate intervals: should regenerate heavily to aspen, with maybe some mixed hardwood seedlings. Some aspen may sprout in adjacent opening as well, slightly expanding the clone.

38 61003038-Cut	9.0	4110 - Sugar Maple Association	High Density Log	99	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
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Prescription Mark for thinning down to about 90 BA. Create some regeneration holes and CWD. Retain under-represented species as much as possible. --WLD 05/07/2010 comments: favor retention of mast bearing species, potential den trees (esp. beech), and all hemlock. Avoid whole tree harvesting to manage for scattered CWD.

Other

Comments:

Next Steps: Conduct regeneration checks at prescribed intervals. Any mixture of northern hardwood seedling regeneration is acceptable, although beech and ironwood might dominate initially.



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
44	61003044-Cut	33.3	4110 - Sugar Maple Association	High Density Log	98	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning down to about 90 BA. Create some regeneration holes and CWD. Maintain species diversity. Modify marking as needed along the Shore-to-Shore Trail for aesthetics. --WLD 05/07/2010 comments: favor retention of mast bearing species, potential den trees (esp. beech), and all hemlock. Avoid whole tree harvesting to manage for scattered CWD.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Younger patches/fringes of parent stand have been excluded from proposed treatment area.</p> <p><u>Next Steps:</u> Conduct regeneration checks at prescribed intervals. Any mixture of northern hardwood seedling regeneration is acceptable, although beech and ironwood might dominate initially.</p>									
49	61003049-Cut	30.3	42110 - Planted Red Pine	High Density Pole	55	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for second thinning. Retain scattered hardwoods as much as possible for within-stand diversity.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
68	61003068-clearcut	9.3	42110 - Planted Red Pine	High Density Log	61	Harvest	Clearcut with Reserves	Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut, leaving some clumps of red pine for retention. Use whole tree/chip harvesting to remove as much slash and JP seed source as possible.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Objective is to eliminate jack pine from this site as much as possible.</p> <p><u>Next Steps:</u> Delay replanting 2-3 years to allow natural jack pine germination and growth, then cut or herbicide jack pine seedlings. Follow with trenching and planting of red pine and red oak.</p>									
68	61003068-thin	18.4	42110 - Planted Red Pine	High Density Log	61	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Remove all jack pine, and mark red pine for thinning, resulting in a residual red pine BA of about 120.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p>									
71	61003071-Cut	1.2	42110 - Planted Red Pine	Medium Density Pole	42	Harvest	Crown Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Mark red pine for thinning, with residual BA of about 120.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> This is a small part of a stand that is suitable for thinning. Remainder of stand is on an old eroded site with poor soils and poor tree development, to be left uncut until the site is more stable/recovered.</p> <p><u>Next Steps:</u> None needed.</p>									
72	61003072-Cut	116.9	4110 - Sugar Maple Association	High Density Log	89	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning down to about 90 BA. Create some regeneration holes and CWD. Modify marking as needed along the Shore-to-Shore Trail for aesthetics. --WLD 05/07/2010 comments: favor retention of mast bearing species, potential den trees (esp. beech), and all hemlock. Avoid whole tree harvesting to manage for scattered CWD.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Conduct regeneration checks at prescribed intervals. Any mixture of northern hardwood seedling regeneration is acceptable, although beech and ironwood might dominate initially.</p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73	61003073-Cut	1.3	42220 - Natural Jack Pine	High Density Pole	38	Harvest	Clearcut	Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Clearcut all trees. Whole-tree/chip harvest to remove all materials and potential JP seed source.									
<u>Specs:</u>									
<u>Other</u> No retention is prescribed, as this small cut area will serve as a landing for a cut prescribed on the stand to the west. Elimination of jack pine									
<u>Comments:</u> from this site is desired.									
<u>Next</u> Delay replanting 2-3 years to allow natural jack pine germination and growth, then cut or herbicide jack pine seedlings. Follow with trenching and									
<u>Steps:</u> planting of red pine and red oak. Any area sufficiently stocked with aspen sprouts can be left out of the replanting area.									
77	61003077-Cut	0.4	4110 - Sugar Maple Association	Low Density Sapling	34	Harvest	Clearcut	Aspen	Cmpt. Review Proposal
<u>Prescription</u> Clearcut all trees; whole-tree/chip harvest.									
<u>Specs:</u>									
<u>Other</u> No retention recommended - site is to be cleared for use as a landing area for prescribed cut in stand to the west.									
<u>Comments:</u>									
<u>Next</u> Stand should sufficiently regenerate to aspen. If that fails, trench and replant to red pine/oak along with adjacent stand to the west.									
<u>Steps:</u>									
66	NF_61003066- Plant	63.3	Unspecified		0	Tree Planting	Hand Plant	Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Plant red pine seedlings.									
<u>Specs:</u>									
<u>Other</u> This is a red pine project stand. Clearcutting was completed in February 2010, with follow-up trenching already prescribed and expected to be									
<u>Comments:</u> done in summer 2010.									
<u>Next</u> Conduct regeneration surveys at appropriate intervals.									
<u>Steps:</u>									
5	NF_61003005- NonFor	17.1	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of woody encroachment to favor mast bearing species.									
<u>Specs:</u>									
<u>Other</u>									
<u>Comments:</u>									
<u>Next</u>									
<u>Steps:</u>									
14	NF_61003014- NonFor	31.5	Unspecified		0	Non-Forest Management	Brush Cutting	Mixed Low Density Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of woody encroachment to favor mast bearing species.									
<u>Specs:</u>									
<u>Other</u>									
<u>Comments:</u>									
<u>Next</u>									
<u>Steps:</u>									
21	NF_61003021- NonFor	14.6	Unspecified		0	Non-Forest Management	Mowing	Warm Season Grass	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species. Mow to promote warm season grasses.									
<u>Specs:</u>									
<u>Other</u>									
<u>Comments:</u>									
<u>Next</u>									
<u>Steps:</u>									



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31	NF_61003031- NonFor	36.0	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
34	NF_61003034- NonFor	18.1	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species. Habitat cut the most decadent aspen clones, and cut the remaining clones in 10 years. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
41	NF_61003041- NonFor	8.2	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
47	NF_61003047- NonFor	8.8	Unspecified		0	Non-Forest Management	Other - Specify	Multiple/Other – Specify in Comments	Cmpt. Review Proposal
<u>Prescription</u> Develop a wildlife food plot in north half of opening. Replant, protect, and maintain apple trees. Selective hand felling of invading pines to favor mast bearing species. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
53	NF_61003053- NonFor	15.6	Unspecified		0	Non-Forest Management	Brush Cutting	Mixed Low Density Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species in the more open central and north parts of the stand. <u>Specs:</u> <u>Other Comments:</u> Stand is filling in rapidly from the S and NE. <u>Next Steps:</u>									
56	NF_61003056- NonFor	13.7	Unspecified		0	Non-Forest Management	Brush Cutting	Multiple/Other – Specify in Comments	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species and slow invasion from surrounding UM4 type. Prune remaining decadent apple trees. Replant, protect, and maintain young apple trees. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
63	NF_61003063- NonFor	2.3	Unspecified		0	Non-Forest Management	Other - Specify	Cool Season Grass	Cmpt. Review Proposal
<u>Prescription</u> Prune remaining decadent apple trees. Replant, protect, and maintain young apple trees. Hand fell encroaching pine saplings. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
67	NF_61003067- NonFor	2.2	Unspecified		0	Non-Forest Management	Other - Specify	Cool Season Grass	Cmpt. Review Proposal
<u>Prescription</u> Stand suggested for a wildlife food plot. Selective hand felling of invading pines and hardwoods to favor mast bearing species. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
75	NF_61003075- NonFor	10.6	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines and hardwoods to favor mast bearing species in the more open NE portion of the stand. Replant, protect, and maintain young apple trees. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
79	NF_61003079- NonFor	1.5	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines and hardwoods to favor mast bearing species. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
83	NF_61003083- NonFor	5.8	Unspecified		0	Non-Forest Management	Brush Cutting	Low Density Deciduous Trees	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines and hardwoods to favor mast bearing species at the north end of the opening. Prune remaining decadent apple trees. Replant, protect, and maintain young apple trees. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									
20	61003020- Other	38.8	4319 - Mixed Upland Forest	Low Density Pole	42	Other	Unspecified	Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u> Selective hand felling of invading pines to favor mast bearing species. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u>									

**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
55 61003055-Other	28.5	4319 - Mixed Upland Forest	Low Density Pole	45	Other	Unspecified	Mixed Upland Forest	Cmpt. Review Proposal

Prescription. Selective hand felling of invading pines to favor mast bearing species along the edge shared with stand 56.

Specs:

Other

Comments:

Next

Steps:

**Total Treatment
Acreage Proposed: 807.5**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
82 61003082-Cut	5.2	4110 - Sugar Maple Association	High Density Log	89	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal

Prescription Mark for thinning down to about 90 BA. Create some regeneration holes and CWD. --WLD 05/07/2010 comments: favor retention of mast bearing species, potential den trees (esp. beech), and all hemlock. Avoid whole tree harvesting to manage for scattered CWD.

Other Comment:

Next Steps: Conduct regeneration checks at prescribed intervals. Any mixture of northern hardwood seedling regeneration is acceptable, although beech and ironwood might dominate initially.

Limiting Factor and No Treatment Reason 2G: Blocked by physical obstacle
A steep hill precludes access from state land; only accessible if an adjacent private landowner grants access.

Total Treatment Acreage Proposed: 5.2

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 003	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Inventory Method: IFMAP	
1	4110 - Sugar Maple Association	High Density Log	10.3	92	111-140		High quality timber. Scattered hemlock.
3	4111 - S.Maple, Hard Mast Association	High Density Log	9.5	94	81-110		Some understory hemlock.
4	4110 - Sugar Maple Association	Medium Density Pole	13.0	50	1-50		
6	4110 - Sugar Maple Association	High Density Log	5.8	92	111-140		
7	42110 - Planted Red Pine	High Density Log	107.5	61	171-200		Jack pine is in open lanes within the stand and along east edge. Beech saplings are sparse, but thicker in canopy gaps; otherwise no understory.
8	4110 - Sugar Maple Association	Medium Density	8.5	39	1-50		Sparse pine, juniper in understory.
9	4130 - Aspen	High Density Pole	6.7	28			
11	4110 - Sugar Maple Association	Low Density Pole	6.9	30	1-50		Mostly stump sprouts.
12	4130 - Aspen	Medium Density Pole	5.8	28	1-50		
13	4110 - Sugar Maple Association	Low Density Pole	11.6	44	1-50		
15	42110 - Planted Red Pine	High Density Pole	26.1	42	171-200		
16	4110 - Sugar Maple Association	High Density Log	43.0	89	111-140		Aspen has a patchy distribution. Scattered hemlock. Patch of black locust at the west end of the stand.
17	42110 - Planted Red Pine	High Density Pole	12.3	28	141-170		
18	4110 - Sugar Maple Association	Low Density Pole	13.6	49	1-50		
19	4110 - Sugar Maple Association	High Density Log	70.4	102	111-140		
20	4319 - Mixed Upland Forest	Low Density Pole	38.8	Uneven Age	1-50		A few old apple trees.
22	42110 - Planted Red Pine	High Density Log	54.2	61	171-200		Small inclusion of black locust, maple and cherry near the road, may be an old homestead.
23	42110 - Planted Red Pine	High Density Pole	38.3	28	111-140		



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 003	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Inventory Method: IFMAP	
25	42120 - Planted Jack Pine	High Density Pole	26.7	56	111-140		
26	4112 - Maple, Beech, Cherry Association	Medium Density Pole	15.7	Uneven Age	51-80		
27	42110 - Planted Red Pine	High Density Pole	21.0	55	141-170		
28	4110 - Sugar Maple Association	High Density Pole	2.2	40	1-50		Stand is a narrow strip between the road and pine plantation, including a row of overmature maples along the road. Scattered yellow birch present.
29	42110 - Planted Red Pine	High Density Pole	8.1	28	81-110		
30	4112 - Maple, Beech, Cherry Association	High Density Log	28.2	90	111-140		
32	42110 - Planted Red Pine	High Density Pole	45.6	28	111-140		Fringe of JP along NW edge of stand.
35	4110 - Sugar Maple Association	Low Density Pole	25.8	40	1-50		Stand is heterogenous in density, size of trees. Some areas with red and white pine saplings.
36	4110 - Sugar Maple Association	High Density Log	10.6	101	81-110		Scattered hemlock, basswood and ash.
37	42110 - Planted Red Pine	High Density Pole	93.7	28	111-140		
38	4110 - Sugar Maple Association	High Density Log	13.5	99	111-140		Scattered hemlock, yellow birch in stand.
40	4130 - Aspen	High Density Pole	13.2	28			Scattered hemlocks in stand.
42	4110 - Sugar Maple Association	Medium Density Pole	5.3	48	1-50		
43	4110 - Sugar Maple Association	Medium Density Pole	5.2	Uneven Age	1-50		Deteriorating aspen clone over younger maples in the southwest part of the stand.
44	4110 - Sugar Maple Association	High Density Log	40.0	98	111-140		
45	4110 - Sugar Maple Association	High Density Log	46.5	97	81-110		12' x12' deer enclosure in south lobe of stand; looks a little better regeneration-wise than surrounding area. Has an ash, s. maple, and cherry over 4' tall iron plus several woods; also some shorter ash and cherry. Needs minor repair.
46	4319 - Mixed Upland Forest	High Density Log	4.6	65	81-110		



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 003	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
48	4110 - Sugar Maple Association	Medium Density Pole	7.1	45	1-50		
49	42110 - Planted Red Pine	High Density Pole	30.3	55	171-200		
50	4110 - Sugar Maple Association	Low Density Pole	12.4	45	1-50		
51	4110 - Sugar Maple Association	High Density Log	13.8	99	81-110		
52	42120 - Planted Jack Pine	High Density Pole	33.4	56	111-140		
54	4130 - Aspen	Medium Density	6.5	12			
55	4319 - Mixed Upland Forest	Low Density Pole	28.5	Uneven Age	1-50		
57	42110 - Planted Red Pine	Low Density Log	1.4	55	81-110		
60	42110 - Planted Red Pine	Medium Density Log	4.1	55	111-140		
61	4110 - Sugar Maple Association	Low Density Pole	17.6	Uneven Age	1-50		
62	42220 - Natural Jack Pine	Medium Density Pole	7.0	35	1-50		
64	4117 - Mixed N. Hardwood - Pine	Medium Density Pole	3.8	Uneven Age	51-80		Old homestead.
65	42110 - Planted Red Pine	Medium Density Log	4.9	55	81-110		
68	42110 - Planted Red Pine	High Density Log	61.6	61	141-170		
69	42140 - Planted Mixed Pine	High Density Log	1.3	55	141-170		
70	4110 - Sugar Maple Association	High Density Log	2.6	89	111-140		
71	42110 - Planted Red Pine	Medium Density Pole	16.7	42	81-110		
72	4110 - Sugar Maple Association	High Density Log	229.4	89	111-140		



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Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 003

Inventory Method: IFMAP

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
73	42220 - Natural Jack Pine	High Density Pole	2.4	38		Old gullies at north end of stand: avoid this area if stand is cut.
74	42110 - Planted Red Pine	High Density Pole	19.4	28	111-140	East part of the stand includes some experimentally planted oak. The crowns are co-dominant with the RP. See OI/compartments files for details.
76	42110 - Planted Red Pine	High Density Pole	37.2	28	141-170	
77	4110 - Sugar Maple Association	Low Density Sapling	9.7	34	1-50	
78	4110 - Sugar Maple Association	Medium Density Pole	13.3	Uneven Age	51-80	
80	4110 - Sugar Maple Association	Low Density Sapling	24.7	36	1-50	
81	4110 - Sugar Maple Association	Medium Density Pole	20.5	50	1-50	
82	4110 - Sugar Maple Association	High Density Log	5.2	89	111-140	
84	42260 - Natural Pine, Mixed Deciduous	High Density Log	4.7	34	111-140	Small, wet draw at south end of stand.
85	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Log	6.5	Uneven Age		Shallow flowage through draw.



Stand	Cover Type	Acres	Gen Cmts:
2	3102 - Grass	3.0	
5	3301 - Low Density Deciduous Tree	17.1	Airport runway approach.
10	122 - Road/Parking Lot	3.4	County Road 677 - Benzonia Trail
14	3303 - Mixed Low Density Trees	31.5	
21	31022 - Warm Season Grass	14.6	
24	122 - Road/Parking Lot	4.8	Beeman Road
31	3301 - Low Density Deciduous Tree	36.0	Older maple and cherry trees border an abandoned grade running through the stand.
33	3301 - Low Density Deciduous Tree	2.7	
34	3301 - Low Density Deciduous Tree	18.1	
39	3103 - Rubus-Fern	6.3	
41	3301 - Low Density Deciduous Tree	8.2	Mixed JP, RP, WP saplings and seedlings.
47	3103 - Rubus-Fern	8.8	
53	3303 - Mixed Low Density Trees	15.6	
56	3102 - Grass	13.7	
58	122 - Road/Parking Lot	7.9	Plowman and Beeman roads
59	3102 - Grass	18.4	
63	3102 - Grass	2.3	Old homestead; building foundation.
66	790 - Other Bare/Sparsely Vegetate	63.3	



Stand	Cover Type	Acres	Gen Cmts:
67	3301 - Low Density Deciduous Tree	2.2	
75	3301 - Low Density Deciduous Tree	10.6	Stand includes some experimentally planted oak, about 3" dbh. See OI/compartments files for details.
79	3301 - Low Density Deciduous Tree	1.5	
83	3301 - Low Density Deciduous Tree	5.8	



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
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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	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.