

Compartment Review Presentation

Gladwin Forest Management Unit

Compartment 5
Entry Year 2016

Acreage: 3,701
County Clare

Management Area: Upper Muskegon

Revision Date: 06/04/2014

Stand Examiner: Tim Gallagher

Legal Description:

T20N - R4W Sections 19, 20, 28 - 33. T20N - R05W Sections 24, 25 & 26.

Identified Planning Goals:

Follow guidelines set forth in the Regional State Forest Management Plan for the Upper Muskegon Management Area. Monitor and address forest health concerns and issues, balance timber age classes, manage for forest sustainability, provide wildlife habitat and provide forest based recreation. Protect archeological concerns, protect threaten and endangered species.

Soil and topography:

The area varies from well drained soils in the outwash plains to poorly drained mucky soil as you enter the Floodwood Creek flood plain. The terrain also varies from nearly level to steep. Much of the compartment is flat with rolling hills. The steepest terrain is located in sections 19 and 24. The major soil types are Graycalm-Montcalm associations and Grayling sands associations.

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

Private holdings are mostly comprised of large forested single holdings with absentee landowners. There are numerous permanent residences scattered through out the entire compartment as well. Many new hunting cabins have been built within the last 10 years and some of the larger blocks of private are now being broken into smaller parcels. There are two subdivisions within the compartment that are directly adjacent to state land. Buck Trails Subdivision is located in section 25, NE ½ - Airport Forest Subdivision is located in section 33, SW ½ & south of section 32.

Unique Natural Features:

This area has a variety of rare species that could be or are present including; red shouldered hawk, eastern box turtle, goshawk, eagle, great blue heron, wood turtle, eastern massasauga, kirtland's warbler and blanding's turtle.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Continue to manage aspen, oak, red pine and jack pine stands to maintain a variety of age classes to enhance deer and grouse habitat. The state land in this compartment is spread out over 11 sections. The state land is spread out in large contiguous blocks with private lands intermixed resulting in miles of private property lines. Overall the compartment is on average to above average ground with site indices between 55 and 75. There are numerous old railroad grades criss-crossing the area, remnants from the white pine logging era.

Watershed and Fisheries Considerations:

Haskel Lake is located in the north west corner of the compartment. A major forested drainage system is associated with the lake. Floodwood Creek bi-sects sections 25, 31 and 36. There is a wide corridor of associated wet lands in the creek bottom lands. Most of the creek bottomlands are seasonally flooded. Beaver are active in both the Haskel Lake Drainage System and the Floodwood Creek Corridor. There are also many scattered low areas that are seasonally flooded and support populations of waterfowl, great blue herons and many non-game species.

Wildlife Habitat Considerations:

Upland systems are dominant in this compartment, making it suitable for a number of early forest successional wildlife species. Stands of aspen and oak are prevalent, although, there are lowland cover types and coniferous stands present. Species such as ruffed grouse, white-tailed deer and american woodcock are quite common. Furbearers including beaver, mink, muskrat, black bear, bobcat, and coyote use the lowlands as corridors as well as year-round habitat. Other game species likely to be present in this compartment include black bear, bobcat, raccoon, coyote, wild turkey and snowshoe hare. Many bird species stand to benefit from the juxtaposition of lowland and upland habitats present in the compartment. These include common yellowthroat, yellow-rumped warbler, gray catbird, red-eyed vireo, white-throated sparrow, hermit

thrush and red-breasted nuthatch. The compartment is easily accessible to hunters via Old State Ave. and Harrison Ave.

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 800 feet. Beneath the glacial drift are the Jurassic Red Beds and the Pennsylvanian Saginaw and Grand River Formations. The Saginaw Formation is used for clay/shale in other areas of the State. Sand pits are located in Sections 32 and 33 and gravel potential is good on the uplands. Cranberry Lake Field is located to the west of the Compartment and part of Section 24 is leased for gas storage. Most of the compartment in T20N-R04W is leased for oil and gas at this time.

Vehicle Access:

Access to most of the compartment is good via the county road system and state two tracks that are in place. For forest management purposes all state land is accessible.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

The Fur Farm #7 snowmobile trail transverses the center of the compartment. All stumps within 20 feet of the trail shall be Flush-Cut to ensure stumps do not result in unsafe conditions. All orange snowmobile sign posts shall be protected. Assure warning signs area placed on the trail regarding logging activity. No stacking of timber along the trail. If the trail must be used for hauling, it must be maintained and restored to a condition equal to or better than before the sale prior to December 1. Winter harvest of the trail will be discouraged from December 1 to March 31. If the trail is to be used as hauling due to wet conditions during the snowmobile season a snow bed must be preserved and maintained. Other dispersed recreation activities are common throughout the compartment. Activities are most evident in the northeast region along Haskell Lake. Utilize timber management activities to balance resource protection by closing illegal trails. The area receives moderate hunting pressure most of which is deer hunters. Light fishing occurs on Haskel Lake. There is an unofficial beech at the north end of the lake. Moderate dispersed camping occurs mainly during the firearm deer hunting season.

Fire Protection:

Development of the private property will increase the wild land /urban interface problem.

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

Compartment 005 Year of Entry 2016

Gladwin Mgt. Unit
Tim Gallagher: Examiner



Age Class 11.00 M 70,709 70,79 10,0 80°. 20.25 % % \$° Aspen Herbaceous Openland Jack Pine **Low-Density Trees** Lowland Deciduous Lowland Mixed Forest Lowland Shrub Marsh Mixed Upland Deciduous Natural Mixed Pines Northern Hardwood Oak Planted Mixed Pines Red Pine **Upland Conifers** Upland Mixed Forest Water White Pine Total



Report 2 – Proposed Treatment Summaries

Gladwin Mgt. Unit Year of Entry 2016

Compartment 005 Total Compartment Acres: 3,701

Acres by Treatment Type

Commercial Harvest - 503 Tree Planting - 148

Other - 0

Habitat Cut - 0 Opening Maintenance - 12

			Cov	er Ty	oe by H	Harves	st Meth	nod	
		/	13 o	Social of	100 S	Sierno	OK.		Se de la constant de
Aspen Types		147	0	0	0	0	0	147	
Mixed Upland Deciduous		100	0	0	0	0	0	100	
Natural Pines		47	0	0	0	0	61	108	
Oak Types		29	0	0	0	0	0	29	
Planted Pines		0	0	0	0	118	0	118	
	Total	324	0	0	0	118	61	503	

Gladwin Mgt. Unit

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 005 Year of Entry 2016

a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
10	73005010-Cut	25.0	4130 - Aspen	High Density Pole	51		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

<u>Prescription</u> Clearcut with reserves 2" spec manage for a mix of natural regeneration of aspen, red maple and oak. To meet retention guidelines leave all <u>Specs:</u> (trace) white pine and red pine and mark to leave scattered oak and maple. Address visual concerns along Old State Ave. with leave trees.

Other All aspen cut in 1963. Oak and red maple were left.

Comments:

Monitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and mixed oak regeneration is acceptable.

Next Steps:

S

<u>Proposed</u>

Start Date: 10/01/2015

 18 73005018-Cut
 82.5
 4130 - Aspen
 High
 47
 Harvest
 Clearcut with
 413 - Aspen
 Cmpt. Review

 Density
 Reserves
 Proposal

<u>Prescription</u> Clearcut with reserves 2" spec manage for a mix of natural regeneration of aspen, red maple and oak. To meet retention guidelines leave all <u>Specs:</u> white and red pine (trace) and mark to leave scattered oak and maple. Also leave buffers around wet pockets at north end of stand.

Other Some type of selective clearcut in 1968. Scattered wet deppressions within stand mainly at north end. Address visual concerns along Lake Comments: Ave.

Nonitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and mixed oak regeneration is acceptable.

Steps:

Proposed Start Date: 10/01/2015

73005019-Cut 100.4 4199 - Other Mixed 95 1-50 Harvest Clearcut with 4211 - Planted Red 19 High Cmpt Review **Upland Deciduous** Density Reserves Pine Proposal Pole

Prescription Manage stand for red pine. Clearcut with reserves 2" spec. followed by site prep to control hardwood and trench and plant red pine. Propose to adjust boundary, treat area NE of two track road. To meet retention guidelines leave strip of oak, harvest all other species from this retention strip, do not plant red pine in the strip. The leave oak trees will provide seed, mast, diversity, woody debis, edge and habitat.

Other Partial harvest 1990. (real estate cut in 1990). Mature residual timber is decent quality.

Comments:

Post harvest site prep to control hardwood (site prep may include spraying, roller chopping and/or Rx burning) followed by trenching and planting

<u>Steps:</u> red pine. Monitor regeneration until full stocking is achieved.

Proposed

Next

Start Date: 10/01/2015

22 73005022-Cut 60.8 42210 - Natural High 76 51-80 Harvest Other - Specify 4125 - Black, N. Pin Cmpt. Review Red Pine Density in Comments Oak Proposal Pole

Prescription
Specs:
Overstory removal. Remove red pine overstory in half the stand and manage for the oak understory. The following yoe remove the overstory in the second half of stand. Shifting MO from red pine to mixed oak. To meet retention guidelines mark to leave 5 - 10 BA/AC of red pine. The residual trees are to marked both individually and in groups. The intent is not to remove the residual trees untill the oak is mature and in need of

Other Red pine and jack pine interplanted in 1938. All oak removed in 2001. Dense oak regeneration as a result of the 2001 harvest Comments:

Next Monitor natural regeneration until adequate regeneration is achieved. A mix of oak, red pine and white pine regeneration is acceptable. The Steps: intent is to not go back to harvest the residual red pine trees.

Proposed

Start Date: 10/01/2015

Gladwin Mgt. Unit S

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 005 Year of Entry 2016

DEPARTME	DNR MICHIGAN
	CHIGAN

a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	73005039-Cut	11.4	42110 - Planted Red Pine	High Density Pole	75	141-170	Harvest	Low Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Thin. Individual tree mark red pine reducing red pine residual to 120 BA/AC.

Specs

Other Third row thinned in 2000. Can use old blue line for private line work.

Comments:

<u>Next</u>

Steps: **Proposed**

Start Date: 10/01/2015

73005055-Cut 17.3 4126 - White, High 51-80 Harvest Clearcut with 4126 - White, Cmpt. Review Black, N. Pin Oak Black, N. Pin Oak Proposal Density Log Reserves

Prescription Clearcut with reserves, manage for natural oak regeneration that is in place. Leave all white pine. Mark scattered mature oak to leave to meet

Specs: retention guidelines. A mix of natural regeneration is expected oak, red maple, aspen, and white pine.

Partial harvest in 2000 established fair oak regen. All mixed hardwood was cut. It looks like we can regenerate oak on this site, we already <u>Other</u>

Comments:

<u>Next</u> Monitor natural regeneration until adequate regeneration is achieved. A mix of oak, aspen, red maple and white pine regeneration is acceptable.

Steps:

<u>Proposed</u>

Start Date: 10/01/2015

73005056-Cut 11.8 4125 - Black, N. Pin High 91 81-110 Harvest Clearcut with 4125 - Black, N. Pin Cmpt. Review Oak Density Log Reserves Oak Proposal

Prescription Clearcut with reserves. 2" spec all aspen and maple. 4"spec all oak. Leave all red and white pine. Mark to leave scattered oak to meet retention

guidelines. Manage for a mix of natural regeneration of oak, aspen, red maple and white pine. Regeneration is present in the understory. Specs:

Other Decent oak and white pine in the understory.

Comments:

Monitor natural regeneration until adequate regeneration is achieved. A mix of oak, aspen, red maple and white pine regeneration is acceptable. <u>Next</u>

Steps:

Proposed Start Date: 10/01/2015

73005070-Cut 34.2 42110 - Planted 171-200 Harvest Low Thinning 4211 - Planted Red Cmpt. Review High Red Pine Density Pine Proposal

Pole

Prescription Thin. Individual tree mark red pine reducing red pine residual to 120 BA/AC. Leave all scattered oak and jack pine. Jack pine is trace and on the

decline, good for habitat, course woody debris, den and nesting trees. Specs:

Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine plantation, strait rows and good access. PVT line **Other**

Comments: is already painted in.

Next Steps:

Proposed

10/01/2015 Start Date:

Gladwin Mgt. Unit S

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 005 Year of Entry 2016

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
72	73005072-Cut	10.0	42220 - Natural Jack Pine	High Density Pole	56	111-140	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Clearcut with reserves 2" spec. followed by trenching and planting red pine. Results will be a mixed planted red pine natural oak stand. Same Rx Specs: has worked well in adjacent stands. To meet retention guidelines mark to leave scattered oak and white pine.

Other O3 in understory.

Comments:

Following harvest trench and plant red pine. Monitor regeneration until adequate stocking is achieved. A mix of planted red pine and natural jack

pine; mixed oak regeneration is acceptable. Steps:

<u>Proposed</u>

Next

Start Date: 10/01/2015

73005076-Cut 39.5 4132 - Aspen, Jack High 81-110 Harvest Clearcut with 413 - Aspen Cmpt. Review Reserves Pine Density Proposal Pole

Prescription Clearcut with reserves 2" spec manage for a mix of natural regeneration of aspen, mixed pine and oak. To meet retention guidelines leave all red pine and mark to leave scattered oak. Specs:

<u>Other</u> Mixed stand. North 1/2 of stand was clearcut in 2001 with good aspen regen results. SW corner is in, did not find any other corners. Mitchell and Associates survey records indicate center of sec 26 was set 12/2/2000. Comments:

Monitor natural regeneration until adequate regeneration is achieved. A mix of aspen, red maple and mixed oak regeneration is acceptable. Next Steps:

Proposed

10/01/2015 Start Date:

73005077-Cut 26.7 42110 - Planted 141-170 Harvest Low Thinning 4211 - Planted Red High 57 Cmpt Review 77 Red Pine Density Pine Proposal Pole

Prescription Thin. Individual tree mark red pine reducing red pine residual to 120 BA/AC. Leave all scattered oak and jack pine. Jack pine is trace and on the Specs: decline, good for habitat, course woody debris, den and nesting trees.

Other Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine plantation, strait rows and good access. PVT line

Comments: is already painted in.

Next Steps:

Proposed

10/01/2015 Start Date:

73005086-Cut 10.2 42110 - Planted 171-200 4211 - Planted Red Cmpt. Review 86 High Harvest Low Thinning Red Pine Density Pine Proposal Pole

Prescription Thin. Individual tree mark red pine reducing red pine residual to 120 BA/AC. Leave all scattered oak and jack pine. Jack pine is trace and on the

decline, good for habitat, course woody debris, den and nesting trees. Specs:

Other Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine plantation, strait rows and good access.

Comments:

Steps:

Next

<u>Proposed</u>

Start Date: 10/01/2015

Gladwin Mgt. Unit S

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 005 Year of Entry 2016

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
104	73005104-Cut	6.2	42220 - Natural Jack Pine	High Density Pole	64		Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Clearcut with reserves 2" spec. followed by trenching and planting red pine. Results will be a mixed planted red pine natural oak stand. Same Rx Specs: has worked well in adjacent stands. To meet retention guidelines mark to leave scattered oak and white pine.

Other O3 in understory.

Comments:

Next Following harvest trench and plant red pine. Monitor regeneration until adequate stocking is achieved. A mix of planted red pine and natural jack

pine; mixed oak regeneration is acceptable. Steps:

<u>Proposed</u>

Start Date: 10/01/2015

73005108-Cut 35.6 42110 - Planted High 171-200 Harvest Low Thinning 4211 - Planted Red Cmpt. Review Red Pine Density Pine Proposal

Prescription Thin. Individual tree mark red pine reducing red pine residual to 120 BA/AC. Leave all scattered oak and jack pine. Jack pine is trace and on the decline, good for habitat, course woody debris, den and nesting trees. Snowmobile trail bi-sects stand. Specs:

<u>Other</u> Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine plantation, strait rows and good access.

Snowmobile trail bi-sects stand. Comments:

Next Steps:

Proposed

10/01/2015 Start Date:

111 73005111-Cut 8.5 42220 - Natural High 64 51-80 Harvest 42111 - Planted Clearcut with Cmpt Review Jack Pine Density Reserves Red Pine, Mixed Proposal Pole Deciduous

Prescription Clearcut with reserves 2" spec. followed by trenching and planting red pine. Results will be a mixed planted red pine natural oak stand. Same Rx

has worked well in adjacent stands. To meet retention guidelines mark to leave scattered oak and white pine. Specs:

Other_ O3 in understory.

Comments:

Following harvest trench and plant red pine. Monitor regeneration until adequate stocking is achieved. A mix of planted red pine and natural jack **Next** Steps:

pine; mixed oak regeneration is acceptable.

Proposed

10/01/2015 Start Date:

73005117-Cut 7.8 42220 - Natural 51-80 42111 - Planted Cmpt. Review High 64 Harvest Clearcut with Jack Pine Density Reserves Red Pine, Mixed Proposal Pole Deciduous

Prescription Clearcut with reserves 2" spec. followed by trenching and planting red pine. Results will be a mixed planted red pine natural oak stand. Same Rx has worked well in adjacent stands. To meet retention guidelines mark to leave scattered oak and white pine. Specs:

Other O3 in understory.

Comments:

Following harvest trench and plant red pine. Monitor regeneration until adequate stocking is achieved. A mix of planted red pine and natural jack

Steps: pine; mixed oak regeneration is acceptable.

Proposed

Next

Start Date: 10/01/2015

Compartment: 005 Gladwin Mgt. Unit Report 3 -- Treatments Prescribed Year of Entry 2016 with No Limiting Factor s t а **Treatment** Acres CoverType Size Stand BA **Treatment Treatment Cover Type** Approval n Density Method Objective **Status** Name Age Range Type 42220 - Natural 51-80 42111 - Planted 73005130-Cut 14.8 High 64 Harvest Clearcut with Cmpt. Review 130 Jack Pine Red Pine. Mixed Density Reserves Proposal Deciduous Pole Prescription Clearcut with reserves 2" spec. followed by trenching and planting red pine. Results will be a mixed planted red pine natural oak stand. Same Rx has worked well in adjacent stands. To meet retention guidelines mark to leave scattered oak and white pine. Specs:

Other O3 in understory.

Comments:

<u>Next</u> Following harvest trench and plant red pine. Monitor regeneration until adequate stocking is achieved. A mix of planted red pine and natural jack

Steps: pine; mixed oak regeneration is acceptable.

<u>Proposed</u>

Start Date: 10/01/2015

48 NF 73005048-3.4 3102 - Grass Non-Forest Mowing 3102 - Grass Cmpt. Review . Proposal NonFor Management

Prescription Maintained wildlife opening. Mowing, tilling and planting.

Specs:

<u>Other</u> Comments:

<u>Next</u> Steps:

Proposed

Start Date: Unspecified

NF 73005060-2.4 3102 - Grass Non-Forest Mowing 3102 - Grass Cmpt. Review 60 Proposal Management NonFor

Prescription Maintained wildlife opening. Mowing, tilling and planting.

Specs:

Other Comments:

<u>Next</u> Steps:

Proposed Start Date:

Unspecified

NF 73005118-3102 - Grass Non-Forest 3102 - Grass Cmpt. Review 118 6.1 Mowing NonFor Management Proposal

Prescription Maintained wildlife opening. Mowing, tilling and planting.

Specs:

<u>Other</u> Comments:

<u>Next</u> Steps:

Proposed

Start Date: Unspecified

Total Treatment

Acreage Proposed: 514.5

Gladwin Mgt. Unit Report 4 -- Treatments Prescribed with Compartment: 005 a Site Condition s Year of Entry 2016 t **Treatment** Acres CoverType Size Stand ВА **Treatment Treatment Cover Type Approval** n Objective Method Status Name Range Density Age Type #Type! #Type! **Prescription** Specs: **Other** Comment: <u>Next</u> Steps: <u>Proposed</u> #Type! Start Date:

Total Treatment

Limiting Factor

Acreage Proposed: 0.0

Report 5 – Site Conditions

Gladwin Mgt. Unit

Tim Gallagher: Examiner

Compartment 005 Year of Entry 2016

Availability for Management Total Acres Acres Dominant Site Conditions Acres Available Not Available No 5B 3L 1294 1294 Aspen 1,294 319 319 Jack Pine 319 24 24 Lowland Decidence 24

1294	1294		Aspen	1,294		
319	319		Jack Pine	319		
24	24		Lowland Deciduous	24		
1	1		Lowland Mixed Forest	1		
371	371		Mixed Upland Deciduous	371		
27	27		Natural Mixed Pines	27		
37	37		Northern Hardwood	37		
901	882	19	Oak	576	306	19
24	24		Planted Mixed Pines	24		
273	273		Red Pine	273		
9	9		Upland Conifers	9		
164	164		Upland Mixed Forest	164		
17	17		White Pine	17		
3,462	3,443	19	Total Forested Acres	3,137	306	19
	99%	1%	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.

	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003	Available	5B: Maintain for regeneration purposes	13				
_	comments: lolding till understor	ry further develops. Partial cu	t in 1990.	Real estate cut.			
		ED. Maintain for	19				
004	Available	5B: Maintain for regeneration purposes	19				
C	comments:			0. Real estate cut.			

Report 5 - Site Conditions Gladwin Mgt. Unit Tim Gallagher: Examiner 005 **Available** 5B: Maintain for 18 5C: Delay treatment for regeneration purposes age/size class diversity or exceptional site quality Comments: 2001. Residual is quality oak. Mix of aspen, red maple and oak regen as a result of the 2001 harvest. Rolling hills 006 5B: Maintain for 34 5C: Delay treatment for **Available** age/size class diversity regeneration purposes or exceptional site quality Comments:

Compartment 005 Year of Entry 2016

Could harvest this year of entry. However, harvesting to the east and west this yee. Possible to add NW corner of stand to adjacent aspen cc. Partial harvest

Could remove overstory. However, harvesting to the east and west this yoe. Partial harvest 2001. Mix of aspen and red maple regen as a result of the 2001 harvest. Rolling hills. Aspen clone at NE corner of stand along two track (4.3 ac)

007 **Available**

5B: Maintain for 18 regeneration purposes

Comments:

Partial cut in 2001. Nice mix of aspen, Mr and oak regen as a result of the harvest.

008 **Available**

5B: Maintain for regeneration purposes

Comments:

Stand has scattered semi open areas. Areas of very dense O3 reaching pole size. Stand winds around several large recent clearcuts.

009

Available

5B: Maintain for regeneration purposes 19

57

Comments:

Partial harvest 2008. All sapen and maple were cut and oak was marked to 50 BA/AC. Mix of natural regeneration from harvest.

010 Not Available 3L: Other wildlife

9

concerns

Comments:

Poor guality oak timber semi open stand. Autum olive interplanted in 1980. Buffer for maintained wildlife opening. Leave for mast production and as un-cut buffer around openings. Decent oak understory.

Report 5 – Site Conditions

Gladwin Mgt. Unit
Tim Gallagher: Examiner

Compartment 005 Year of Entry 2016

011	Not Available	3L: Other wildlife concerns	10
	omments: mall oak stand on	a hill top. So much has been r	managed around this stand possible to leave for seed source small pocket of big trees, mast, woody debris.
012	Available	5B: Maintain for regeneration purposes	8
_	omments: anage with other o	oak stands to the south.	
013	Available	5B: Maintain for regeneration purposes	15
	omments: artial harvest 2001	has established dense aspen	red maple understory. All aspen and maple were cut oak residual reduced to 40 BA/AC.
014	Available	5B: Maintain for	27
		regeneration purposes	
_	omments: artial harvest 2001	regeneration purposes	red maple understory. All aspen and maple were cut oak residual reduced to 65 BA/AC.
_		regeneration purposes	
015 C	Available omments:	regeneration purposes has established dense aspen 5B: Maintain for regeneration purposes	red maple understory. All aspen and maple were cut oak residual reduced to 65 BA/AC.
015 C	Available omments:	regeneration purposes has established dense aspen 5B: Maintain for regeneration purposes	red maple understory. All aspen and maple were cut oak residual reduced to 65 BA/AC. 28

Gladwin Mgt. Unit Co

Compartment: 005 Year of Entry: 2016

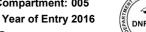


Report 6 - PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* 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
Comments				

Gladwin Mgt. Unit Compartment: 005



Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

Conservation Area	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 physical r sites of cultural and historical significance that may occur upon to bottomlands. They include thousands of Native American settler and British outposts, nineteenth century logging camps, mines at the Great Lakes, there are shipwrecks and other remains docum be identified by Natural heritage data from the State Historic Pretthis compartment will be implemented in such a manner as to mathe sensitive nature of this information, no further detail about local	errestrial areas and Great Lakes nents and burial sites, as well as French and homesteads. Beneath the waters of enting the maritime trade. Such sites may servation Office. Proposed treatments in aintain the integrity of these sites. Due to
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and coop U.S. Fish and Wildlife service for the recovery of threatened and 365, Endangered Species Protection, of the Natural Resources a PA 451, and the Federal Endangered Species Act of 1973. This species plans in various stages of review. As of now only two explover Habitat.	endangered species, as governed by Part and Environmental Protection Act, 1994 is an active program, with proposed

s t	Gladwin Mgt. Unit			Report 8	– Forested	d Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Pole	17.7	47		Clearcut 1967. On hillside above Haskell Lake. High visual impact (between home and lake
3	4199 - Other Mixed Upland Deciduous	High Density Pole	30.0	24	1-50	Partial harvest in 1990. Nice mix of regeneration A3/A2-O2-Mr2. Understory is reaching pole size. 30 BA/AC oak residual.
4	4133 - Aspen, Mixed Pine	High Density Pole	34.5	24		
5	4130 - Aspen	Medium Density	40.4	2		Clearcut 2012
8	4199 - Other Mixed Upland Deciduous	Low Density Sapling	22.2	2		Clearcut 2012 4" spec
9	4199 - Other Mixed Upland Deciduous	High Density Log	25.5	95	51-80	Selection harvest in 2012.
10	4130 - Aspen	High Density Pole	25.0	51		All aspen cut in 1963. Oak and red maple were left.
13	4123 - Red Oak	High Density Log	17.7	94	51-80	Partial harvest 2001. Residual is quality oak. Mix of aspen, red maple and oak regen as a result of the 2001 harvest. Rolling hills. Consider moving stand towards selection harvest and multiage structure.
14	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	82.2	68	1-50	Partial harvest 1990. (real estate cut in 1990). A3/Mr3 understory is reaching pole size. Pot hole (all the pot holes are connected) drainage system that is part of the Haskel Lake drainage system within stand. Parts of stand are wet. Manage for understory that is in place. Mature residual timber is decent quality. Understory is fully stocked.
15	4130 - Aspen	High Density Pole	24.6	26		Clearcut 1988.
16	4124 - Red with White Oak	High Density Log	33.7	94	51-80	Partial harvest 2001. Mix of aspen and red maple regen as a result of the 2001 harvest. Rolling hills. Aspen clone at NE corner of stand along two track (4.3 ac). Consider moving stand towards selection harvest and multi-age structure.
17	4130 - Aspen	High Density Sapling	40.7	4		Clearcut 2000
18	4130 - Aspen	High Density Pole	82.5	47		Some type of selective clearcut in 1968. Scattered wet deppressions within stand mainly at north end.lf harvested address visual concerns along long lake ave.
19	4199 - Other Mixed Upland Deciduous	High Density Pole	158.9	95	1-50	Partial harvest 1990. (real estate cut in 1990). Mature residual timber is decent quality.
20	4130 - Aspen	High Density Sapling	9.8	26		Clearcut 1988

s t	Gladwii	Gladwin Mgt. Unit			– Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	4130 - Aspen	High Density Pole	12.0	26		Clearcut 1988.
22	42210 - Natural Red Pine	High Density Pole	121.6	76	51-80	Red pine and jack pine interplanted in 1938. All oak removed in 2001. Dense oak regeneration as a result of the 2001 harvest
23	4119 - Mixed Northern Hardwoods	Low Density Pole	36.9	70	51-80	Selection harvest in 2000. All aspen, dead oak, birch and marked oak and maple were cut. Residual BA/AC = 50. Residual BA varies. Mix of hardwood regen as a result of the harvest.
25	4126 - White, Black, N. Pin Oak	High Density Pole	13.1	78	1-50	Partial cut in 1990. Real estate cut.
26	4130 - Aspen	High Density Pole	12.4	36		Clearcut 1978.
27	4126 - White, Black, N. Pin Oak	High Density Pole	19.0	85	1-50	Partail harvest 1990. Real estate cut.
28	4126 - White, Black, N. Pin Oak	High Density Log	17.7	98	1-50	Partial cut in 2001. Nice mix of aspen, Mr and oak regen as a result of the harvest.
29	4130 - Aspen	Low Density Sapling	13.0	3		Clearcut 2011.
30	4130 - Aspen	High Density Pole	15.3	26		Clearcut 1988.
31	4199 - Other Mixed Upland Deciduous	High Density Pole	5.2	78		Partial cut 1990. Real estate cut.
32	42221 - Natural Jack Pine, Mixed Deciduous	Low Density Sapling	5.7	3		Clearcut 5/2011.
33	42220 - Natural Jack Pine	High Density Pole	3.8	26		
34	4130 - Aspen	High Density Pole	22.0	26		Clearcut1988.
35	4130 - Aspen	High Density Pole	12.4	25		Clearcut 1989.
37	4126 - White, Black, N. Pin Oak	High Density Pole	56.5	78	51-80	Stand has scattered semi open areas. Areas of very dense O3 reaching pole size. Stand winds around several large recent clearcuts.
38	42220 - Natural Jack Pine	High Density Sapling	13.0	15		Clearcut 1999.
39	42110 - Planted Red Pine	High Density Pole	11.4	75	141-170	Third row thinned in 2000.

s t				Report 8	– Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	4130 - Aspen	High Density Sapling	11.6	25		Clearcut 1989.
41	4130 - Aspen	High Density Pole	53.1	25		Clear cut 1989.
42	4130 - Aspen	Low Density Sapling	51.8	5		Clearcut 2009.
43	4130 - Aspen	Low Density Sapling	27.8	5		Clearcut 2009.
44	4191 - Mixed Upland Deciduous with Conifer	High Density Log	15.0	78	1-50	Prescibed for treatment last yoe and treatment was dropped, it was decided to manage for understory that is in place. Contuniue to mange stand for the understory that is in place.
45	4130 - Aspen	High Density Sapling	48.6	2		Clearcut 2012.
46	4126 - White, Black, N. Pin Oak	Medium Density Pole	18.9	91	51-80	Partial harvest 2008. All sapen and maple were cut and oak was marked to 50 BA/AC. Mix of natural regeneration from harvest.
47	4130 - Aspen	High Density Sapling	11.1	15		Clearcut 2001.
50	4311 - Pine, Aspen Mix	High Density Pole	5.3	45	51-80	Left when stand 62 was cut. Mixed stand, species composition, Understory is fully stocked oak, mixed pine reaching pole size.
51	4130 - Aspen	High Density Pole	74.4	25		Clearcut 1989.
52	4126 - White, Black, N. Pin Oak	Medium Density Pole	6.4	69	1-50	Stand has regenerated on it's own. Gypsy moth recored in this stand in the past all dead trees have been cut. Mangaing for the understory.
53	4122 - Oak, Pine	High Density Sapling	78.7	14		
54	4130 - Aspen	High Density Pole	10.9	27		Clearcut 1987.
55	4126 - White, Black, N. Pin Oak	High Density Log	17.3	97	51-80	Partial harvest in 2000 established fair oak regen. All mixed hardwood was cut. It looks like we can regenerate oak on this site, we already started.
56	4125 - Black, N. Pin Oak	High Density Log	11.8	91	81-110	Decent oak and white pine in the understory.
57	4125 - Black, N. Pin Oak	High Density Pole	5.2	45	1-50	Mixed stand of younger timber.

s t				Report 8	Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
58	4125 - Black, N. Pin Oak	Low Density Pole	9.0	94	1-50	Poor quality oak timber semi open stand. Autum olive interplanted in 1980. Buffer for maintained wildlife opening. Leave for mast production and as un-cut buffer around openings. Decent oak understory.
59	42210 - Natural Red Pine	Low Density Pole	14.1	77	1-50	Thinned to 40 ba/ac 5/2011. Residual red pine is nursing along the oak regen.
61	4130 - Aspen	High Density Sapling	56.9	14		Clearcut 2000.
62	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	24.0	39	51-80	Patchwork of tag alder swales dotted with high ground portions growing a mix of aspen and some sawlog size jack pine. Possibly could harvest in a very dry or cold season but the current stocking would not warrant this. Leave as a corridor for Floodwood Creek.
63	4125 - Black, N. Pin Oak	High Density Sapling	7.4	27	1-50	Leave overstory. Manage for understory that is in place. Partial harvest in past 20 - 30 yrs. Overstory varies 10 -40 BA/AC.
64	4130 - Aspen	High Density Sapling	39.4	13		Clearcut 2001.
65	4133 - Aspen, Mixed Pine	High Density Pole	16.6	43	51-80	43 yesr old spen mixed with pine.
66	42121 - Planted Jack Pine, Mixed Deciduous	Low Density Sapling	26.2	3		Clearcut 2011.Ttrenched and planted to jack pine.
67	42200 - Natural White Pine	Low Density Sapling	17.2	15		Clearcut 2012. All white pine left. Oak is starting to regenerate.
68	4130 - Aspen	High Density Pole	30.2	45		Outstanding quality aspen. PVT lines. Clearcut 1969. No corners or fence around cemetary. Visual concerns around cemetary. Could harvest now or hold 10 -20 years. Trace of red and white pine.
69	4126 - White, Black, N. Pin Oak	High Density Sapling	10.8	26		Clearcut 1988.
70	42110 - Planted Red Pine	High Density Pole	34.2	57	171-200	Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine stand, strait rows and good access. PVT line is already painted in.
71	429 - Mixed Upland Conifers	Low Density Pole	9.2	74	51-80	Very mixed stand species and age. Semi open areas. Overall stand is young and timber is short.
72	42220 - Natural Jack Pine	High Density Pole	10.0	56	111-140	O3 in understory.
73	4122 - Oak, Pine	High Density Sapling	29.5	25		Clearcut 1989.

s t	Gladwin Mgt. Unit			Report 8	– Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
75	4132 - Aspen, Jack Pine	High Density Sapling	29.5	26		Clearcut 1988.
76	4132 - Aspen, Jack Pine	High Density Pole	39.5	45	81-110	Mixed stand. North 1/2 of stand was clearcut in 2001 with good aspen regen results.
77	42110 - Planted Red Pine	High Density Pole	26.7	57	141-170	Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine stand, strait rows and good access. PVT line is already painted in.
78	42121 - Planted Jack Pine, Mixed Deciduous	Low Density Sapling	117.1	3		Clearcut 5/2011 trenched and planted to jack pine.
80	4131 - Aspen, Oak	High Density Sapling	29.8	26		Habitat cut 1988, wet site.
81	4310 - Pine, Oak Mix	Low Density Sapling	25.2	4		Clear-cut 2010 trenched and planted to jack pine.
82	42210 - Natural Red Pine	Medium Density Pole	19.5	30	1-50	Old grass stand filling in with red pine.
83	42220 - Natural Jack Pine	High Density Pole	40.5	44	51-80	Was cut in 1970. Jack pine timber type with good jack pine regeneration in the understory. North half has large red pine in the 20 inch plus range left when cut. Some oak and red pine regeneration in stand also. Ground cover is a blueberry grass mix. About a three acre O9 inclusion on north line in the center. The two-track along north line is not in fact on the line, it is 10-15 feet onto the private parcel. Located corners along the north line.
84	42250 - Pine, Oak	Medium Density	17.3	26		Clearcut 1988. Semi open areas.
85	4132 - Aspen, Jack Pine	High Density Pole	17.7	35		Clearcut in 1979. Aspen/jack pine
86	42110 - Planted Red Pine	High Density Pole	10.2	57	171-200	Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine stand, strait rows and good access. PVT line is already painted in.
87	4136 - Aspen, Mixed Conifer	High Density Pole	40.8	44	81-110	The southern portion has more tag alder brush with oak regeneration. The stand is islands of high ground separated by wet swales feeding into Floodwood Creek. Could harvest in a late dry summer or cold winter. The predominant type is not at rotation age. Check in ten years to see if still holding. Stand will never be a big timber producing area. Low quality.
88	42121 - Planted Jack Pine, Mixed Deciduous	Low Density Sapling	5.1	3		Clearcut 5/2011 trenched and planted to jack pine.
89	4130 - Aspen	High Density Sapling	13.7	26		Clearcut 1988.
90	4122 - Oak, Pine	High Density Pole	38.8	38	51-80	Mix of natural oak and jack pine. Clearcut 1976.

S t	Gladwin Mgt. Unit			Report 8	Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
91	4132 - Aspen, Jack Pine	High Density Sapling	26.6	25		Clearcut 1989.
92	4122 - Oak, Pine	High Density Log	9.9	104	51-80	Small oak stand on a hill top. So much has been managed around this stand possible to leave for seed source small pocket of big trees, mast, woody debris.
93	4122 - Oak, Pine	Low Density Sapling	23.0	4		Seed tree harvest 2010.
94	42220 - Natural Jack Pine	High Density Pole	18.4	44	81-110	
95	4132 - Aspen, Jack Pine	High Density Pole	71.2	38		Clearcut 1976. Mix of aspen, jack pine and n. pin oak.
96	4199 - Other Mixed Upland Deciduous	High Density Pole	20.3	30		Clearcut in 1984.
97	4130 - Aspen	High Density Pole	18.7	30		Clearcut 1984.
98	4310 - Pine, Oak Mix	High Density Sapling	85.2	15		Clearcut 1999 trenched and planted to red pine. A mixed oak pine stand that is doing very well.
99	4310 - Pine, Oak Mix	Low Density Sapling	48.1	4		Clearcut 2010 trenched and planted to jack pine.
100	42141 - Planted Mixed Pine, Mixed Deciduous	Low Density Sapling	24.4	4		Clearcut 2010 trenched and planted to jack pine.
102	4131 - Aspen, Oak	High Density Pole	77.0	25		Clearcut 1989.
103	4125 - Black, N. Pin Oak	High Density Sapling	82.0	14	1-50	Clearcut 2000. 20 BA/AC jack pine and oak left.
104	42220 - Natural Jack Pine	High Density Pole	6.2	64		O3 in understory.
105	42290 - Natural Mixed Pine	High Density Pole	9.5	35	51-80	Clearcut 1979.
107	4130 - Aspen	High Density Pole	18.7	27		Clearcut 1987.
108	42110 - Planted Red Pine	High Density Pole	35.6	57	171-200	Planted 1957, first time row thinning in 2000. Good stand to continue to manage as a red pine stand, strait rows and good access.
109	4125 - Black, N. Pin Oak	High Density Sapling	87.6	5	1-50	Clearcut 2009. 7 BA/AC of oak was left. 12 acers were interplanted to red pine.

s t	Gladwin Mgt. Unit			Report 8	Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
110	4125 - Black, N. Pin Oak	High Density Sapling	21.3	14		Clearcut 2000.
111	42220 - Natural Jack Pine	High Density Pole	8.5	64	51-80	O3 in understory.
112	4131 - Aspen, Oak	High Density Sapling	20.4	5		Clearcut 2009. Scattered oak and pine left.
113	4126 - White, Black, N. Pin Oak	Low Density Pole	4.1	94	51-80	On top of steep hill. Old sand/gravel pits. painted out of adjacent sale.
114	4123 - Red Oak	Low Density Log	15.4	94	51-80	Partial harvest 2001 has established dense aspen red maple understory. All aspen and maple were cut oak residual reduced to 40 BA/AC. Decent quality oak.
115	4130 - Aspen	High Density Pole	4.5	25		Clearcut 1989.
116	4126 - White, Black, N. Pin Oak	Low Density Pole	1.6	94	51-80	On top of steep hill. Old sand/gravel pits. painted out of adjacent sale.
117	42220 - Natural Jack Pine	High Density Pole	7.8	64	51-80	O3 in understory.
119	4130 - Aspen	High Density Sapling	23.2	14		Clearcut 2000.
120	4124 - Red with White Oak	Low Density Log	26.8	94	51-80	Partial harvest 2001 has established dense aspen red maple understory. All aspen and maple were cut oak residual reduced to 65 BA/AC. Decent quality oak.
121	42220 - Natural Jack Pine	High Density Pole	23.9	38	51-80	Clearcut 1976.
122	4124 - Red with White Oak	High Density Log	8.0	93	111-140	Decent quality oak
123	4130 - Aspen	High Density Pole	17.1	25		Clearcut 1989.
124	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	12.1	84	81-110	Scattered wet areas. Adjacent to US127
125	4130 - Aspen	High Density Pole	6.9	25		Clearcut 1989.
126	4125 - Black, N. Pin Oak	Low Density Sapling	12.1	4	1-50	Shelterwood seed harvest 2009. Oak regen is coming along.
127	4126 - White, Black, N. Pin Oak	High Density Pole	22.1	94	81-110	Made up of 13 uncut islands left when surrounding stand was cut. The original plan was to leave the uncut islands.

S t	Gladwin	Mgt. Unit		Report 8	– Forested	Stands Compartment: 005 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
128	4130 - Aspen	High Density Pole	28.5	25		Clearcut 1989.
129	4125 - Black, N. Pin Oak	Medium Density	91.2	13		Clearcut 2001.
130	42220 - Natural Jack Pine	High Density Pole	14.8	64	51-80	O3 in understory.
131	4130 - Aspen	High Density Pole	4.4	25		Clearcut 1989.
132	4124 - Red with White Oak	High Density Log	28.1	93	51-80	Partial harvest 2009. Cruised residual 70BA/AC. 63' oak, 7' red maple, .5 mixed pine. Decent quality timber.
133	4126 - White, Black, N. Pin Oak	Low Density Pole	53.4	94	51-80	Partial harvest in 2000 followed by Rx burn. Dense northern pin oak in the understory. Options include remove or leave the overstory.
134	6130 - Fir, Aspen, Maple	Low Density Pole	1.2	83	1-50	Wet site, tag alder. Small pot hole stand.
135	42220 - Natural Jack Pine	Medium Density Pole	17.9	50	1-50	Most of stand is on hillside. ORV restoration project in 2012/2013. Stumps and ditch bank spoils placed in ORV damaged hill climb areas. O3 understory.
136	4130 - Aspen	High Density Pole	11.0	25		Clearcut 1989.
137	4125 - Black, N. Pin Oak	High Density Pole	23.0	30	1-50	Gypsy moth in the past. Dead oak removed 20 to 30 yrs ago. Residual oak overstory is very poor and in decline. Stand has has regenerated to a full stocked O3/O4 stand.

Compartment: 005 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	50 - Water	16.0	No	Unspecified	
6	3301 - Low Density Deciduous Tree	4.1	No	Unspecified	
7	6239 - Mixed Emergent Wetland	4.0	Unspecified	Unspecified	
11	3301 - Low Density Deciduous Tree	12.1	No	Unspecified	
12	6229 - Mixed lowland shrub	37.4	No	Unspecified	
24	3303 - Mixed Low Density Trees	3.1	No	Unspecified	
36	6223 - Inundated Shrub Swamp	16.7	No	Unspecified	
48	3102 - Grass	3.4	Yes	Medium	
49	50 - Water	5.7	No	Unspecified	
60	3102 - Grass	2.4	Yes	Medium	
74	3102 - Grass	3.7	No	Unspecified	
79	6229 - Mixed lowland shrub	113.6	No	Unspecified	
101	6229 - Mixed lowland shrub	10.6	No	Unspecified	
106	3102 - Grass	0.4	No	Unspecified	
118	3102 - Grass	6.1	Yes	Medium	

