

GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 260 ENTRY YEAR: 2013

GIS Compartment Acreage: 1929 County: Crawford

Revision Date: August 2011

Stand Examiner: Craig Farrer

Legal Description: T27N R02W Sections 22, 23 and 24, NE Grayling Township.

Management Goals: This area is covered by the long-term military lease L-1479. Thus the primary management goal of the area is to manage resources in a way that is compatible with military training needs. Additional goals are to manage and maintain species diversity, structural diversity, health, productivity, and sustainability of the resources throughout the compartment. All management plans are subject to the National Guard's approval, because of the long-term lease agreement.

Soils and Topography: Hardwood areas are dominated by Roselawn Sands while the pine areas are primarily Grayling Sands. The terrain within the compartment is flat with a few steep hills.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The entire compartment is contiguous state ownership except for the south half of the southeast quarter (S1/2 SE1/4), northwest of southeast quarter (NW1/4 SE1/4), and the southwest quarter of northeast quarter (SW1/4 NE1/4 of section 23 which is military board land. This area is under the 1935 long-term lease agreement L-1479 (Act 154 P. A. 1935) with the Michigan National Guard. The agreement provides for use by the military during their encampment, with no permanent buildings or improvements to be erected.

Unique, Natural Features (include only non-site specific and non-sensitive information): The Bald Hill fire burned into the northern portions of section 23 while the Stephan Bridge Fire burned the southern portion of section 24.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): None recorded.

Special Management Designations or Considerations: Military training.

Watershed and Fisheries Considerations: None.

Wildlife Habitat Considerations: To maintain existing cover types and promote age class diversity where possible to improve habitat conditions for various species of wildlife. Snowshoe hare, deer, grouse and turkey habitat should be considered as management objectives.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of icecontact outwash sand and gravel. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Coldwater Shale and Marshall Sandstone. The Marshall was used as a building stone in the past. The nearest gravel pits are located in Section 24 and potential appears to be good. This is part of the State Military leased land. There has been no drilling and there are no leases in this compartment. The closest production is the Conners Marsh Field, two miles to the east, which produces gas from the Ordovician Prairie du Chien.

Vehicle Access: Access is obtained from the county roads of Bald Hill Road and Wakeley Bridge Road. The compartment also contains numerous trail roads. No existing trails need to be closed. All new roads created through management activities are to be closed.

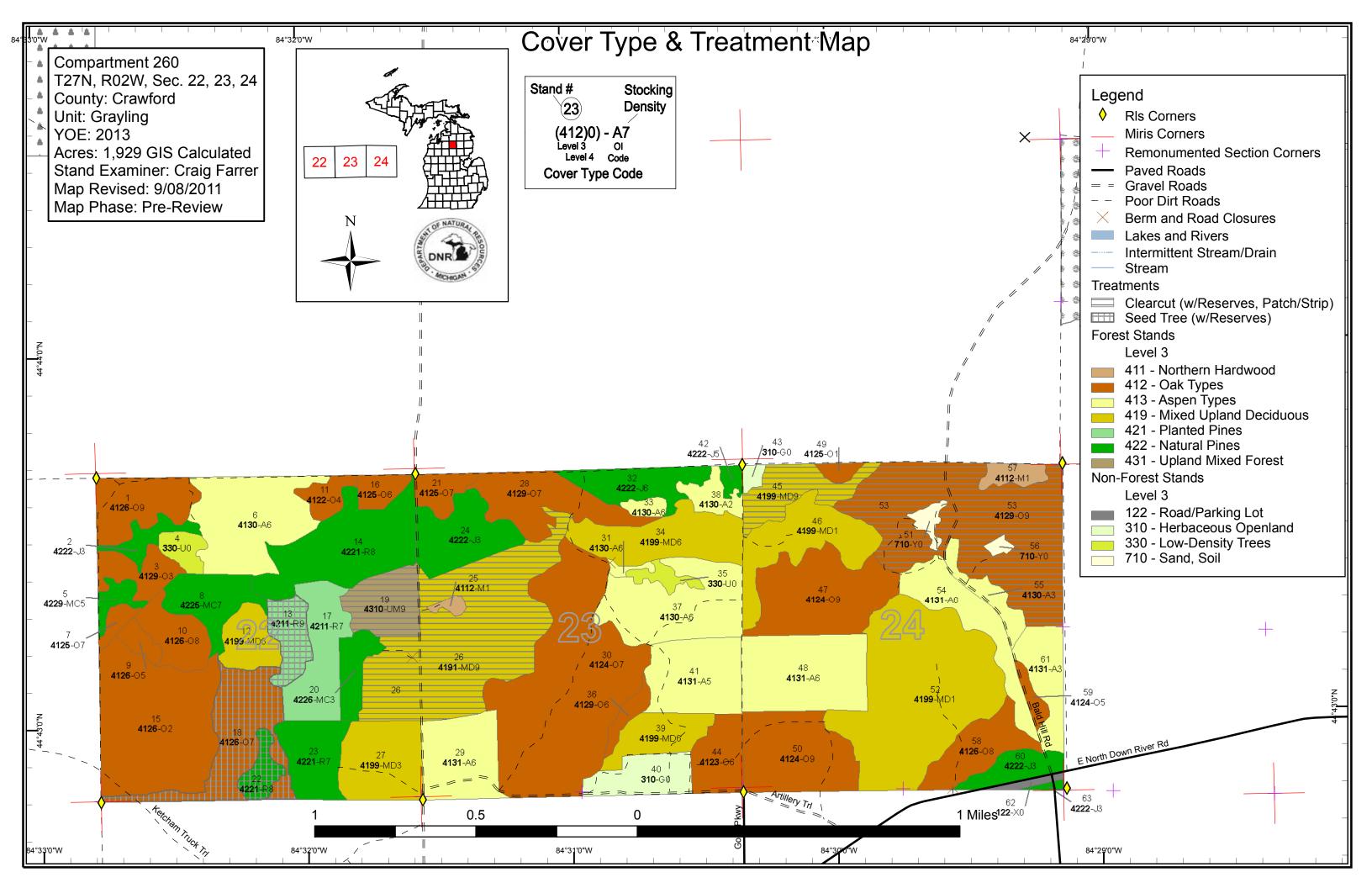
Survey Needs: None needed.

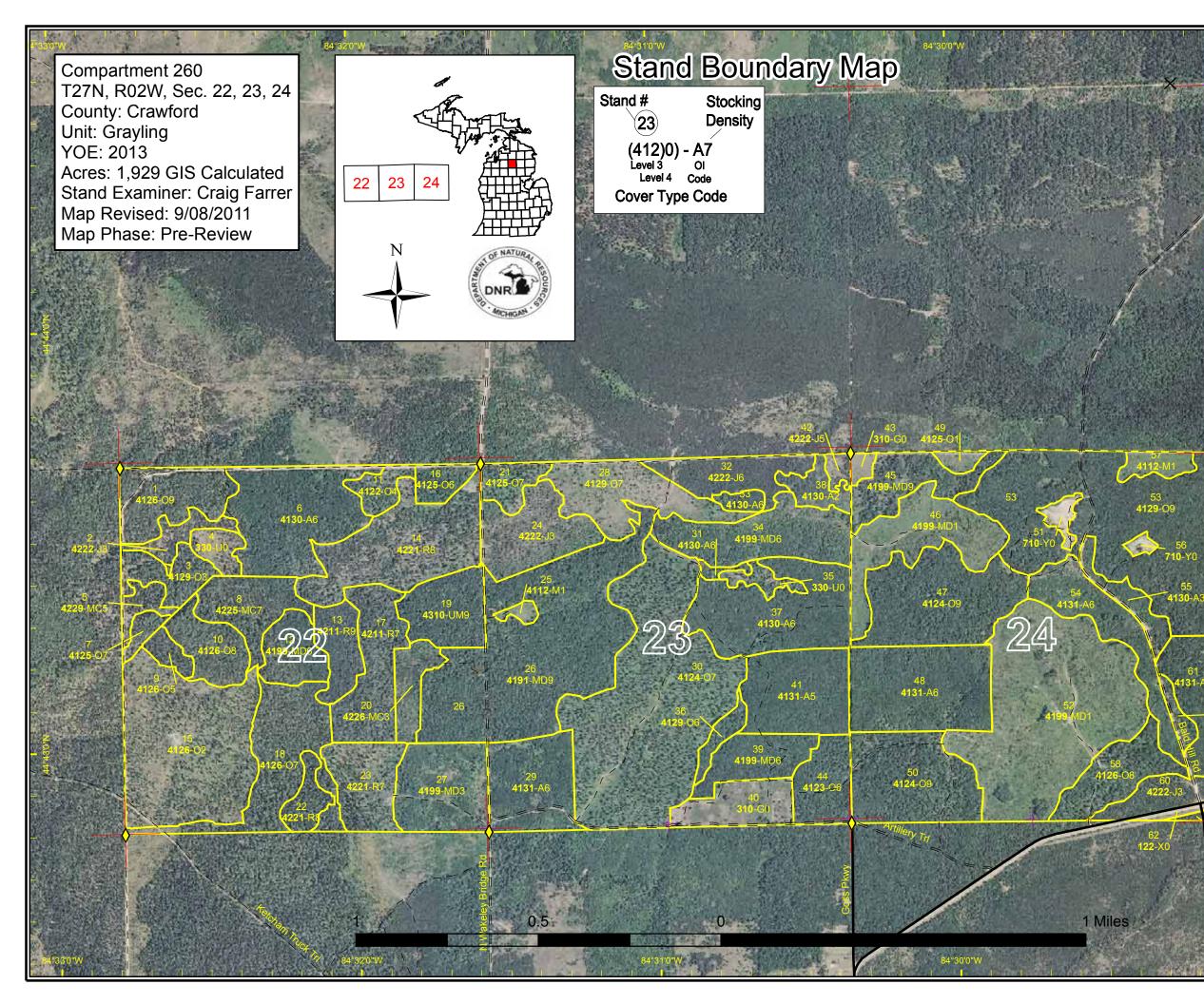
Recreational Facilities and Opportunities: The compartment does not contain any designated recreational trails or facilities. Dispersed recreational opportunities including rabbit hunting occurs throughout the compartment.

Fire Protection: The current road system is adequate, and no nearby water source within compartment.

Additional Compartment Information:

- > The following reports are available:
 - Total Acres by Cover Type and Age Class
 - Proposed Treatment Summaries
 - Dedicated Conservation Area Details
 - Listing of Forested Stands
 - Listing of Non-Forested Stands
 - Proposed Treatments with No Limiting Factor
 - Proposed Treatments with Limiting Factors
- > The following information is displayed, where pertinent, on the attached compartment maps:
 - Base feature information, stand numbers, cover types, recreation trails and facilities
 - Proposed treatments
 - Dedicated & Proposed Special Conservation Areas





Legend

 \diamond **RIs Corners**

Miris Corners

- +**Remonumented Section Corners**
- Paved Roads ____
- = = Gravel Roads
- Poor Dirt Roads _ _
- \times Berm and Road Closures
 - Stand Boundaries

Forest Stands

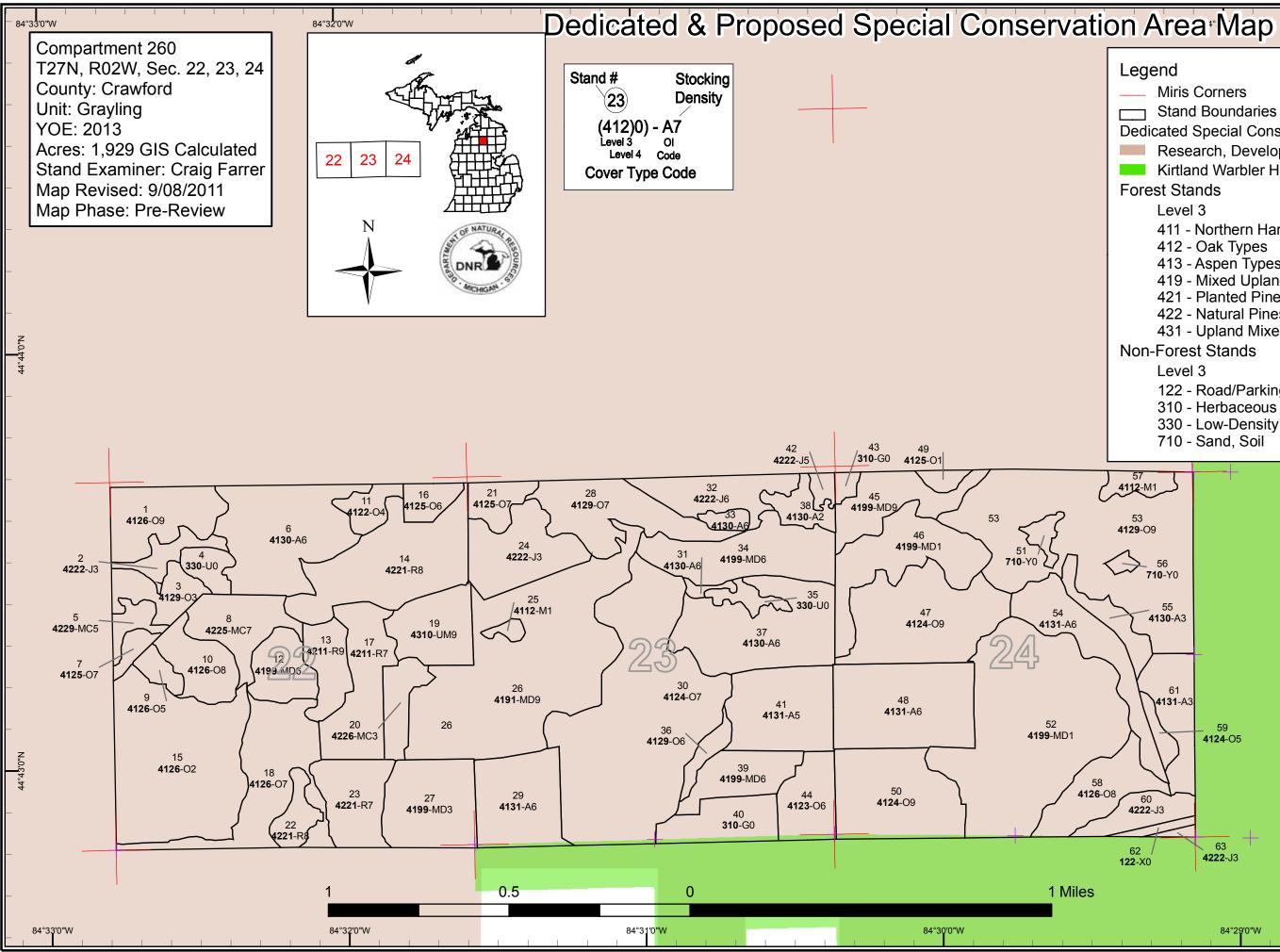
Level 3

- 411 Northern Hardwood
- 412 Oak Types
- 413 Aspen Types
- 419 Mixed Upland Deciduous
- 421 Planted Pines
- 422 Natural Pines
- 431 Upland Mixed Forest

Non-Forest Stands

Level 3

- 122 Road/Parking Lot 310 Herbaceous Openland 330 Low-Density Trees
- 710 Sand, Soil



Legend — Miris	Corners	-								
Stand	d Boundaries									
	Special Conservation Areas	-								
	arch, Development, and Military Lands									
		-								
	nd Warbler Habitat									
Forest Sta		_								
Level 3										
411 - Northern Hardwood										
	Oak Types	-								
	Aspen Types									
	Mixed Upland Deciduous	-								
	Planted Pines Natural Pines	z								
	Upland Mixed Forest	44°44'0"N								
Non-Fores		44°4								
Level										
	Road/Parking Lot									
	Herbaceous Openland Low-Density Trees	-								
	Sand, Soil									
/10		-								
57										
4112-M1		-								
53										
4129 -09		-								
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56 710 -Y0		_								
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55										
4130-A3		-								
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4131-A3		-								
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4222 -J3										
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62 122 -X0	63 4222 -J3									
122 -X0		-								
		-								
	84°29'0"W									

Table 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit Craig Farrer : Examiner

Compartment 260 Year of Entry 2013



							Age	Class									
	Nor	A Street A	6.z	61.0	62 62	67. 05	10-19- 10-19-	85.35	60.00	6. 10	69.00	66.00	00 ¹ 00	8 ¹⁷ 0 ¹⁷	170× 1718	AND A	,00,00
Aspen	0	0	12	215	117	0	0	0	0	0	0	0	0	0	0	344	
Herbaceous Openland	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	
Jack Pine	0	0	52	0	39	0	0	0	0	0	0	0	0	0	0	90	
Low-Density Trees	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	
Mixed Upland Deciduous	0	173	83	0	0	0	0	0	49	153	0	0	0	0	0	457	
Natural Mixed Pines	0	14	0	0	0	0	7	0	0	26	0	0	0	0	0	48	
Northern Hardwood	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
Oak	0	99	0	0	57	31	0	0	125	435	0	0	0	0	0	747	
Red Pine	0	0	0	0	0	0	54	0	62	37	0	0	0	0	0	154	
Sand, Soil	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
Upland Mixed Forest	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0	27	
Urban	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Total	51	297	147	215	212	31	89	0	236	651	0	0	0	0	0	1929]



Table 2 – Proposed Treatment Summaries

MICHIGAN	Grayling Mgt. Unit Year of Entry 2013											Compartment Total Compartment Acres:	
					Acre	s by T	reatm	ent Ty	ре				
	Commercial Harvest - 396	Site Pre	ep - 0		Г	ree P	lanting	- 0		Pres	cribed Burn - 0	Other - 0	
	Habitat Cut - 0 Opening Mainten		g Maintenar	nce - C) Т	ree S	eeding	- 0		Pesti	cide - 0		
					Cov	ver Ty	pe by I	Harves	st Meth	nod			
					A Los	Colocition	25 260 1700	on on the second second	in or	a, Section	See. See		
	Mixed U	Jpland Decid	uous	161	0	0	0	0	0	161	ſ		
	Oak			130	0	51	0	0	0	181	I		
	Red Pin	Red Pine 0 0 28 0 0 28											
	Upland	Mixed Fores	t	27	0	0	0	0	0	27	I		
			Total	317	0	79	0	0	0	396			

S t		Gra	ayling Mgt. Unit			atments Pre .imiting Fac		Compartment: 260 Year of Entry 2013	DIR DIR CHARLEN
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13	72260013-Cut	17.4	42110 - Planted Red Pine	High Density Log	55	Harvest	Seed Tree	42211 - Natural Red Pine, Mixed Deciduous	Cmpt. Review Proposal
Preso Spec				Pine. Leave all Asp	en. Remo	ove mercthatabl	e Oak.Mark to leave R	ed Pine (Green Paint). T	reat with
<u>Other</u> Comr	<u>r</u> ments:								
<u>Next</u> Steps		p with an	regeneration survey	. Will accept a mix c	of mixed of	deciduous and F	Red pine		
18	72260018-Cut	51.0	4126 - White, Black, N. Pin Oak	Low Density Log	84	Harvest	Seed Tree	42250 - Pine, Oak	Cmpt. Review Proposal
Preso Spec		ee Stand	. Leave 30 BA of Red	d Pine. Mark to leave	e in greei	n paint. Treat wi	th adjacent stand 13.		
<u>Other</u> Comr	<u>r</u> ments:								
<u>Next</u> Steps		p with a	regeneration survey.	Will accept a pine, o	deciduou	s mix.			
19	72260019-Cut	27.0	4310 - Pine, Oak Mix	High Density Log	55	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
Preso Spec		nend fina	I harvest with reserve	es. Leave scattered	clumps c	f Red Pine (two	or three trees ie. 30BA	() throughout the stand.	
<u>Other</u> Comr	<u>r</u> ments:								
<u>Next</u> Steps		p with a i	regeneration survey.	Will except a mix of	Aspen, F	Red maple, Oak	and if any Red pine re	generates.	
22	72260022-Cut	10.3	42210 - Natural Red Pine	Medium Density Log	86	Harvest	Seed Tree	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Preso</u> Spec		meter cu	t harvesting all trees	10 -18 inches only.					
<u>Other</u> Comr	<u>r</u> ments:								
<u>Next</u> Steps	<u>s:</u>								
26	72260026-Cut	134.2	4191 - Mixed Upland Deciduous with Conifer	High Density Log	84	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<u>Preso</u> Spec			I harvest with large p Corridors for wildlife.					couple of the retention pa	tches at least
<u>Other</u> Comr	r_ Military l ments:	eased la	nd.						
<u>Next</u> Steps		p with a	regeneration survey.	Will accept a mix of	Aspen, I	Red Maple, Oak	and any conifer specie	es if regenerates within th	ne stand.

S t		Gra	ayling Mgt. Unit			atments Pres _imiting Fact		Compartment: 260 Year of Entry 2013	NATURAL PRODUCTS		
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status		
45	72260045-Cut	26.5	4199 - Other Mixed Upland Deciduous	High Density Log	79	Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal		
Prese Spec	escription Recommend final harvest with no retention. Will regenerate to Aspen/ Jack pine and possibly some oak stump strouts.										
<u>Othe</u> Com	<u>r</u> ments:										
<u>Next</u> Steps		p with a r	regeneration survey.	Nill accept a mix of	Aspen,	Jack pine and Oa	ak.				
53	72260053-Cut	129.7	4129 - Mixed Oak	High Density Log	84	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal		
Prese Spec			ear cut with reserves. d Hill Road.	Leave retention isla	ands with	nin the stand and	along Bald Hill road.	Design retention to minir	nize visual		
<u>Othe</u> Com	<u>r</u> ments:										
<u>Next</u> Steps		p with a r	regeneration survey.	Will accept a mix o	f Aspen,	Red maple and (Dak.				
	Total Treatmon	4									

Total Treatment Acreage Proposed: 396.0

S t a		Gray	ling Mgt. Unit	Table 4		ents Prescrib ng Factor	ed with	Compartment: 260 Year of Entry 2013	DI NATURAL
n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error						
Presc Spece	ription <u>s:</u>								
<u>Other</u> Comr									
<u>Next</u> <u>Steps</u>	<u>:</u>								
	ng Factor and No ment Reason	<u>)</u>							
Ac	Total Treatmer creage Propose		0						

Year	of Entry:	2013
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NATUR

Out of YOE -- Treatments Prescribed with No Limiting Factor

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status	
Prescription Specs:									
<u>Other</u> Comments:									
Next									

Steps:

Total Treatment Acreage Proposed:

0

S t	Grayling Mgt. Unit			5 – Fo	prested Sta	nds Compartment: 260 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4126 - White, Black, N. Pin Oak	High Density Log	31.3	45	51-80	Std harvested back in the 70's, more Red pine regen in the west half. Oak regen from stump sprouts.
2	42220 - Natural Jack Pine	High Density Sapling	10.0	35		Natural Jack pine filling in slowly.
3	4129 - Mixed Oak	High Density Sapling	16.7	35	1-50	Stand was harvested in past. All Red pine was left.
5	42290 - Natural Mixed Pine	Medium Density Pole	7.5	55	1-50	Previously harvested, but did not cut Red pine.
6	4130 - Aspen	High Density Pole	60.1	35	1-50	
7	4125 - Black, N. Pin Oak	Low Density Log	5.0	82	1-50	
8	42250 - Pine, Oak	Low Density Log	25.9	84	51-80	Harvested 30 years ago. Residual pine and Oak and heavy Red maple regen.
9	4126 - White, Black, N. Pin Oak	Medium Density Pole	6.2	84	1-50	Mostly Oak mixed with Aspen and Red pine scattered in pockets or individually. Good Red pine regen.
10	4126 - White, Black, N. Pin Oak	Medium Density Log	20.8	84	111-140	Small aspen pockets along south edge. A few scattered supercanopy Red pine.
11	4122 - Oak, Pine	Low Density Pole	9.4	35	1-50	Stand treated 35-40 yrs ago. Left all Red pine. Good stump sprouts and a few individual Oak trees.
12	4199 - Other Mixed Upland Deciduous	High Density Pole	18.7	84	81-110	New stand added. Nice Oak srems (12-15" DBH). All stump origin. Less quality as you go south and west. More Red pine regen along east half.
13	42110 - Planted Red Pine	High Density Log	17.4	55	81-110	
14	42210 - Natural Red Pine	Medium Density Log	62.1	76		
15	4126 - White, Black, N. Pin Oak	Medium Density	94.9	4		
16	4125 - Black, N. Pin Oak	High Density Pole	9.0	35		
17	42110 - Planted Red Pine	Low Density Log	37.0	55	1-50	
18	4126 - White, Black, N. Pin Oak	Low Density Log	51.0	84	1-50	Mostly White oak and Pin oak with Red & Jack pine. Some pockets of Aspen. Nice Oak regen with some deer browse.

S t	Grayling Mgt. Unit			5 – Fo	prested Sta	nds Compartment: 260 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4310 - Pine, Oak Mix	High Density Log	27.0	55	111-140	Red pine stand surrounding an Oak/red maple inclusion.
20	42260 - Natural Pine, Mixed Deciduous	High Density Sapling	14.4	6		
21	4125 - Black, N. Pin Oak	Low Density Log	11.4	84	1-50	New stand added.
22	42210 - Natural Red Pine	Medium Density Log	10.3	86	81-110	
23	42210 - Natural Red Pine	Low Density Log	27.2	84	1-50	
24	42220 - Natural Jack Pine	High Density Sapling	34.7	16	1-50	Immature Jack pine stand mixed with some deciduous spieces (oak and cherry). Also an overstory of mature Jack pine exists throughout the stand (20 - 30 BA).
25	4112 - Maple, Beech, Cherry Association	Low Density Sapling	2.7	5		Stand swapped from Non-Forested to Forested.
26	4191 - Mixed Upland Deciduous with Conifer	High Density Log	134.2	84		
27	4199 - Other Mixed Upland Deciduous	High Density Sapling	38.7	16		Oak/Aspen stand with some scattered Red pine saw timber. Stand was final harvested in 1995. East side of stand borders Wakely Bridge Road. Aspen is scattered in small pockets throughout the stand
28	4129 - Mixed Oak	Low Density Log	39.8	74	1-50	Stand swapped from Non-Forested to Forested.
29	4131 - Aspen, Oak	High Density Pole	38.7	26		Stand of Aspen/Oak. Majority of stand is small pole size Aspen with pockets of Oak sprouts. Final harvested in 1985. Some Red and Jack pine scattered throghout stand. West side of stand borders Wakely Bridge Road. Stand is also under military lease.
30	4124 - Red with White Oak	Low Density Log	144.7	84	1-50	Mature Oak stand (Red/White) with some scattered Red pine. Shelterwood cut in 2008 under contract 720180301 Artillary Trail Oak. Red maple/Oak/Aspen understory (regen).
31	4130 - Aspen	High Density Pole	2.3	26		
32	42220 - Natural Jack Pine	High Density Pole	24.7	36		Natural Jaack pine, mixed deciduous stand that regenerated after the Bald Hill fire. Small pole Jack pine (one stick).
33	4130 - Aspen	High Density Pole	4.3	36		
34	4199 - Other Mixed Upland Deciduous	High Density Pole	44.2	16		

S t	Grayling	Mgt. Unit		5 – Fo	orested Sta	nds Compartment: 260 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4129 - Mixed Oak	High Density Pole	6.7	79	81-110	
37	4130 - Aspen	High Density Pole	58.2	26		New stand added.
38	4130 - Aspen	Medium Density	10.2	36		Aspen stand mixed with Jack pine. Part of the Bald Hill fire. Stand opens up in the east to grass.
39	4199 - Other Mixed Upland Deciduous	High Density Pole	22.3	79	111-140	New stand added. Stand was shelterwood cut in 1963. No overstory removal cut was done. Large Oak that was left is age 79 the rest of the stand is 48 in age.
41	4131 - Aspen, Oak	Medium Density Pole	42.0	37		
42	42220 - Natural Jack Pine	Medium Density Pole	3.8	36		Stand of Jack pine with open grassy areas.
44	4123 - Red Oak	High Density Pole	21.8	35	51-80	Stand was shelterwood cut in 1993 and delayed removal cut in 1995. Some oak was left acording to records.
45	4199 - Other Mixed Upland Deciduous	High Density Log	26.5	79		New stand added.
46	4199 - Other Mixed Upland Deciduous	Low Density Sapling	43.0	5		
47	4124 - Red with White Oak	High Density Log	60.6	84	51-80	New stand added. Mixed Oak stand with some Aspen and Red maple. Stand is poor quality due to fire in past. Lots of fire scarring decay on larger trees. Heavy Oak, Red maple and Aspen understory/ regen. Bald Hill fire in 1975.
48	4131 - Aspen, Oak	High Density Pole	58.4	26		Aspen std mixed with oak as you go north to ridge top
49	4125 - Black, N. Pin Oak	Low Density Sapling	4.0	5		Stand swapped from Non-Forested to Forested.
50	4124 - Red with White Oak	High Density Log	51.3	79	51-80	Stand was thinned in 1995. Ridge of Oak in center of std surrouded by valley of Oak/pine especially on the north side.
52	4199 - Other Mixed Upland Deciduous	Low Density Sapling	129.6	5		Std harvested under contract 720220301 Horrible Hornet. Final harvested with six variable retention islands left (1/4-1/2 ac). 2008 age.
53	4129 - Mixed Oak	High Density Log	129.7	84		
54	4131 - Aspen, Oak	High Density Pole	33.3	27		

S t	Graylin	g Mgt. Unit		5 – Fo	prested Sta	Ands Compartment: 260 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
55	4130 - Aspen	High Density Sapling	12.4	16		Narrow strip of Aspen regen mixed with Oak and Red maple regen along east side of Bald Hill rd.
57	4112 - Maple, Beech, Cherry Association	Low Density Sapling	8.1	5		Small stand of Red maple regen mixed with Aspen and some Oak stump sprouts. North west corner used as a landing for sale to the north. Final harvested in 2006 under contract 720220301 Horrible Hornet.
58	4126 - White, Black, N. Pin Oak	Medium Density Log	27.6	74	1-50	
59	4124 - Red with White Oak	Medium Density Pole	5.2	84	51-80	Narrrow strip of Oak and Red pine on east side of Bald Hill rd. Aspen/Oak/Red pine understory. South end of stand burnt in Stephan Bridge fire. Large Aspen removed from stand in a previous cut.
60	42220 - Natural Jack Pine	High Density Sapling	15.2	18		Jack pine regen following the Stephan Bridge fire. Stand is mixed with Oak and Aspen regen. Stand is located on north side of North Down and west of Bald Hill rd.
61	4131 - Aspen, Oak	High Density Sapling	24.2	21		New stand added.
63	42220 - Natural Jack Pine	High Density Sapling	1.6	18		Jack pine regen following the Stephan Bridge fire. Sapling size and mixed with some Oak and Aspen. Small stand on south side of North Down River road.

Grayling Mgt. Unit

6 – Nonforested Stands

Compartment: 260 Year of Entry: 2013



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	3302 - Low Density Conifer Trees	8.8	No	Jack Pine	Open grassland with Jack pine saplings and poles encroaching arround the edge. Frost pocket.
35	3303 - Mixed Low Density Trees	6.3	N\A	Unspecified	Stand swapped from Forested to Non-Forested.
40	3105 - Mixed Upland Herbaceous	22.8	No	Low (NonForested)	Abandoned farm field with scattered White/Jack/Red pine trees and a few Oak and Cherry trees.
43	3105 - Mixed Upland Herbaceous	3.0	Yes	Jack Pine	Std was harvested about 5 yrs ago. Military leased. No planting/hope to get natural regen. A few Jack pine seedlings and cherry brush.
51	710 - Sand, Soil	5.0	Yes	Low (NonForested)	Sand/Gravel pit(Barrow pit).
56	710 - Sand, Soil	2.1	Yes	Low (NonForested)	Small sand/gravel pit(barrow pit).
62	122 - Road/Parking Lot	3.1	No	Unspecified	



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Stand	SCA Type	SCA Name	Acres	Comments



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.

Conservatio Area	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
HCVA	CVA Designated Critical Habitat areas are established via a consultative and cooperative process between the DNI U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governe 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with propos species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Plover Habitat.		d endangered species, as governed by Part and Environmental Protection Act, 1994 is an active program, with proposed
SCA Research and Military Areas These areas provide facilities and lands specifically dedicated for resear include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre H Area, the Beaver Islands Archipelago Wildlife Research Area (that include High and Hog Islands, all state owned land on Beaver, South Fox and Ne Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research S Nursery, and over 144,000 acres of Military Lands.		00 acre Houghton Lake Wildlife Research nat includes most of Garden Island, all of ox and North Fox Islands), the Cusino	