



TRAVERSE CITY FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 2 ENTRY YEAR: 2011

Compartment Acreage: 1767 County: Leelanau & Benzie

Stand Examiner: Timothy Webb

Legal Description: T28N R13W Sections 25, 26, 35, 36
T28N R12W Sections 30, 31
T27N R13W Section 1

Management Goals: This compartment was previously managed under the Pere Marquette State Forest Plan as Resource Management Unit 103, designated for mixed use. In previous treatments, close attention was paid to aesthetics along M-72 and around pothole lakes, a factor still important in this entry period.

Hardwood stands are generally of good quality and should continue to be managed on an uneven-aged basis via periodic selection harvest. Beech scale has been detected, posing a significant risk to hardwood species diversity over the next 10-20 years. Prior clearcuts in the vicinity of Shisler Lake, now 18 to 39 years old, resulted in mixed aspen-hardwood regeneration. Such stands should be considered for future succession to hardwoods to effectively enlarge closed-canopy northern hardwood habitat patch size. Smaller patches of mature aspen abutting hardwood stands north of M-72 could be cut and regenerated to aspen to diversify age classes and provide some early-successional habitat. Management for some old forest habitat next to lakes and wetlands will be continued.

Red, jack and white pine plantations occur across the compartment. Several blocks of 27 to 29 year old red pines are too young for thinning at this point, but older jack and red pine blocks at 54 years of age could be prescribed for second thinnings (RP only) or clearcutting and replanting to red pine as part of the state-wide age class balancing effort. There may be additional opportunity for pine reforestation on the abandoned Leelanau County landfill site, if site integrity and monitoring will not be compromised.

Remnant apple orchards are still evident in several openings. Apple trees may still be responsive to pruning. Some of these sites might also benefit from supplemental planting with native fruiting shrubs.

Soil and Topography: The bulk of the compartment is on a pitted outwash plain landscape with level to rolling topography, interspersed with steep-sided kettle depressions. The northeast end extends onto a moraine ridge landscape with fairly steep slopes. Soil types include predominantly Kalkaska sand, with some small areas of East Lake loamy sand and some muck soils in scattered, isolated wetlands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: This is an isolated state forest compartment completely surrounded by private lands. A commercial landfill is surrounded on three sides by state land. Small rural residential parcels and subdivisions abut much of the compartment, with new subdivisions recently platted by Shorter and Cook lakes. There are some farmlands and larger rural parcels to the west, northeast and north.

There is a disjunct 2-acre triangular parcel of state land in the SWNE of section 31 that was not included in the compartment inventory. This parcel has been listed for possible disposal.

State ownership includes the former Leelanau County landfill. A pole barn and water well, several groundwater monitoring wells, and stretches of fencing in disrepair remain on the grounds. The DEQ was recently contacted for information on the condition of the landfill and monitoring wells, and regarding our ability to reforest some of this parcel.

Unique, Natural Features: The state has frontage on Cook, Shorter, Shisler, and Hart lakes, with the latter two completely within state ownership. There are several bogs and other wetlands within the compartment, plus a short stretch of frontage on Cedar Run Creek.

Archeological, Historical, and Cultural Features: There are 2 documented homestead sites from the late 1800s within the compartment. Some old foundations, abandoned orchards and scattered lilac bushes, walnut trees, cottonwoods, etc. also indicate locations of old farms and homesteads likely abandoned in the early to mid 1900s. Maturing pine plantations now occupy many former farmlands.

Special Management Designations or Considerations: Several groundwater monitoring wells are on state land to the east and northeast of Glen's Landfill. MI-DOT maintains a carpool parking lot along M-72 on state land in section 26.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations: The landscape and vegetative diversity of this compartment provide opportunities for managing a diversity of wildlife species. Successional change towards the presettlement climax of a beech-sugar maple-hemlock association has been altered by intermittent clear-cutting of shade intolerant species, planting several pine plantations, maintaining remnant grass openings and orchards from failed farms, and a private company operating a large commercial landfill. Current vegetative composition of late successional, mixed northern hardwoods interspersed with aspen stands of variable age and stocking, and frequent small openings, bogs, and kettle lakes provide habitat for white-tailed deer, coyote, southern flying squirrel, ruffed grouse, wild turkey, red-shouldered hawk, yellow-bellied sapsucker, eastern bluebird, and red-backed salamander. Snags, cavity trees, and coarse woody debris within stands and adjacent to wetlands should be retained to provide cover for small mammal and herp populations, ruffed grouse drumming logs, and strata for seedling development of late-successional tree species. Steep slopes surrounding pothole lakes and wetlands in sections 36 and 1 provide opportunities to manage a patchwork of mature/old-growth stands in the central portion of this compartment. Management of red pine plantations should incorporate a hardwood component to encourage species diversity. Maintenance of the many small openings in this compartment should focus on limiting encroachment of woody vegetation and invasive exotic species, encouraging establishment of native grasses, pruning remnant apple trees to stimulate fruit production, and cultivation of one or more openings where the wildlife benefits are significant and public access assured.

Wings of Wonder, a local non-profit raptor rehabilitation group, is working with Glen's Landfill to improve habitat conditions for raptors in this area. Current discussions include erecting a nesting platform adjacent to one of the lakes on State-owned land in this compartment to encourage nesting by bald eagles in an area routinely used for foraging. There may be additional opportunities to collaborate with these organizations on woodland raptor surveys, habitat management, and other issues of mutual interest.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and an end moraine of coarse-textured till. The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift is the Devonian Antrim Shale. The Antrim is quarried for cement products. A gravel pit is located in Section 35 and potential should be good. This area is located north and west of the current Antrim Shale gas play and the Antrim may not have potential here. None of the State minerals are leased in this Compartment.

Vehicle Access: Access for forest management is generally good. Part of the SW of section 30 may require private land access if harvested. The triangular parcel in the NENE of section 31 and the isolated parcel on Shorter Lake in section 1 are only accessible by foot or via private roads through subdivisions.

Portions of sections 35, 36 and 30 have a history of ORV abuse and subsequent erosion. Despite installation of numerous vehicle barriers, ORV damage continues to be a problem. The compartment needs to be re-examined during the growing season for new placement or repair of barriers and for any rehabilitation needs. Steep slopes adjacent to the lakes are especially susceptible to erosion.

Survey Needs: Some interior corners in sections 26, 25, and 30 may have to be set prior to timber sale preparation if private survey corners are not already in place.

Recreational Facilities and Opportunities: There are no recreational developments or official trails within the compartment. Dispersed recreation includes hunting, mushrooming, and some fishing.

Fire Protection: Fire protection is from either the Traverse City Field Office or the Platte River Field Office depending on availability of suppression units. VFD protection is from the Cedar Fire Department. This area is a mixture of hardwoods with some scattered pine plantations, has no real urban interface issues to contend with, and access is adequate.

Additional Compartment Information: Numerous illegal deer stands and blinds were discovered during field inventory and reported to the local conservation officer.

****** 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

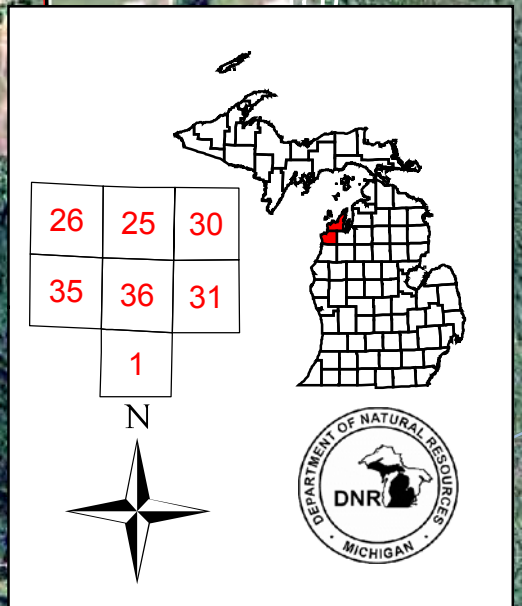
Proposed treatments

Proposed SCAs

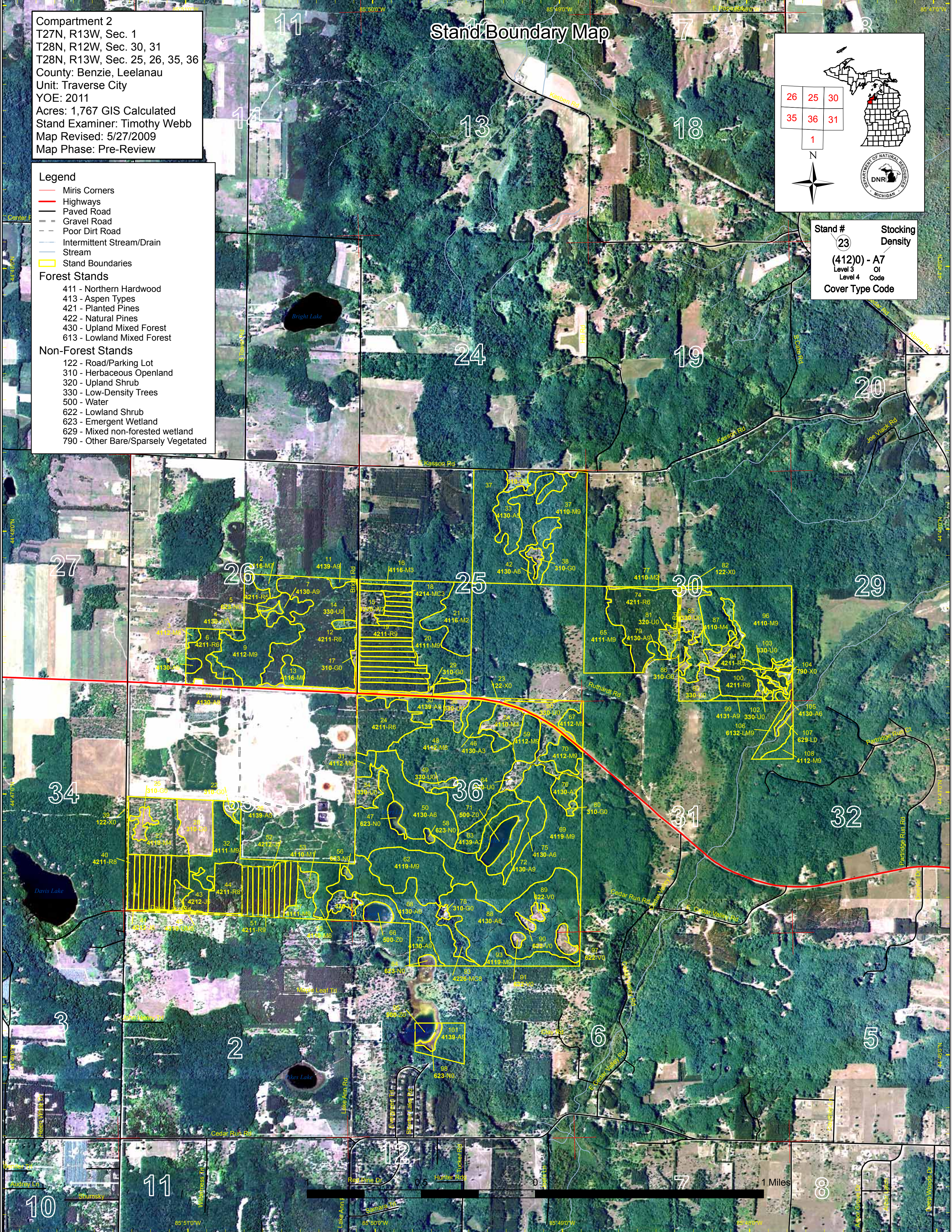
Stand Boundary Map

Compartment 2
 T27N, R13W, Sec. 1
 T28N, R12W, Sec. 30, 31
 T28N, R13W, Sec. 25, 26, 35, 36
 County: Benzie, Leelanau
 Unit: Traverse City
 YOY: 2011
 Acres: 1,767 GIS Calculated
 Stand Examiner: Timothy Webb
 Map Revised: 5/27/2009
 Map Phase: Pre-Review

- Legend**
- Miris Corners
 - Highways
 - Paved Road
 - Gravel Road
 - Poor Dirt Road
 - Intermittent Stream/Drain
 - Stream
 - Stand Boundaries
- Forest Stands**
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 430 - Upland Mixed Forest
 - 613 - Lowland Mixed Forest
- Non-Forest Stands**
- 122 - Road/Parking Lot
 - 310 - Herbaceous Openland
 - 320 - Upland Shrub
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland
 - 790 - Other Bare/Sparsely Vegetated



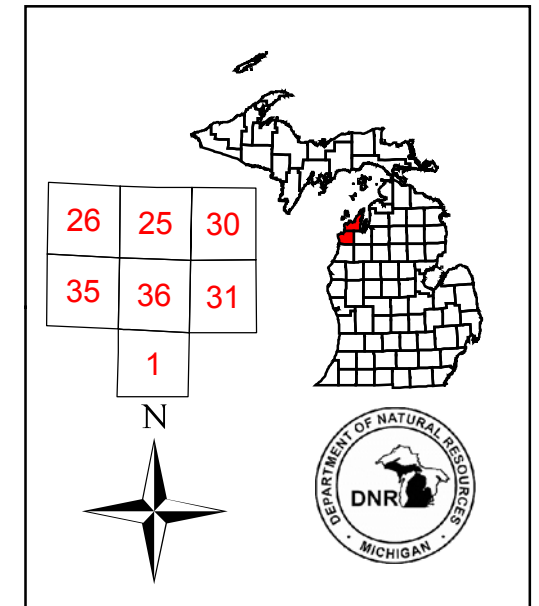
Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



1 Miles

Compartment 2
 T27N, R13W, Sec. 1
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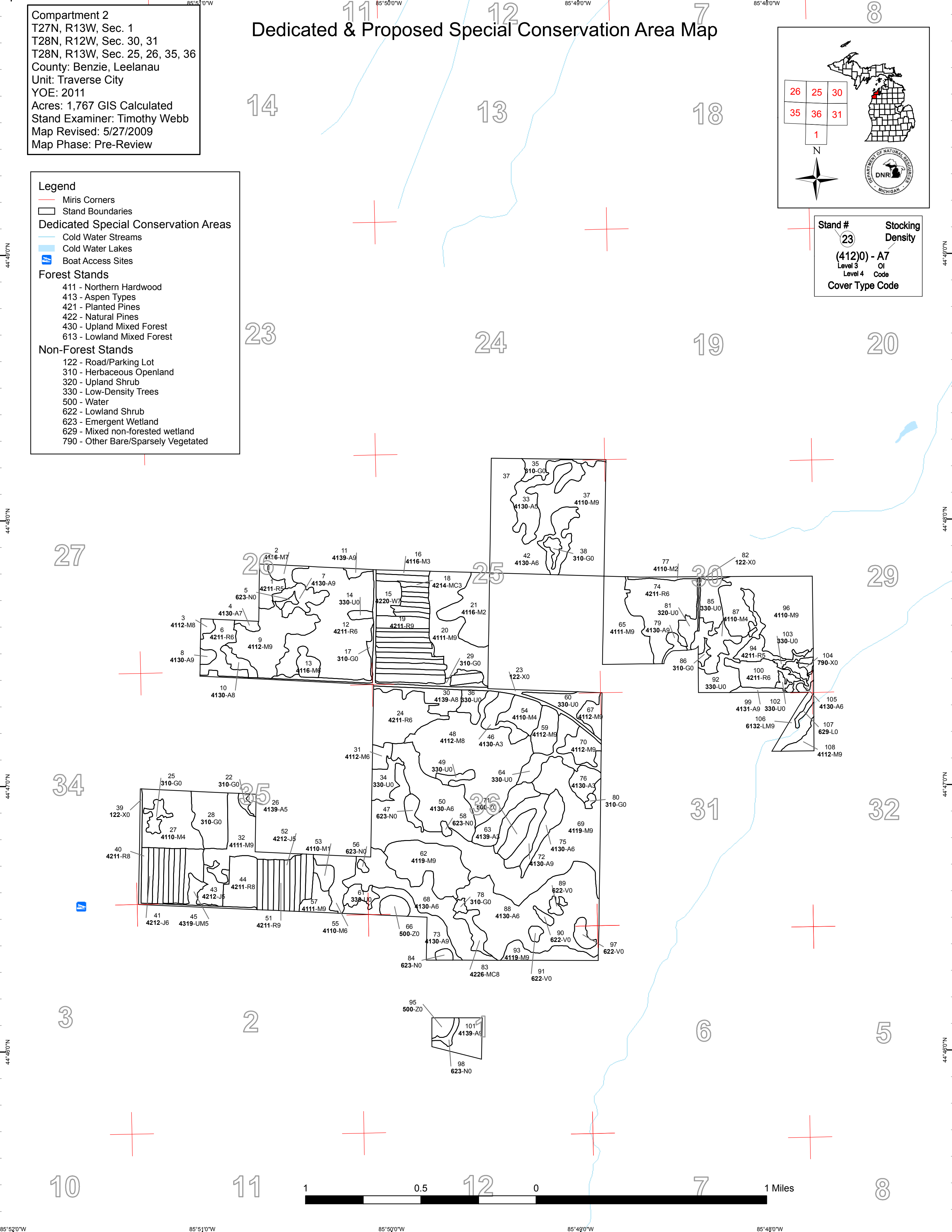
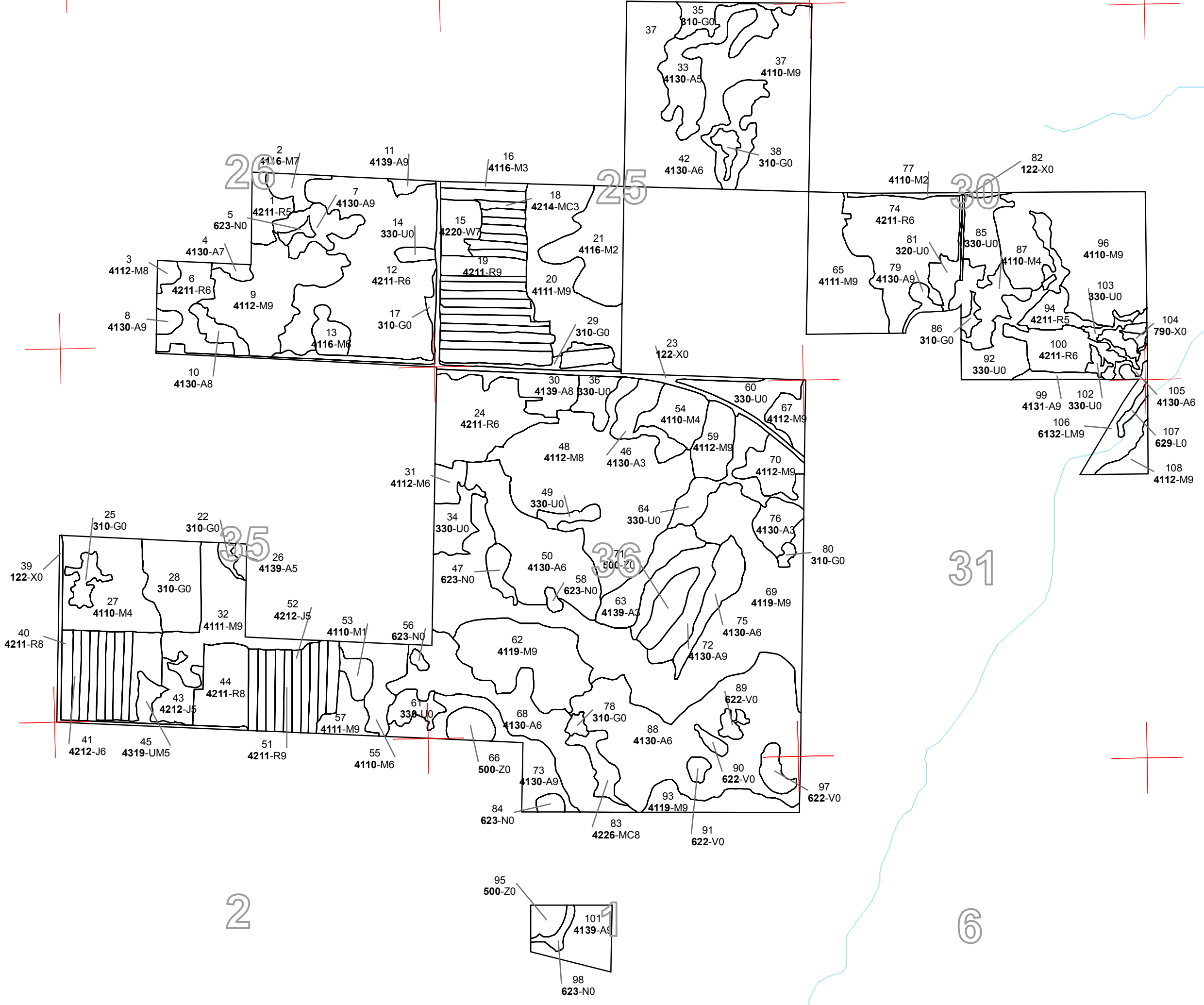
Dedicated & Proposed Special Conservation Area Map



Legend

- Miris Corners
- Stand Boundaries
- Dedicated Special Conservation Areas**
- Cold Water Streams
- Cold Water Lakes
- 🚤 Boat Access Sites
- Forest Stands**
- 411 - Northern Hardwood
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Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



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

Traverse City Mgt. Unit

Compartment 002 Year of Entry 2011

Report Date: 05/27/2009



	Age Class															Total
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	
Aspen Types	0	0	35.0	91.1	97.8	37.5	40.2	35.6	0	18.2	0	0	0	0	0	355.5
Emergent Wetland	13.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.3
Herbaceous Openland	52.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.7
Low-Density Trees	94.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94.9
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	11.7	0	0	0	11.7
Lowland Shrub	11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.3
Mixed non-forested wetland	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8
Natural Pines	0	0	0	0	0	9.4	0	0	0	0	0	0	0	0	6.7	16.1
Northern Hardwood	0	0	26.7	0	5.5	51.7	0	0	5.5	355.6	182.4	125.0	4.9	0	12.6	769.9
Other Bare/Sparsely Vegetated	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1
Planted Pines	0	0	24.7	216.5	0	0	143.5	0	0	0	0	0	0	0	0	384.7
Road/Parking Lot	23.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.5	4.5
Upland Shrub	5.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.6
Water	20.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3
Total	224.4	0	86.5	307.5	103.3	98.6	183.7	35.6	5.5	373.8	182.4	136.7	4.9	0	23.8	1766.7

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
7 61002007-Cut	10.0	4130 - Aspen	High Density Log	64	Harvest	Clearcut with Reserves	Aspen

Rev
Cmnt:

Rev
Spec: Clearcut to 2" diameter limit. Leave all conifers and some mixed species residuals along the wetland. Maintain a filter strip along wetland edge.

Next
Steps: Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes aspen sprouting throughout, with some possible mixed hardwood seedlings and stump sprouts, and white pine seedlings.

9 61002009-Cut	38.7	4112 - Maple, Beech, Cherry Association	High Density Log	95	Harvest	Single Tree Selection	Maple, Beech, Cherry Association
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Rev
Cmnt:

Rev
Spec: Mark for selection down to +/- 90 BA. Retain hemlock, some beech and cherry for mast production, and older aspen and other trees for cavities/potential cavities. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre). Mark some initial regeneration holes.

Next
Steps: Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any maple or cherry seedlings, although beech and ironwood are likely to dominate in the understory in the short term.

10 61002010-Cut	5.1	4130 - Aspen	Medium Density Log	54	Harvest	Clearcut with Reserves	Aspen
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Rev
Cmnt:

Rev
Spec: Clearcut to a 2" diameter limit, leaving some or all hardwoods for retention, aspen cavity trees, plus some younger pole aspen along highway for aesthetics.

Next
Steps: Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes aspen sprouting throughout, with some possible mixed hardwood seedlings.

11 61002011-Cut	1.9	4139 - Aspen, Mixed Deciduous	High Density Log	66	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous
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Rev
Cmnt:

Rev
Spec: Aspen is concentrated on one side of this small stand, hardwoods on the other. Clearcut aspen and hardwoods adjacent to the aspen patch; heavily thin the hardwoods where aspen is absent (+/- 50 residual BA).

Next
Steps: Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes aspen sprouting over most of the stand, with some possible mixed hardwood seedlings and stump sprouts.

19 61002019-Cut	45.4	42110 - Planted Red Pine	High Density Log	54	Harvest	Systematic Thinning	Planted Red Pine
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Rev
Cmnt:

Rev
Spec: Remove about 1/3 of trees. If feasible, spec to cut every 3rd tree; otherwise mark trees to cut.

Next
Steps: None needed.

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
27 61002027-Cut	2.1	4110 - Sugar Maple Association	Low Density Pole	42	Harvest	Systematic Thinning	Planted Red Pine
<u>Rev Cmnt:</u> Combine with pine thinnings to the south on same timber sale.							
<u>Rev Spec:</u> Row thin: remove middle row(s) from pine windbreaks.							
<u>Next Steps:</u> None needed.							

37 61002037-Cut	53.1	4110 - Sugar Maple Association	High Density Log	86	Harvest	Single Tree Selection	Sugar Maple Association
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Mark for selection down to +/- 90 BA. Retain some beech for mast production and some older aspen for potential cavity trees. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre).							
<u>Next Steps:</u> Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any mix of northern hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.							

40 61002040-thin	17.3	42110 - Planted Red Pine	Medium Density Log	54	Harvest	Crown Thinning	Planted Red Pine
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Mark for thinning, removing about 1/3 of BA.							
<u>Next Steps:</u> None needed.							

41 61002041-clearcut	13.3	42120 - Planted Jack Pine	High Density Pole	54	Harvest	Clearcut	Planted Red Pine
<u>Rev Cmnt:</u> Clearcutting and replanting to RP contributes to the state-wide age class balancing effort.							
<u>Rev Spec:</u> Clearcut all pine. Only opportunity for retention may be some scattered black cherry. Consider specifying to chip JP when harvested to reduce seed load.							
<u>Next Steps:</u> Site prep and replant to RP. Consider burning slash as a step in the site prep process. Some control may be required on volunteer JP regeneration.							

42 61002042-Cut	12.7	4130 - Aspen	High Density Pole	52	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Clearcut to a 2" limit, perhaps specifying a larger minimum diameter for hardwoods (4" or 5"?) if feasible. Mark +/-5 trees per acre for retention.							
<u>Next Steps:</u> Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes aspen sprouting throughout, with some possible mixed hardwood seedlings and stump sprouts.							

43 61002043-Cut	3.4	42120 - Planted Jack Pine	Medium Density Pole	54	Harvest	Systematic Thinning	Planted White Pine
<u>Rev Cmnt:</u> Stand is JP plantation in south 2/3, WP in north 1/3. Planned thinning is for WP only.							
<u>Rev Spec:</u> 3rd-row thin WP. Retain hardwoods in cut rows if possible, otherwise fell and leave on site for CWD.							
<u>Next Steps:</u> None needed.							

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
51 61002051-thin	22.2	42110 - Planted Red Pine	High Density Log	54	Harvest	Crown Thinning	Planted Red Pine
<u>Rev Cmnt:</u> Sparser, younger patches within stand were left out of the AOI for retention/diversity.							
<u>Rev Spec:</u> Mark previously thinned parts of AOI for thinning; cut every 3rd row in unthinned areas. Retain scattered hardwoods for diversity.							
<u>Next Steps:</u> None needed.							

52 61002052-clearcut	16.6	42120 - Planted Jack Pine	Medium Density Pole	54	Harvest	Clearcut	Planted Red Pine
<u>Rev Cmnt:</u> Clearcutting and replanting to RP contributes to the state-wide age class balancing effort.							
<u>Rev Spec:</u> Clearcut all pine. Only opportunity for retention may be some scattered black cherry. Consider specifying to chip JP when harvested to reduce seed load.							
<u>Next Steps:</u> Site prep and replant to RP. Consider burning slash as a step in the site prep process. Some control may be required on volunteer JP regeneration.							

55 61002055-Cut	13.6	4110 - Sugar Maple Association	High Density Pole	88	Harvest	Single Tree Selection	Sugar Maple Association
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Mark trees for cutting to a residual BA of about 80-90. Retain some beech and cherry for mast production, and some older aspen for potential cavity trees. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre).							
<u>Next Steps:</u> Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.							

57 61002057-Cut	5.6	4111 - S.Maple, Hard Mast Association	High Density Log	88	Harvest	Single Tree Selection	S.Maple, Hard Mast Association
<u>Rev Cmnt:</u>							
<u>Rev Spec:</u> Mark trees for cutting to a residual BA of about 80-90, focusing on multi-stemmed trees. Retain hemlock, some beech and cherry for mast production, and some older aspen for potential cavity trees. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre).							
<u>Next Steps:</u> Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.							

65 61002065-Cut	37.3	4111 - S.Maple, Hard Mast Association	High Density Log	94	Harvest	Single Tree Selection	S.Maple, Hard Mast Association
<u>Rev Cmnt:</u> Contains beech bark monitoring plots. May require a survey to establish property lines.							
<u>Rev Spec:</u> Mark trees for cutting to a residual BA of about 80-90. Retain some beech for mast production, and some older aspen and beech for potential cavity trees. Beech scale has been found nearby, so employ BBD guidelines in marking. Removal of some individual large-crowned beech will create regeneration holes. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre).							
<u>Next Steps:</u> Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.							

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
67 61002067-Cut	7.2	4112 - Maple, Beech, Cherry Association	High Density Log	83	Harvest	Single Tree Selection	Maple, Beech, Cherry Association

Rev
Cmnt:

Rev Mark trees for cutting to a residual BA of about 80-90. Retain some beech and cherry for mast production and cavity trees. Beech scale has been found nearby, so employ BBD guidelines in marking. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre). Consider aesthetics while marking near M-72.
Spec:

Next Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.
Steps:

69 61002069-Cut	77.8	4119 - Mixed Northern Hardwoods	High Density Log	88	Harvest	Single Tree Selection	Mixed Northern Hardwoods
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Rev
Cmnt:

Rev Mark trees for cutting to a residual BA of about 80-90. Retain oak and some beech and cherry for mast production, and some older aspen for potential cavity trees. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre). Beech scale has been found within the stand, so employ BBD guidelines in marking. Removal of some large individual beech will create regeneration holes.
Spec:

Next Beech scale has been found nearby, so employ BBD guidelines in marking.
Steps:

70 61002070-Cut	11.3	4112 - Maple, Beech, Cherry Association	High Density Log	83	Harvest	Single Tree Selection	Maple, Beech, Cherry Association
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Rev
Cmnt:

Rev Mark trees for cutting to a residual BA of about 80-90. Retain some beech for mast production, and some older aspen for potential cavity trees. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre). Beech scale has been found within the stand, so employ BBD guidelines in marking. Consider aesthetics while marking near M-72.
Spec:

Next Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.
Steps:

73 61002073-Cut	3.3	4130 - Aspen	High Density Log	64	Harvest	Clearcut with Reserves	Aspen
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Rev Most of the stand will be retained for riparian cover around 2 lakes. Slash from the timber sale might be useful for stabilizing/closing nearby eroded roads.
Cmnt:

Rev Clearcut to a 2" diameter limit, retaining some/all of the white pine.
Spec:

Next Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes aspen sprouting throughout, with some possible mixed hardwood seedlings and stump sprouts, and white pine seedlings.
Steps:

96 61002096-Cut	67.2	4110 - Sugar Maple Association	High Density Log	101	Harvest	Single Tree Selection	Sugar Maple Association
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Rev Most of the stand was previously marked but unsold. Most of the paint is still conspicuous.
Cmnt:

Rev Mark trees for cutting to a residual BA of about 90. Retain some beech for mast production, and some older aspen for potential cavity trees. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre).
Spec:

Next Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.
Steps:

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Traverse City Mgt. Unit
Inventory Method: IFMAP

**PROPOSED TREATMENTS
NO LIMITING FACTORS**

Compartment: 002

Entry Yr: 2011

Date 05/27/2009



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
50 61002050-nest platform	4.0	4130 - Aspen		34	Other	Unspecified	Aspen

Rev
Cmnt: Prescription is for a collaborative project with Wings of Wonder and Glen's Landfill to erect an eagle nesting platform adjacent to Hart Lake. Controlled access for installation, monitoring and maintenance will be by an existing 2-track from the landfill property to a groundwater monitoring well adjacent to the lake.

Rev
Spec: Install a free standing eagle nest platform somewhere within the defined treatment area.

Next
Steps:

61 NF_61002061-Other	6.1	Unspecified		0	Other	Unspecified	Mixed Low Density Trees
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Rev
Cmnt: Site is severely damaged from ORVs, with some soil erosion affecting Cook Lake. Felling and positioning trees could be done with local resources or contracted using ORV funds.

Rev
Spec: Cut white pines and other trees to place on site as needed to stabilize eroding soils and block vehicle traffic. Reshape eroded slopes. Seed exposed soils with annual rye.

Next
Steps:

**Total Treatment
Acreage Proposed: 475.4**

**PROPOSED TREATMENTS
WITH LIMITING FACTORS**



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Treatment Name	Acres	Stage1 Cover Type	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
93 61002093-Cut	13.0	4119 - Mixed Northern Hardwoods	High Density Log	101	Harvest	Single Tree Selection	Mixed Northern Hardwoods

Limiting Factor and Comment: 2E: Too steep
May be practically accessible only across private land because of topography and wetlands.

Rev Cmnt:

Rev Spec: Mark trees for cutting to a residual BA of about 70-80. Retain hemlock, some oak, beech and cherry for mast production and older aspen for cavity trees. Beech scale has been found nearby, so employ BBD guidelines in marking. Mark some low quality trees to be felled and left for CWD (1 to 2 per acre).

Next Steps: Regeneration survey to follow harvesting at appropriate interval(s). Expected, acceptable regeneration includes any hardwood seedlings, although beech and ironwood are likely to dominate in the understory in the short term.

No Treatment Reason: May be practically accessible only across private land because of topography and wetlands.

28 NF_61002028 -Prep	21.8	Unspecified		0	Site Prep	Trenching	Planted Red Pine
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Limiting Factor and Comment: 1D: Other agency concerns (name)
Need to consult DEQ to insure planting trees does not conflict with integrity/monitoring of this former landfill site.

Rev Cmnt: Some/all of site may not be plantable if DEQ determines that tree roots might perforate a landfill cap. Alternatively, perennial ground cover (e.g. grass/legume mix) could be planted on areas where trees cannot be planted.

Rev Spec: Trench to prepare site for planting red pine seedlings.

Next Steps: Tree planting and/or ground cover seeding and fertilization to follow site-prep.

No Treatment Reason: Need to consult DEQ to insure planting trees does not conflict with integrity/monitoring of this former landfill site.

25 NF_61002025 -Prep	5.2	Unspecified		0	Site Prep	Trenching	Planted Red Pine
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Limiting Factor and Comment: 1D: Other agency concerns (name)
Need to consult DEQ to insure planting trees does not conflict with integrity/monitoring of this former landfill site.

Rev Cmnt: Some/all of site may not be plantable if DEQ determines that tree roots might perforate a landfill cap. Alternatively, perennial ground cover (e.g. grass/legume mix) could be planted on areas where trees cannot be planted.

Rev Spec: Trench for planting red pine seedlings.

Next Steps: Tree planting and/or ground cover seeding and fertilization to follow site-prep.

No Treatment Reason: Need to consult DEQ to insure planting trees does not conflict with integrity/monitoring of this former landfill site.

**Total Treatment
Acreage Proposed: 39.9**



PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Inventory Method: IFMAP

Stand	SCA Name	Acres	Comments



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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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	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.