

Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 21
Entry Year 2015

Acreage: 2,422 County Lake

Management Area: Lake County Moraines

Revision Date:

Stand Examiner: Mike Lesinski

Legal Description:

T18N, R12W, SEC. 1, 2, 11, 12

Identified Planning Goals:

Maintain cover type and age class diversity.

Soil and topography:

Mostly Rubicon-Roselawn sands and Graycalm-Montcalm sands. The terrain is generally rolling to hilly.

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

This compartment is predominately state-owned land. The state land is generally in large blocks. The private ownership is mostly hunting type land which is undeveloped. The following parcels are recommended for acquisition if they become available for sale: The private parcels in the NE quarter of section 11.

Unique Natural Features:

Eastern massasauga, great blue heron rookery, bald eagle, hooded warbler, eastern box turtle, spotted turtle, and hill's thistle have been found in this compartment. This compartment has the potential for northern goshawk, red-shouldered hawk, dusted skipper, grizzled skipper, red-legged spittlebug, hill's thistle, rough fescue, Alleghany plum, and pale agoseris.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Watershed and Fisheries Considerations:

There are no Fisheries concerns within this compartment. (M. Tonello, 9/11/2013).

Wildlife Habitat Considerations:

This compartment is in the Newaygo Outwash Plain Ecosystem, LTA 1111. Soils in this LTA vary throughout the Subsection but are generally deep, excessively well drained sands and loamy sands with moisture availability limitations. Microsite variability and the spread of large fires from outwash plains appeared to create localized conditions favorable to a wide variety of plant communities. Wildlife objectives are to maintain the aspen type and upland brush areas will be created out of the oak type. Featured species of special interest are bear, deer, turkey, woodcock, and ruffed grouse. (E. Victory, 8/21/13)

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and an end moraine of coarse-textured till. The glacial drift thickness varies between 400 and 600 feet. There is over 250 feet of local relief within the compartment. Beneath the glacial drift are the Pennsylvanian Saginaw Formation and the Mississippian Bayport Limestone. The Saginaw is quarried for clay/shale products and the Bayport for limestone in other areas of the State. A rock (?) quarry is indicated in Section 10 to the west. A gravel pit is located 3 miles southwest of the compartment and potential is considered good especially the upland areas. None of the compartment is leased for oil and gas development. (T. Hoane, 3/6/2013).

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 closure. 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.

Survey Needs:

None.

Recreational Facilities and Opportunities:

The Tin Cup Springs ORV route, motorcycle trail, and undesignated equestrian trail are within this compartment. The Tin Cup Springs motorcycle trail is under Director's Order prohibiting vehicular use by ORV's larger than a motorcycle. Management considerations along the cycle trail should include tools that will keep the trail tread narrow. Tools include sporadic, well placed "leave trees" in areas where the route and cycle trail interface to dissuade unwanted larger ORV vehicles from entering the single track, or leaving unmerchantable vegetation along the cycle trail corridor to define narrow tread associated with these cycle trails. The undesignated equine trail is being considered for designation as an equine trail via the trail proposal process. All divisions will have the opportunity to determine whether designation is appropriate for this horse event trail. Timber management activities should include trail protection specifications for both the motorsport and horse trail, while also serving as an example of how sound timber harvesting methods can co-exist, and often improve recreation and wildlife experiences for future generations. (T.M.N. 7-3-13).

Fire Protection:

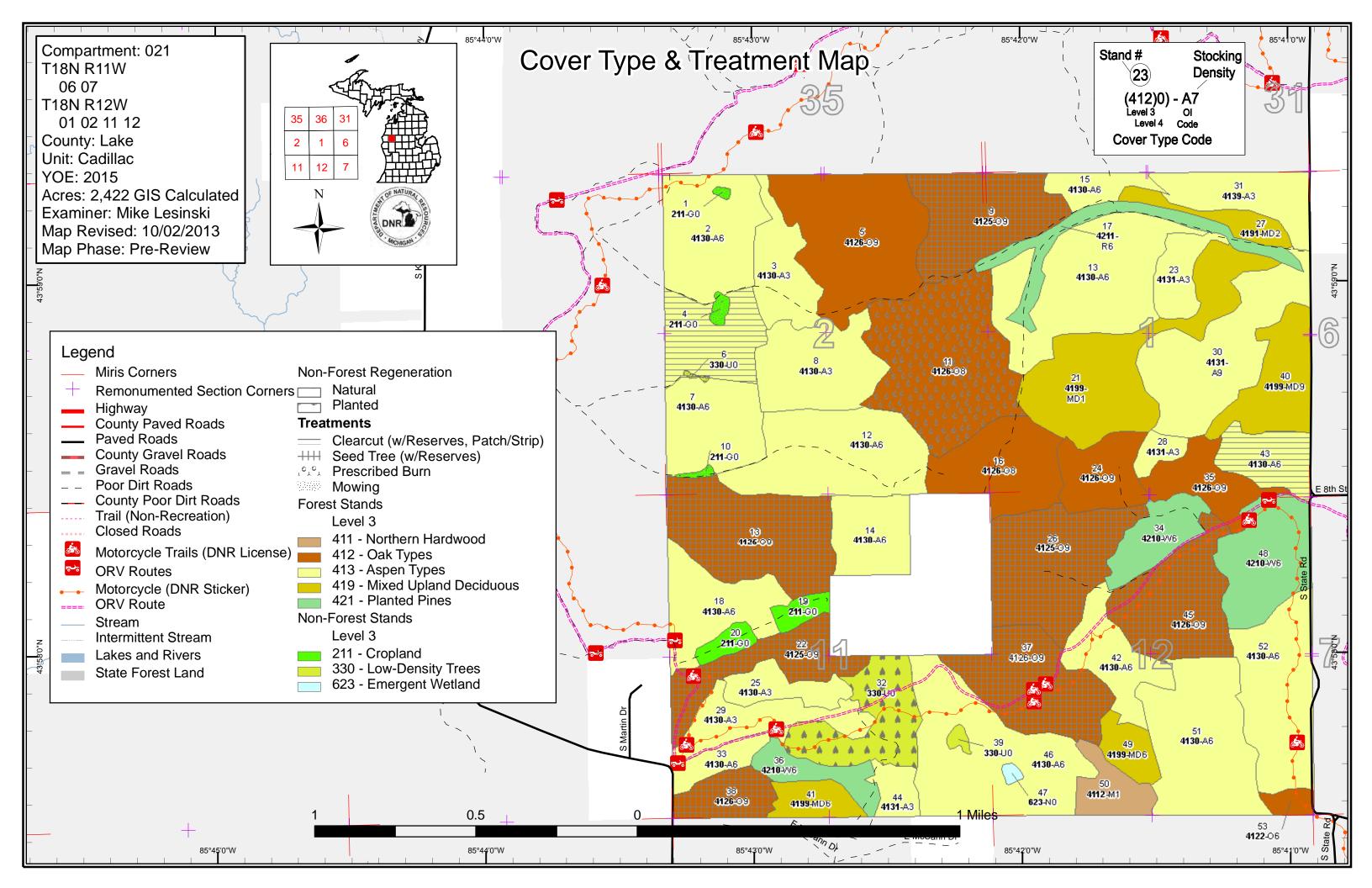
Given the fuel type within the compartment, fire occurrence would be minimal. Along the ORV trail system, fire occurrence could be more of an issue. Access within the compartment is poor due to the poor 2 tracks and ORV trail. Private land holdings within the compartment could be a protection issue. (B. Tower, 2013).

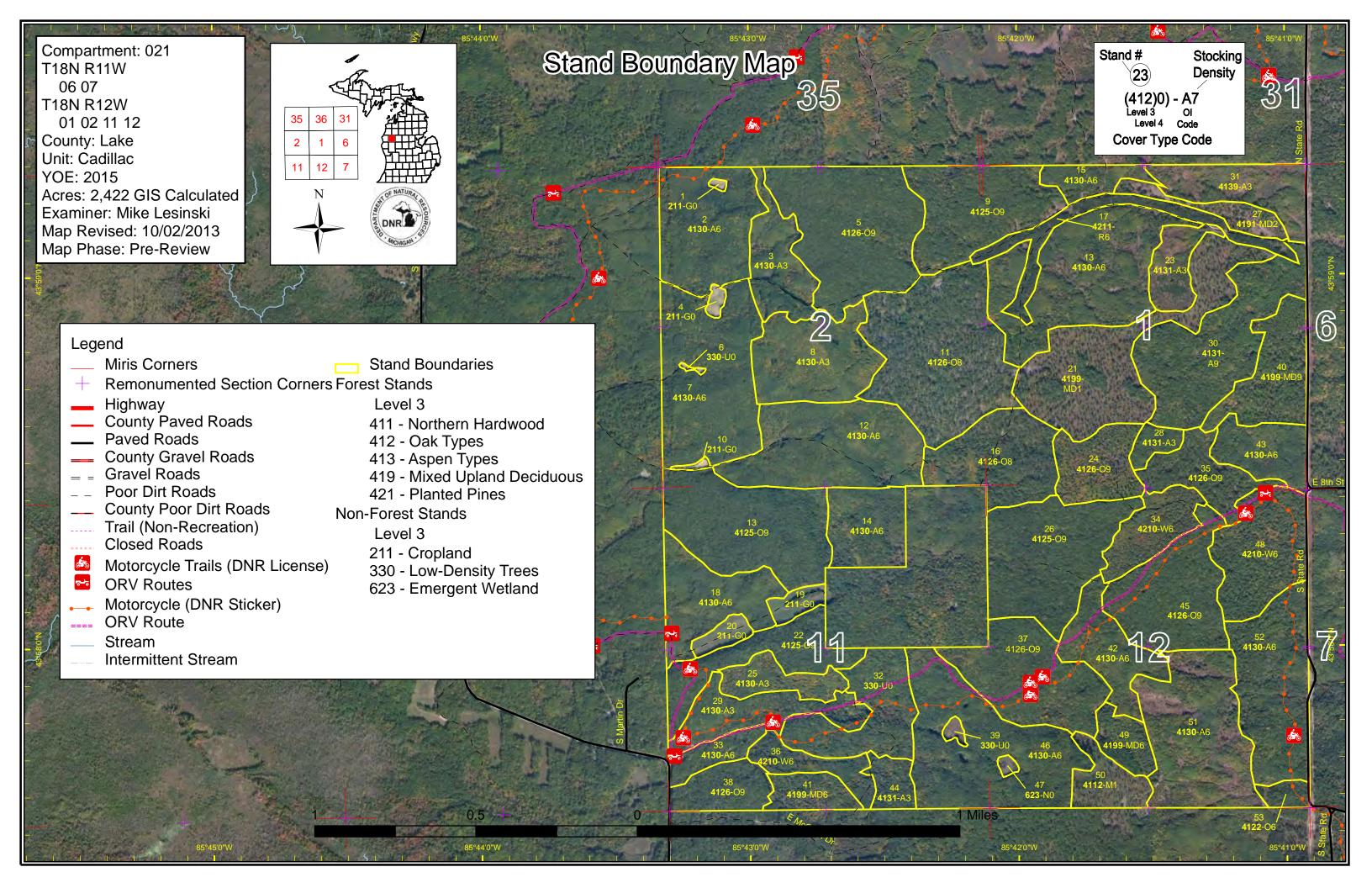
Additional Compartment Information:

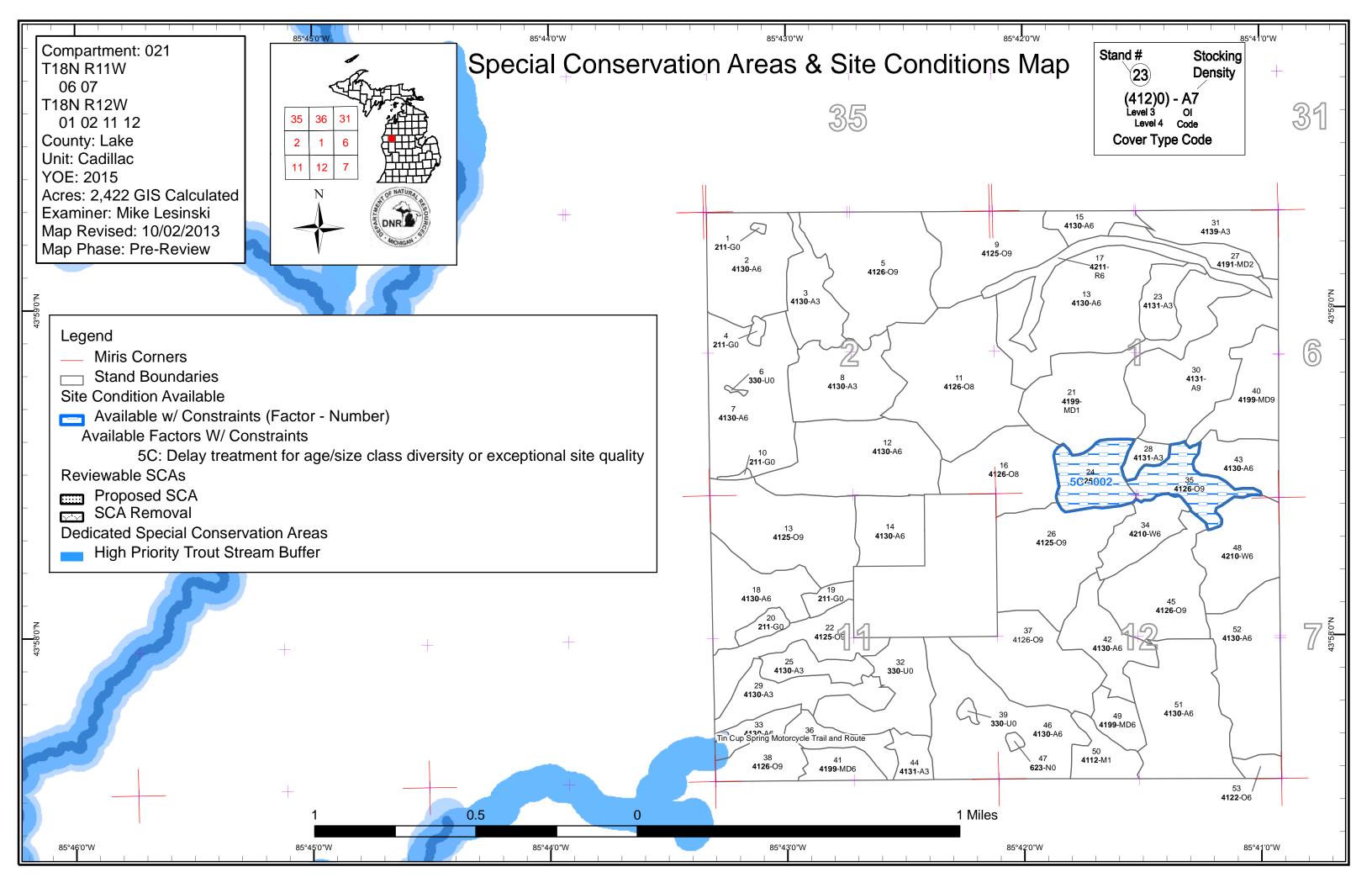
The following reports from the Inventory are attached:

Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

The following information is displayed, where pertinent, on the attached compartment maps:
Base feature information, stand boundaries, cover types, and numbers
Proposed treatments
Site condition boundaries
Details on the road access system

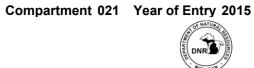






Michael Lesinski : Examiner

Cadillac Mgt. Unit



Ann Class

	Age Class															
		80	0,0	ro. ro.	No. No.	D. P.	g g	80,00	18 /	80° 6	8.00	80'.00'	70,70	70 [×] /30°	N. S. L.	, sô
Aspen	0	339	487	205	104	31	0	0	0	0	0	0	0	0	1166	
Cropland	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22	
Low-Density Trees	56	0	0	0	0	0	0	0	0	0	0	0	0	0	56	
Marsh	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Mixed Upland Deciduous	99	63	18	0	0	0	0	17	0	0	0	0	0	0	197	
Northern Hardwood	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22	
Oak	0	0	0	0	8	0	102	58	190	455	0	0	0	0	813	
Red Pine	0	0	0	0	0	33	0	0	0	0	0	0	0	0	33	
White Pine	0	0	0	31	0	81	0	0	0	0	0	0	0	0	111	1
Total	201	402	505	236	111	144	102	75	190	455	0	0	0	0	2422	



Report 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit Year of Entry 2015

Compartment 021 **Total Compartment Acres: 2,422**

Acres by Treatment Type

Commercial Harvest - 625

Aspen Types

Oak Types

Tree Planting - 0

Other - 119

547

0

Habitat Cut - 0

Opening Maintenance - 6

Total

78

0

Cover Type by Harvest Method The second secon Zining. 78 168 0 457 0 0 0 0 457

0

0

625

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 021 Year of Entry 2015

DEPARTME	DNR MICHIGAN	
	MICHIGAN	

a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
7	63021007-Cut	46.9	4130 - Aspen	High Density Pole	39	1-50	Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Final Harvest. Harvest to include approximately 50% of original stand acreage. Leave scattered oak where applicable.

Specs:

S

Acceptable regenertion: Aspen/upland deciduous mix. Retention: Scattered oak.

<u>Other</u> Apply grouse specs to harvest. Protect wildlife opening. Treatment shapefile is a placeholder. Harvest area and acreage may differ from

treatment area due to variable density and diameter. Comments:

<u>Next</u> Steps:

Proposed

Start Date: 10/01/2014

63021009-Cut 70.6 4125 - Black, N. Pin High 81 81-110 Harvest Seed Tree with 412 - Oak Cmpt. Review Proposal Oak Density Log Reserves

Prescription Harvest to BA of 10 to 20 square feet. Leave a representative mix of species.

Specs:

Retention: Residual stand BA. Acceptable Regeneration: Oak / upland decidous mix

Other_ Protect integrity of horse trail.

Comments:

<u>Next</u> Steps:

Proposed

Start Date: 10/01/2014

63021013-Cut 90.5 4125 - Black, N. Pin High 93 81-110 Harvest Seed Tree with 412 - Oak Cmpt. Review Oak **Density Log** Reserves Proposal

Prescription Harvest to a residual BA of 20 to 30 square feet.

Specs:

Retention: Residual BA. Acceptable Regeneration: Oak / upland deciduous mix.

Timber sold as part of C21 Oak and Aspen sale. <u>Other</u>

Comments:

<u>Next</u> Steps:

Proposed

Start Date: 10/01/2014

90.5 High 29 51-80 Harvest Seed Tree with 412 - Oak Cmpt. Review 63021013-Cut 4130 - Aspen Density Reserves

Pole

Proposal

Prescription Harvest to a residual BA of 20 to 30 square feet.

Timber sold as part of C21 Oak and Aspen sale.

Specs:

Retention: Residual BA. Acceptable Regeneration: Oak / upland deciduous mix.

Other Comments:

<u>Next</u>

Steps: Proposed

Start Date: 10/01/2014

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 021 Year of Entry 2015

n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	63021022-Cut	45.1	4125 - Black, N. Pin Oak	High Density Log	96 J	81-110	Harvest	Seed Tree with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Harvest to a BA of 20 to 30 square feet.

Specs:

s

Retention: Residual BA. Acceptable Regeneration: Oak / Upland Deciduous mix.

Other Protect tin cup trail.

Comments:

Next Steps: Proposed

10/01/2014 Start Date:

63021026-Cut 85.5 4125 - Black, N. Pin High 96 81-110 Harvest Seed Tree with 412 - Oak Cmpt. Review Oak Density Log Reserves Proposal

Prescription Harvest to a residual BA of 10 to 20 square feet. Leave a representative mix of species. Expand aspen clones where applicable.

Specs:

Retention: Residual BA. Acceptable Regeneration: Oak / Mixed upland deciduous.

Other Protect horse trail

Comments: Next

Steps:

Proposed

10/01/2014 Start Date:

63021037-Cut 70.7 4126 - White, High 93 81-110 Harvest Seed Tree with 412 - Oak Cmpt. Review Black, N. Pin Oak Density Log Reserves Proposal

Prescription Harvest to a residual BA 10 to 20 square feet. Leave a representative mix of species.

Specs:

Retention: Residual stand BA. Acceptable regeneration: Oak / upland deciduous mix.

<u>Other</u> Protect tin cup ORV and horse trails.

Comments:

<u>Next</u> Steps:

Proposed

Start Date: 10/01/2014

63021038-Cut 25.5 4126 - White, High 1-50 Harvest Seed Tree with 412 - Oak Cmpt. Review Black, N. Pin Oak Density Log Reserves Proposal

Prescription Harvest to a residual BA of 10 to 20 square feet. Leave a representative mix of species.

Specs:

Retention: Residual stand BA. Acceptable Regeneration: Oak / upland deciduous mix.

Other

Comments:

<u>Next</u> Steps:

Proposed

10/01/2014 Start Date:

Compartment: 021 Cadillac Mgt. Unit Report 3 -- Treatments Prescribed Year of Entry 2015 with No Limiting Factor s t а **Treatment** Acres CoverType Size BA **Treatment Treatment Cover Type** Approval n Density Method Objective **Status** d Name Age Range Type 30.7 Clearcut with Cmpt. Review 63021043-Cut 4130 - Aspen High 53 81-110 Harvest 413 - Aspen 43 Density Reserves Proposal Pole Prescription Final harvest. Leave a scattered oak where possible. Specs: Retention: Scattered oak. Acceptable regeneration: Aspen / mixed deciduous species. <u>Other</u> Protect tin cup trail. Apply grouse specs to timber sale. Comments: <u>Next</u> Steps: Proposed Start Date: 10/01/2014 63021045-Cut 69.0 4126 - White, High 90 51-80 Harvest Seed Tree with 412 - Oak Cmpt. Review 45 Proposal Black, N. Pin Oak Density Log Reserves Prescription Harvest to a BA of 10 to 20 square feet. Leave a represntative mix of species. Specs: Retention: Residual BA. Acceptable Regeneration: Oak upland deciduous mix. Other_ Protect ORV and single track trails. Comments: <u>Next</u> Steps: **Proposed** Start Date: 10/01/2014 11 63021011-119.4 4126 - White, Medium 87 51-80 Prescribed Burn Unspecified 412 - Oak Cmpt. Review Proposal Burn Black, N. Pin Oak **Density Log** Prescription RX Burn to reduce red maple competition. Specs: Other Comments: **Next** Steps:

Non-Forest

Management

Mowing

1 NF_63021001-NonFor

Unspecified

<u>Prescription</u> Opening maintenance including disking, seeding, mowing and fertilizing

0.9 2113 - Forage Crops

Specs:

Proposed Start Date:

Other Comments:

Steps: Proposed

Next

Start Date: Unspecified

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LEMARBEM

Cmpt. Review

Proposal

31021 - Cool

Season Grass

Compartment: 021 Cadillac Mgt. Unit Report 3 -- Treatments Prescribed Year of Entry 2015 with No Limiting Factor s t а **Treatment** Acres CoverType Size BA **Treatment Treatment Cover Type** Approval n Method Objective Name Density Range **Status** d Age Type NF_63021004-2.8 2113 - Forage Crops Non-Forest 31021 - Cool Cmpt. Review Mowing 4 Management Season Grass NonFor Proposal Prescription Opening maintenance including disking, seeding, mowing and fertilizing Specs: Other Comments: Next Steps: Proposed Start Date: Unspecified NF 63021006-0.7 3301 - Low Density 31021 - Cool Cmpt. Review 6 Non-Forest Mowing Deciduous Trees Management Season Grass . Proposal NonFor Prescription Opening maintenance including disking, seeding, mowing and fertilizing Specs: <u>Other</u> Comments: Next Steps: Proposed Unspecified Start Date: 10 NF_63021010-1.4 2113 - Forage Crops Non-Forest Mowing 31021 - Cool Cmpt. Review Season Grass NonFor Management Proposal Prescription Opening maintenance including disking, seeding, mowing and fertilizing Specs:

<u>Proposed</u> <u>Start Date:</u> Unspecified

Other Comments: Next Steps:

Total Treatment
Acreage Proposed: 750.3

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LEMARBEM

Cadillac Mgt. Unit Report 4 -- Treatments Prescribed with Compartment: 021 a Limiting Factor s Year of Entry 2015 t **Treatment** Acres CoverType Size Stand ВА **Treatment Treatment Cover Type Approval** n Method Objective Status Name Density Age Range Type #Type! #Type! **Prescription** Specs: Other Comment: **Next** Steps: <u>Proposed</u>

Total Treatment

Start Date: # Limiting Factor

#Type!

Acreage Proposed: 0.0

Report 5 – Site Conditions

Cadillac Mgt. Unit

Mike Lesinski: Examiner

Compartment 021 Year of Entry 2015

Availability for Management

2,341

2,341

100%

Total	Acres	Acres		Domina	nt Site	Conditions
Acres	Available	Not Available		No	5C	
1165	1165		Aspen	1,165		
197	197		Mixed Upland Deciduous	197		
22	22		Northern Hardwood	22		
812	812		Oak	744	69	
33	33		Red Pine	33		
111	111		White Pine	111		

Total Forested Acres

Relative Percent

*Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.

69

2,272

	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	69				
	Comments: Stands were previou	usly thinned and are not fully s	stocked.				

Compartment: 021 Year of Entry: 2015



Report 6 - 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.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Tin Cup Spring Motorcycle Trail and Route	Concentrated Recreation Area	Trail Head	SCA	
Comments				

Cadillac Mgt. Unit Compartment: 021
Year of Entry 2015

Year Report 7 – 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.

Conservation	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physica sites of cultural and historical significance that may occur upon bottomlands. They include thousands of Native American settle and British outposts, nineteenth century logging camps, mines the Great Lakes, there are shipwrecks and other remains docu be identified by Natural heritage data from the State Historic Pithis compartment will be implemented in such a manner as to refer the sensitive nature of this information, no further detail about I	terrestrial areas and Great Lakes ements and burial sites, as well as French and homesteads. Beneath the waters of menting the maritime trade. Such sites may reservation Office. Proposed treatments in maintain the integrity of these sites. Due to
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems influences the aquatic ecosystem and vice-versa. Because of t streams and open water wetlands, riparian areas harbor a high communities are ecologically and socially significant in their eff as aesthetics, habitat, bank stability, timber production, and the	he unique conditions adjacent to lakes, diversity of plants and wildlife. Riparian fects on water quality and quantity, as well

s t	Cadillac	: Mgt. Unit		Report 8	- Forested	Stands Compartment: 021 Year of Entry: 2015
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4130 - Aspen	High Density Pole	68.4	39	51-80	
3	4130 - Aspen	High Density Sapling	37.4	19	1-50	
5	4126 - White, Black, N. Pin Oak	High Density Log	102.4	68	51-80	
7	4130 - Aspen	High Density Pole	99.0	39	1-50	
8	4130 - Aspen	High Density Sapling	61.4	19		
9	4125 - Black, N. Pin Oak	High Density Log	70.6	81	81-110	Decent quality oak. Some small aspen clones.
11	4126 - White, Black, N. Pin Oak	Medium Density Log	119.4	87	51-80	Thinned 2012. Filling in with red maple saplings.
12	4130 - Aspen	High Density Pole	89.4	27	81-110	
13	4130 - Aspen	High Density Pole	106.5	29	51-80	Variable ages and diameters throughout stand.
13	4125 - Black, N. Pin Oak	High Density Log	90.5	93	81-110	Timber already sold as part of C21 aspen and oak sale.
14	4130 - Aspen	High Density Pole	37.7	33	51-80	Decent pole stand.
15	4130 - Aspen	High Density Pole	16.8	28	51-80	
16	4126 - White, Black, N. Pin Oak	Medium Density Log	57.7	73	51-80	East half of stand thinned 2006.
17	42110 - Planted Red Pine	High Density Pole	32.8	56	141-170	
18	4130 - Aspen	High Density Pole	49.4	27	81-110	
21	4199 - Other Mixed Upland Deciduous	Low Density Sapling	99.0	7		Harvested 2006. Stand RX burned in 2012 to set back maple.
22	4125 - Black, N. Pin Oak	High Density Log	45.1	96	81-110	Timber already sold as part of C21 aspen and oak.
23	4131 - Aspen, Oak	High Density Sapling	22.1	18		Harvested 1995.

S	Cadillac	Cadillac Mgt. Unit				Stands Compartment: 021 Year of Entry: 2015
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	4126 - White, Black, N. Pin Oak	High Density Log	35.0	93		Stand thinned 2006.
25	4130 - Aspen	High Density Sapling	22.0	18		Harvested 1995.
26	4125 - Black, N. Pin Oak	High Density Log	85.5	96	81-110	Higher quality oak.
27	4191 - Mixed Upland Deciduous with Conifer	Medium Density	17.1	18		Harvested 1995. Scattered overstory oak.
28	4131 - Aspen, Oak	High Density Sapling	9.1	19	1-50	
29	4130 - Aspen	High Density Sapling	40.0	18		Some pockets of older oak.
30	4131 - Aspen, Oak	High Density Log	88.1	45	51-80	Spotty oak and aspen clones.
31	4139 - Aspen, Mixed Deciduous	High Density Sapling	41.3	18		Stand harvested 1995.
33	4130 - Aspen	High Density Pole	15.6	40	81-110	
34	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	30.6	38	51-80	Stand thinned 1995. Canopy gaps filled in with red maple.
35	4126 - White, Black, N. Pin Oak	High Density Log	33.7	93	51-80	Stand thinned 2006. Heavy red maple filling in canopy gaps.
36	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	21.7	57	81-110	
37	4126 - White, Black, N. Pin Oak	High Density Log	70.7	93	81-110	Poorer quality.
38	4126 - White, Black, N. Pin Oak	High Density Log	25.5	97	1-50	Poorer quality oak.
40	4199 - Other Mixed Upland Deciduous	High Density Log	45.9	16	1-50	Thinned 1997. Canopy gaps filled in with red maple.
41	4199 - Other Mixed Upland Deciduous	High Density Pole	18.1	29	1-50	Stand harvested mid 1980's
42	4130 - Aspen	High Density Pole	39.8	29	51-80	Variable BA and diameter. Some patchy openings.
43	4130 - Aspen	High Density Pole	30.7	53	81-110	Final harvest.

S t	Cadillad	Cadillac Mgt. Unit				Stands	Compartment: 021 Year of Entry: 2015		
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range		General Comments:	MICHIGAN	
44	4131 - Aspen, Oak	High Density Sapling	13.4	18			harvested 1995		
45	4126 - White, Black, N. Pin Oak	High Density Log	69.0	90	51-80				
46	4130 - Aspen	High Density Pole	107.6	29	51-80	Vari	able composition and diameter.		
48	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	58.9	57	81-110				
49	4199 - Other Mixed Upland Deciduous	High Density Pole	17.4	76	1-50	Stand thinned mid	1990's. Overstory oak that has red maple clumps.	filled in with	
50	4112 - Maple, Beech, Cherry Association	Low Density Sapling	22.3	5			Stand harvested 2008.		
51	4130 - Aspen	High Density Pole	92.1	19	1-50				
52	4130 - Aspen	High Density Pole	77.6	28	51-80				
53	4122 - Oak, Pine	High Density Pole	7.7	48	51-80				

Report 9 - Nonforested Stands

Compartment: 021 Year of Entry: 2015



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	2113 - Forage Crops	0.9	Yes	High	Cultivated wildlife opening.
4	2113 - Forage Crops	2.8	Yes	High	
6	3301 - Low Density Deciduous Tree	0.7	Yes	High	Cultivated wildlife opening.
10	2113 - Forage Crops	1.4	Yes	High	Cultivated wildlife opening.
19	2113 - Forage Crops	8.6	Yes	Unspecified	Cultivated wildlife opening.
20	2113 - Forage Crops	8.3	Yes	High	Cultivated wildlife opening.
32	3301 - Low Density Deciduous Tree	52.3	Natural Regen	Oak	Harvested 2012. Scattered overstory oak.
39	3301 - Low Density Deciduous Tree	2.6	No	Unspecified	Wet area
47	6239 - Mixed Emergent Wetland	1.9	No	Unspecified	