



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

COMPARTMENT # 29 ENTRY YEAR: 2012

Compartment Acreage: 1162 County: Benzie

Stand Examiner: Craig Allen

Legal Description: T25N- R14W; Sections 21, 31, 32

Management Goals: This compartment was previously managed under the Pere Marquette State Forest Management Plan. Under this plan the past emphasis of management was designated as “Mixed Use”. This indicates the need toward balanced management involving timber production/health, wildlife habitat maintenance and improvement, along with recreational management opportunities and values. This compartment was historically cleared with attempts towards farming and orchard production. Due to perhaps, poor soil conditions, these efforts failed and the cleared areas were left barren. Later, these areas were planted creating many acres of tree plantations. These plantations are comprised of mainly spruce along with red pine and white pine that now heavily populate this compartment. Past management of these areas included harvesting the hardwoods within these plantations to help expand the aspen component for wildlife habitat benefits. We will continue with this same effort in our current harvest prescriptions. Other stands managed will include Northern hardwood forested areas for selective thinning, thinning of red pine plantations, and harvesting hardwood areas that have a good aspen component to continue diversifying the aspen/hardwood age class distribution which will create vital wildlife habitat and maintain sustainable forest production for the future.

Soil and Topography: The terrain here is mostly level. The soils in the area are mostly Deer Park fine sands, Kalkaska- Rubicon association with Roscommon- Au Gres-Croswell association in the lowland areas.

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

This compartment is on the southern end of a large area of state ownership in Weldon Township. Crystal Mountain Ski/Golf Resort, which borders on the east, is well developed with year round and seasonal homes. The resort has a golf course and hiking/skiing trails that are directly adjacent to this compartment. Other private holdings in the area are being split and sold as smaller parcels. State highway M-115 runs through the area, however, the State has no frontage on the highway within this compartment. Smeltzer and South Pioneer roads are the paved county roads that border State land.

Unique, Natural Features: The Betsie River, flowing through section 31 of the compartment, but there are no riparian lands on the Betsie within this compartment. Dair Creek flows through the north portion of the compartment and into the Betsie River. The Betsie River system is a Michigan Natural River. The designation begins at the Grass Lake Dam, then extending downstream to its mouth at Betsie Lake in Frankfort and includes all tributaries.

Archeological, Historical, and Cultural Features: There are a few old homestead sites within or near the compartment. Early Native Americans would commonly establish settlements along the Betsie River. There are old railroad grades within or near the compartment that were used during the original logging operations in this area around the turn of the century.

Special Management Designations or Considerations: Visual management is an important consideration when proposing vegetative management along recreational trails on State lands. Also, all proposed land management activities near the Betsie River should reference the Betsie River Natural River Plan for guidance and consideration.

Watershed and Fisheries Considerations: Shady cover and woody debris are currently lacking in many stretches of the Betsie River. While the Betsie River has excellent natural reproduction of chinook salmon, species such as steelhead, brown trout, and coho salmon do not reproduce as well. This is due to problems with high summer water temperatures, sand loading, and lack of woody debris. Fisheries Division currently stocks brown trout and steelhead into the Betsie River annually. Restoration projects have also taken place in the watershed in order to stabilize eroding stream banks. The Betsie River is a state-designated Natural River, as well as a designated trout stream. According to the Betsie River Natural Rivers guidelines, no cutting can be done within 100 feet of the Betsie River without a variance from the Natural Rivers Board, and this should be followed in Stands 1 and 4 (Heather Seites, MDNRE Fish Division comments).

Wildlife Habitat Considerations: This compartment falls entirely within a broad, flat outwash plain with few wetlands and excessively drained sand. This compartment also falls in the southern tip of this expansive LTA, and lies just northeast of the Betsie River and moraine landscapes. Consequently, this compartment may have been less influenced by the historic large-scale fires that affected the rest of the LTA and therefore possibly more successional advanced. Maintenance of some northern hardwoods in association with the Betsie River and Dair Creek will provide mature interior forest habitat for numerous forest and riparian associates, most notably the threatened red-shouldered hawk. 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 the upland in this compartment has been intensively cultured in the past, including numerous conifer plantations and remnant orchards. Upland areas should continue to be managed for a variety of successional stages and age classes of mixed aspen, pine, and hardwood forest, including everything from grass/shrub openings to late-successional hardwood/conifer 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. 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. Incorporating small (2-5 acre) islands that are left relatively un-thinned within mature pine stands would provide winter roosting cover for turkeys. Spruce was historically a minor component at best in upland forests of this LTA. Although white spruce plantings in section 32 are well established and in need of release, retention of a mix of tree species in white spruce plantations is important to maintain long-term natural diversity.
(Comments by Steve Griffith, DNRE Wildlife Div. Traverse City F.O.)

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 is the Devonian Ellsworth Shale. There is no current economic use for the Ellsworth Shale. The nearest gravel pit is within two miles to the southeast in the SE of Section 3 T24N R14W. Gravel potential in the compartment is considered good. This area is located northwest of the Antrim Shale gas play. The State land is currently leased for oil and gas development. The Antrim Shale appears to have potential. (Comments by Tom Hoane, Geologist, FM Division of DNRE)

Vehicle Access: There are many gravel and seasonal county roads throughout the compartment within this area offering good access to State lands. There are also many forest "2-track" roads in various areas of the compartment that are in good condition and are used for public and DNRE land management accessibility.

Survey Needs: There are no known survey needs within this compartment at this time.

Recreational Facilities and Opportunities: The Betsie River Pathway runs through the compartment providing cross-country skiing, hiking and biking opportunities. Hunting, fishing, cross-country skiing and dispersed camping are other popular recreational activities throughout these lands.

Fire Protection: DNRE Fire Protection is from the Platte River Field Office. Travel time is acceptable, and access in this compartment is good. There are scattered residences within this compartment, but urban interface issues are not too much of a concern. Forest cover types do not allow for catastrophic fires. VFD protection is from the Thompsonville Volunteer Fire Dept. (Comments by Paul Simmer, DNRE Fire Officer Supervisor, Traverse City F.O.).

Additional Compartment Information:

* **Cover type details, proposed treatments and stands designated as FDF 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

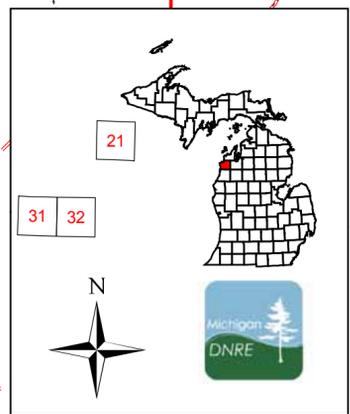
Proposed treatments

Proposed road access system

Cover Type & Treatment Map

Compartment 29
 T25N, R14W, Sec. 21, 31, 32
 County: Benzie
 Unit: Traverse City
 YOE: 2012
 Acres: 1,162 GIS Calculated
 Stand Examiner: Craig Allen
 Map Revised: 5/27/2010
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Trails
- Snowmobile Trails
- Ski Trails
- Bike Trails
- Hiking Trails
- Intermittent Stream/Drain
- Stream
- Power
- Culverts
- Bridges

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Other Treatment - See Comments

Forest Stands

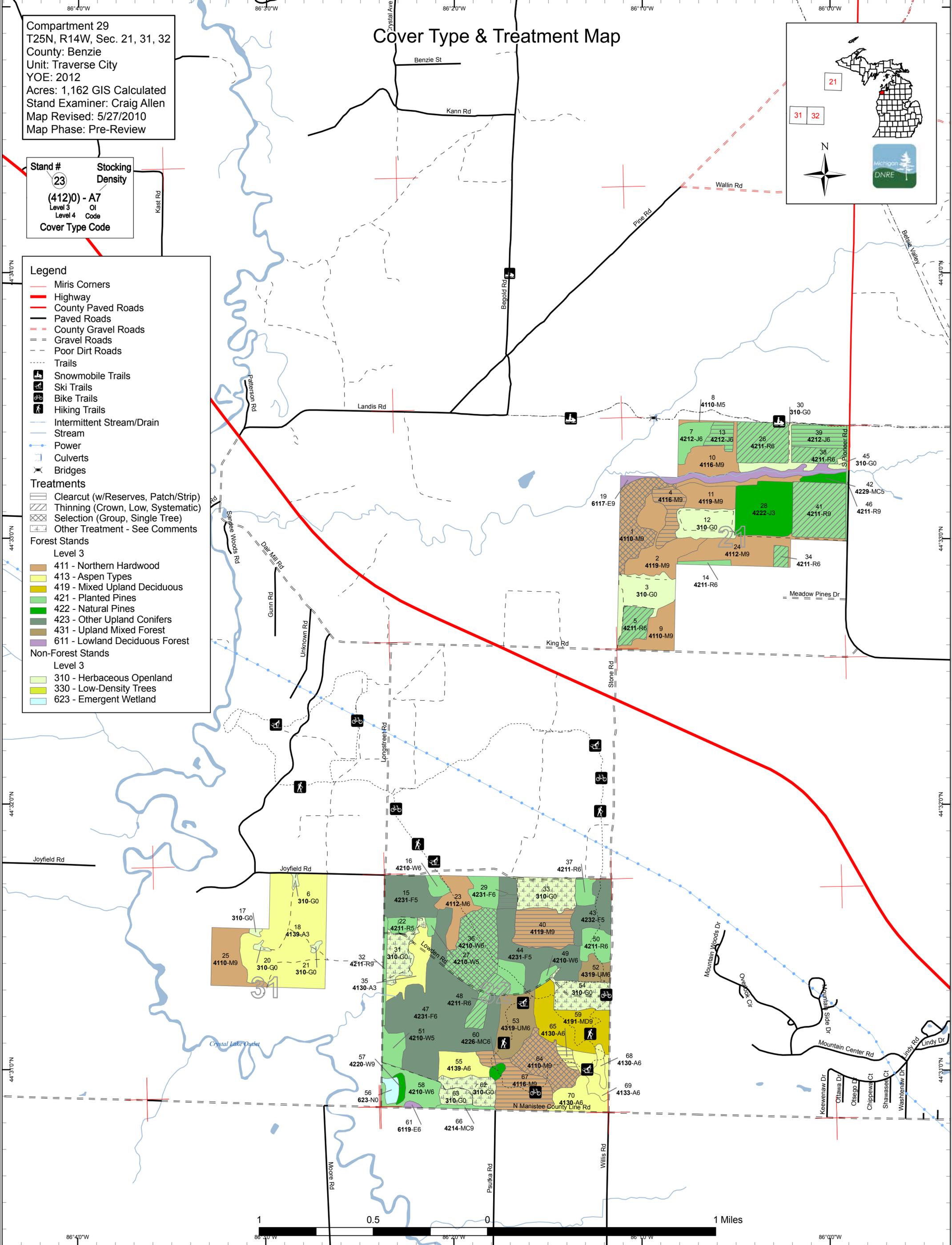
Level 3

- 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

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 623 - Emergent Wetland



86°40'W 86°30'W 86°20'W 86°10'W 86°00'W

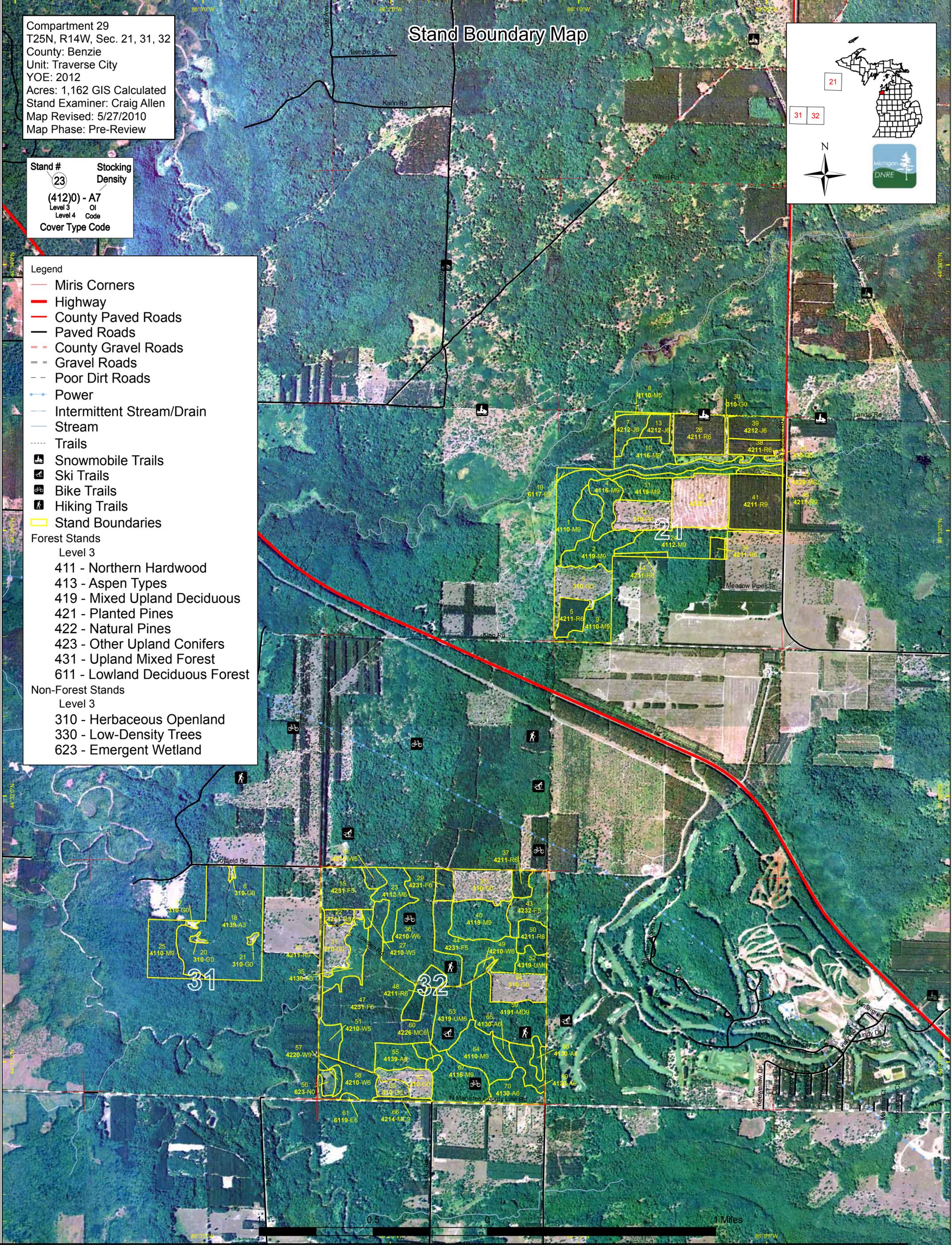
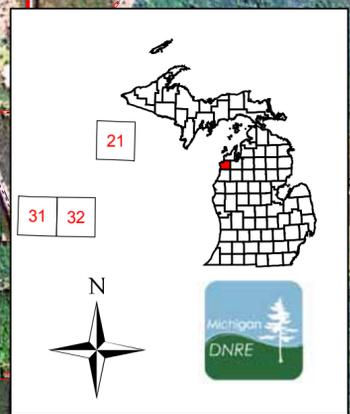
44°30'N 44°30'N 44°30'N 44°30'N 44°30'N

Stand Boundary Map

Compartment 29
 T25N, R14W, Sec. 21, 31, 32
 County: Benzie
 Unit: Traverse City
 YOE: 2012
 Acres: 1,162 GIS Calculated
 Stand Examiner: Craig Allen
 Map Revised: 5/27/2010
 Map Phase: Pre-Review

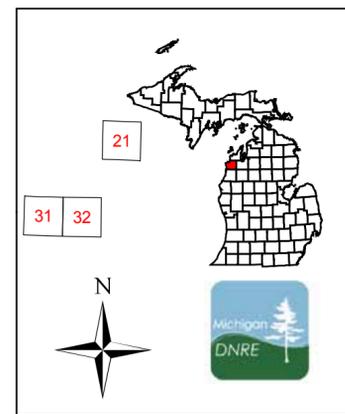
Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

- Legend**
- Miris Corners
 - Highway
 - County Paved Roads
 - Paved Roads
 - - County Gravel Roads
 - - Gravel Roads
 - - Poor Dirt Roads
 - Power
 - Intermittent Stream/Drain
 - Stream
 - Trails
 - 🛷 Snowmobile Trails
 - 🚲 Ski Trails
 - 🚲 Bike Trails
 - 🚶 Hiking Trails
 - 🟡 Stand Boundaries
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
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 - 421 - Planted Pines
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- Non-Forest Stands**
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- 310 - Herbaceous Openland
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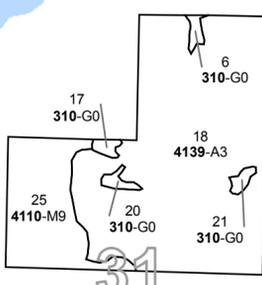
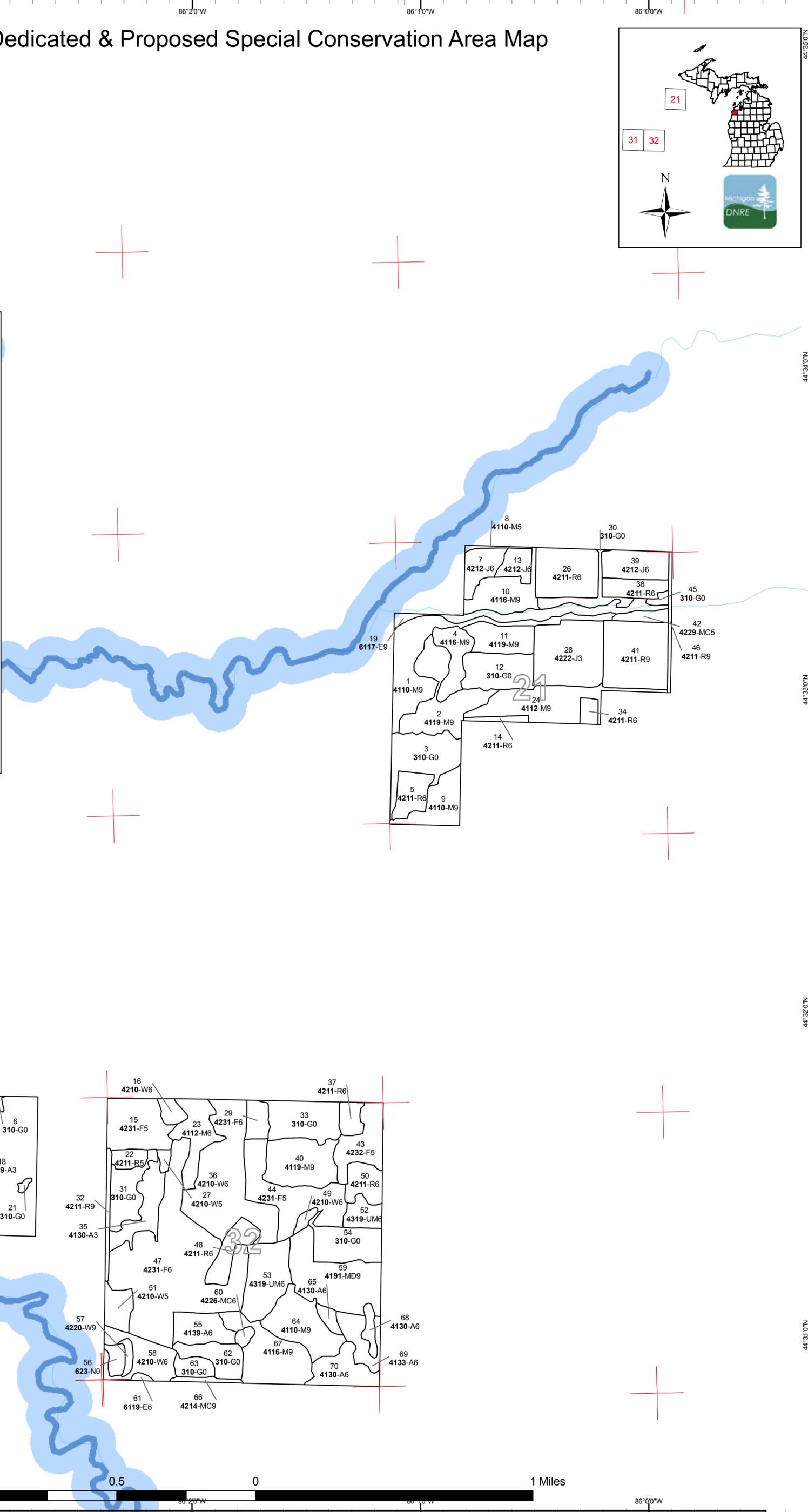
Dedicated & Proposed Special Conservation Area Map

Compartment 29
 T25N, R14W, Sec. 21, 31, 32
 County: Benzie
 Unit: Traverse City
 YOE: 2012
 Acres: 1,162 GIS Calculated
 Stand Examiner: Craig Allen
 Map Revised: 5/27/2010
 Map Phase: Pre-Review



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

- Legend**
- Miris Corners
 - Stand Boundaries
 - Dedicated Special Conservation Areas
 - Cold Water Streams
 - Natural Rivers Vegetative Buffer
 - Natural Rivers Zoning District
 - 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
 - Non-Forest Stands
 - Level 3
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 623 - Emergent Wetland



Crystal Lake Outlet

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	16	92	0	45	3	0	0	0	0	0	0	0	0	156
Emergent Wetland	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Herbaceous Openland	136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	136
Lowland Deciduous Forest	0	0	0	0	0	0	0	1	0	18	0	0	0	0	0	19
Mixed Upland Deciduous	0	0	0	0	0	39	0	0	0	0	0	0	0	0	0	39
Natural Pines	0	37	0	0	5	2	0	0	0	0	2	0	0	0	0	46
Northern Hardwood	0	0	0	0	1	0	0	31	27	184	0	0	0	0	40	284
Other Upland Conifers	0	0	0	0	0	120	66	0	0	0	0	0	0	0	0	186
Planted Pines	0	0	0	0	0	64	81	99	7	0	0	0	0	0	9	259
Upland Mixed Forest	0	0	0	0	0	8	0	25	0	0	0	0	0	0	0	33
Total	140	37	16	92	6	278	151	155	34	202	2	0	0	0	49	1162



Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 029
Total Compartment Acres: 1162

Acres by Treatment Type

Commercial Harvest - 288	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 15
Habitat Cut - 0	Opening Maintenance - 82	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	3	0	0	0	0	0	3
Jack Pine	23	0	0	0	0	0	23
Northern Hardwood	70	53	0	0	0	0	123
Red Pine	0	0	0	0	97	0	97
Upland Spruce/Fir	3	0	0	0	0	0	3
White Pine	0	38	0	0	0	0	38
Total	99	91	0	0	97	0	288



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	61029001-Cut	28.0	4110 - Sugar Maple Association	High Density Log	80	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> --Craig Allen : 05/06/2010 comments: Thin stand by select marking following complete marker guidelines. Target residual overall basal area <u>Specs:</u> around 80 to 90. Can be less in spots where lower quality or areas to open up for regeneration holes.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									
4	61029004-Cut	13.3	4116 - Mixed N. Hardwood - Aspen	High Density Log	65	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> --Craig Allen : 05/06/2010 comments: Clearcut to regenerate and expand aspen component. This will enhance aspen age class diversity in the <u>Specs:</u> area for wildlife use. Retain some leave tree sugar maple of better quality and health.</p> <p><u>Other Comments:</u> Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.</p> <p><u>Next Steps:</u></p>									
5	61029005-Cut	11.3	42110 - Planted Red Pine	High Density Pole	47	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Craig Allen : 05/06/2010 comments: Needs first thinning. Cut every 3rd row. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									
13	61029013-Cut	7.6	42120 - Planted Jack Pine	High Density Pole	55	Harvest	Clearcut	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Craig Allen : 05/06/2010 comments: Convert covertime by clearcut and replant to red pine. No retention due to conversion and planting. <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> --Craig Allen : 05/06/2010 comments: Trench and plant red pine after harvest.</p>									
26	61029026-Cut	25.3	42110 - Planted Red Pine	High Density Pole	55	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Craig Allen : 05/06/2010 comments: Thin plantation, by removal of approx. 1/3 volume. Can use individual tree marking or every third tree <u>Specs:</u> designation.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p>									



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
29 61029029-Cut	3.1	42310 - Planted Spruce	High Density Pole	50	Harvest	Clearcut with Reserves	Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription --Craig Allen : 05/06/2010 comments: Clearcut to regenerate and expand aspen compnent. Mark some leave tree spruce.

Specs:

Other

Comments:

Next

Steps:

34 61029034-Cut	3.7	42110 - Planted Red Pine	High Density Pole	47	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Needs first thinning. Cut every third row.

Specs:

Other

Comments:

Next

Steps:

36 61029036-Cut	37.8	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	65	Harvest	Group Selection	Aspen, Mixed Pine	Cmpt. Review Proposal
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Prescription Cut all hardwoods to regenerate and expand aspen component. Individually mark pine to leave better quality trees.

Specs:

Other

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

Next

Steps:

38 61029038-Cut	9.7	42110 - Planted Red Pine	High Density Pole	55	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Thin plantation, by removal of approx. 1/3 volume. Can use individual tree marking or every third tree designation.

Specs:

Other

Comments:

Next

Steps:

39 61029039-Cut	15.6	42120 - Planted Jack Pine	High Density Pole	55	Harvest	Clearcut	Planted Red Pine	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut jack pine and convert to red pine by planting site after harvest. Little or no retention due to conversion. There are a few walnut trees in the east end that should be retained.

Specs:

Other

Comments:

Next

Steps: Trench and re-plant to red pine after harvest.



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40	61029040-Cut	26.6	4119 - Mixed Northern Hardwoods	High Density Log	70	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription --Craig Allen : 05/06/2010 comments: Cut all hardwoods to expand and regenerate aspen. Mark some sugar maple leave trees. Leave any
Specs: conifers that may be present in the stand.

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

Next
Steps:

41	61029041-Cut	35.6	42110 - Planted Red Pine	High Density Log	60	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Thin plantation, by removal of approx. 1/3 volume. Can use individual tree marking or every third tree
Specs: designation. Cut all remaining jack pine within the stand.

Other
Comments:

Next
Steps:

48	61029048-Cut	11.9	42110 - Planted Red Pine	High Density Pole	50	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal
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Prescription
Specs:

Other
Comments:

Next
Steps:

64	61029064-Cut	25.3	4110 - Sugar Maple Association	High Density Log	80	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Select thin northern hardwoods to promote growth of better quality trees and create possible regen of sugar
Specs: maple. Follow complete marker guidelines. Residual BA may vary depending on quality of existing trees and if any regen gap-holes may be available.

Other
Comments:

Next
Steps:

65	61029065-Cut	3.3	4130 - Aspen	High Density Pole	50	Harvest	Clearcut	Aspen	Cmpt. Review Proposal
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Prescription Clearcut to expand and regenerate aspen component. No retention due to small size of stand.
Specs:

Other
Comments:

Next
Steps:



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
67	61029067-Cut	29.7	4116 - Mixed N. Hardwood - Aspen	High Density Log	80	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription --Craig Allen : 05/06/2010 comments: Cut all hardwoods to expand and regenerate aspen component, but mark to leave better quality sugar maple on site. Leave all conifers.

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

Next Steps:

12	NF_61029012-Mow	20.7	Unspecified		0	Non-Forest Management	Mowing	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Maintain as needed with mowing, seeding, fertilizing, burning, or removal of woody encroachment.

Specs:

Other Comments:

Next Steps:

33	NF_61029033-Prune	22.5	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Prune remnant apple trees.

Specs:

Other Comments:

Next Steps:

54	NF_61029054-Prune	19.8	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Prune remnant apple trees.

Specs:

Other Comments:

Next Steps:

62	NF_61029062-Prune	12.8	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Prune remnant apple trees.

Specs:

Other Comments:

Next Steps:

63	NF_61029063-Prune	6.2	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Prune remnant apple trees.

Specs:

Other Comments:

Next Steps:

**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
31	NF_61029031- Prune	15.4	Unspecified		0	Other	Unspecified	Mixed Upland Herbaceous	Cmpt. Review Proposal

Prescription Prune remnant apple trees.

Specs:

Other

Comments:

Next

Steps:

**Total Treatment
Acreage Proposed: 385.3**

Table 4 -- Treatments Prescribed with a Limiting Factor



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

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 029
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
1	4110 - Sugar Maple Association	High Density Log	34.9	80	111-140	
2	4119 - Mixed Northern Hardwoods	High Density Log	30.3	80	51-80	
4	4116 - Mixed N. Hardwood - Aspen	High Density Log	13.3	65		
5	42110 - Planted Red Pine	High Density Pole	11.3	47	141-170	
7	42120 - Planted Jack Pine	High Density Pole	10.8	55		
8	4110 - Sugar Maple Association	Medium Density Pole	1.3	35		
9	4110 - Sugar Maple Association	High Density Log	16.4	Uneven Age	51-80	
10	4116 - Mixed N. Hardwood - Aspen	High Density Log	18.9	83		
11	4119 - Mixed Northern Hardwoods	High Density Log	15.0	80	81-110	
13	42120 - Planted Jack Pine	High Density Pole	7.6	55		
14	42110 - Planted Red Pine	High Density Pole	2.7	47	81-110	
15	42311 - Planted Spruce, Mixed Deciduous	Medium Density Pole	24.7	50		
16	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	4.4	47	111-140	
18	4139 - Aspen, Mixed Deciduous	High Density Sapling	91.6	26		
19	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	18.0	83		
22	42110 - Planted Red Pine	Medium Density Pole	5.2	45		
23	4112 - Maple, Beech, Cherry Association	High Density Pole	17.9	60	81-110	
24	4112 - Maple, Beech, Cherry Association	High Density Log	30.3	80	81-110	



Stand	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 029	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
25	4110 - Sugar Maple Association	High Density Log	23.9	Uneven Age	51-80		
26	42110 - Planted Red Pine	High Density Pole	25.3	55	141-170		
27	42101 - Planted White Pine, Mixed Deciduous	Medium Density Pole	2.0	45			
28	42220 - Natural Jack Pine	High Density Sapling	36.5	6			
29	42310 - Planted Spruce	High Density Pole	6.9	50	1-50		
32	42110 - Planted Red Pine	High Density Log	4.5	79	111-140		
34	42110 - Planted Red Pine	High Density Pole	3.7	47	141-170		
35	4130 - Aspen	High Density Sapling	16.1	17			
36	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	57.0	65			also contains some scattered sugar maple and elm.
37	42110 - Planted Red Pine	High Density Pole	6.1	47	111-140		
38	42110 - Planted Red Pine	High Density Pole	9.7	55	141-170		
39	42120 - Planted Jack Pine	High Density Pole	15.6	55	1-50		
40	4119 - Mixed Northern Hardwoods	High Density Log	26.6	70			
41	42110 - Planted Red Pine	High Density Log	35.6	60	141-170		
42	42290 - Natural Mixed Pine	Medium Density Pole	4.6	30			
43	42320 - Upland Spruce	Medium Density Pole	18.6	47			
44	42310 - Planted Spruce	Medium Density Pole	34.8	50			
46	42110 - Planted Red Pine	High Density Log	3.8	60	81-110		



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 029
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
47	42311 - Planted Spruce, Mixed Deciduous	High Density Pole	101.3	47	51-80	
48	42110 - Planted Red Pine	High Density Pole	11.9	50	141-170	
49	42100 - Planted White Pine	High Density Pole	2.3	60		
50	42110 - Planted Red Pine	High Density Pole	10.8	47	111-140	
51	42100 - Planted White Pine	Medium Density Pole	9.0	Uneven Age		
52	4319 - Mixed Upland Forest	High Density Pole	8.2	45		
53	4319 - Mixed Upland Forest	High Density Pole	24.5	60		also contains some scattered elm.
55	4139 - Aspen, Mixed Deciduous	High Density Pole	13.8	45		
57	42200 - Natural White Pine	High Density Log	2.4	97	1-50	
58	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	17.5	47		
59	4191 - Mixed Upland Deciduous with Conifer	High Density Log	39.0	45		
60	42260 - Natural Pine, Mixed Deciduous	High Density Pole	2.2	45		
61	6119 - Mixed Lowland Deciduous Forest	High Density Pole	1.1	60		Stand swapped from Non-Forested to Forested.
64	4110 - Sugar Maple Association	High Density Log	25.3	80	81-110	
65	4130 - Aspen	High Density Pole	3.3	50		New stand added.
66	42140 - Planted Mixed Pine	High Density Log	2.6	79	51-80	
67	4116 - Mixed N. Hardwood - Aspen	High Density Log	29.7	80		
68	4130 - Aspen	High Density Pole	4.0	45		



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Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 029

Inventory Method: IFMAP

Year of Entry: 2012



Level 4
Cover Type

Size
Density

Acres

Stand
Age

BA
Range

General
Comments:

69

4133 - Aspen, Mixed
Pine

High Density
Pole

11.3

45

70

4130 - Aspen

High Density
Pole

15.6

45



Stand	Cover Type	Acres	Gen Cmts:
3	310 - Herbaceous Openland	24.4	
6	310 - Herbaceous Openland	1.0	
12	3105 - Mixed Upland Herbaceous	20.7	
17	310 - Herbaceous Openland	1.0	
20	310 - Herbaceous Openland	1.0	
21	310 - Herbaceous Openland	0.9	
30	310 - Herbaceous Openland	7.9	
31	3105 - Mixed Upland Herbaceous	15.4	
33	3105 - Mixed Upland Herbaceous	22.5	
45	310 - Herbaceous Openland	1.7	
54	3105 - Mixed Upland Herbaceous	19.8	
56	623 - Emergent Wetland	4.3	
62	3105 - Mixed Upland Herbaceous	12.8	
63	3105 - Mixed Upland Herbaceous	6.2	



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

Inventory Method: IFMAP

Stand	SCA Type	SCA Name	Acres	Comments
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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	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.