CADILLAC FOREST MANAGEMENT UNIT

COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 79 ENTRY YEAR: 2014

County: Missaukee

Revision Date: 10/08/2012 1:37 PM

Stand Examiner: Jason Stephens, Inventory Specialist

Legal Description: T24N, R5W, Sec. 6, 7, 8 and 18

Management Goals: This area has been managed intensively for wildlife and contains the Cannon Creek Waterfowl Flooding. Vegetation goals this period include continuing to balance aspen age-class distribution, as well as restore red pine to this dry-mesic landscape.

Soil and Topography: Predominately flat ground with a lowland complex in sections 6 and 7 (Cannon Creek Flooding and associated wetlands). Rubicon and Gray calm-Rubicon Sands and Tawas Mucky Peat's in lowlands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Solid state ownership in sections 6, 7 and 8. The NE of section 18 is state. No lands are desired and no lands are in excess of our needs.

Unique Natural Features: Potential for dry prairie plants in grassy openings. Hill's thistle, rough fescue, *prunus alleghanienis* and *pale agoseris*. Potential for dusted skipper and red-legged spittlebug in grassy openings. Potential for Massasauga along Cannon Creek. Potential for secretive locust. There are several stands in section 7 and 18 that have large diameter red and white pine that are remnants from the pine logging era of the early 1900's.

Archeological, Historical, and Cultural Features: Part of the historic town of Stratford is located in Section 6 as well as the Smith and Hull grades. Interpretive signs are located along 13 Mile Road.

Special Management Designations or Considerations: The Big Cannon Creek No. 1 Flooding (SCA – Wildlife Management Area) is located in Section 6. A water control structure is in place on this flooding.

Watershed and Fisheries Considerations: Big Cannon Creek, a high-quality tributary to the Manistee River, flows through Compartment 79. Big Cannon Creek is a Designated Trout Stream. Further downstream in Kalkaska County, Big Cannon Creek hosts excellent populations of naturally-reproducing brook, brown, and rainbow trout. In the vicinity of Compartment 79, Big Cannon Creek is degraded by impoundments and has water temperatures that are likely too warm for trout. All BMPs should be followed in wet areas near the streams. (M. Tonello, 9/25/12)

Wildlife Habitat Considerations: This compartment includes a proposed management area for eastern massasauga rattlesnake under the Draft Candidate Conservation Agreement with Assurances between MDNR and U.S. Fish and Wildlife Service, which provides guidelines for management. In addition, this compartment contains Cannons Creek 1 and 2 Floodings, both FMU Approved Special Conservation Areas,

and both established for waterfowl and furbearer production. Timber treatments adjacent to the floodings will focus on young aspen for beaver, acorn production and cavity trees for wood duck, and appropriate wetland buffers to fulfill that establishing purpose. 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: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. 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 12, four miles to the east and potential is thought to be good on the uplands. East Norwich Field is located to the east of the compartment. The field has produced over 15.9 million BO and 15.7 Bcf gas from the Devonian Richfield Formation. It is in secondary recovery operations currently. The compartment is leased primarily for the Collingwood Formation.

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.

The existing road and trail system is adequate. The majority of the compartment is very accessible and passable by two-wheel drive vehicles. 13 Mile Rd and Oil Well Rd are paved. The West Higgins Lake Snowmobile Trail is located on very drivable two-track road. Numerous other forest roads are found throughout the compartment. Previously closed forest trails appear to be remaining closed.

Survey Needs: None.

Recreational Facilities and Opportunities: Recreational Facility Considerations: The North Missaukee ORV Route and Snowmobile Trail # 6 (winter use) share the same tread & pass through the northern portion of this Compartment. The North Missaukee ORV trail and Michigan Cross Country Cycle Trail (MCCCT) share the same tread in the north central portion of this Compartment. The North Missaukee Motorcycle Trail dips into the northwest portion of this compartment. The North Missaukee Motorcycle Trail is designated by Directors Order to remain 2 wheeled vehicles only trail- therefore this trail should be kept tight, narrow, and curvy. A recently renovated trailhead is found near the intersection of Oil Field and 13 Mile Rd. Proposed timber management objectives should include trail protection specifications to reduce impacts, as well as serve as an example of how silviculterally sound timber harvesting methods can co-exist, and often improve recreation and wildlife experiences for future generations. (T.M.N. 8-30-12)

Fire Protection: Wildfire suppression is the responsibility of Houghton Lake Field office. County and State Forest roads provide access to the compartment. The area west of North 13 road and south of the ORV/Snowmobile trail, is low and very wet which will limit the use of mechanized equipment. The ORV / Snowmobile trail is within the compartment and needs to be considered during wildfire suppression and prescribe burns. (BET 8-1-12)

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

Cadillac Mgt. Unit **Compartment 079 Year of Entry 2014**

Jason Stephens : Examiner

Age Class

	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	Total
Aspen	136	26	17	7	253	69	40	0	0	0	0	0	0	37	**586**
Cropland	18	0	0	0	0	0	0	0	0	0	0	0	0	0	**18**
Herbaceous Openland	3	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Low-Density Trees	113	0	0	0	0	0	0	0	0	0	0	0	0	0	**113**
Lowland Aspen/Balsam Poplar	0	0	0	0	7	0	0	8	0	0	0	0	0	0	**15**
Lowland Mixed Forest	0	0	0	0	0	0	20	0	0	0	0	0	0	0	**20**
Lowland Shrub	78	0	0	0	0	0	0	0	0	0	0	0	0	0	**78**
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	11	0	0	0	**11**
Marsh	4	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	3	0	0	0	0	31	**34**
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	23	0	0	75	**98**
Northern Hardwood	0	0	0	0	0	13	0	0	108	10	0	0	0	99	**230**
Oak	0	0	0	0	0	0	0	0	0	93	0	0	0	44	**137**
Red Pine	0	0	0	169	0	5	0	4	0	0	5	0	0	0	**182**
Upland Mixed Forest	0	0	0	0	2	0	0	0	0	0	0	31	0	24	**57**
Upland Shrub	203	0	0	0	0	0	0	0	0	0	0	0	0	0	**203**
Urban	22	0	0	0	0	0	0	0	0	0	0	0	0	0	**22**
Water	102	0	0	0	0	0	0	0	0	0	0	0	0	0	**102**
White Pine	0	0	0	0	0	3	0	0	0	0	0	0	0	94	**97**
Total	**678**	**26**	**17**	**176**	**263**	**90**	**61**	**12**	**111**	**103**	**39**	**31**	**0**	**404**	**2010**

Table 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2014

Compartment 079
Total Compartment Acres: 2010

Acres by Treatment Type

Commercial Harvest - 309	Site Prep - 16	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 18	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	84	0	0	0	0	0	**84**
Lowland Spruce/Fir	7	0	0	0	0	0	**7**
Mixed Upland Deciduous	0	0	0	9	0	0	**9**
Northern Hardwood	87	0	0	0	0	0	**87**
Oak	0	0	0	53	0	0	**53**
Red Pine	0	0	0	0	29	0	**29**
Upland Mixed Forest	0	18	0	0	0	0	**18**
White Pine	0	21	0	0	0	0	**21**
Total	**178**	**39**	**0**	**62**	**29**	**0**	**309**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	63079001-Cut1	8.7	4124 - Red with White Oak	High Density Log	94	81-110	Harvest	Shelter Wood with Reserves	4124 - Red with White Oak	Cmpt. Review Proposal

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

Other Comments: Make contiguous with the Treatment in stand 83 of Comp 86 to the west.

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

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
5	63079005-Cut	44.5	4129 - Mixed Oak	High Density Log	94	81-110	Harvest	Shelter Wood with Reserves	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: Heavy shelterwood harvest, targeting a residual basal area of 20-30sqft of white and red oak. Mark the west portion to best nurse and protect the white pine sub-canopy. Leave all merchantable pine. Mark the east end to release small oak poles and large saps, as well as any pine, in the rest create enough room for roller chop site prep of seed bed.

Other Comments: Use recreation trail specs. If harvesting is done in winter, have loggers sign the trail and keep snow cover on it during plowing. Use a spec or careful administration to preserve the younger age classes of oak saplings/small poles (see stage one data) during harvest operations.

Next Steps: In eastern end of the stand, where white pine subcanopy is sparse, roller chop areas without recruited regeneration following the harvest to encourage oak and white pine natural seeding and restart the seedlings that are present and not recruited. FTP should also include Treatment that is in stand 2, directly adjacent to this area, for roller chopping.
Regeneration goal is white pine/oak in west where there is already a white pine subcanoy, and a mix of oak and white pine in the east.

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
12	63079012-Cut_Plant_RP	26.9	4119 - Mixed Northern Hardwoods	High Density Log	95	81-110	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Leave the trace of natural pine, and all oak 14" dbh and greater (this will be mostly white oak, but a few red also).

Other Comments: Use recreation trail specs. for hauling. If harvesting is done in winter, have loggers sign the trail and keep snow cover on it during plowing.

Next Steps: Wait one growing season for aspen to sprout along south edge of Treatment area before trenching in order to establish the natural extent of the expansion of the aspen in the adjacent Treatment. Trench and plant red pine, avoiding areas with thicker oak regeneration No herbicide or roller chopping to be done..

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
15	63079015-Cut	10.2	4130 - Aspen	High Density Pole	49		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves. Leave oak, and some aspen in clumps (3% area retention).

Other Comments: Treatment boundary was modified to expand aspen slightly into the adjacent stand. Dormant season harvest is preferred. Use recreation trail specs. If harvesting is done in winter, have loggers sign the trail and keep snow cover on it during plowing.

Next Steps: Monitor regen next inventory cycle.

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
16	63079016-Cut	9.2	4199 - Other Mixed Upland Deciduous	Medium Density Log	100	51-80	Harvest	Shelter Wood with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Shelterwood harvest by removing aspen and maple. Leave oak.

Other Comments: Fairly low volume, but it's an opportunity to cut this aspen with adjacent stands. The goal is to release the pine and oak in subcanopy, and leave the large oak for mast.

Next Steps: Post harvest regeneration should be a mix of white pine, mixed oak, and aspen & maple.

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
18	63079018-Cut	33.7	4130 - Aspen	High Density Pole	69		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Leave the red and white oak, as well as the trace of white and red pine.

Other Comments: At time of prep, evaluate vigor and consider whether a dormant season cut is needed to maximize sprouting. If it is spec'd, have loggers sign the trail and keep snow cover on it during plowing. Leave 3% in islands for area retention, locating them at least a tree-length away from the snow trail.

Next Steps: Regeneration survey next inventory cycle.

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
20	63079020-Cut	7.1	4130 - Aspen	High Density Pole	39		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves. Leave oak, and some aspen in clumps (3% area retention).

Other Comments: Use recreation trail specs. If harvesting is done in winter, have loggers sign the trail and keep snow cover on it during plowing.

Next Steps: Monitor regen next inventory cycle.

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
21	63079021-Cut	3.8	6122 - Black Spruce	Medium Density Pole	106	1-50	Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal

Prescription Specs: Clearcut, no retention.

Other Comments: No retention within treatment polygon as digitized. Edge of stand that is too wet to operate will be left. Use rutting specs and winter/frozen ground with a dry summer exception.

Next Steps: Monitor regeneration next inventory cycle.

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
30	63079030-Cut	3.4	6122 - Black Spruce	Low Density Pole	107		Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal

Prescription Specs: Clearcut, no retention.

Other Comments: No retention within treatment polygon as digitized. Edge of stand that is too wet to operate will be left. Use rutting specs and winter/frozen ground with a dry summer exception.

Next Steps: Monitor regeneration next inventory cycle.

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
35	63079035-Cut	4.5	4130 - Aspen	High Density Pole	57		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves, leaving any pine and oak. Otherwise, cut everything (especially maple) to 1" dia.

Other Comments: Look for opportunities to expand stand with sale boundary. Not leaving aspen in order to maximize sprouting. Consider a dormant season spec. to maiximize aspen expansion into adjacent stand. Treatment boundary was modified to expand aspen slightly into the adjacent stand. Dormant season harvest is preferred. Use recreation trail specs. If harvesting is done in winter, have loggers sign the trail and keep snow cover on it during plowing.

Next Steps: Monitor regen next inventory cycle.

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
64	63079064-Cut	11.4	42110 - Planted Red Pine	High Density Pole	34	141-170	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Third row thin.

Other Comments: Rows are good and straight. Will benefit from the 5 year delay in treatment start date with increased height. Treat with stand 65 to the east.

Next Steps:

Proposed Start Date: 10/01/2018

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
65	63079065-Cut	17.6	42110 - Planted Red Pine	High Density Pole	34	141-170	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Has some holes from poor initial survival . Will need to be marked. Look to establish access and reduce basal area to ~120sq.ft. use existing holes and link them together with marked trails, then cut tree mark where possible to remove defect if it can be done without taking residual basal area below 100-120.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2018

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
66	63079066-Cut	60.4	4112 - Maple, Beech, Cherry Association	Low Density Pole	80	1-50	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Clear cut, leaving oak and the trace of pine. Use a chipping spec to facilitate red pine planting.

Other Comments: Goal is to establish a well stocked red pine stand that has an oak component.

Next Steps: Follow harvest with mechanical site prep (roller chopping), then trench and plant red pine. Most oak seedlings, saplings, and some of the juneberry should persist through site prep, and will hopefully recruit with the red pine and be present in the future stand.

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
70	63079070-Cut	20.9	42200 - Natural White Pine	High Density Log	115	111-140	Harvest	Single Tree Selection	42200 - Natural White Pine	Cmpt. Review Proposal

Prescription Specs: Mark at risk and poor form white and red pine, as well as aspen and maple for operability. Target residual basal area of 80 to 120 sq. ft.

Other Comments: Be aware of legacy red pine and white pine and protect them when marking and laying out harvest operations.

Next Steps: Desirable white pine regeneration is already present, but following the harvest there should be some establishment and continued recruitment of white pine.

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
79	63079079-Cut	18.3	4319 - Mixed Upland Forest	Medium Density Log	110	111-140	Harvest	Single Tree Selection	4319 - Mixed Upland Forest	Cmpt. Review Proposal

Prescription Specs: Mark to a variable basal area of 80-120, opening up around white and red pine. Goal is to encourage white pine establishment and recruitment in the subcanopy. Thin red pine and the red maple clumps, and marking some of the aspen.

Other Comments: Harvest would likely be limited to west 1/2 of stand where there's some product to work with. Treatment boundary is drawn to estimate this.

Next Steps: Regeneration should be a mix of white pine and red maple, with some cherry and oak.

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
85	63079085-Cut1	9.4	4130 - Aspen	High Density Pole	54		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut without reserves. This is a small stand that needs sprouting maximized. Dormant season harvest?

Other Comments: Consider a dormant season harvest to maximize sprouting. Look to expand harvest into stand 86 to the east into unproductive forestland. Try to avoid including areas of pine in the sale boundary.

Next Steps: Monitor regeneration next inventory cycle.

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
88	63079088-Cut	7.2	4133 - Aspen, Mixed Pine	High Density Pole	50		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Leave all white pine and mark out islands around supercanopy red pine. Target 10% area retention .

Other Comments:

Next Steps: Monitor regeneration. Goal is a mix of aspen with some red and white pine and a minor mixed deciduous component.

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
97	63079097-Cut	11.5	4133 - Aspen, Mixed Pine	Medium Density Log	54		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Clearcut with reserves leaving pine and a couple of dying aspen south of road. North of the road do an aspen removal , leaving alll pine.

Other Comments: Aspen starting to decline.

Next Steps: Regeneration should be aspen dominated with a mix of pine and mixed deciduous.

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
2	63079002-Prep	16.5	4124 - Red with White Oak	Medium Density Log	94	1-50	Site Prep	Chopping	4124 - Red with White Oak	Cmpt. Review Proposal

Prescription Specs: roller chop portions of this previous harvest that have little/no advanced regeneration.

Other Comments: Delay initiation of this FTP until post-harvest cultural work is done on the harvest area in adjacent stand (5).

Next Steps: Goal is to stimulate oak and prepare seedbed for oak/pine seedling establishment. Monitor regeneration success during the next

Proposed Start Date: 10/01/2016

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
50	NF_63079050-NonFor	4.2	2113 - Forage Crops				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal

Prescription Specs: Continue to maintain planting of openings.

Other Comments: Mgmt Objective is actually "211 - Cropland".

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
98	NF_63079098-NonFor	6.3	2113 - Forage Crops				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal

Prescription Specs: Continue to maintain wildlife planting

Other Comments: Mgmt Objective is actually '211-Cropland'.

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
101	NF_63079101-NonFor	4.0	2113 - Forage Crops				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal

Prescription Specs: Continue to maintain planted wildlife opening.

Other Comments: Management Objective is actually '211-Forage Crops'

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
113	NF_63079113-NonFor	1.2	2113 - Forage Crops				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal

Prescription Specs: Continue to maintain planted wildlife opening.

Other Comments: Management Objective is actually "211-Forage Crops"

Next Steps:

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
117	NF_63079117-NonFor	2.0	2113 - Forage Crops				Non-Forest Management	Other - Specify	3102 - Grass	Cmpt. Review Proposal

Prescription Specs: Continue to maintain planted wildlife opening.

Other Comments: Management Objective is "211 - Forage Crops"

Next Steps:

Proposed Start Date: Unspecified

Total Treatment Acreage Proposed: 343.0

Table 4 -- Treatments Prescribed with a Limiting Factor

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

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Error

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: **0**

Data updated before 10:00 AM

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

Prescription Specs:

Other Comments:

Next Steps:

Proposed Start Date:

	3.5	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete

Prescription Specs:

Other Comments:

Next Steps:

Proposed Start Date:

	0.1	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete

Prescription Specs:

Other Comments:

Next Steps:

Proposed Start Date:

	0.0	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete

Prescription Specs:

Other Comments:

Next Steps:

Proposed Start Date:

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

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

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

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4124 - Red with White Oak	High Density Log	8.7	94	81-110	Stand continues west into Comp 86.
2	4124 - Red with White Oak	Medium Density Log	54.0	94	1-50	Harvested last YOE.
3	4130 - Aspen	High Density Sapling	1.7	16		
5	4129 - Mixed Oak	High Density Log	44.5	Uneven Age	81-110	
7	42200 - Natural White Pine	Medium Density Log	2.9	58	51-80	
8	42200 - Natural White Pine	Medium Density Log	29.9	Uneven Age	81-110	Stand is still filling in. Lots of white pine regen along with some red pine and a mix of oak saplings.
10	4319 - Mixed Upland Forest	High Density Pole	2.5	45		
12	4119 - Mixed Northern Hardwoods	High Density Log	52.8	Uneven Age	81-110	Former pine site, lots of old stumps.
15	4130 - Aspen	High Density Pole	10.8	49		
16	4199 - Other Mixed Upland Deciduous	Medium Density Log	9.2	Uneven Age	51-80	Aspen in decline.
17	42200 - Natural White Pine	High Density Pole	6.8	Uneven Age		
18	4130 - Aspen	High Density Pole	33.7	69		Well developed subcanopy of pole/sapling red maple with some oak saplings. Trace of red and white pine.
20	4130 - Aspen	High Density Pole	7.1	39		
21	6122 - Black Spruce	Medium Density Pole	3.8	106	1-50	
22	42290 - Natural Mixed Pine	Medium Density Log	1.3	Uneven Age		
23	4124 - Red with White Oak	Medium Density Log	30.2	94	1-50	Regenerating a nice subcanopy of white pine.
25	42290 - Natural Mixed Pine	Medium Density Log	2.5	Uneven Age		
26	4130 - Aspen	High Density Sapling	2.0	16		

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	4131 - Aspen, Oak	Medium Density	6.6	16		
29	42260 - Natural Pine, Mixed Deciduous	Medium Density Log	44.3	Uneven Age	51-80	Evolving as mixed age white pine, some red, some jack. Mixed oak also. Some gaps still filling in with a mix of red and white pine. Some hummocky areas with vernal pools in transition zones.
30	6122 - Black Spruce	Low Density Pole	7.3	107		
33	4130 - Aspen	Medium Density	13.2	7		Remaining openings filling in w/oak and cherry.
34	4119 - Mixed Northern Hardwoods	High Density Log	13.1	59	81-110	
35	4130 - Aspen	High Density Pole	4.1	57		Aspen in decline.
36	4319 - Mixed Upland Forest	Medium Density Pole	23.7	Uneven Age		
38	4112 - Maple, Beech, Cherry Association	Low Density Pole	18.8	Uneven Age		
40	42290 - Natural Mixed Pine	Medium Density Log	7.4	Uneven Age	51-80	
41	6132 - Mixed Lowland Forest with Cedar	Medium Density Pole	20.4	67		
42	4130 - Aspen	High Density Log	3.8	50		
43	42210 - Natural Red Pine	High Density Log	4.0	70	111-140	Thin strip of nice natural pine along Cannon creek.
45	4130 - Aspen	High Density Pole	6.7	64		Well developed shrub layer.
46	42290 - Natural Mixed Pine	Low Density Log	16.3	101	1-50	Natural red and white pine over regen.
47	6112 - Lowland Aspen	Medium Density Pole	7.9	70		
49	4112 - Maple, Beech, Cherry Association	High Density Pole	10.2	90	51-80	
51	4130 - Aspen	High Density Sapling	15.9	16		
52	4130 - Aspen	High Density Sapling	30.1	Uneven Age		

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
53	4199 - Other Mixed Upland Deciduous	High Density Log	3.0	84		Wolfy oak and pine.
54	4130 - Aspen	High Density Pole	42.4	50		
56	4130 - Aspen	High Density Pole	28.1	44		Well developed shrub layer.
58	4130 - Aspen	High Density Sapling	38.3	4		
61	4131 - Aspen, Oak	High Density Pole	56.6	44		Some older and younger aspen clones present.
64	42110 - Planted Red Pine	High Density Pole	11.4	34	141-170	
65	42110 - Planted Red Pine	High Density Pole	17.6	34	141-170	4 stick avg. not pole quality.
66	4112 - Maple, Beech, Cherry Association	Low Density Pole	97.7	80	1-50	
70	42200 - Natural White Pine	High Density Log	49.2	Uneven Age	111-140	Gap dynamics, multiple aged natural pine. White pine range from saplings to 30"+ supercanopy. Trace of balsam fir & hemlock.
72	4130 - Aspen	High Density Pole	31.1	42		
73	4130 - Aspen	High Density Sapling	9.9	4		
75	42210 - Natural Red Pine	Medium Density Pole	9.9	35	51-80	Two-aged natural pine that was planted through. Has a 5yr old subcanopy.
78	4130 - Aspen	Medium Density Pole	50.4	44		Stand is still filling in some old openings. Some younger clones of aspen. Some very low quality aspen too.
79	4319 - Mixed Upland Forest	Medium Density Log	26.1	110	111-140	
81	4310 - Pine, Oak Mix	Medium Density Log	4.5	110		
84	42110 - Planted Red Pine	High Density Log	4.5	54	171-200	Wind break planting ~ 3 rows wide.
85	4130 - Aspen	High Density Pole	7.7	54		
86	4199 - Other Mixed Upland Deciduous	Medium Density Log	22.3	Uneven Age	1-50	Nice developed shrub layer.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
87	42260 - Natural Pine, Mixed Deciduous	High Density Log	6.7	103	51-80	Remnant natural pine that was planted through years ago.
88	4133 - Aspen, Mixed Pine	High Density Pole	7.2	Uneven Age		
89	4130 - Aspen	High Density Sapling	24.4	7		Trace of log sized white and hybrid oak in the canopy.
92	4112 - Maple, Beech, Cherry Association	Low Density Pole	26.9	Uneven Age	1-50	
93	4130 - Aspen	High Density Sapling	25.8	5		Some areas with sparce aspen are more solid to cherry.
95	4119 - Mixed Northern Hardwoods	Low Density Pole	10.4	80	1-50	lots of juneberry.
97	4133 - Aspen, Mixed Pine	Medium Density Log	11.5	54		
99	4130 - Aspen	Low Density Sapling	17.1	25		Old opening that is filling in and is now forested. A range of aspen ages and sizes. Age characterizes an estimated average age of the clones.
102	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	129.7	35	51-80	Highly variable basal area.
105	4133 - Aspen, Mixed Pine	High Density Sapling	4.8	5		
107	42290 - Natural Mixed Pine	Medium Density Log	8.7	Uneven Age	111-140	Nicely structured multi-storied natural pine stand.
108	42210 - Natural Red Pine	Medium Density Log	5.1	103	51-80	Remnant natural pine that was planted through 35 yrs ago. Includes a couple of small vernal ponds. Nice little two-storied stand.
109	4139 - Aspen, Mixed Deciduous	High Density Pole	76.0	48		Couple ages of aspen, some remnant natural pine. Some areas with little viable aspen.
110	4130 - Aspen	High Density Sapling	19.2	5		
111	42260 - Natural Pine, Mixed Deciduous	High Density Log	10.8	Uneven Age	51-80	Similar to stands 121 & 120, but fewer remnant natural pine >30" dia.
114	42200 - Natural White Pine	High Density Log	7.7	Uneven Age	141-170	3+ aged natural pine stand. Some remnant natural pine that are >30" in diameter.
115	6112 - Lowland Aspen	Medium Density Pole	6.9	40		

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	3205 - Mixed Upland Shrub	10.8	No	Low (NonForested)	
6	3301 - Low Density Deciduous Tree	11.8	No	Low (NonForested)	
9	3205 - Mixed Upland Shrub	12.8	No	Low (NonForested)	
11	629 - Mixed non-forested wetland	4.0	No	Unspecified	Cattails, tag alder, sedge, treed bog on South end only.
13	3303 - Mixed Low Density Trees	9.7	No	Low (NonForested)	
14	622 - Lowland Shrub	3.7	No	Unspecified	
19	3301 - Low Density Deciduous Tree	27.5	No	Unspecified	
24	6229 - Mixed lowland shrub	18.5	No	Low (NonForested)	
27	629 - Mixed non-forested wetland	1.1	No	Unspecified	
31	122 - Road/Parking Lot	0.9	No	Unspecified	Road edge.
32	50 - Water	83.3	No	Unspecified	
37	6220 - Alder/willow	6.9	No	Unspecified	
39	622 - Lowland Shrub	24.3	No	Unspecified	
44	50 - Water	9.8	No	Low (NonForested)	
48	6229 - Mixed lowland shrub	1.2	No	Low (NonForested)	
50	2113 - Forage Crops	4.2	Yes	High (NonForested)	
55	122 - Road/Parking Lot	2.5	Yes	Low (NonForested)	Parking lot.
57	3105 - Mixed Upland Herbaceous	2.2	No	Low (NonForested)	

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
59	50 - Water	8.5	No	Low (NonForested)	
60	3104 - Degraded	1.2	No	Low (NonForested)	
62	3303 - Mixed Low Density Trees	1.4	No	Unspecified	
63	3205 - Mixed Upland Shrub	4.1	No	Low (NonForested)	
67	122 - Road/Parking Lot	18.4	Yes	Unspecified	North 13 Mile and East Oil Well Roads.
68	6233 - Wet Meadow	2.6	No	Low (NonForested)	
69	6229 - Mixed lowland shrub	15.2	No	Low (NonForested)	
71	3303 - Mixed Low Density Trees	7.7	No	Low (NonForested)	
74	3301 - Low Density Deciduous Tree	34.5	N\A	Unspecified	
76	3205 - Mixed Upland Shrub	7.8	No	Low (NonForested)	
77	3205 - Mixed Upland Shrub	6.4	No	Low (NonForested)	
80	6232 - Wet Prairie	1.0	No	Low (NonForested)	
82	3303 - Mixed Low Density Trees	4.2	No	Low (NonForested)	
83	3303 - Mixed Low Density Trees	2.1	No	Low (NonForested)	
90	3303 - Mixed Low Density Trees	8.6	No	Unspecified	
91	3205 - Mixed Upland Shrub	95.3	No	Unspecified	Appears to be low fertility site. Poverty grass dominates with moss and lichen. Lots of old stumps. Shrubs present.
94	6229 - Mixed lowland shrub	1.6	No	Low (NonForested)	
96	3205 - Mixed Upland Shrub	1.2	No	Unspecified	Appears to be low fertility site. Poverty grass dominates with moss and lichen. Lots of old stumps. Shrubs present.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
98	2113 - Forage Crops	6.3	Yes	High (NonForested)	Managed planted opening.
100	3205 - Mixed Upland Shrub	19.8	No	Unspecified	
101	2113 - Forage Crops	4.0	Yes	High (NonForested)	Rye fields with islands of "U".
103	3205 - Mixed Upland Shrub	27.8	No	Low (NonForested)	
104	3301 - Low Density Deciduous Tree	5.2	No	Low (NonForested)	
106	622 - Lowland Shrub	1.1	No	Unspecified	Grassy marsh with leatherleaf fringe.
112	6229 - Mixed lowland shrub	0.3	No	Low (NonForested)	
113	2113 - Forage Crops	1.2	Yes	High (NonForested)	Maintained wildlife opening.
116	3205 - Mixed Upland Shrub	17.3	No	Low (NonForested)	Autumn olive planted in furrows around edge of stand and in middle.
117	2113 - Forage Crops	2.0	Yes	High (NonForested)	Maintained opening.

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	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.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.

Cover Type & Treatment Map

Compartment: 079
T24N R05W
06 07 08 18
County: Missaukee
Unit: Cadillac
YOE: 2014
Acres: 2,010 GIS Calculated
Examiner: Bill Sterrett
Map Revised: 10/08/2012
Map Phase: Pre-Review

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

6
7 8
18
N

DEPARTMENT OF NATURAL RESOURCES · MICHIGAN · DNR

Legend

DNR Survey Corner
Field Survey Corner
Miris Corners
Remonumented Section Corners
Parking Lot
Highway
County Paved Roads
Paved Roads
County Gravel Roads
Gravel Roads
Poor Dirt Roads
County Poor Dirt Roads
Trail (Non-Recreation)
Closed Roads
Motorcycle Trails (DNR License)
MCCCT Trails
ORV Trails
ORV Routes
Snowmobile Trails
MCCCT Trail
Snowmobile Trail
Motorcycle (DNR Sticker)
ORV Trail
ORV Route
Stream
Intermittent Stream
Lakes and Rivers
State Forest Land

Treatments

Clearcut (w/Reserves, Patch/Strip)
Shelter Wood (w/Reserves)
Thinning (Crown, Low, Systematic)
Selection (Group, Single Tree)
Site Preparation
Opening Maintenance

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

122 - Road/Parking Lot
211 - Cropland
310 - Herbaceous Openland
320 - Upland Shrub
330 - Low-Density Trees
500 - Water
622 - Lowland Shrub
623 - Emergent Wetland
629 - Mixed non-forested wetland

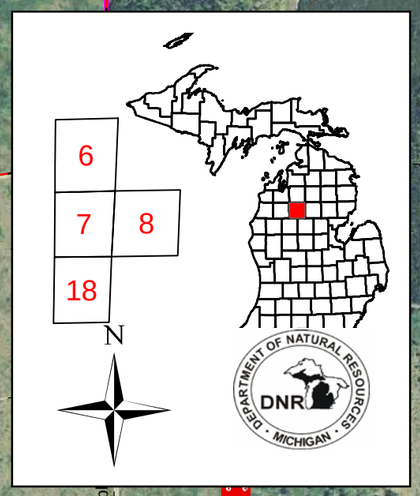
1 0.5 0 1 Miles

18

Stand Boundary Map

Compartment: 079
T24N R05W
06 07 08 18
County: Missaukee
Unit: Cadillac
YOE: 2014
Acres: 2,010 GIS Calculated
Examiner: Bill Sterrett
Map Revised: 10/08/2012
Map Phase: Pre-Review

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



Legend

- DNR Survey Corner
- Field Survey Corner
- Miris Corners
- Remonumented Section Corners
- Parking Lot
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Motorcycle Trails (DNR License)
- MCCCT Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- MCCCT Trail
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- ORV Trail
- ORV Route
- Stream
- Intermittent 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
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

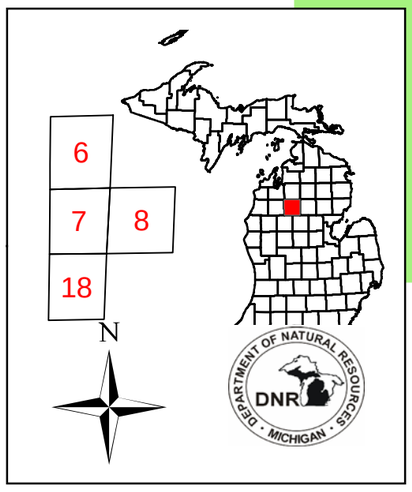
- 122 - Road/Parking Lot
- 211 - Cropland
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland

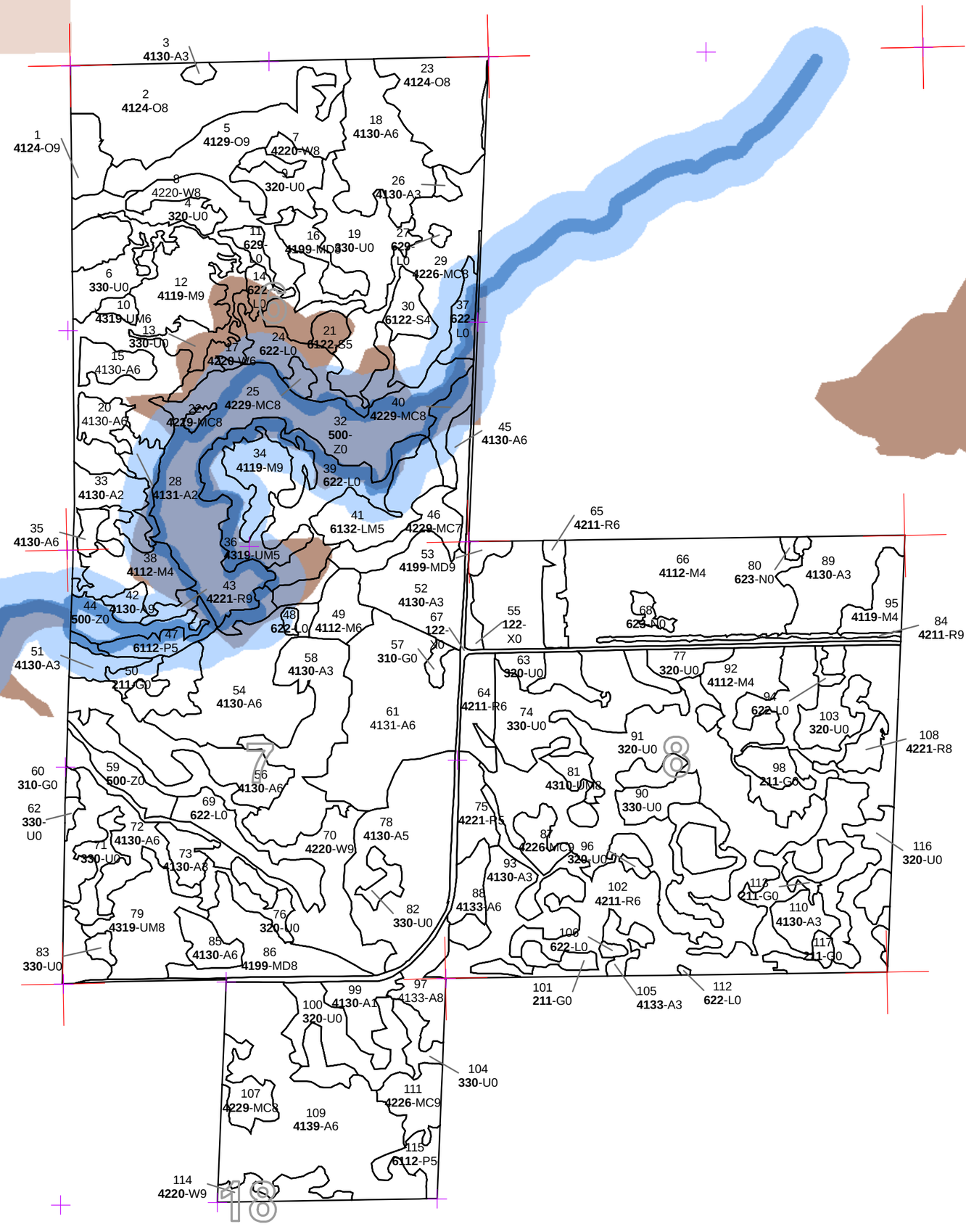
1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment: 079
T24N R05W
06 07 08 18
County: Missaukee
Unit: Cadillac
YOE: 2014
Acres: 2,010 GIS Calculated
Examiner: Bill Sterrett
Map Revised: 10/08/2012
Map Phase: Pre-Review

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





Legend

- Miris Corners
- Remonumented Section Corners

Proposed Special Conservation Areas
- SCA - Special Conservation Area
- SCA Removal

Dedicated Special Conservation Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Wildlife Management Areas
- 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
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands
Level 3
- 122 - Road/Parking Lot
- 211 - Cropland
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland

1 0.5 0 1 Miles

84°59'0"W 84°58'0"W 84°57'0"W 84°56'0"W 84°55'0"W
44°32'0"N 44°31'0"N 44°30'0"N 44°29'0"N 44°28'0"N