

CADILLAC FOREST MANAGEMENT UNIT



COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 092 ENTRY YEAR: 2014

County: Missaukee

Revision Date: 10/08/2012 2:21 PM

Stand Examiner: Joe Ventimiglia, Forester

Legal Description: T23N R5W, Sections 9-15

Management Goals: Maintain a variety of cover types and age class diversity which favor game and non game species. Management will take into account multiuse objectives of timber, wildlife, and ecological concerns.

Soil and Topography: Terrain is generally flat with wet lowland areas. Soil series consist of Gray calm-Rubicon and Rubicon sands, AuGres and Brevort loamy sands, Roscommon Mucky sands, and Montcalm-Gray calm Complex.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Within the Deadstream boundary, the ownership is all State. The rest of the compartment is fragmented state and private ownerships. There are numerous wells in the area on state and private land. Most are part of the Enterprise Unit owned by Merit Energy and Wolverine. Great Lakes have a pipeline running north/south in section 9. Lands listed for acquisition are as follows. Sec. 9, NESE and S1/2 SE. Sec.10, SWNW. Sec. 12 SWSW, SWSE. Sec. 13 NENW. Sec. 14, N1/2 NW. SWSE. Sec. 15, E1/2 NE. Merit Energy has a production facility in Section 11, with a portion of the facility on State land.

Unique, Natural Features (include only non-site specific and non-sensitive information): Hay Marsh Creek runs east/west through southern part of compartment. Potential for Massasauga, wood turtle and Blanding's turtle along the creek and in wet stands in the eastern edge of the compartment. Potential for Bald Eagle, Osprey, and the Great Blue Heron also exist within the compartment. Potential for ram's head, limestone oak fern and calypso are also a possibility in the swamp conifer stands located in the Dead Stream Swamp.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Prehistoric camp on private in section 13

Special Management Designations or Considerations: The NE of Sec. 11 and the N1/2 of Sec. 12 are in the dedicated Dead Stream Swamp. It was designated a "National Landmark" in January 1976. It is the largest deeryard in the Lower Peninsula. Rules governing the dedicated lands include:

- a) All motorized land equipment shall be confined to public roads, and to department designated interior roads and parking areas except under specific permits issued by the Department of Natural Resources.
- b) The launching of motor driven boats from state owned land to the impoundment shall be limited to those using 7 ½ brake horsepower or less.

Watershed and Fisheries Considerations: Haymarsh Creek flows through Compartment 92. Haymarsh Creek is classified as a warm transitional stream. No recent fisheries surveys have been conducted. At one

time, brook trout were stocked, resulting in a fair fishery. This stream should be protected with the standard setbacks recommended in the Forest Management Guidelines.

Wildlife Habitat Considerations: This compartment provides valuable habitat for management along the south edge of the Deadstream Swamp for bear, bobcat, deer, numerous early successional songbirds and lowland hardwoods and swamp conifer wildlife species. Maintaining early successional types and acorn production in close proximity to this important deeryard will continue to provide important resources for overwintering deer. Management of the upland types has been to try and maintain the aspen type and to establish mixed age classes and to maintain and regenerate the oak component. Within the lowland and swamp conifer types, the goal has been to maintain preferred lowland hardwood species and to regenerate the cedar and other conifer components to provide food and cover for numerous wildlife species. Featured species guidance will be considered for American woodcock, beaver, black bear, eastern massasauga rattlesnake, mallard, pileated woodpecker, red-headed woodpecker, ruffed grouse, snowshoe hare, white-tailed deer, and wood duck. (E. Victory 9/2012)

Mineral Resource and Development Concerns and/or Restrictions: As mentioned above, there are numerous oil and gas wells within the compartment. Great Lakes Pipeline in section 9. No seismic lines are to go through the Deadstream Swamp area. No new oil or gas facilities are to be in the Deadstream Swamp area. Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium and peat and muck. Glacial drift thickness varies between 400 and 600 feet. There is approximately 180 feet of relief within the compartment. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum in other areas of the State. A gravel pit is located in Section 11 and gravel potential is considered good on the uplands. Enterprise Field is located in the compartment. The Field produced over 4.7 MBO from the Devonian Richfield Formation. Some of the State lands are currently leased for oil and gas development. Oil and gas well activity does create some dangers to active forest management as a few stands are littered with above ground and unknown underground pipelines. The following infrastructure creates difficulties during harvest and in cultivation activities. (Much of the following is poorly marked or mapped) Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium and peat and muck. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation that is quarried for gypsum in other areas of the State. A gravel pit is located in Section 11 and gravel potential is considered good on the uplands. Enterprise Field is located in the compartment. The Field produced over 4.7 MBO from the Devonian Richfield Formation. All of the State lands are currently leased for oil and gas development.

Vehicle Access: 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. Much of the road network is utilized by the oil and gas well companies in order to access well sites.

Survey Needs: A survey request has been submitted for sections 10, 11 and 13 in areas where no current corners exist. This is to aid in determining lines along private landowner's fields that are being used to grow hay at this time. This will also establish boundaries for future timber sales in the area.

Recreational Facilities and Opportunities: Recreational Facility Considerations: There are no designated recreational facilities in the compartment. (T.M.N. 8-30-12)

Fire Protection: This compartment has average fire potential. There are numerous residences each with the possibility for a human caused ignition. There is limited opportunity for large scale fire growth outside of the dead stream swamp due to adequate access in most locations. The dead stream offers the biggest

challenge to fire fighting because access is limited in this area, however, because of this limited access the potential for human caused fire starts is also reduced. (Koll 10/4/2)

Additional Compartment Information:

The following 9 Inventory reports from are attached:

- ◆ Table 1 - Cover Type by Age Class
- ◆ Table 2 - Treatment Type Summary
- ◆ Table 3 – Treatments with No Limiting Factors
- ◆ Table 4 – Treatments with Limiting Factors
- ◆ Table 5 – Out of YOE Treatments (when applicable)
- ◆ Tables 6 & 7- Forested and Nonforested stands
- ◆ Tables 8 & 9 – Proposed and Dedicated Special Conservation Areas

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

- ◆ Base feature information, stand numbers, cover types
- ◆ Proposed treatments
- ◆ Suggested potential and current SCA's

Table 1 – Total Acres by Cover Type and Age Class

Joe VENTIMIGLIA : Examiner



	Age Class													Total	
	0-9	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	89	150	221	13	63	94	0	0	0	0	0	0	0	0	631
Cedar	0	0	0	0	0	0	0	0	0	56	29	0	0	0	85
Herbaceous Openland	44	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Jack Pine	0	0	0	0	23	0	0	0	0	0	0	0	0	0	23
Low-Density Trees	27	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Lowland Aspen/Balsam Poplar	7	9	0	0	8	74	0	0	0	0	0	0	0	0	99
Lowland Conifers	0	0	0	0	24	0	0	2	224	0	23	0	0	0	272
Lowland Deciduous	7	0	0	0	0	0	48	19	0	0	0	0	0	0	74
Lowland Shrub	525	0	0	0	0	0	0	0	0	0	0	0	0	0	525
Marsh	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Mixed Upland Deciduous	0	9	0	0	0	2	0	0	2	0	0	0	0	0	13
Natural Mixed Pines	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
Oak	0	0	0	0	0	0	0	17	0	93	0	0	0	0	110
Red Pine	0	0	0	0	0	16	5	0	0	0	0	0	0	0	21
Treed Bog	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Upland Mixed Forest	0	0	0	0	0	0	0	32	0	0	0	0	0	0	32
Water	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Total	743	168	221	13	119	187	62	70	225	149	52	0	0	0	2009



Table 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2014

Compartment 092
Total Compartment Acres: 2009

Acres by Treatment Type

Commercial Harvest - 210	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	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	111	0	0	0	0	0	111
Lowland Aspen/Balsam Poplar	74	0	0	0	0	0	74
Oak	0	0	24	0	0	0	24
Total	185	0	24	0	0	0	210



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	63092002-Cut	22.9	4131 - Aspen, Oak	Medium Density Log	54		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<u>Prescription</u> Cut all aspen and red maple. Mark poor quality oak to cut. Leave unmarked oak and red pine as retention. Protect pine understory as well.										
<u>Specs:</u>										
<u>Other</u> Notify pipeline company of logging activity, as pipeline will be needed for access. Manage for aspen dominated mix.										
<u>Comments:</u>										
<u>Next</u> <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
3	63092003-Cut	9.9	4131 - Aspen, Oak	High Density Log	55		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Leave all red pine and oak as retention. Manage as aspen dominated/oak-pine mix.										
<u>Specs:</u>										
<u>Other</u> Access is through pipeline. Notify pipeline company of activity prior to operations.										
<u>Comments:</u>										
<u>Next</u> <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
10	63092010-Cut	24.4	4123 - Red Oak	Medium Density Log	91	51-80	Harvest	Seed Tree	4121 - Oak, Aspen	Cmpt. Review Proposal
<u>Prescription</u> Seed tree oak, leave 20 to 30 BA of highest quality stems.										
<u>Specs:</u>										
<u>Other</u> Manage for oak, although mixed regeneration of aspen/red maple and oak is expected/accepted. (Manage for mixed stand) Good access.										
<u>Comments:</u>										
<u>Next</u> <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
23	63092023-Cut	43.9	4130 - Aspen	High Density Pole	52		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> Final Harvest. Leave all hard maple and oak as retention.(This will be concentrated to east egde of stand)										
<u>Specs:</u>										
<u>Other</u> Should regenerated well considering similar treatments in this compartment. Manage for aspen dominated mix. Access through state. Recent										
<u>Comments:</u> MDNR survey of private line.										
<u>Next</u> <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
25	63092025-Cut	74.5	6112 - Lowland Aspen	High Density Log	55		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal
<u>Prescription</u> Final Harvest. Leave 3 to 10 percent of the acreage in one or more green ringed islands. Leave soft edge/buffer along alder to south, in an effort										
<u>Specs:</u> to discourage beaver and create wildlife corridor. (Roughly 30 to 50 foot from alder edge)- Exclude with red line.										
<u>Other</u> Winter or dry condition harvest.(Lump in with aspen to the north) . Caution logger of old barb wire fence along two track.										
<u>Comments:</u>										
<u>Next</u> <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
62	63092062-Cut	17.0	4130 - Aspen	High Density Pole	52		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Final Harvest. Leave all oak and conifer. Keep all timber west of the oil well road as retention. (This can be excluded with the red line) Manage
Specs: for aspen dominated mix.

Other Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA) Very saturated ground in pockets, would likely
Comments: need to be a winter or dry summer harvest. Access off oil well roads. Notify oil company of activity in case of buried lines. (Oil pad good spot for
landing or in opening to south)

Next
Steps:

Proposed
Start Date: 10/01/2013

90	63092090-Cut	17.1	4130 - Aspen	High Density Pole	45		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
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Prescription Final Harvest, leave all oak and any conifer as retention.
Specs:

Other Only access is through private land. (Oil well roads) Limit Factor based on permission from oil company and/or private land owner. Notify oil
Comments: company of activities as a result of possible underground lines. Did not locate survey corners in snow, consider survey request.

Next
Steps:

Proposed
Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 209.7**

Table 4 -- Treatments Prescribed with a Limiting Factor



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Error

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Error

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
	5.2	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									
	3.5	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									
	0.1	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									
	0.0	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
63086083-Cut	10.2	4123 - Red Oak	High Density Log	80		Harvest	Shelter Wood with Reserves	4124 - Red with White Oak	Cmpt. Review Proposal

Prescription Mark red and white oak in groups reducing basal area down to an average of 30 sq.ft.(range from 20-50).

Specs:

Other This is a natural continuation of stand 1 in Comp 79 (also prescribed).

Comments:

Next Steps: Follow harvest with roller chopping of red maple in gaps from previous harvest. Goal is to decrease red maple and cause enough scarification with harvest to create a seedbed for adjacent pine to seed in, as well as oak. Stump sprout oak is not expected, but would be welcome. Regen survey per work instructions.

Proposed Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 19.0**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Pole	20.6	25		Stand was final harvested in 1986 as part of "Enterprise Block 1" sale. Regenerated well to aspen dominated stand.[small pole sized]A few white and red pine also mixed in stand-very few.
2	4131 - Aspen, Oak	Medium Density Log	22.9	54		Mix log oak and aspen stand which is fairly sparse in spots. White and red pine regen in understory in pockets. Some log red pine scattered as well. Red pine regen appears natural.
3	4131 - Aspen, Oak	High Density Log	9.9	55		Log-pole aspen dominated stand with mix of oak and red maple. A few scattered red pine as well. Aspen showing sign of age in pockets.
5	4130 - Aspen	High Density Pole	19.0	25		Stand was final harvested in 1986 as part of "Enterprise Block 1" sale. Regenerated well to mostly aspen, with a mix of maple, oak and white pine as well.
6	4130 - Aspen	High Density Pole	15.1	25		Stand was final harvested in 1986 as part of "Enterprise Block 1" sale. Regenerated well to aspen. A few scattered pine left from when stand was cut.
7	4130 - Aspen	High Density Sapling	18.2	16		Stand was final harvested in 1996, with all oak being left.(Part of "Enterprise Aspen") Regenerated well to aspen and maple. A few scattered oak.
8	4131 - Aspen, Oak	High Density Sapling	21.5	16		Stand was final harvested in 1996, with all oak being left.(Part of "Enterprise Aspen")Stand has regenerated well to aspen and maple. Small oak scattered.Small grassy opening also in eastern end of stand.
9	4130 - Aspen	High Density Pole	24.0	25		Stand was final harvested in 1986 as part of "Enterprise Block 2". Stand has regenerated well to aspen-maple mix. Mostly aspen. Small pole sized.
10	4123 - Red Oak	Medium Density Log	24.4	91	51-80	Stand was thinned in 1996. All aspen and maple cut, with oak being lightly thinned. Overstory oak in good shape, with red maple and limited oak regen in the understory.
11	4130 - Aspen	High Density Pole	17.1	25		Stand was final harvested in 1986 as part of "Enterprise Block 2" Regenerated well to aspen dominated stand. Upland although portions of stand appear seasonally wet, ground hummucky.
12	4133 - Aspen, Mixed Pine	Low Density Pole	13.1	32		Open stand on the edge of the swamp. Variable stand with mostly pole and sapling mixture of aspen, white pine and maple. Beaver activity present near swamp edge. Beaver likely part of reason stand is so open.
14	4130 - Aspen	Medium Density Pole	37.2	26		Stand was final harvested in 1985 as part of "Enterprise Block 3" sale. Stand has regenerated well to aspen and red maple. Small pole stand.A few small oak scattered in as well.
15	4123 - Red Oak	Medium Density Log	20.8	91	51-80	Stand was thinned in 2006, with all maple and aspen also being cut. Oak overstory in good shape, with red maple and limited oak regenerated in the understory.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
16	4130 - Aspen	High Density Pole	15.2	25		Stand was final harvested in 1986 as part of "Enterprise Block 2" Regenerated well to aspen dominated stand. Small pole sized.
17	4131 - Aspen, Oak	Medium Density	25.0	16		Stand was cut in 1996, with all oak being left. (Part of "Enterprise Aspen") Oak overstory widely scattered, with aspen regen from cut patchy. Grassy openings in spots.
18	4123 - Red Oak	Medium Density Log	35.3	91	51-80	Stand was thinned in 1996. All aspen and maple cut, with oak being lightly thinned. Log-pole oak in decent shape, with patchy red maple and some aspen in the understory. Small southern end of stand was thinned at a earlier date, although it was lumped in as a result of similar makeup and small size.
20	6112 - Lowland Aspen	Medium Density	9.1	16		Stand was final harvested in 1996. Aspen came back good in pockets, although patchy in areas. Low humucky ground.
21	4123 - Red Oak	Low Density Log	12.6	91	1-50	Stand was final harvested in 1996. All oak was left. Oak overstory widely scattered, good aspen-maple regenerating in understory. [regen 20 feet] Little oak overstory in east edge of stand. Oak concentrated to west and north edge.
22	4130 - Aspen	High Density Pole	20.4	25		Stand was final harvested in 1986 as part of "Enterprise Block 2" Regenerated well to mostly quaking aspen, some maple and oak mixed in. Humucky seasonally wet ground. Stand opens up some near alder swamp.
23	4130 - Aspen	High Density Pole	43.9	52		Good quality pole/log aspen, with minor mix of oak, paper birch, and maple. Minor hardwood and oak component is concentrated to eastern end of stand.
25	6112 - Lowland Aspen	High Density Log	74.5	55		Good quality aspen, with lowland character and ground. Stand gets to be more lowland and the aspen in rougher shape to the south end of the stand. Appears site would dry up nicely in the late summer.
29	4130 - Aspen	High Density Sapling	41.1	7		Stand was final harvested in 2005 as part of "Hayfield Mix" sale. Came back to mostly aspen, with some maple and oak mixed in. A few log oak left by road. Active oil wells scattered within stand.
32	4199 - Other Mixed Upland Deciduous	Medium Density Log	1.5	86	1-50	Small strip of uncut log oak and sugar maple. Red maple understory.
33	4130 - Aspen	Medium Density	21.2	6		Stand was final harvested in 2006 as part of Hayfield Mix sale. Site is close to be considered lowland, which resulted in the aspen being a little patchy in spots. Overall aspen has come back well. Very small patch of scotch pine plantation from private landowner to north bleeds onto state land.
34	42120 - Planted Jack Pine	High Density Pole	23.2	47		Dense pole jack pine stand. No understory, as a result of densely planted stand. Oil pipelines and well sites within stand. Above ground lines in stand as well.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Pole	9.3	52	51-80	Pole/log Red pine plantation. Rows not easily defined. Spotty plantation, with open areas in pockets.
43	4130 - Aspen	High Density Pole	6.5	26		Stand was final harvested in 1985. Small pole aspen stand regenerated well. (Good stocking)
44	42110 - Planted Red Pine	High Density Log	5.8	52	51-80	Stand was thinned back in 1996. Mostly small log red pine, with scattered pole aspen within pockets of stand.
45	4130 - Aspen	High Density Sapling	48.7	16		Stand was final harvested in 1996, with all non merchantable oak left at the time of harvest. Aspen came back well, widely scattered pole oak left from harvest. Oil activity throughout stand.
46	4130 - Aspen	High Density Pole	13.1	17		Stand was final harvested in 1995. Lowland aspen has come back well. Small pole sized aspen. Well pad on southern edge of stand.
48	6112 - Lowland Aspen	High Density Pole	8.3	45		Small pole lowland aspen, which likely dries out during the late summer. Hummucky ground.
49	6128 - Lowland Coniferous, Mixed Deciduous	Low Density Pole	24.0	43		Mixed lowland stand sparsely stocked small diameter spruce, fir, ash, aspen and cedar. Very open stand with pockets of mostly alder and willow prevalent. Very wet site. Very close to sapling size stand overall.
50	42110 - Planted Red Pine	High Density Log	1.4	50	111-140	Small planted red pine plantation, which has been third row thinned. Log/pole sized, with a little bit of aspen in the understory.
53	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	8.8	11		Stand was cut in winter of 2001, with all cedar and a few oak being left. (Wildlife cut) Stand has come back well to a mix of aspen and red maple, with fir, oak, and paper birch also mixed in.
54	6119 - Mixed Lowland Deciduous Forest	High Density Pole	13.4	63		
56	4130 - Aspen	High Density Pole	27.0	45		Large pole aspen stand, approaching log by next YOE. Mostly aspen, although a little hardwood and oak mixed in. A couple supercanopy white pine. Upland stand although far northwest edge has some lowland character.
58	4123 - Red Oak	Low Density Log	16.6	74	1-50	Stand was cut in 1996, with all oak being left. Variable oak overstory, with aspen and red maple regenerating in the understory. Small piece of red pine in the southeast. Close to considering the regen the main canopy species.
60	4130 - Aspen	High Density Pole	19.4	45		Small pole aspen dominated stand with lowland character in pockets. Balsam fir in the understory of east end of stand.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
62	4130 - Aspen	High Density Pole	17.0	52		Large pole aspen, with minor conifer component. Some lowland character throughout, although mostly upland compared to surroundings.
64	4131 - Aspen, Oak	High Density Sapling	5.4	16		Stand was cut in 1996, with all oak being left. Mix of aspen, oak and red maple regen, with scattered log oak left in the super canopy. Oak too sparse to make up canopy.
65	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	19.5	73	1-50	Very wet lowland hardwood/aspen, with conifer component. Very sparse stocking with pockets of mostly open alder and willow throughout. Good amount of dead and dying maple and aspen from wet conditions. Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA)
67	6120 - Lowland Cedar	High Density Pole	45.8	98		Lowland mix of cedar, fir, black spruce, Mostly pole size stems, with a mix of maple, black ash and fir in the understory. Very wet hummucky ground.
68	6120 - Lowland Cedar	High Density Log	10.0	102		Mix of lowland cedar, balsam, black ash, and spruce. Red maple and black ash in understory.
69	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density	6.5	9		Two small habitat strip cuts, which were commercially harvested in 2003. No cedar came back, mostly alder with a mix of other lowland hardwood coming in.
70	6120 - Lowland Cedar	Medium Density Log	19.1	102		Lowland cedar with, red maple, paper birch mixed in. Variable size classes, with very wet hummucky ground. Open areas of mostly alder present in pockets of the stand.
71	4319 - Mixed Upland Forest	Medium Density Log	31.9	75		Isolated upland ridge of spruce and red maple log sized stems. Fairly sparse stand, with limited regen under the canopy. Fairly unique stand.
72	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	7.2	65	1-50	Sparse stocked very wet lowland hardwood stand. Pockets of mostly alder and willow also mixed in stand.
75	6120 - Lowland Cedar	High Density Pole	10.1	94		Thick stand of lowland cedar.
78	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	1.7	75		Small isolated stand in the middle of alder swamp.
79	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	3.6	86		Small isolated stand in the middle of alder swamp. A few legacy white pine scattered in the stand.
80	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	22.8	103		Lowland mix of cedar, red maple, spruce, fir. Variable size classes. With small areas of more upland maple and spruce. Couple legacy white pine scattered in stand as well.
81	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	27.6	67	1-50	Sparse stocked very wet lowland stand of lowland hardwood. Alder and willow very heavy throughout. Close to non-forested stand in spots.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
82	4130 - Aspen	High Density Sapling	10.0	17		Stand was final harvested in 1995 as part of "Burns Aspen" Regenerated well back to mostly aspen. A little lowland character in west end of stand.
85	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	29.1	86		Flooded lowland conifer. Variable stand with alder throughout. Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA)
88	4199 - Other Mixed Upland Deciduous	Low Density Pole	2.3	55		Small open stand of variable size oak, red maple, and aspen. Open pockets are filling in with white pine and aspen saps.
90	4130 - Aspen	High Density Pole	17.1	45		Pole-Log variable aspen, with minor component of pole cherry and oak. Aspen in rough shape, stand is sparse in pockets with fairly humucky ground. Oil activity on all sides of stand.
91	4130 - Aspen	High Density Pole	46.0	26		Stand was final harvested in 1985 as part of "Woodcock Sale" Aspen has came back well, stand is currently small poles. A small pocket of red pine is present on the far west edge. Some lowland character although still upland compared to really wet surroundings.
92	4130 - Aspen	Medium Density	14.4	6		Stand was final harvested in 2006 as part of "Hayfield Mix" sale. Stand has came back to aspen. Aspen a little sparse. A few pockets of log red pine scattered in the north and south end of stand(Too small to be own stand)
95	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	191.2	87		Lowland mix of tamarack, cedar, spruce, fir, red maple. Very wet diverse site, with open pockets of alder. Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA) Windthrow prevelent.
96	4130 - Aspen	Medium Density	12.7	6		Stand was final harvested in 2006 as part of "Hayfield Mix" sale. Stand has regenerated back to mostly aspen. Stand has came back sparse in spots, although overall a fairly well stocked aspen stand. Oil well activity borders stand.
100	42110 - Planted Red Pine	High Density Log	1.0	64	81-110	Two very small isolated islands of what appear to be natural log red pine, but was likely planted. Good quality stems.
101	42290 - Natural Mixed Pine	Medium Density Pole	8.2	67		Variable white pine stand, with a mix of aspen, red pine and spruce. Variable stocking with some open wetter pockets within stand. Appears natural. Humucky ground. Jack pine, aspen and alder saplings in some of the wetter openings.
102	6112 - Lowland Aspen	Medium Density	7.4	6		Stand was final harvested in 2006 as part of "Hayfield Mix" sale. Stand came back sparse to mix of aspen, red maple and alder. Stand will be fairly open in spots, with alder filling in the wetter pockets. Flooded site, which will not produce higher quality aspen.
105	4130 - Aspen	Medium Density	8.4	17		Stand was final harvested in 1995 as part of "Burns Aspen". All red pine was left (concentrated in north end of stand) Stand has came back patchy with mostly aspen. Stand is upland compared to surroundings, although it has some lowland character.

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 092
Year of Entry: 2014



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
106	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	4.0	65	1-50	Very sparse log red pine, with scattered aspen filling in. Open stand with lowland character in spots. Appears natural, although likely planted.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	3102 - Grass	10.7	N/A	Unspecified	
13	622 - Lowland Shrub	6.5	N/A	Unspecified	
19	330 - Low-Density Trees	2.4	N/A	Unspecified	
24	330 - Low-Density Trees	2.2	N/A	Unspecified	
26	3102 - Grass	1.0	N/A	Unspecified	Well Site
27	622 - Lowland Shrub	4.1	N/A	Unspecified	
28	310 - Herbaceous Openland	7.4	N/A	Unspecified	Has been plowed in recent years, appears to be old tresspass, which may not be resolved. Judging from old photos the land has been farmed for decades.
30	629 - Mixed non-forested wetland	224.4	N/A	Unspecified	
31	3102 - Grass	1.3	N/A	Unspecified	Well Site
35	6224 - Treed Bog	11.6	N/A	Unspecified	
37	3102 - Grass	1.7	N/A	Unspecified	Well Site
38	622 - Lowland Shrub	8.2	N/A	Unspecified	Mostly alder and willow, although a couple small aspen are starting to fill in the edges.
39	3102 - Grass	1.3	N/A	Unspecified	
40	310 - Herbaceous Openland	5.7	N/A	Unspecified	Open field which appears to still be managed as a rye opening. Judging from old photos the land has been farmed for decades.
41	621 - Floating Aquatic	24.4	N/A	Unspecified	
42	622 - Lowland Shrub	9.6	N/A	Unspecified	
47	310 - Herbaceous Openland	0.8	N/A	Unspecified	Well Site



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
51	310 - Herbaceous Openland	1.4	N/A	Unspecified	
52	3102 - Grass	1.7	N/A	Unspecified	Well Site
55	310 - Herbaceous Openland	0.9	N/A	Unspecified	
57	3102 - Grass	1.3	N/A	Unspecified	Well Site
59	622 - Lowland Shrub	26.5	N/A	Unspecified	
61	330 - Low-Density Trees	15.3	N/A	Unspecified	
63	3102 - Grass	1.2	N/A	Unspecified	Well Site
66	3102 - Grass	1.2	N/A	Unspecified	Well Site
73	623 - Emergent Wetland	8.3	N/A	Unspecified	
74	3102 - Grass	1.1	N/A	Unspecified	Well Site
76	622 - Lowland Shrub	62.3	N/A	Unspecified	Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA)
77	622 - Lowland Shrub	37.3	N/A	Unspecified	Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA)
83	622 - Lowland Shrub	25.1	N/A	Unspecified	Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA)
84	330 - Low-Density Trees	4.2	N/A	Unspecified	Open area, which includes oil well site on the north edge of stand.
86	3102 - Grass	1.0	N/A	Unspecified	Well Site
87	622 - Lowland Shrub	12.4	N/A	Unspecified	
89	3102 - Grass	1.4	N/A	Unspecified	Well Site



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
93	622 - Lowland Shrub	14.2	N/A	Unspecified	
94	330 - Low-Density Trees	2.8	N/A	Unspecified	
97	3102 - Grass	1.5	N/A	Unspecified	Well Site
98	622 - Lowland Shrub	10.0	N/A	Unspecified	
99	3102 - Grass	1.1	N/A	Unspecified	Well Site
103	622 - Lowland Shrub	18.9	N/A	Unspecified	Lowland shrub dominated by alder. A few scattered flooded trees.
104	622 - Lowland Shrub	65.2	N/A	Unspecified	Part of the National Nature Landmark called the "Dead Stream Swamp" designated in 1976.(SCA)



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.

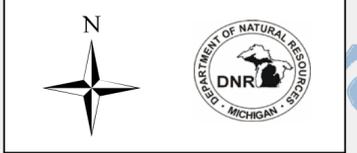
ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.

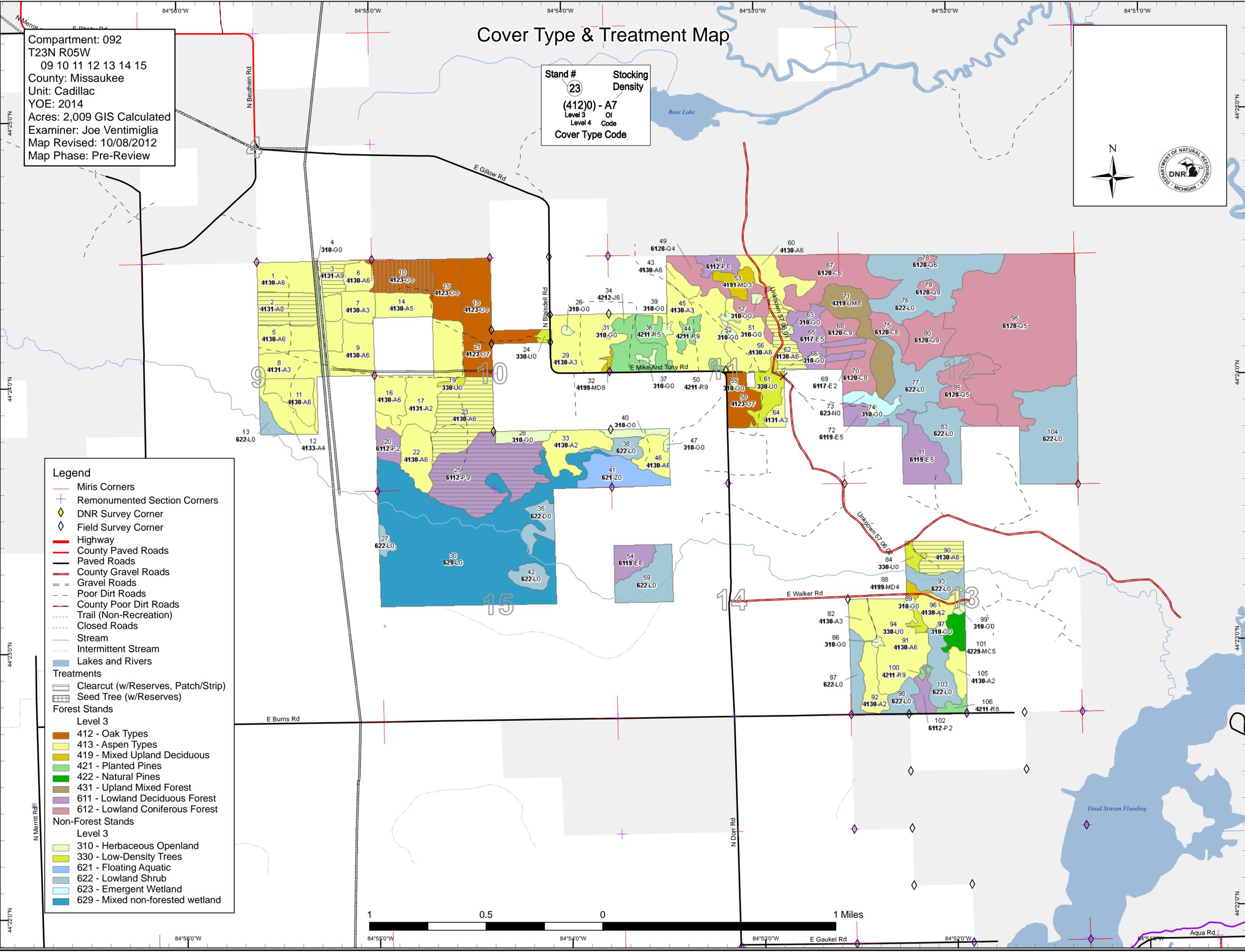
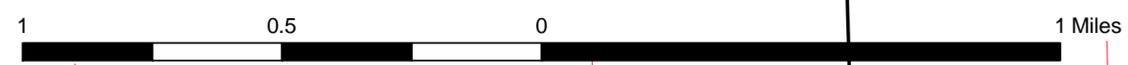
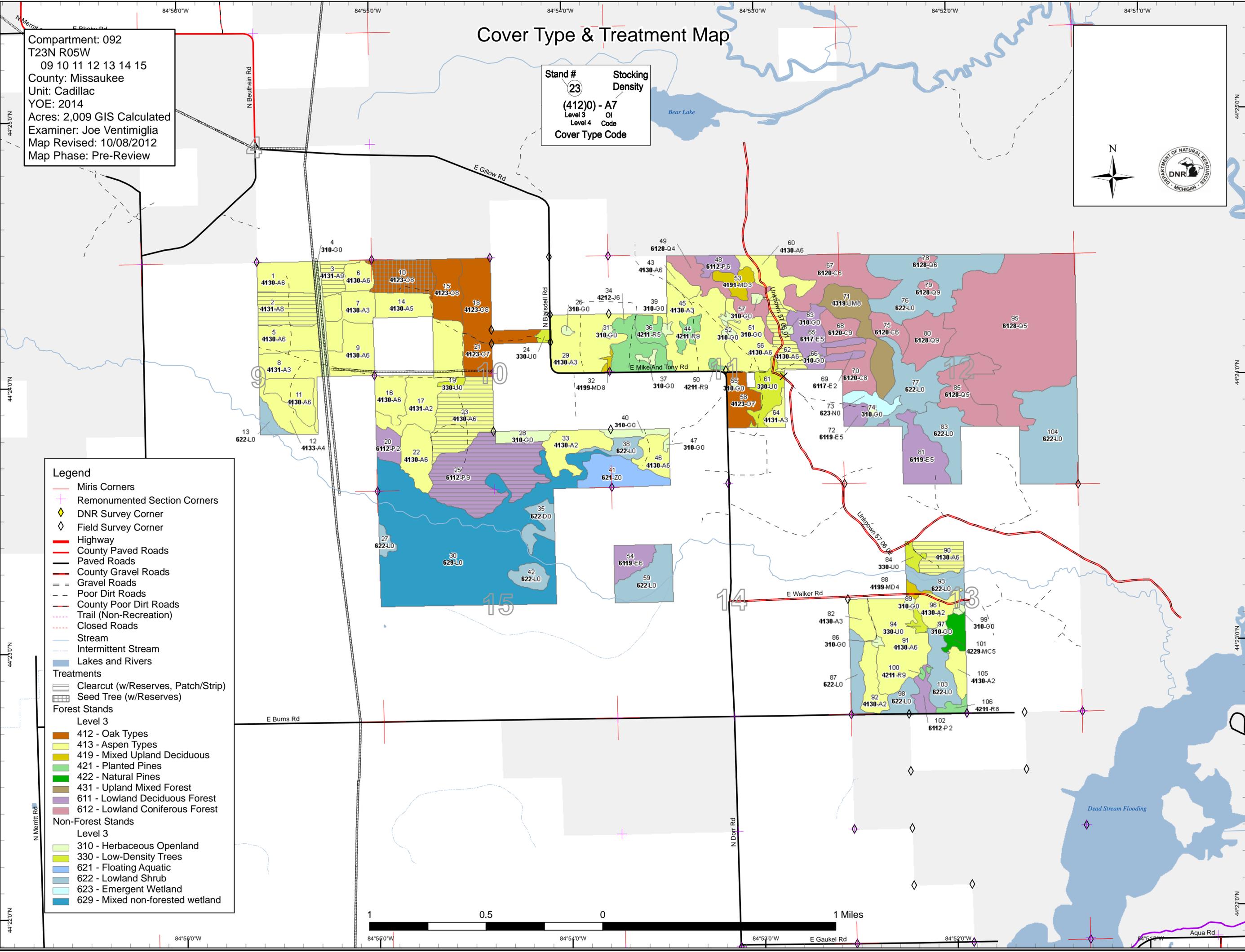
Cover Type & Treatment Map

Compartment: 092
 T23N R05W
 09 10 11 12 13 14 15
 County: Missaukee
 Unit: Cadillac
 YOE: 2014
 Acres: 2,009 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 10/08/2012
 Map Phase: Pre-Review

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



- Legend**
- Miris Corners
 - + Remonumented Section Corners
 - ◆ DNR Survey Corner
 - ◇ Field Survey Corner
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
- Treatments**
- ▨ Clearcut (w/Reserves, Patch/Strip)
 - ▨ Seed Tree (w/Reserves)
- Forest Stands**
- Level 3
- 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
- Non-Forest Stands**
- Level 3
- 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 621 - Floating Aquatic
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland



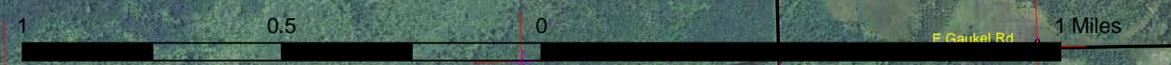
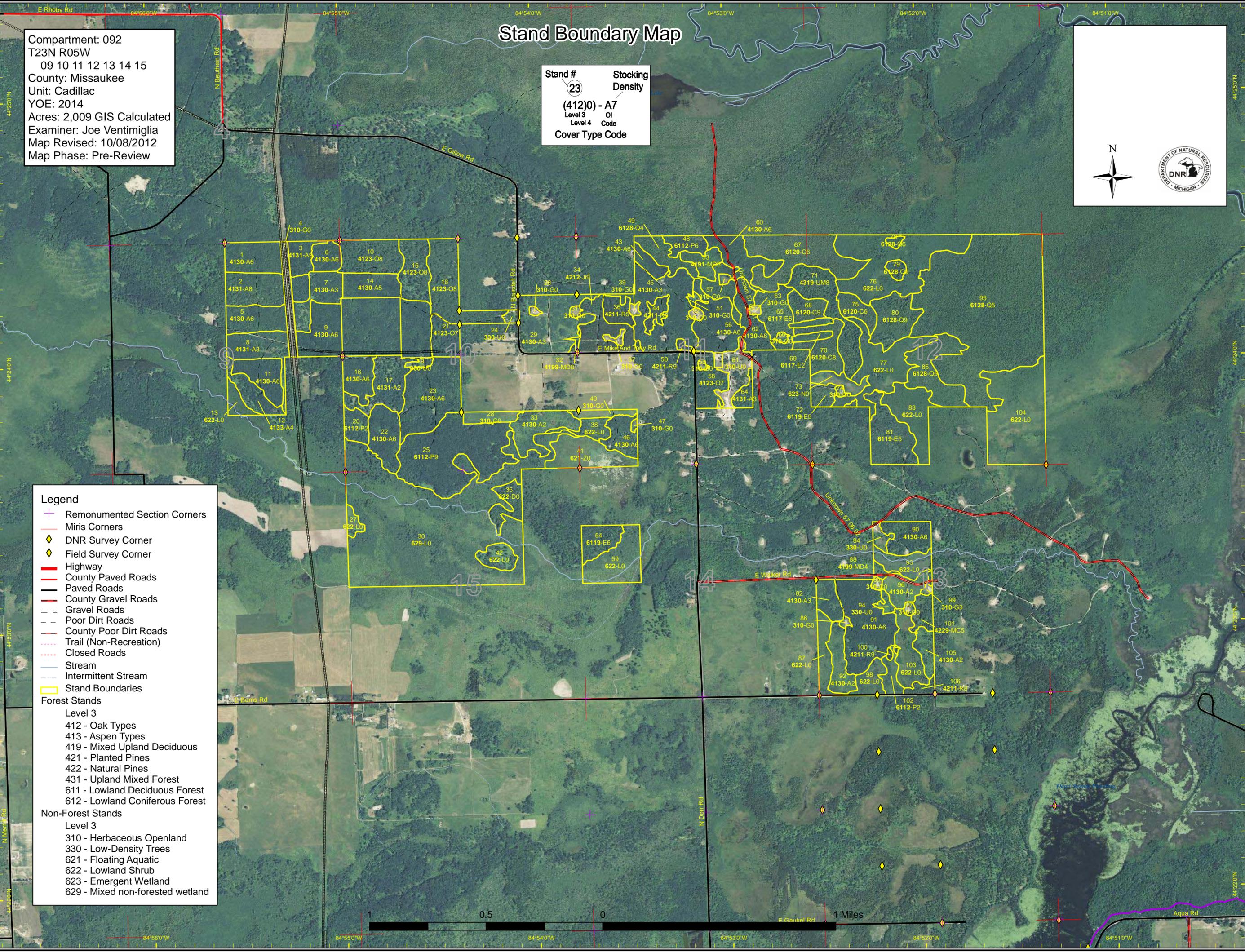
Stand Boundary Map

Compartment: 092
 T23N R05W
 09 10 11 12 13 14 15
 County: Missaukee
 Unit: Cadillac
 YOE: 2014
 Acres: 2,009 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 10/08/2012
 Map Phase: Pre-Review

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



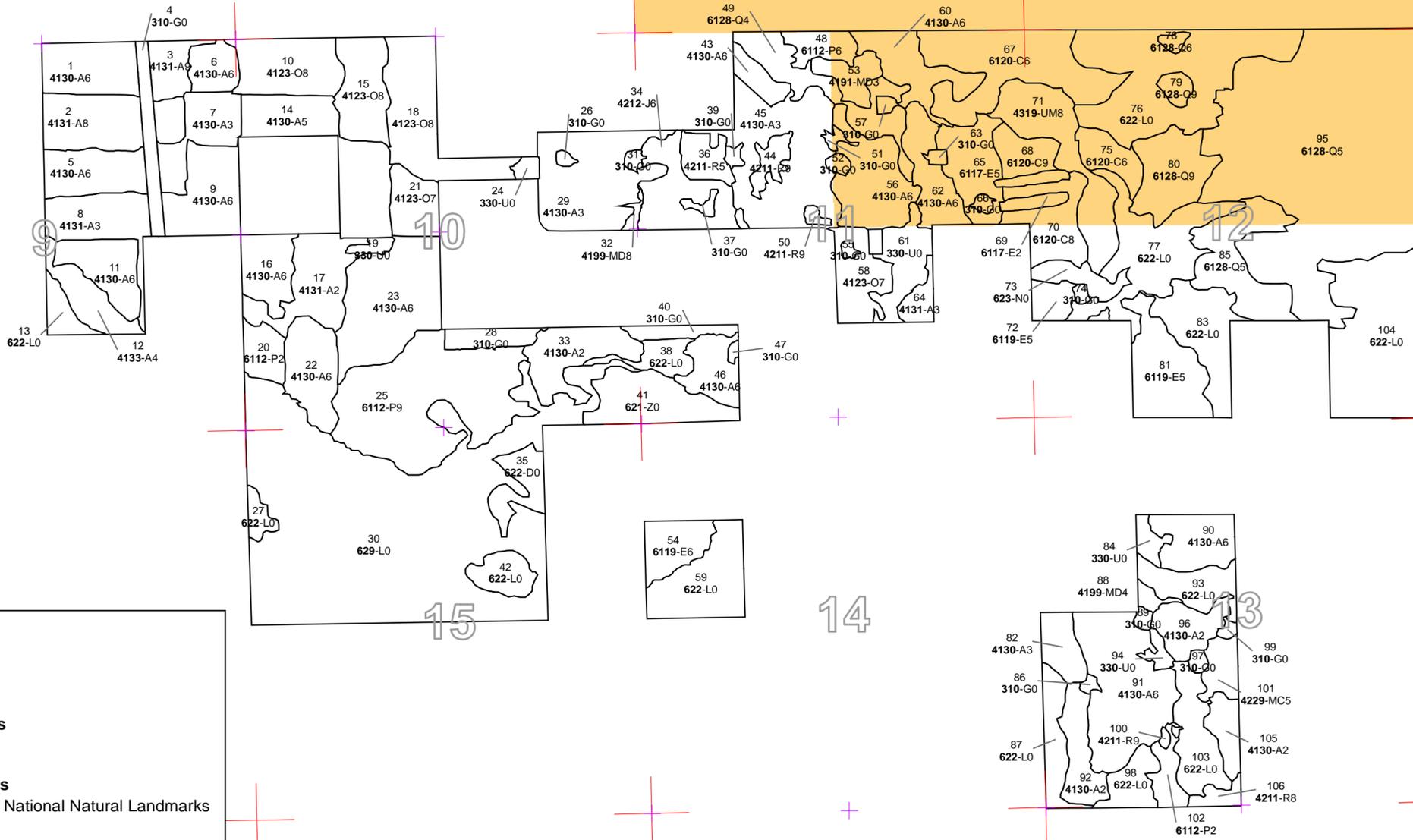
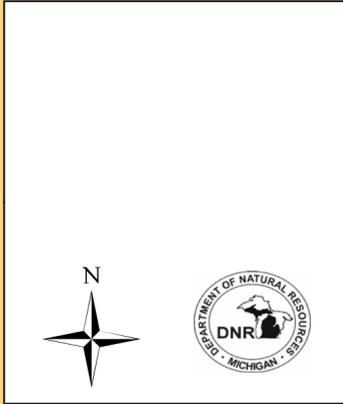
- Legend**
- ✚ Remonumented Section Corners
 - ✚ Miris Corners
 - ◆ DNR Survey Corner
 - ◆ Field Survey Corner
 - ▬ Highway
 - ▬ County Paved Roads
 - ▬ Paved Roads
 - ▬ County Gravel Roads
 - ▬ Gravel Roads
 - ▬ Poor Dirt Roads
 - ▬ County Poor Dirt Roads
 - ▬ Trail (Non-Recreation)
 - ▬ Closed Roads
 - ▬ Stream
 - ▬ Intermittent Stream
 - ▭ Stand Boundaries
- Forest Stands**
- Level 3
- 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
- Non-Forest Stands**
- Level 3
- 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 621 - Floating Aquatic
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland



Dedicated & Proposed Special Conservation Area Map

Compartment: 092
 T23N R05W
 09 10 11 12 13 14 15
 County: Missaukee
 Unit: Cadillac
 YOE: 2014
 Acres: 2,009 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 10/08/2012
 Map Phase: Pre-Review

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



Legend

- Remonumented Section Corners
- Miris Corners
- Stand Boundaries
- Proposed Special Conservation Areas**
 - SCA - Special Conservation Area
 - SCA Removal
- Dedicated Special Conservation Areas**
 - Non_Dedicated Natural Areas and National Natural Landmarks
 - Wildlife Management Areas
- Forest Stands**
 - Level 3**
 - 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
- Non-Forest Stands**
 - Level 3**
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 621 - Floating Aquatic
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland

