

CADILLAC FOREST MANAGEMENT UNIT



COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 130 ENTRY YEAR: 2014

County: Wexford

Revision Date: 10/09/2012 2:22 PM

Stand Examiner: Joe Ventimiglia, Forester

Legal Description: T24N R11W, Sections 19, 20, 21, 28, 29, 30, 32, 33

Management Goals: Management along the immediate vicinity of the Manistee River and its associated creeks will be to maintain the recreational and scenic value it currently offers. Forest management beyond the river valleys will focus on multiuse objectives of timber, wildlife, and ecological concerns.

Soil and Topography: Terrain is generally flat except for slopes and banks above creeks and the river. Soil series consist of Rubicon-Gray calm-Montcalm, Grayling-Gray calm, and Kalkaska.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Ownership in the northern sections of the compartment is solid State land. Large blocks of private land break up the southern portions of the compartment. Acquisitions of interest in portions of Sections 28, 29, and 30.

Unique, Natural Features (include only non-site specific and non-sensitive information): Manistee River, Wheeler Creek, and various unnamed creeks. Potential for Wood Turtle and Massasauga along Manistee River and Wheeler Creek. Potential for Northern Goshawk and Red Shouldered Hawk in hardwood and mature aspen stands.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Woodland and prehistoric camps listed. Abandoned Manistee and Northeastern RR grade. Segments of old Indian trail in east part of compartment. Wheeler saw mill and school house.

Special Management Designations or Considerations: The Manistee River and its associated creeks will be managed in accordance with the Natural Rivers Guidelines.

Watershed and Fisheries Considerations: The Manistee River, Wheeler Creek, and several other smaller tributaries to the Manistee River flow through Compartment 130. All are Designated Trout Streams. Wheeler Creek is a high quality trout stream with naturally reproducing populations of brook trout. The Manistee River in this area supports popular sportfisheries for brown trout, walleye, and northern pike. Brown trout are stocked by MDNR. Due to Natural Rivers considerations, no cutting should take place within 175' of the Manistee River, within 75' of Wheeler Creek or within 50' of any of the smaller tributaries located within Compartment 130. All BMPs should be followed in wet areas near the streams. (M. Tonello, 9/25/12)

Wildlife Habitat Considerations: Increasing aspen types and regenerating oak are primary concerns in this compartment, while maintaining other existing cover types. Many aspen and oak have white pine in the understory. Many stands have already been converted to white pine or red pine management. The Manistee

River corridor and associated tributaries are valuable wildlife areas offering a good mixture of aspen, lowland hardwoods, upland hardwoods, mixed fruiting shrubs, and conifer cover providing valuable habitats for many wildlife species. These areas are heavily used by wintering deer. Restrictions on the management of early successional species and manipulation of the shrub component along these corridors will impact numerous wildlife species that used these areas in the past. Featured species guidance will be considered for American bittern, American woodcock, beaver, black bear, eastern massasauga rattlesnake, mallard, pileated woodpecker, ruffed grouse, snowshoe hare, white-tailed deer, and wood duck. (E. Victory 9/2012)

Mineral Resource and Development Concerns and/or Restrictions: No oil or gas development within the compartment at this time. 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 are the Mississippian Coldwater Shale and the Marshall Sandstone. The Marshall was previously used as a building stone. A gravel pit is located one-half mile to the west and potential is considered to be good, especially the upland areas. This area lies four miles southeast of the prolific Guelph (Niagaran) reef trend, but there does not appear to be any potential for reefs in this area. This area is not currently leased for oil and gas, but Sections 19 and 30 have been nominated for the October 2012 lease auction.

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. Harvey Bridge (3 ton bridge) in section 28 crosses the Manistee River. Highway 37 runs north/south along the west edge of compartment.

Survey Needs: None.

Recreational Facilities and Opportunities: The North Country Trail runs east/west through out the compartment. This portion of the North Country Trail is maintained by volunteers from the Grand Traverse Hiking club. Proposed timber management activities should include trail protection specifications to reduce impacts to users, as well as serve as an example of how silviculturally sound timber harvesting practices can co-exist, and often improve recreation and wildlife experiences for future generations. Harvey Bridge offers access to north and south side of the Manistee River. Canoe liveries use the access point at the bridge. Fishing, hunting and dispersed camping occur within the entire compartment. (T.M.N. 8-31-12)

Fire Protection: Access is by county and forest roads. Areas of concern would be along the Manistee River in remote areas where dispersed camping occurs. The North Country Trail is along the Manistee River and would be a concern during a wildfire or prescribed burn. (BET 08-1-12)

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	127	77	5	57	28	237	0	7	0	0	0	0	0	3	540
Cedar	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Herbaceous Openland	33	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Jack Pine	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Low-Density Trees	36	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Lowland Aspen/Balsam Poplar	34	0	3	0	0	114	0	0	0	0	0	0	0	0	151
Lowland Conifers	0	0	0	0	0	0	0	0	54	0	0	0	0	0	54
Lowland Deciduous	0	0	0	0	7	74	378	0	40	0	0	0	0	0	499
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	127	128	0	0	0	50	43	0	8	0	0	0	0	0	356
Natural Mixed Pines	0	0	0	0	0	0	0	75	0	0	0	0	0	0	75
Northern Hardwood	0	0	0	0	0	4	0	343	86	0	28	0	0	0	462
Oak	0	0	0	0	0	0	0	37	0	0	0	0	0	0	37
Planted Mixed Pines	0	0	0	0	0	0	0	68	0	0	0	0	0	0	68
Red Pine	0	0	0	0	0	82	0	293	0	0	0	0	0	0	375
Sand, Soil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Treed Bog	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Upland Mixed Forest	0	0	0	0	0	0	0	37	0	0	0	0	0	54	91
Total	365	205	7	57	36	561	421	860	134	57	28	0	0	57	2787



Table 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2014

Compartment 130
Total Compartment Acres: 2787

Acres by Treatment Type

Commercial Harvest - 720	Site Prep - 0	Tree Planting - 57	Prescribed Burn - 106	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	260	0	0	0	0	0	0	260
Lowland Aspen/Balsam Poplar	86	0	0	0	0	0	0	86
Northern Hardwood	59	34	0	0	0	0	0	92
Planted Mixed Pines	68	0	0	0	0	0	0	68
Red Pine	145	18	3	0	29	0	0	194
Upland Mixed Forest	20	0	0	0	0	0	0	20
Total	637	52	3	0	29	0	0	720



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4	63130004-Cut	50.0	4130 - Aspen	High Density Pole	51		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription: Final Harvest. Leave one green ringed retention island to meet guidelines.[place near road]
Specs: Continue to manage for aspen.

Other Comments: Consider winter of dry condition harvest only. Stand is mostly on a slope, not much flat ground for a landing. Landing will need to be in stand 7.

Next Steps:

Proposed Start Date: 10/01/2013

12	63130012-Cut	58.6	4116 - Mixed N. Hardwood - Aspen	Medium Density Pole	79	81-110	Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription: Final harvest and manage for aspen/mixed hardwood. Leave retention in the form of islands 3 to 10 percent of total acreage.
Specs:

Other Comments: Quality and density not present for traditional hardwood management.

Next Steps: Monitor regen to insure objectives were met.

Proposed Start Date: 10/01/2013

13	63130013-Cut	27.9	4130 - Aspen	High Density Pole	47		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription: Final Harvest. Leave any conifer. Leave retention island in the middle of stand. (3 to 10 percent of acreage)
Specs:

Other Comments: Old road grade is west border of stand, re-utilize during harvest. Manage for aspen.

Next Steps:

Proposed Start Date: 10/01/2013

22	63130022-Cut	6.2	4119 - Mixed Northern Hardwoods	High Density Log	85	111-140	Harvest	Single Tree Selection	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal
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Prescription: Thin again to promote more regen and salvage ash and beech. Create canopy gaps to promote mid tolerant species. Mark according to complete marking guidelines.
Specs:

Other Comments: Corners in place at time of inventory. Wood will need to be forwarded to north.

Next Steps:

Proposed Start Date: 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
24	63130024-Cut	144.8	42110 - Planted Red Pine	Medium Density Log	73	1-50	Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Final Harvest with no retention to facilitate planting. Manage for red pine plantation, work with TMS on most effective spacing.										
<u>Specs:</u>										
<u>Other</u> Thinning no longer help overstory, red pine no longer competing with each other. Planting only viable option to get red pine back. MO of red pine										
<u>Comments:</u> although oak/RM/ and aspen will be accepted and worked around during planting. (Require Chipping)										
<u>Next</u> Work with TMS on site prep. Burning and or herbicide may be needed to create suitable environment for pine seedlings.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
26	63130026-Cut	1.3	4130 - Aspen	High Density Log	54		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. No retention as a result of small size.										
<u>Specs:</u>										
<u>Other</u> Lump in with aspen to south.										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
32	63130032-Cut	19.7	4319 - Mixed Upland Forest	High Density Log	73	51-80	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<u>Prescription</u> Final Harvest, mark to cut red pine and oak clumps. Mark for quality. Red Pine and Oak left with be the retention and seed source.										
<u>Specs:</u>										
<u>Other</u> Manage for mixed stand. Low volume will need to lump in with other stands. Lump into aspen to south or pine sales to north. Protect advanced										
<u>Comments:</u> regen where possible.										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
34	63130034-Cut	76.0	4130 - Aspen	High Density Log	53		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Cut all aspen, red maple, ash, and cherry. Leave all oak and other hardwood. Manage for aspen dominated hardwood mix.										
<u>Specs:</u> Hardwood and oak left will meet retention.										
<u>Other</u> DNR corner in Southwest. Stay on top of bluff in west edge of stand. Buffer small creek.										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
36	63130036-Cut	67.5	42140 - Planted Mixed Pine	Medium Density Log	73	1-50	Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Final Harvest with no retention to facilitate planting efforts . Replant pine in effort to maintain red pine within compartment.Natural regen does not										
<u>Specs:</u> appear an option. Work with TMS on site prep.										
<u>Other</u> Replant pine in effort to maintain red pine within compartment.MO of red pine although oak/RM/ and aspen will be accepted and worked around										
<u>Comments:</u> during planting. (Require chipping)										
<u>Next</u> Work with TMS on site prep. Burning and or herbicide may be needed to create suitable environment for pine seedlings.										
<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
53	63130053-Cut	2.9	42110 - Planted Red Pine	Medium Density Log	56	81-110	Harvest	Seed Tree	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription: Lite seed tree, leave 30 to 40 BA of highest quality pine.

Specs: Stand should convert well to a mixed stand.

Other Will not produce pole quality stems, do not replant pine as a result of small size in the future. Will likely need to be lumped in with aspen sale to
Comments: west to make it commercially viable. Manage for upland mix.

Next
Steps:

Proposed
Start Date: 10/01/2013

62	63130062-Cut	28.7	4130 - Aspen	High Density Log	51		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription: Final Harvest. Leave all hardwood except red maple and ash. Leave all conifer as well.(This will count as retention)

Specs:

Other Good access road in far east edge of stand off county road. Keep sale on top of bluff. Winter or dry conditions harvest. Some wetter pockets in
Comments: southern portion of stand, although mostly upland. Running blue line may not be option on east line as corners are on the other side of the river. (Use nomad to buffer off line)

Next
Steps:

Proposed
Start Date: 10/01/2013

73	63130073-Cut	86.3	6112 - Lowland Aspen	High Density Log	56		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal
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Prescription: Final Harvest. Leave all conifer and oak as retention.

Specs:

Other Winter only harvest. Access is off easement of 20 acre piece the State just aquired. (Only way we have access) Manage for aspen dominated
Comments: mix. Buffer drainages at appropriate distances, when running red line. Protect NCT, by running red line north of trail, keep NCT out of the sale boundary.

Next
Steps:

Proposed
Start Date: 10/01/2013

76	63130076-Cut	17.9	42110 - Planted Red Pine	High Density Pole	51	111-140	Harvest	Single Tree Selection	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription: Second thin with the object of opening up canopy space for highest quality trees. Manage for logs in future. Cut all maple and oak within
Specs: plantation to open up room for pine. Clean up any stunted pine, which have been overshadowed by any oak over the years.

Other
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2013



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
82	63130082-Cut	27.6	4111 - S.Maple, Hard Mast Association	High Density Log	108	111-140	Harvest	Single Tree Selection	4111 - S.Maple, Hard Mast Association	Cmpt. Review Proposal
<p><u>Prescription</u>: Thin stand according to complete marker guidelines. Thin to utilize hardwood before it degrades and in an effort to promote regen. Target any ash and beech in accordance with forest health concerns.</p> <p><u>Specs</u>:</p> <p><u>Other</u>: Difficult access, stand was limit factored based on steep bluff. Sensitive soils; shortwood only operation. Will need to be forwarded up bluff, too steep for log truck. Limit sale to level terrain (Stay off bluff). Pine to east has sold, wood would need to come out the same way this pine comes out. Two track already in place to access hardwood. Protect NCT, even though it will not be directly within sale.</p> <p><u>Comments</u>: Remove old growth designation.(SCA)</p> <p><u>Next Steps</u>: Monitor regen success next YOE.</p> <p><u>Proposed Start Date</u>: 10/01/2013</p>										
85	63130085-Cut	28.6	42110 - Planted Red Pine	High Density Log	55	111-140	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u>: Stand is already on prospectus and marked with adjacent pine to east. Part of "Down the Path Pine" 63-020-11-01.SOLD on Bid date of 5-14-12.</p> <p><u>Specs</u>:</p> <p><u>Other</u>: Access for sale will be difficult as wood needs to come up the ridge. Will need to be forwarded, too steep for log trucks. Remove old growth designation.(SCA)</p> <p><u>Comments</u>:</p> <p><u>Next Steps</u>:</p> <p><u>Proposed Start Date</u>: 10/01/2006</p>										
86	63130086-Cut	76.2	4130 - Aspen	High Density Pole	50		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u>: Final Harvest.Cut all aspen and red maple. Leave all hardwood, oak,and conifer. This will meet retention guidelines. Consider marking hardwood to leave if necessary.</p> <p><u>Specs</u>:</p> <p><u>Other</u>: Buffer the NCT and Manistee river bluff at appropriate distances. Stay clear of small drainage in far southwest edge of stand.</p> <p><u>Comments</u>: Winter or dry condition harvest as a result of semi wet site. At completion of sale Berm all unwanted two tracks to truck access.</p> <p><u>Next Steps</u>:</p> <p><u>Proposed Start Date</u>: 10/01/2013</p>										
61	63130061-Plant	57.4	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	1		Tree Planting	Hand Plant	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u>: Plant Red Pine, stand has already been trenched.</p> <p><u>Specs</u>:</p> <p><u>Other</u>:</p> <p><u>Comments</u>:</p> <p><u>Next Steps</u>: Monitor Regen.</p> <p><u>Proposed Start Date</u>: 04/10/2013</p>										

**Table 3 -- Treatments Prescribed
with No 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
21 63130021-Burn	106.2	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	19		Prescribed Burn	Unspecified	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription: Burn to reduce slash load, in order to create suitable environment for planting.(Bare Mineral Soil) Work with TMS and Fire Specialist with Burn,
Specs: avoid pockets of nice regeneration. (Concentrated in Northwest portion of stand)

OtherComments:

Next Steps: Trench and Plant Red Pine following Burn.

Proposed

Start Date: Unspecified

**Total Treatment
Acreage Proposed: 883.8**

**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 Sapling	5.3	8		Small units of "M-37 Aspen" Sale. Final harvested in Dec 2004. Small cuts have regenerated well to a mix of aspen and cherry. Aspen dominated. A few mature cherry left from harvest.
2	4130 - Aspen	High Density Sapling	9.6	7		Unit 3 of "M-37 Aspen" Sale. Final harvested in Jan 2005. Regen ten to twenty feet tall. Mostly aspen with some red maple. A few cherry and beech left.
3	4111 - S.Maple, Hard Mast Association	High Density Pole	249.1	76	81-110	Medium quality pole dominated northern hardwood, with minor beech and ash component. More significant cherry and aspen component in pockets to east. Semi open near road edge within middle of stand. A few small grassy openings scattered in the stand. Rolling terrain.
4	4130 - Aspen	High Density Pole	50.0	51		Sideslope of quality pole-log aspen few scattered hardwood mixed in. Heavy red maple and beech regen in pockets.
5	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Log	130.2	62		Lowland valley complex of Wheeler Creek. Mostly mixed log-pole quaking aspen, with cedar pockets directly shading the creek. Mostly lowland, although some of the sideslopes are more upland. Old road bed on west bank of creek.
7	4116 - Mixed N. Hardwood - Aspen	High Density Pole	35.5	78	51-80	Low quality northern hardwood with significant aspen clones in pockets. Small openings in stand and on border of stand. Few single stem hardwood.
8	4130 - Aspen	High Density Sapling	9.9	7		Unit 2 of "M37 Aspen" Sale. Cut in Jan 2005. Stand has regenerated to a well stocked mix of aspen and red maple. A few scattered cherry remain from last harvest.
9	4130 - Aspen	High Density Sapling	24.5	14		Sale was cut in 1997 as part of "Wheeler Creek Aspen" Has came back well to aspen and red maple. Regeneration about twenty feet tall.
10	6112 - Lowland Aspen	Low Density Sapling	9.0	5		Part of "15 Rd. Aspen" sale final harvest in Fall of 2006. Stand has regenerated in patches of aspen. Will be fairly open as stand matures.
12	4116 - Mixed N. Hardwood - Aspen	Medium Density Pole	58.6	79	81-110	Low quality mixed hardwood with significant aspen component. Mostly maple and cherry with very few single stem trees. Stand is semi open in spots with limited regen under the canopy. A few red pine mixed in to the north.
13	4130 - Aspen	High Density Pole	27.9	47		Pole-Log Aspen stand with minor mix of red maple, cherry and oak. Rolling topo.
14	4130 - Aspen	High Density Sapling	36.0	5		Part of "15 Rd. Aspen" sale cut in Fall of 2006. Stand has came back well to a aspen-red maple mix, dominated by aspen.
15	4130 - Aspen	High Density Log	1.7	59		Small pocket of over mature aspen. Some already dead and falling apart. Borders private.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
16	4130 - Aspen	Medium Density	11.9	5		Part of "15 Rd. Aspen" sale cut in Fall of 2006. Stand came back well to mixed aspen and red maple. Bigtooth on the ridgetops and quaking in the bowls. [regen about ten feet tall]
18	4130 - Aspen	High Density Sapling	11.4	14		Cut in 1997 as part of "Wheeler Creek Aspen". Stand came back well to aspen. Regen over 20 feet tall. A few cedar scattered in as well.
19	4112 - Maple, Beech, Cherry Association	Medium Density Pole	4.4	55	51-80	Small ridge of pole size /low quality northern hardwood. All timber adjoining has been treated. Many multiple stem maple.
20	4110 - Sugar Maple Association	High Density Log	6.1	81	51-80	Unit four of "M37 Aspen" sale cut in Winter of 2005. Medium quality northern hardwood which was thinned fairly heavy back in 2005. Mostly maple with scattered ash and cherry. Ironwood thick in the understory.
21	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	128.5	19		Part of the 130 Red Pine Project Sale. Cut in Jan/Feb of 2012. All pine and oak under 8 dbh was left. Cut during mild unfrozen winter conditions so natural scarification possible. Mix of maple, pine and oak advanced regen make up current stand.
22	4119 - Mixed Northern Hardwoods	High Density Log	6.2	85	111-140	Stand was thinned in 1997. Good quality hardwood with some decent cherry mixed in. Limited regen. Evidence of EAB although ash mostly healthy still. BBD also present, with beech still alive as well. Slight hills with private to the east.
23	42110 - Planted Red Pine	Medium Density Log	42.1	73	1-50	Stand was thinned in Jan of 1997 as part of "Conversion Pine" sale. (All aspen, jack pine and mixed hardwood were cut) Log red pine overstory remains with variable understory of maple-aspen-jack pine. A few oaks also scattered in overstory. Aspen in understory 20 feet. Pine overstory sparse in pockets.
24	42110 - Planted Red Pine	Medium Density Log	144.8	73	1-50	Thinned last YOY as part of "Long Haul Pine" sale. Log red pine overstory dominates, with oak and white pine mixed in to the eastern edge of stand. Regeneration is spotty with pockets of good aspen and maple regen resulting from previous harvest. Pine appears to be of natural origin, but was planted.
25	4119 - Mixed Northern Hardwoods	High Density Pole	62.8	82	81-110	Mixed medium quality pole northern hardwood. Close to log sized stand in pockets. Rolling terrain. Some aspen and oak mixed in. Limited regen.
26	4130 - Aspen	High Density Log	1.3	54		Very small patch clones of mature aspen.
28	42260 - Natural Pine, Mixed Deciduous	High Density Log	74.6	73	1-50	Mix of log red pine and white pine. Young aspen clones scattered throughout stand. Some overmature jack pine and oak also mixed in. Variable stand which buffers recent treatments on all sides.
29	4130 - Aspen	High Density Sapling	40.8	15		Final harvested in Fall of 1996 as part of "Hidden Creek" sale. Stand has regenerated well to aspen. Scattered oak left. Aspen twenty to thirty feet tall.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	6118 - Lowland Deciduous with Cedar	High Density Pole	21.5	62		Small lowland valley of cedar and hemlock overtopped by aspen. Sensitive soils. Significant flowing drainage runs through majority of stand. Timber to west has been treated.
32	4319 - Mixed Upland Forest	High Density Log	19.7	73	51-80	Heavy mix of jack pine, red pine, oak, and aspen. Much of the jack pine is falling apart. Rolling terrain. Sparsely stocked.
33	4130 - Aspen	High Density Sapling	4.5	22		Old timber trespass which has been resolved. Has regenerated to mostly aspen, regen thirty to forty feet tall.
34	4130 - Aspen	High Density Log	76.0	53		Nice log/pole aspen with small fingers of hardwood mixed in to the eastern center of the stand. Small creek borders to west with private to south. Rolling terrain. Small grassy opening in center of stand.
35	4130 - Aspen	High Density Log	2.9	Uneven Age		Small strip of aspen along the edge of the bluff.
36	42140 - Planted Mixed Pine	Medium Density Log	67.5	73	1-50	Thinned last YOE as part of "Long Haul Pine" sale. Log red pine overstory dominates, with oak and white pine mixed. Regeneration is spotty with pockets of good aspen and maple regen resulting from previous harvest. Pine appears to be of natural origin, but was planted.
37	6120 - Lowland Cedar	High Density Pole	2.7	97		Lowland pole cedar and mixed deciduos. Wet with underground seeps.
38	4311 - Pine, Aspen Mix	Medium Density Log	54.0	Uneven Age	1-50	Low stocked log sized red pine and scattered oak. Variable size classes of aspen fill up the gaps between the pine and oak. Rolling to steep terrain. All jack pine dead or falling apart.
40	6112 - Lowland Aspen	Medium Density	2.8	20		Appears stand was cut a number of years ago. (Old stumps, may have been an old wildlife cut) Stand has regenerated to a mix of aspen and red maple. Low overall density.
41	42110 - Planted Red Pine	High Density Log	9.9	73	1-50	Planted log red pine which was thinned last year of entry. Quality log red pine remain with a few scattered log oak and white pine.
42	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	53.9	94		Variable lowland mix of cedar, aspen, fir, tamarack, hemlock and lowland hardwood. Scattered log white pine also present. Very wet and flooded site. Evidence of larger blowdown events in pockets. Likely deer yard.
43	4119 - Mixed Northern Hardwoods	High Density Log	11.3	81	81-110	Small ridgeside of medium quality log hardwood. Log oak and overmature aspen scattered as well. Fairly steep terrain to east edge of stand.
44	4130 - Aspen	High Density Log	3.2	59		Small stand of mature aspen, with hardwood mixed in. Drainages enter middle of stand. Small valleys associated with drainage.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	6112 - Lowland Aspen	Medium Density	14.5	5		Cut in 2007 as part of "Wuotila Aspen" sale. Aspen has regenerated well in pockets, with cedar scattered from pervious sale. Wetter pockets have regenerated a little sparse.
46	4130 - Aspen	High Density Sapling	49.5	5		Cut in 2007 as part of "Wuotila Aspen" sale. Stand has regenerated well in pockets. Some wet areas remain fairly open. Aspen ten to twenty feet tall. Scattered cedar, oak and white pine were left.
47	4311 - Pine, Aspen Mix	High Density Log	17.4	73	51-80	Heavy mix of log white pine, red pine, and oak. Small pole aspen and maple filling in the gaps. Pine appears nature, although it was likely planted along with all adjacent pine.
48	6112 - Lowland Aspen	Medium Density	10.7	5		Cut in 2007 as part of "Wuotila Aspen" sale. Aspen has regenerated well in pockets, with pole cedar scattered from pervious sale. Some of the wetter pockets have regenerated a little sparse.
49	4130 - Aspen	High Density Sapling	2.5	5		Stand was final harvested last YO. Aspen-Maple and a few scattered oaks regenerated well. Regen is 5 to 15 feet tall. A few scattered oak in left.
51	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	28.8	73	1-50	Log red pine stand which appears to be of natural, but was actually planted. Log red pine evenly scattered with oak and white pine scattered heavier to the south. Stand thinned in 1996 as part of "Harveys Pine"
52	4131 - Aspen, Oak	Medium Density Log	6.6	75	1-50	Small ridge of low quality log oak and small pole aspen. All the timber surrounding has been treated.
53	42110 - Planted Red Pine	Medium Density Log	2.9	56	81-110	Very small isolated red pine plantation. Variable size and quality, stand has been 3rd row thinned in past.
54	4123 - Red Oak	Low Density Log	37.3	75	1-50	Cut last YO as part of "Harvey's Aspen". All oak was left. Aspen and Red maple regen is ten to twenty feet tall. Moderate to low quality oak makes up the overstory.
56	6112 - Lowland Aspen	High Density Pole	27.3	53		Two remote pieces of mature quaking aspen, fairly wet and lowland in nature. Small drainages and cedar swamps surround stand.
57	6118 - Lowland Deciduous with Cedar	Medium Density Log	42.9	58		Lowland complex along the Manistee River. Overmature aspen and mixed deciduous along the sideslopes. With the river flats of lowland pole lowland hardwood and cedar. Various creeks and drainages flow into the Manistee within this stand.
59	42220 - Natural Jack Pine	High Density Pole	1.0	41		Small strip of Jack pine left along recent cut. (along road edge)
60	6118 - Lowland Deciduous with Cedar	Medium Density Pole	7.5	41		Lowland aspen/cedar mix. Small flowing drainage in middle of stand. Cedar concentrated in thick pockets. Wet saturated soils.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
61	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	57.4	1		Part of the 130 Red Pine Project Sale. Final harvested in 2011. FTP completed to plant red pine. Currently almost a non-forested stand. Log mixed pine and oak islands left as retention. Stand was trenched in 2012 and will be planted in 2013.
62	4130 - Aspen	High Density Log	28.7	51		Log/pole aspen dominated stand with some hardwood mixed in. A few small cedar and hemlock scattered.
63	4131 - Aspen, Oak	Medium Density Pole	25.1	32	1-50	Sparse stocked oak-aspen stand. North end is particularly open. Mostly poor quality aspen clones with log oak widely spaced.
64	42110 - Planted Red Pine	High Density Log	32.2	59	111-140	Consumers Power red pine. State does not have rights to timber. Good quality pine which has and will continue to be managed by foresters who work for Consumers Power.
65	6118 - Lowland Deciduous with Cedar	Medium Density Pole	39.9	89		Lowland cedar and quaking aspen mix. Pockets of the interior of stand are completely flooded with cattails and blowover trees. Small creek flows into stand.
66	6118 - Lowland Deciduous with Cedar	High Density Log	34.9	64		Mixed stand on the south facing bluff of the Manistee. Small drainages flow into the stand. Lowland flooded hardwoods flats right near the rivers edge.
67	6118 - Lowland Deciduous with Cedar	High Density Log	30.9	55		Small drainage valleys off the Manistee. Characterized by overmature aspen. Cedar and lowland hardwood mixed in near creek bottoms.
70	42110 - Planted Red Pine	Medium Density Log	67.6	73	1-50	Log red pine/white pine stand which appears to be natural; although was planted. Stand was thinned in 2006, all jack, maple and aspen were cut along with marked pine. Mix of oak/maple/beech and white pine regen in the understory. Log oak scattered.
71	4130 - Aspen	High Density Sapling	2.4	6		Cut last YOE. Regen 10 to 20 feet tall comprised mostly of aspen and red maple. Small buffer left along road as well as log oak scattered within stand.
72	4130 - Aspen	High Density Pole	31.7	36		Small pole aspen dominated stand with a scattering of oak and red maple. Rolling terrain.
73	6112 - Lowland Aspen	High Density Log	86.3	56		Aspen stand dominated by quaking. Lowland nature with various drainages around the edges of the stand. Fairly isolated stand. Dense understory in spots. Aspen showing signs of age and stress from wet conditions.
75	6118 - Lowland Deciduous with Cedar	High Density Log	1.6	65		Steep side slope on edge of river. Mix of mature aspen, cedar and hardwood.
76	42110 - Planted Red Pine	High Density Pole	17.9	51	111-140	Row thinned back in 1996 as part of "Harveys Pine" sale. Relative low quality small pole plantation. Oak and maple scattered, overtopping pine in spots.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
77	4199 - Other Mixed Upland Deciduous	Medium Density Pole	50.3	53	1-50	Variable diameter complex of oak and aspen, with some beech-red maple clumps mixed in. Small pole dominated stand which is relatively open in spots. Aspen in small clones within stand, not evenly mixed.
78	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	69.4	1		Part of the 130 Red Pine Project Sale. Stand was seed tree'd in 2011. Roughly 10BA of log red pine and oak left. [green ringed] Mix of red maple, beech, oak regenerating in understory. Should be a nice mix.
79	4191 - Mixed Upland Deciduous with Conifer	High Density Log	7.6	83	1-50	Small sliver of log oak and pole/log red pine. Some of the red pine has been overtopped by the oak crowns over the years. All adjacent pine has been final harvested.
80	6118 - Lowland Deciduous with Cedar	High Density Log	37.6	69		Mixed side slope complex on the edge of Manistee river. Very steep slopes characterized by mature aspen and hardwood on the bluff with more lowland cedar and lowland hardwood flooded flats on the river edge. Some of the sideslopes are more upland although lowland features dominate near river flats.
81	4199 - Other Mixed Upland Deciduous	High Density Pole	42.6	62	1-50	Mixed upland stand of mostly pole size oak, aspen, beech and red maple. Variable size classes. Overall small pole sized although there are pockets of log oak and maple. White pine mixed into the west edge of stand.
82	4111 - S. Maple, Hard Mast Association	High Density Log	27.6	108	111-140	Good quality mature log hardwood stand on upland flat. Stand is down the bluff. Limited if any evidence of recent past management. West edge of stand is sideslope of steep bluff. Limited regen, heavy deer browse.
83	6118 - Lowland Deciduous with Cedar	High Density Log	152.2	65	81-110	Heavy mixed lowland and sideslopes complex on the Manistee river. Lowland hardwood and cedar on the flats. With aspen, maple, oak, and white pine on the slopes. NCT goes throughout stand.
85	42110 - Planted Red Pine	High Density Log	28.6	55	111-140	Good quality red pine plantation which was third row thinned prior. Stand is currently on prospectus and marked. Included in sale with plantation to the east.
86	4130 - Aspen	High Density Pole	76.2	50		Upland pole/log aspen with a noteworthy component of hardwood in pockets. NCT borders stand. Small drainage in far west end. Wet ground in pockets.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
6	310 - Herbaceous Openland	3.5	N/A	Unspecified	Managed wildlife opening.
11	330 - Low-Density Trees	7.2	N/A	Unspecified	Small opening with scattered cherry and stunted maple.
17	330 - Low-Density Trees	21.4	N/A	Unspecified	Small opening, with scattered cherry, maple and jack pine.
27	310 - Herbaceous Openland	1.4	N/A	Unspecified	
31	310 - Herbaceous Openland	1.1	N/A	Unspecified	Opening in the middle of aspen cut, appears to be old landing.
39	6224 - Treed Bog	4.9	N/A	Unspecified	Flooded bog. Heavy cattails, with scattered cedar in rough shape. Too wet to sustain forested covertype.
50	3102 - Grass	23.6	N/A	Unspecified	Grassy opening with widely scattered maple and cherry
55	3302 - Low Density Conifer Trees	5.0	N/A	Unspecified	Small opening with young red pine planted in a handful of rows on both sides of the road. Appears to be past RDR project. Close to forested.
58	310 - Herbaceous Openland	1.1	N/A	Unspecified	
68	310 - Herbaceous Openland	2.5	N/A	Unspecified	Grassy openland, good spot for landing if harvest takes place to south.
69	330 - Low-Density Trees	1.9	N/A	Unspecified	Grassy Opening, with a few cherry scattered.
74	710 - Sand, Soil	2.2	N/A	Unspecified	Small outwash along steep bend in Manistee.
84	623 - Emergent Wetland	0.9	N/A	Unspecified	

**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
82	SCA Removal	63130082	27.6	
85	SCA Removal	63130085	28.6	



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.

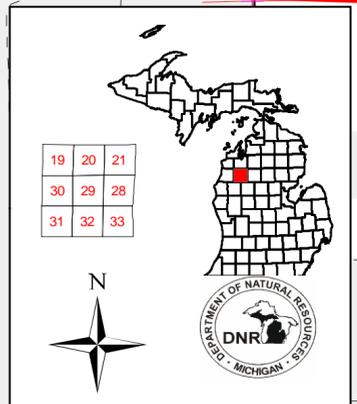
ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

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

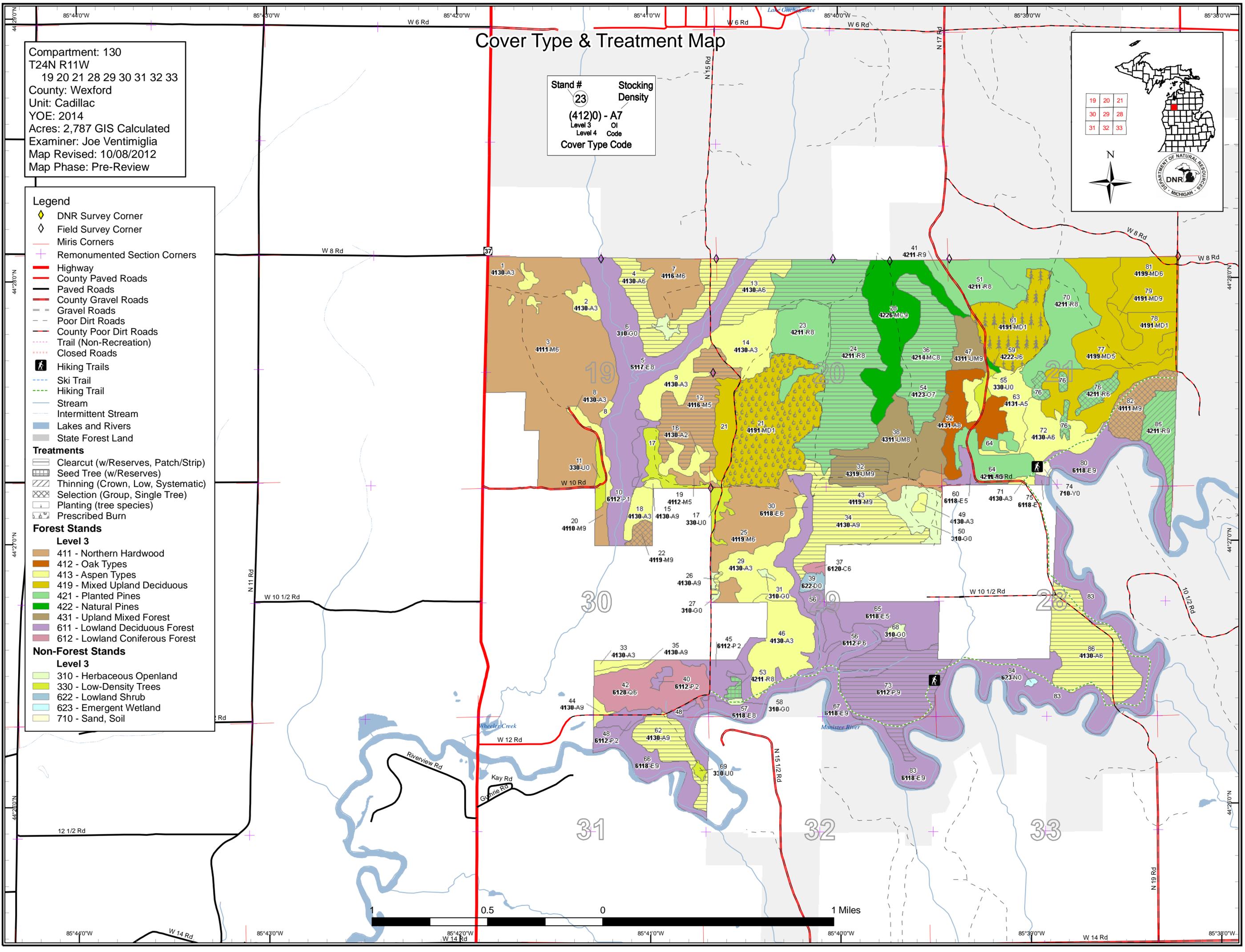
Cover Type & Treatment Map

Compartment: 130
 T24N R11W
 19 20 21 28 29 30 31 32 33
 County: Wexford
 Unit: Cadillac
 YOE: 2014
 Acres: 2,787 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 10/08/2012
 Map Phase: Pre-Review

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



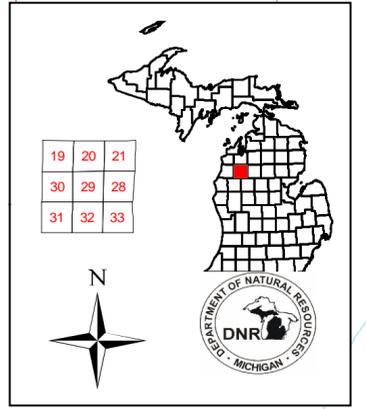
- Legend**
- ◆ DNR Survey Corner
 - ◇ Field Survey Corner
 - Miris Corners
 - ⊕ Remonumented Section Corners
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - 🚶 Hiking Trails
 - Ski Trail
 - Hiking Trail
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
 - State Forest Land
- Treatments**
- ▨ Clearcut (w/Reserves, Patch/Strip)
 - ▨ Seed Tree (w/Reserves)
 - ▨ Thinning (Crown, Low, Systematic)
 - ▨ Selection (Group, Single Tree)
 - ▨ Planting (tree species)
 - ▨ Prescribed Burn
- 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
- Non-Forest Stands**
- Level 3**
- 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 710 - Sand, Soil



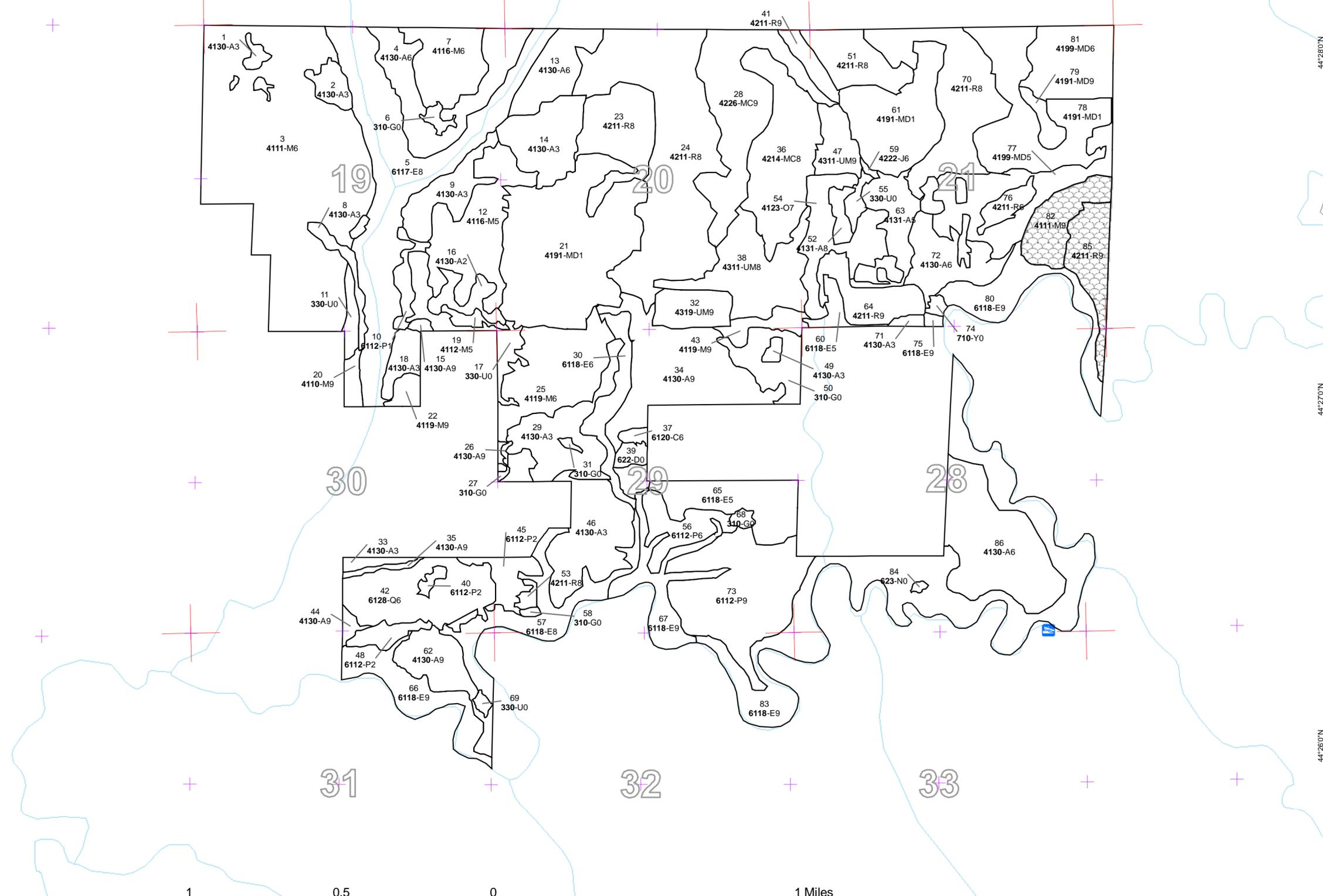
Dedicated & Proposed Special Conservation Area Map

Compartment: 130
 T24N R11W
 19 20 21 28 29 30 31 32 33
 County: Wexford
 Unit: Cadillac
 YOE: 2014
 Acres: 2,787 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 10/08/2012
 Map Phase: Pre-Review

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



- Legend**
- Miris Corners
 - ✚ Remonumented Section Corners
 - ▭ Stand Boundaries
 - ▭ Proposed Special Conservation Areas
 - ▨ SCA - Special Conservation Area
 - ▩ SCA Removal
 - ▭ Dedicated Special Conservation Areas
 - ⚓ Boat Access Sites
 - Cold Water Streams
 - 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
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85°43'0"W 85°42'0"W 85°41'0"W 85°40'0"W 85°39'0"W 85°38'0"W

