

CADILLAC FOREST MANAGEMENT UNIT



COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 016 ENTRY YEAR: 2013

Compartment Acreage (GIS Acres): 2144 County: Lake

Revision Date: 10/07/2011 10:13 AM

Stand Examiner: Cheryl Nelson, Forester

Legal Description: T19N R12W Sections 21, 22, 28, 33, 34

Management Goals: Habitat-Vegetative - Wildlife intensive. This RMU's management tone is set by wildlife considerations. The maintaining of aspen and oak on the swamp edge is a major emphasis. Timber species and age class diversity are major goals.

Soil and Topography: Grayling-Graycalm, Tawas-Croswell-Lupton. The Baldwin-Luther swamp area is mostly flat with scattered fingers of higher ground. There are some hilly areas on the swamp edge.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Predominantly state ownership. The state land is generally in large blocks. Private ownership is mostly hunting-type land. Disposal of an isolated 35 acres in SESE of Sec. 22 is recommended unless private ownership surrounding parcel could be obtained. Private blocks in Sections 22, 28, and 33 should be acquired to block in ownership if they become available. If possible, legal access from King's Highway to the state land in Section 28 should be pursued.

Unique, Natural Features (include only non-site specific and non-sensitive information): Broad moraine ridges, few kettle lakes, somewhat excessively drained sand. Eastern Massasauga rattlesnake recorded in NW1/4 sec. 28. Wood turtle, bald eagle, loon, W. karnar blue butterfly, dusted skipper, ottoe skipper, great plains spittlebug, spotted turtle, and box turtle in vicinity. Hill's thistle throughout vicinity. Potential for secretive locust, ebony boghaunter, blanding's turtle, osprey, Alleghany pum, Missouri rock cress, calypso and ram's head lady slipper.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Areas within this compartment are old hay fields from the early 1900's. At one time there were numerous shingle and saw mills surrounding the swamp however, there is no evidence of these mills today. On occasion the sites of old trapper's cabins can still be found around the swamp edge.

Special Management Designations or Considerations: This area is isolated and rather inaccessible making visual management a low priority except near 3 Mile road and the recreational trails. The Baldwin River is covered under the Pere Marquette Natural River zoning laws. The streams and their headwaters will be protected and their integrity maintained.

Watershed and Fisheries Considerations: The Baldwin River and several of its tributaries flow through Compartment 16. All are Designated Trout Streams. The upper Baldwin has naturally reproducing populations of resident brown and brook trout, as well as naturally reproducing populations of migratory rainbow trout (steelhead), coho salmon, and chinook salmon. BMPs should be followed when working around any of these streams and appropriate buffers should be maintained.

Wildlife Habitat Considerations: Priority Wildlife Species: Swamp hardwoods and swamp conifer species to benefit bobcat and bear.

Habitat Objectives: The west 2/3 of this compartment is located in the Newaygo Outwash Plain Ecosystem, LTA 5149. Soils are very poorly drained sandy, muck. The eastern 1/3 is in the High plains Ecosystem, LTA 1111. Soils are deep, excessively well-drained sands and loamy sand. Historically, this compartment was dominated by swamp communities dominated by cedar, hemlock, tamarack, jack pine or a mixed conifer or hardwood overstory. Blow down and flooding has greatly limited to conifer component of the swamp which is primarily ash, red maple and cattails with small conifer inclusions. Wildlife habitat objectives are to maintain the integrity of the swamp and to maintain the aspen and oak component of various age classes on the swamp edge. (TL 9/30/11)

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 600 feet. Beneath the glacial drift are the Mississippian Michigan Formation and Bayport Limestone. The Michigan Formation is quarried for gypsum and the Bayport for limestone in other areas of the State. Gravel pits surround the compartment and potential is considered good especially the upland areas. The small Luther Field lies to the northeast. Luther produced 28,000 BO in 8 years from the Traverse Limestone. None of the land in the compartment is currently leased.

Vehicle Access: Poor vehicle access in the compartment with no plans to improve access to the interior of the Baldwin-Luther swamp.

A forest road access plan is detailed on the compartment map. Identified are state and county roads as well as forest roads and trails under the jurisdiction of the DNR. Also indicated are forest roads and trails under the jurisdiction of the DNR that are proposed for abandonment. These roads were determined to be in excess of the access needs in the area, are a threat to the resources, or are a concern environmentally. Proposed new roads or roads recommended for substantial improvement are noted below:

Survey Needs: Section 22: NWNW and SESE unless parcels are disposed. Section 21: Corners needed in the SE 1/4. Section 28: All private land within section. Section 33: SESE. Section 34: NWSW.

Recreational Facilities and Opportunities: The Little Manistee and Tin Cup ORV Routes and Trails are within the compartment. Both are heavily used during the ORV season. The Little Manistee Trail system is also a groomed snowmobile trail in the winter. (BET 08/2011)

Fire Protection: This compartment is divided by the Baldwin River, making access with fire equipment a concern. Private property to the east side of the compartment is a urban interface issue. Most of the compartment is very wet. (BET 08/2011)

Additional Compartment Information:

➤ **The following 5 reports from the Operations Inventory System (OIPC) are attached:**

- ◆ **Cover Type by Age Class**
- ◆ **Cover Type by Management Objective**
- ◆ **Compartment Volume Summary**
- ◆ **Proposed Treatments – No Limiting Factors**
- ◆ **Proposed Treatments – With Limiting Factors**

➤ **The following information is displayed, where pertinent, on the attached compartment maps:**

- ◆ **Base feature information, stand numbers, cover types**
- ◆ **Proposed treatments**
- ◆ **Proposed road access system**
- ◆ **Suggested potential old growth**

Table 1 – Total Acres by Cover Type and Age Class



| | 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 + | | Unretn Age |
| Aspen | 0 | 0 | 97 | 110 | 0 | 18 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 228 |
| Bog | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 |
| Cedar | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 56 | 13 | 28 | 0 | 0 | 0 | 0 | 0 | 106 |
| Herbaceous Openland | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Jack Pine | 0 | 0 | 0 | 0 | 62 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71 |
| Low-Density Trees | 142 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 142 |
| Lowland Conifers | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 47 | 11 | 0 | 0 | 0 | 0 | 0 | 148 |
| Lowland Deciduous | 0 | 0 | 0 | 0 | 0 | 130 | 310 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 603 |
| Lowland Mixed Forest | 0 | 0 | 9 | 0 | 0 | 0 | 43 | 91 | 73 | 19 | 0 | 0 | 0 | 0 | 0 | 236 |
| Lowland Shrub | 123 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 123 |
| Marsh | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 |
| Mixed Upland Deciduous | 0 | 0 | 0 | 15 | 30 | 6 | 21 | 0 | 25 | 74 | 0 | 0 | 0 | 0 | 0 | 171 |
| Natural Mixed Pines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 19 |
| Northern Hardwood | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| Oak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 8 | 0 | 0 | 0 | 0 | 87 |
| Upland Mixed Forest | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 68 |
| Urban | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Total | 395 | 0 | 106 | 124 | 92 | 166 | 381 | 459 | 159 | 236 | 8 | 0 | 19 | 0 | 0 | 2144 |



Table 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2013

Compartment 016
Total Compartment Acres: 2144

Acres by Treatment Type

| | | | | |
|--------------------------|-------------------------|-------------------|---------------------|-----------|
| Commercial Harvest - 229 | Site Prep - 0 | Tree Planting - 0 | Prescribed Burn - 0 | Other - 0 |
| Habitat Cut - 16 | Opening Maintenance - 0 | Tree Seeding - 0 | Pesticide - 0 | |

Cover Type by Harvest Method

| | Clearcut | Selection | Seed Tree | Shelterwood | Thinning | Other - Specify | Total Acres |
|-------------------------------|-----------|-----------|-----------|-------------|----------|-----------------|-------------|
| Jack Pine | 9 | 0 | 0 | 0 | 0 | 0 | 9 |
| Lowland Deciduous | 0 | 0 | 7 | 0 | 0 | 0 | 7 |
| Lowland Mixed Forest | 16 | 0 | 0 | 0 | 0 | 0 | 16 |
| Mixed Upland Deciduous | 0 | 26 | 22 | 88 | 0 | 0 | 136 |
| Oak | 0 | 0 | 21 | 12 | 0 | 0 | 33 |
| Upland Mixed Forest | 44 | 0 | 0 | 0 | 0 | 0 | 44 |
| Total | 69 | 26 | 51 | 100 | 0 | 0 | 245 |



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------|--------------------------------------------------|-----------------------|--------------|-------------------|-------------------------------|------------------------------------|--------------------------|
| 2 | 63016002-Cut | 43.8 | 4310 - Pine, Oak Mix | High Density Pole | 60 | Harvest | Clearcut with Reserves | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <p><u>Prescription</u> Cut all trees except oak. Mark trees to keep along ORV route and trail to maintain trail integrity and place stumps and/or brush between trails to discourage illegal activity. Leave retention in the form of islands.</p> <p><u>Specs:</u></p> <p><u>Other</u> Age classes of jack pine are patchy throughout stand.</p> <p><u>Comments:</u></p> <p><u>Next</u> Regeneration survey. Plant to jack pine if regeneration fails.</p> <p><u>Steps:</u></p> | | | | | | | | | |
| 4 | 63016004-Cut | 30.3 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 38 | Harvest | Shelter Wood with Reserves | 4126 - White, Black, N. Pin Oak | Cmpt. Review Proposal |
| <p><u>Prescription</u> Mark oak to leave averaging 30-40 BA. Cut all jack pine and red maple. Do not cut any regen under 4.5" DBH. Mark trees to keep along ORV route and trail to maintain trail integrity and place stumps and/or brush between trails to discourage illegal activity. Leave retention in the form of small islands.</p> <p><u>Specs:</u></p> <p><u>Other</u> Stand transitioning to red maple, black oak, and white oak as jack pines falls out. Mature scattered pockets of jack pine. Some low, wet spots in stand. Mark to leave trees heavier in these areas. Retention in the form of islands.</p> <p><u>Comments:</u></p> <p><u>Next</u> Regeneration survey.</p> <p><u>Steps:</u></p> | | | | | | | | | |
| 5 | 63016005-Cut | 21.4 | 4125 - Black, N. Pin Oak | Medium Density Log | 88 | Harvest | Seed Tree with Reserves | 4125 - Black, N. Pin Oak | Cmpt. Review Proposal |
| <p><u>Prescription</u> Cut all aspen. Green-ring oak to leave averaging 20-30 BA. Mark trees to keep along ORV route and trail to maintain trail integrity and place stumps and/or brush between trails to discourage illegal activity. Retention in the form of individual trees marked to keep.</p> <p><u>Specs:</u></p> <p><u>Other</u> Oak starting to fall apart. Stand treated 1994-95. Aspen left on site.</p> <p><u>Comments:</u></p> <p><u>Next</u> Regeneration survey.</p> <p><u>Steps:</u></p> | | | | | | | | | |
| 15 | 63016015-Cut | 12.4 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 86 | Harvest | Shelter Wood with Reserves | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <p><u>Prescription</u> Cut all aspen and red maple. Mark oak, jack pine, and red pine to leave averaging 30-40 BA. Do not cut oak under 4.5" DBH. Protect wildlife shrubs on the edge of the wildlife opening. Mark trees to keep along ORV route and trail to maintain trail integrity and place stumps and/or brush between trails to discourage illegal activity. Retention in the form of individual trees marked to leave throughout stand. Sales should have clear language to guard against this.</p> <p><u>Specs:</u></p> <p><u>Other</u> Some quaking aspen also in stand. Older oak and jack pine falling out of the stand.</p> <p><u>Comments:</u></p> <p><u>Next</u> Regeneration survey.</p> <p><u>Steps:</u></p> | | | | | | | | | |
| 16 | 63016016-Cut | 14.1 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 84 | Harvest | Shelterwood | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <p><u>Prescription</u> Cut all trees except mark a mix of species to leave averaging 30-40 BA. Do not cut oak under 4.5" DBH. Retention in the form of islands throughout stand.</p> <p><u>Specs:</u></p> <p><u>Other</u> West side understory heavier to jack pine and white pine.</p> <p><u>Comments:</u></p> <p><u>Next</u></p> <p><u>Steps:</u></p> | | | | | | | | | |



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------|--------------------------------------------------|-------------------|--------------|-------------------|---------------------------|----------------------------------------|--------------------------|
| 21 | 63016021-Cut | 16.3 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 71 | Harvest | Clearcut | 4136 - Aspen, Mixed Conifer | Cmpt. Review Proposal |
| <p><u>Prescription:</u> Wildlife habitat cut. Cut all trees except, cedar, hemlock, and a mix of other species averaging 20 BA.</p> <p><u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p> | | | | | | | | | |
| 26 | 63016026-Cut | 6.9 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 43 | Harvest | Seed Tree | 4139 - Aspen, Mixed Deciduous | Cmpt. Review Proposal |
| <p><u>Prescription:</u> Cut all trees except cedar, hemlock, and leave trees marked to an average of 10-20 BA. No retention due to Woodcock Initiative and small acreage.</p> <p><u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> Regeneration survey.</p> <p><u>Steps:</u></p> | | | | | | | | | |
| 34 | 63016034-Cut | 22.3 | 4191 - Mixed Upland Deciduous with Conifer | High Density Log | 88 | Harvest | Seed Tree | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <p><u>Prescription:</u> Cut all aspen and red maple. Mark to leave a mix of oak and pine to an average of 20-30 BA. Do not cut oak under 4.5" DBH. Mark trees to keep along ORV route and trail to maintain trail integrity and place stumps and/or brush between trails to discourage illegal activity. Retention in the form of islands throughout the stand.</p> <p><u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u> Small amount of aspen in stand. Red pine appears to be natural and is scattered throughout with pockets heavier in areas. All species and densities vary throughout the stand.</p> <p><u>Next</u> Regeneration survey.</p> <p><u>Steps:</u></p> | | | | | | | | | |
| 56 | 63016056-Cut | 5.5 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 48 | Harvest | Shelterwood | 4199 - Other Mixed Upland Deciduous | Cmpt. Review Proposal |
| <p><u>Prescription:</u> Cut all aspen, jack pine, and ash. Mark to thin throughout rest of stand for quality and maneuverability. Retention left in the form of individual trees.</p> <p><u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u> Some jack pine in the northeast part of stand.</p> <p><u>Next</u> <u>Steps:</u></p> | | | | | | | | | |
| 58 | 63016058-Cut | 9.4 | 42221 - Natural Jack Pine, Mixed Deciduous | High Density Pole | 60 | Harvest | Clearcut with Reserves | 4199 - Other Mixed Upland Deciduous | Cmpt. Review Proposal |
| <p><u>Prescription:</u> Cut all jack pine and aspen. Do not cut any oak, sugar maple, or apple trees. Retention in the form of marked to leave individual trees.</p> <p><u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u> Powerline runs through stand just north of Kings Highway. Occasional mature oak and sugar maple. Also a few apple trees along road. Did not see even rows in jack pine nor an FTP for planting. Not sure where jack pine came from.</p> <p><u>Next</u> Let stand convert to hardwoods.</p> <p><u>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 |
|-----------------|-------|--------------------------------------------|-------------------|-----------|----------------|------------------|----------------------|-----------------------|
| 62 63016062-Cut | 25.3 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 75 | Harvest | Shelterwood | 4122 - Oak, Pine | Cmpt. Review Proposal |

Prescription Mark a mix of species to leave averaging 40-50 BA. Stand is in decline. Focus on retaining oaks for mast and jack pine for seed source.

Specs: Retention of mix of existing species in the form of individual tree BA.

Other

Comments:

Next Burn post-harvest for oak and jack pine regeneration, and for blueberry production.

Steps:

| | | | | | | | | |
|------------------|------|---------------------------------|------------------|----|---------|----------------------------|-------------------|-----------------------|
| 102 63016102_Cut | 11.9 | 4126 - White, Black, N. Pin Oak | High Density Log | 82 | Harvest | Shelter Wood with Reserves | 4121 - Oak, Aspen | Cmpt. Review Proposal |
|------------------|------|---------------------------------|------------------|----|---------|----------------------------|-------------------|-----------------------|

Prescription Cut all trees. Mark to leave a mix of species averaging 30-40 BA. Retention in the form of individual reserve trees.

Specs:

Other East portion of stand is slightly lower quality than the west. Break up stand and treat east portion.

Comments:

Next Regeneration survey.

Steps:

| | | | | | | | | |
|------------------|------|-------------------------------------|-------------------|----|---------|-----------------------|-------------------------------------|-----------------------|
| 109 63016109-Cut | 25.9 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 87 | Harvest | Single Tree Selection | 4199 - Other Mixed Upland Deciduous | Cmpt. Review Proposal |
|------------------|------|-------------------------------------|-------------------|----|---------|-----------------------|-------------------------------------|-----------------------|

Prescription Cut all aspen and red maple. Mark to cut focusing on removing poor quality trees. Residual BA to average 60-70.

Specs:

Other Small patch of young aspen to very north of stand that appears to have been cut with private to west.

Comments:

Next

Steps:

**Total Treatment
Acreage Proposed: 245.4**

Table 4 -- Treatments Prescribed with a Limiting Factor



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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

**Out of YOE -- Treatments
Prescribed with No Limiting Factor**

Year of Entry: 2013



| Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|------------------------------------------------------|-------|------------------|--------------|-----------|----------------|------------------|--------------------------|-----------------------|
| 63102_OutOfYOE_1-Cut | 7.2 | | | | Harvest | Clearcut | 42110 - Planted Red Pine | Cmpt. Review Proposal |
| <u>Prescription:</u> Final harvest plant to red pine | | | | | | | | |
| <u>Specs:</u> | | | | | | | | |
| <u>Other Comments:</u> | | | | | | | | |
| <u>Next Steps:</u> Write FTP | | | | | | | | |
| Total Treatment Acreage Proposed: | | 7.2 | | | | | | |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--------------------------------------------------|------------------------|-------|--------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 20.6 | 54 | 81-110 | |
| 2 | 4310 - Pine, Oak Mix | High Density Pole | 43.8 | 60 | 81-110 | Patchy age classes of jack pine throughout. |
| 3 | 42121 - Planted Jack Pine, Mixed Deciduous | High Density Pole | 61.5 | 34 | | Commercial clearcut 1974. Trenched with roller chopper and chains 1977. ORV Route and Trail run through stand. |
| 4 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 30.3 | 38 | 81-110 | Stand transitioning to red maple/black & white oak as jack pine falls out. Mature scattered pockets of jack pine. Some low, wet spots in stand. |
| 5 | 4125 - Black, N. Pin Oak | Medium Density Log | 21.4 | 88 | 51-80 | Oak starting to fall apart. Stand treated winter of 1994-1995, sale #63-231-10-93-01. Aspen left on site. |
| 7 | 4119 - Mixed Northern Hardwoods | Medium Density Pole | 13.1 | 43 | 1-50 | Stand treated 1994-1995, sale #63-210-93-01. ORV Route and Trail run through stand. White pine heavier to the north. |
| 8 | 4139 - Aspen, Mixed Deciduous | High Density Pole | 13.0 | 42 | 1-50 | Stand treated around 1969, no record of cut. Pine was not cut at the time. |
| 9 | 4136 - Aspen, Mixed Conifer | High Density Pole | 31.6 | 29 | 51-80 | Stand appears to have been cut in the early 1980's but old records do not have maps to accurately delineate boundaries. Some lowland areas throughout stand. |
| 10 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 49.7 | 64 | 51-80 | |
| 11 | 4126 - White, Black, N. Pin Oak | High Density Log | 2.3 | 87 | 81-110 | Save for age class diversity. |
| 15 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 12.2 | 86 | 51-80 | ORV Trails run through stand. Some older oak and jack pine falling out of stand. |
| 16 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 14.1 | 84 | 81-110 | West side understory heavier to jack pine and white pine. |
| 17 | 6120 - Lowland Cedar | High Density Pole | 22.0 | 82 | 200+ | |
| 18 | 6119 - Mixed Lowland Deciduous Forest | High Density Pole | 5.7 | 52 | 51-80 | |
| 19 | 4130 - Aspen | Medium Density | 24.0 | 13 | | |
| 20 | 4131 - Aspen, Oak | High Density Pole | 4.6 | 41 | | ORV Trails run adjacent to stand. |

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 016
Year of Entry: 2013

| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--------------------------------------------|-------------------|-------|--------------|-------------|----------------------------------------------------------------------------|
| 21 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 16.3 | 71 | 81-110 | |
| 23 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 9.6 | 54 | 81-110 | |
| 24 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 7.6 | 72 | 141-170 | |
| 26 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 6.9 | 43 | 81-110 | |
| 27 | 6119 - Mixed Lowland Deciduous Forest | High Density Pole | 15.3 | 61 | 81-110 | |
| 28 | 4139 - Aspen, Mixed Deciduous | High Density Pole | 4.5 | 64 | | Aerial imagery looks the same as stand 104. |
| 29 | 6120 - Lowland Cedar | High Density Pole | 17.1 | 67 | 111-140 | |
| 30 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 14.6 | 29 | 81-110 | |
| 31 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 26.8 | 45 | 51-80 | |
| 32 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 9.5 | 68 | 171-200 | |
| 33 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 1.6 | 68 | 171-200 | |
| 34 | 4191 - Mixed Upland Deciduous with Conifer | High Density Log | 22.3 | 88 | 81-110 | ORV Trails adjacent to stand. Species and densities vary throughout stand. |
| 35 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 37.5 | 45 | | |
| 37 | 6139 - Mixed Lowland Forest | High Density Pole | 35.3 | 73 | | |
| 38 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 8.8 | 68 | | |
| 39 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 28.6 | 68 | | |
| 40 | 6129 - Mixed Coniferous Lowland Forest | High Density Pole | 41.7 | 68 | | |

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 016

Year of Entry: 2013



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--------------------------------------------|----------------------|-------|-----------|----------|----------------------------------------------------------------------------------------------------------------------|
| 41 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 19.6 | 68 | | |
| 43 | 6139 - Mixed Lowland Forest | High Density Pole | 91.4 | 60 | 51-80 | |
| 44 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 7.8 | 53 | 51-80 | Lots of blow down. |
| 45 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 19.4 | 86 | 81-110 | Small amount of large, mature red maple. |
| 47 | 6115 - Lowland Ash | High Density Pole | 26.7 | 50 | 81-110 | Varying diameters and ages throughout. |
| 48 | 6115 - Lowland Ash | High Density Pole | 103.5 | 55 | 81-110 | |
| 49 | 6119 - Mixed Lowland Deciduous Forest | High Density Pole | 27.4 | 45 | 51-80 | |
| 51 | 6129 - Mixed Coniferous Lowland Forest | High Density Pole | 8.4 | 73 | 81-110 | |
| 52 | 4130 - Aspen | High Density Sapling | 16.4 | 15 | | Stand treated 1995. Timber sale #63-027-94-01, "Last Word Aspen". |
| 53 | 4310 - Pine, Oak Mix | High Density Pole | 24.2 | 85 | 81-110 | Leave stand for age class and species diversity. White pine pocket at very northern part of stand. Stand in decline. |
| 55 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 5.9 | 77 | 81-110 | |
| 56 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 5.5 | 48 | 81-110 | Some jack pine in the northeast part of stand. |
| 58 | 42221 - Natural Jack Pine, Mixed Deciduous | High Density Pole | 9.4 | 60 | 81-110 | Powerline runs through stand just north of Kings Hwy. |
| 60 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 6.5 | 73 | 51-80 | |
| 61 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 10.7 | 88 | 51-80 | |
| 62 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 25.3 | 75 | 51-80 | |
| 64 | 6118 - Lowland Deciduous with Cedar | Medium Density Pole | 69.8 | 67 | 81-110 | |



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--------------------------------------------|----------------------|-------|-----------|----------|-------------------------------------------------------------------------------------------|
| 66 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 53.4 | 52 | 81-110 | Cedar ridge runs through stand in northwest portion. |
| 67 | 6115 - Lowland Ash | High Density Pole | 16.6 | 55 | 51-80 | |
| 68 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 9.2 | 60 | 81-110 | Occasional black spruce. |
| 70 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 42.6 | 56 | 51-80 | |
| 71 | 6120 - Lowland Cedar | High Density Pole | 8.1 | 58 | 81-110 | |
| 72 | 6115 - Lowland Ash | High Density Pole | 9.2 | 57 | 111-140 | |
| 73 | 4131 - Aspen, Oak | Medium Density | 9.5 | 17 | 1-50 | Stand treated timber sale #630289401, "Kings Hwy Hardwood". Cut 1994. Adequate regen. |
| 74 | 6120 - Lowland Cedar | High Density Pole | 20.6 | 67 | 81-110 | |
| 75 | 6120 - Lowland Cedar | High Density Pole | 18.3 | 65 | 111-140 | |
| 76 | 4130 - Aspen | Medium Density | 6.2 | 17 | | Stand treated timber sale #630289401, "Kings Hwy Hardwood". Cut 1994. Adequate regen. |
| 77 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 15.6 | 75 | 51-80 | |
| 80 | 6115 - Lowland Ash | Medium Density Pole | 2.4 | 50 | 51-80 | Wildlife habitat cut in past but no record could be found. Cattails under trees. |
| 82 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 25.2 | 54 | 81-110 | |
| 85 | 4130 - Aspen | High Density Sapling | 26.0 | 27 | | Stand treated timber sale #630038301, "Timbered Moraines 34 Sale". Good regeneration. |
| 86 | 4125 - Black, N. Pin Oak | High Density Pole | 22.5 | 87 | 81-110 | Treat next entry. Save this entry for age class diversity. |
| 87 | 4125 - Black, N. Pin Oak | High Density Pole | 8.0 | 93 | 81-110 | Stand treated timber sale #630038301, "Timbered Moraines 34 Sale". Adequate regeneration. |
| 88 | 6115 - Lowland Ash | High Density Pole | 8.6 | 48 | 1-50 | |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-----|--------------------------------------------|----------------------|-------|--------------|-------------|--------------------------------------------------------------------------------------------------------------------------------|
| 89 | 6132 - Mixed Lowland Forest with Cedar | High Density Pole | 9.1 | 15 | 81-110 | Cedar pockets with pockets of older aspen mixed in with stand. |
| 90 | 42250 - Pine, Oak | Medium Density Log | 18.8 | 113 | 1-50 | Stand treated timber sale #630280301, "King's Pine". |
| 92 | 6118 - Lowland Deciduous with Cedar | High Density Pole | 49.8 | 50 | 1-50 | |
| 93 | 6120 - Lowland Cedar | High Density Pole | 0.9 | 77 | 111-140 | |
| 94 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 14.8 | 78 | 111-140 | |
| 95 | 6120 - Lowland Cedar | High Density Pole | 9.3 | 77 | 111-140 | |
| 98 | 6120 - Lowland Cedar | High Density Pole | 6.0 | 82 | 141-170 | |
| 99 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 22.4 | 46 | 51-80 | Pockets of red maple. |
| 102 | 4126 - White, Black, N. Pin Oak | High Density Log | 32.7 | 82 | 81-110 | Break up stand and treat only a portion. Keep un-treated portion for age class diversity. East side of stand is lower quality. |
| 103 | 6128 - Lowland Coniferous, Mixed Deciduous | Medium Density Pole | 9.0 | 78 | | Cattails, cedar pockets, spruce, and white pine. Mostly pulp size. |
| 104 | 6128 - Lowland Coniferous, Mixed Deciduous | High Density Pole | 0.4 | 78 | 81-110 | |
| 105 | 6120 - Lowland Cedar | High Density Pole | 3.3 | 73 | 111-140 | |
| 108 | 4130 - Aspen | High Density Pole | 52.1 | 22 | | |
| 109 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 25.9 | 87 | 81-110 | Young aspen to very north of stand that appears to have been cut with private to west. |
| 110 | 4131 - Aspen, Oak | High Density Sapling | 40.6 | 18 | | Stand treated timber sale #630139301, "Hidden Aspen & Oak". Good regeneration of aspen and oak. |



| Stand | Cover Type | Acres | Managed Site | Management Priority (Objective) | General Comments: |
|-------|----------------------------------|-------|--------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 | 3302 - Low Density Conifer Trees | 53.7 | Yes | Jack Pine | Stand treated timber sale #63-029-04-01, "Gary's Soggy Boots", in 2007. Portions of sale direct seeded with jack pine on 3/28/2008 (northern edge and eastern/southeastern edges). |
| 12 | 3102 - Grass | 2.9 | Yes | High (NonForested) | |
| 13 | 6230 - Cattail | 4.9 | No | Unspecified | |
| 14 | 3102 - Grass | 2.1 | Yes | High (NonForested) | |
| 22 | 3102 - Grass | 3.9 | Yes | High (NonForested) | |
| 25 | 3302 - Low Density Conifer Trees | 1.0 | No | Unspecified | |
| 36 | 6230 - Cattail | 15.4 | No | Unspecified | |
| 42 | 6230 - Cattail | 10.2 | No | Unspecified | |
| 46 | 6230 - Cattail | 24.2 | Yes | Low (NonForested) | |
| 50 | 3303 - Mixed Low Density Trees | 2.2 | No | Unspecified | |
| 54 | 6225 - Bog | 4.3 | No | Unspecified | |
| 57 | 6225 - Bog | 22.7 | No | Low (NonForested) | |
| 59 | 3303 - Mixed Low Density Trees | 1.2 | No | Unspecified | |
| 63 | 3102 - Grass | 1.3 | Yes | High (NonForested) | |
| 65 | 6225 - Bog | 1.7 | No | Unspecified | |
| 69 | 6230 - Cattail | 6.6 | No | Unspecified | |
| 78 | 6230 - Cattail | 8.1 | No | Unspecified | |



| Stand | Cover Type | Acres | Managed Site | Management Priority (Objective) | General Comments: |
|-------|-----------------------------------|-------|--------------|---------------------------------|-------------------|
| 79 | 6230 - Cattail | 11.4 | No | Unspecified | |
| 81 | 6220 - Alder/willow | 96.6 | No | Unspecified | |
| 83 | 3302 - Low Density Conifer Trees | 4.7 | No | Unspecified | |
| 84 | 6220 - Alder/willow | 26.2 | No | Unspecified | |
| 91 | 6230 - Cattail | 6.1 | No | Unspecified | |
| 96 | 3303 - Mixed Low Density Trees | 23.3 | Yes | High (NonForested) | |
| 97 | 50 - Water | 1.7 | No | Unspecified | |
| 100 | 11 - Low Intensity Urban | 0.4 | No | Unspecified | |
| 101 | 3102 - Grass | 0.2 | No | Unspecified | |
| 106 | 6230 - Cattail | 2.6 | No | Unspecified | |
| 107 | 3301 - Low Density Deciduous Tree | 55.9 | Yes | High (NonForested) | |



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.

| Stand | SCA Type | SCA Name | Acres | Comments |
|-------|----------|----------|-------|----------|
|-------|----------|----------|-------|----------|



8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

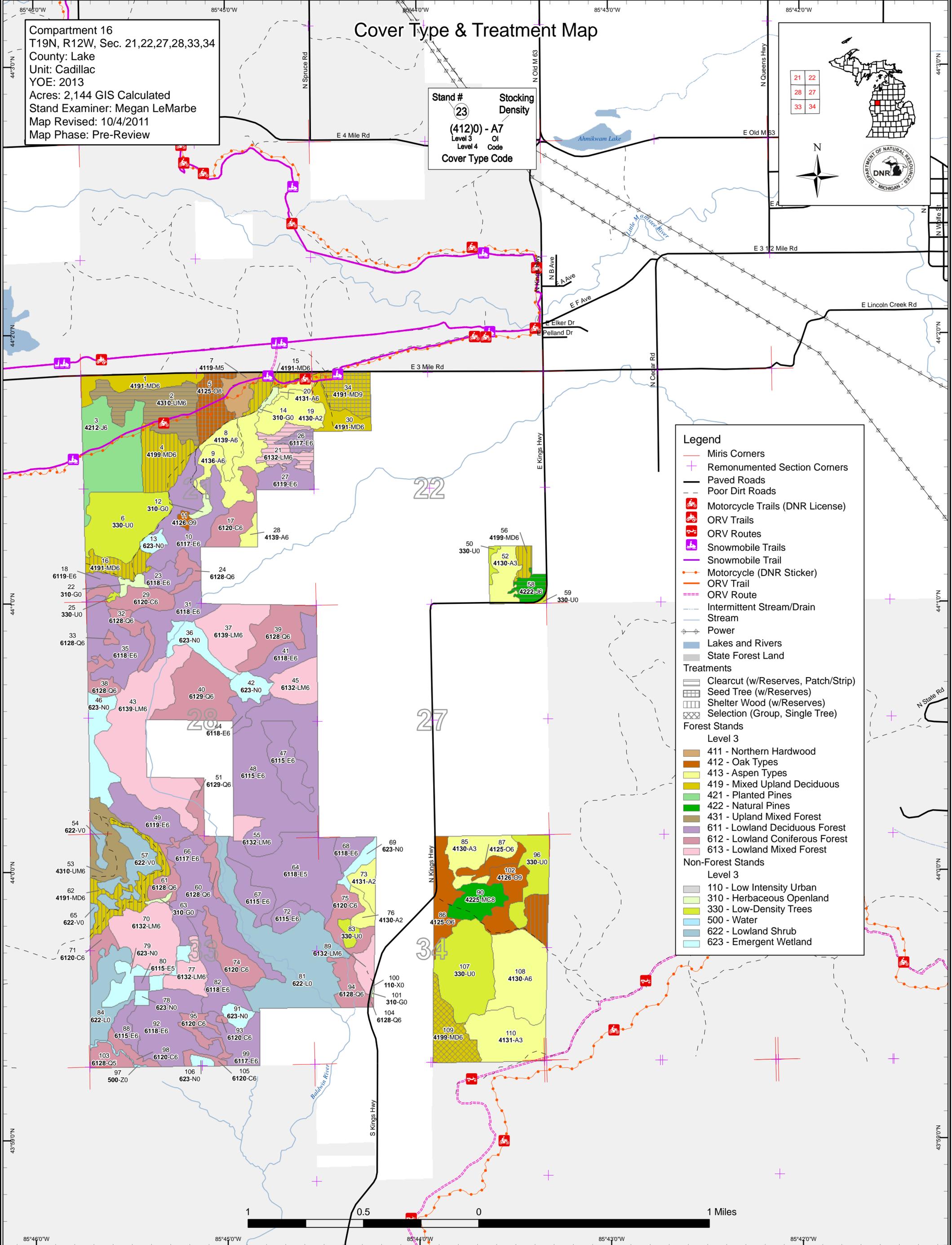
| Conservation Area | Type | Description |
|-------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCA | Cold Water Stream | A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210. |
| SCA | Habitat Area | An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies. |
| 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. |

Cover Type & Treatment Map

Compartment 16
 T19N, R12W, Sec. 21,22,27,28,33,34
 County: Lake
 Unit: Cadillac
 YOE: 2013
 Acres: 2,144 GIS Calculated
 Stand Examiner: Megan LeMarbe
 Map Revised: 10/4/2011
 Map Phase: Pre-Review

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

| | |
|----|----|
| 21 | 22 |
| 28 | 27 |
| 33 | 34 |



Legend

- Miris Corners
- Remonumented Section Corners
- Paved Roads
- Poor Dirt Roads
- Motorcycle Trails (DNR License)
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- ORV Trail
- ORV Route
- Intermittent Stream/Drain
- Stream
- Power
- Lakes and Rivers
- State Forest Land

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Selection (Group, Single Tree)

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

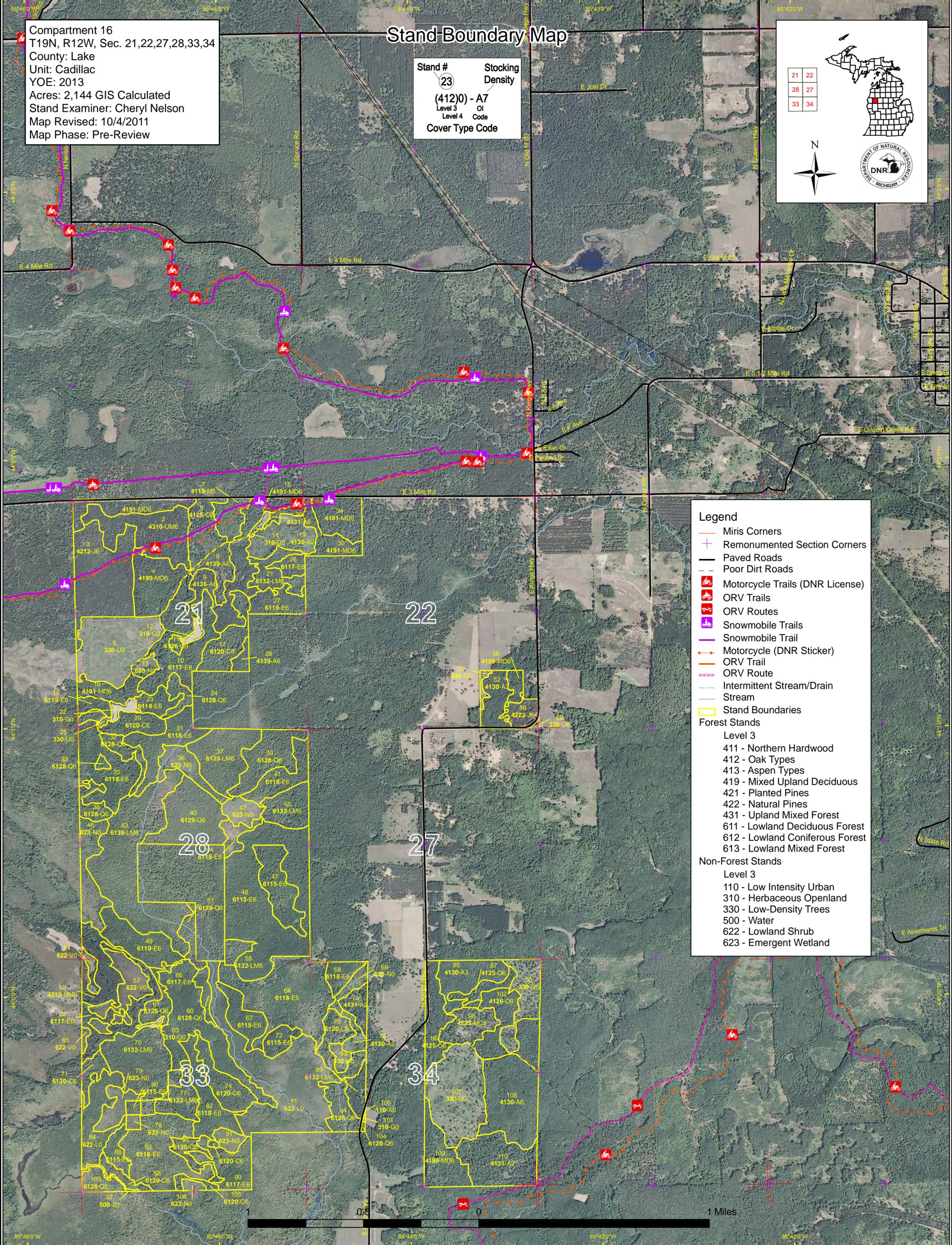
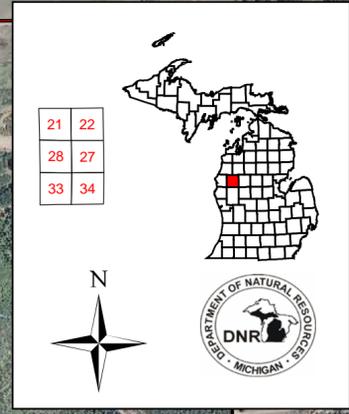
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland



Stand Boundary Map

Compartment 16
 T19N, R12W, Sec. 21,22,27,28,33,34
 County: Lake
 Unit: Cadillac
 YOE: 2013
 Acres: 2,144 GIS Calculated
 Stand Examiner: Cheryl Nelson
 Map Revised: 10/4/2011
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- + Remonumented Section Corners
- Paved Roads
- - - Poor Dirt Roads
- Motorcycle Trails (DNR License)
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- ORV Trail
- ORV Route
- Intermittent Stream/Drain
- Stream
- Stand Boundaries

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
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- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

1 Miles

