

Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72028 Entry Year 2019 Acreage: 734

County Oscoda

Management Area: Avery Hills

Revision Date: 2017-09-06

Stand Examiner: Kevin Ehlert

Legal Description:

T28N R4E Sections 1, 12, 13, 36 Clinton Township

T28N R5E Sections 6, 7 Mitchell Township

Identified Planning Goals:

To address sustainability, forest health, productivity, wildlife requirements, aesthetics, best management practices and recreational opportunities throughout the compartment. The proposed treatment takes into account the heavy deer browsing problems and high deer populations.

Soil and topography:

This compartment consists primarily of flat to rolling terrain. The soils consist of sands to loamy sands which limit the forest types to oak, pine, and aspen.

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

This compartment is completely surrounded by private property. All of the neighboring land owners operate hunt clubs thereby greatly increasing the local deer populations. There are 5 gas wells within the compartment, 3 of which are still active. Several gas well access roads pass through this compartment and provide access to the adjacent private property. The most common use of this compartment is recreation. The compartment receives heavy hunting pressure from adjacent hunt clubs and other members of the public.

Unique Natural Features:

No unique or natural features were found during the stand examination.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations:

This compartment contains no special management designations and considerations.

Watershed and Fisheries Considerations:

This compartment contains two unnamed tributaries to the Upper South Branch Thunder Bay River. Prescribed management activities are appropriate for the protection of these streams.

Wildlife Habitat Considerations:

This compartment offers a diverse habitat of various aged pine, oak, and aspen stands. Several grassy openings are also present through out the compartment further increasing the diversity of the habitat.

Mineral Resource and Development Concerns and/or Restrictions

Sand/gravel pits are not located in the area, but there appears to be good sand and gravel potential within the compartment. This area has been nearly fully developed for Antrim Shale gas. Nearly all state mineral interests within the compartment are currently leased and held by production. There is no metallic mineral potential in this part of the state.

Vehicle Access:

Flynn Valley Road enters the northern portion of the compartment from the north allowing easy public access. There are numerous roads traversing the compartment allowing easy vehicle access.

Survey Needs:

None

Recreational Facilities and Opportunities:

Compartment is easily accessible and used heavily for hunting and dispersed camping.

Fire Protection:

This compartment contains some high fire risk forest types such as dense jack pine. The existing road network would allow easy access for fire protection and there are several very open stands that could be used for a fuel breaks if a fire were to occur.

Additional Compartment Information:

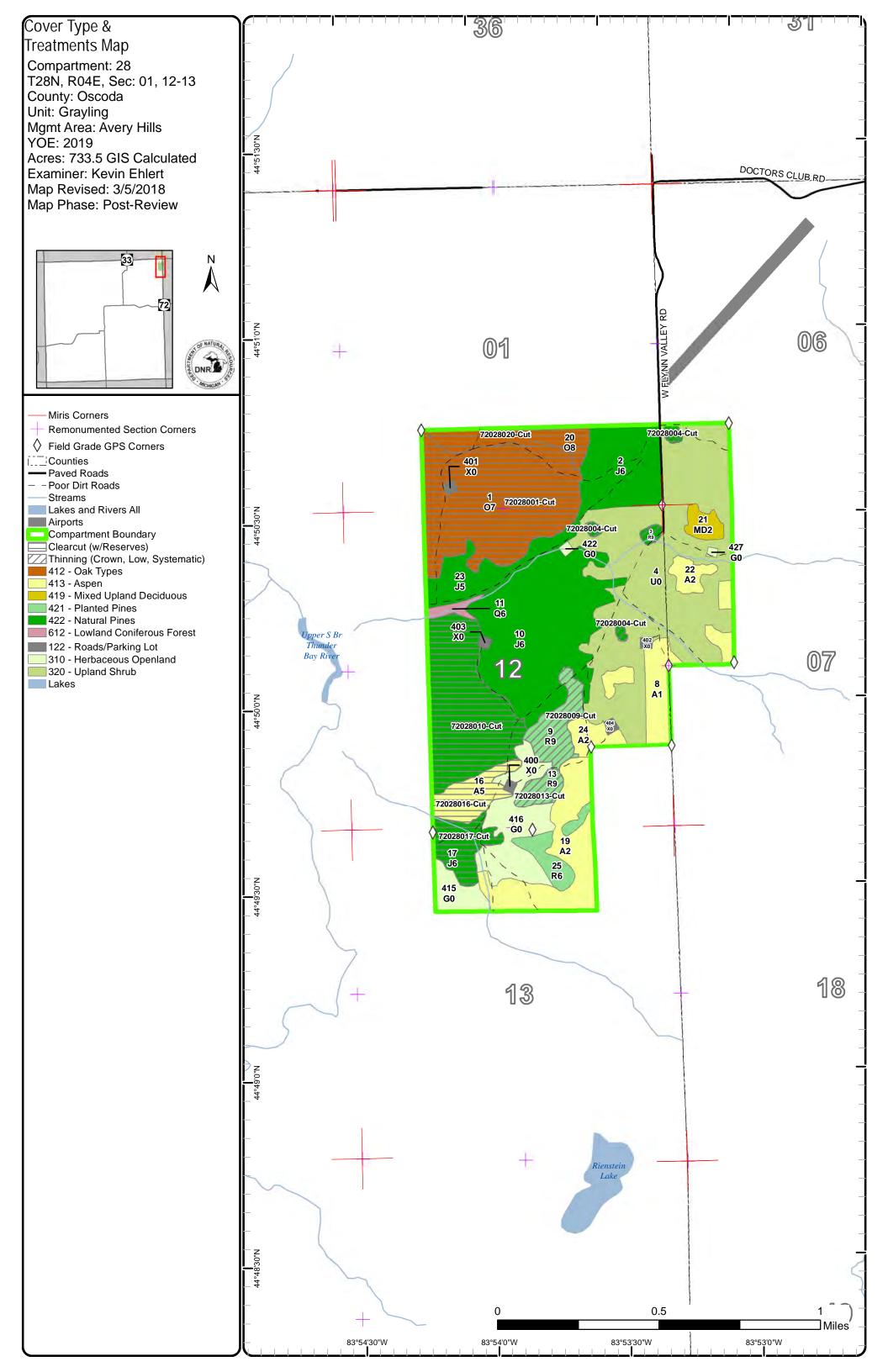
Details on the road access system

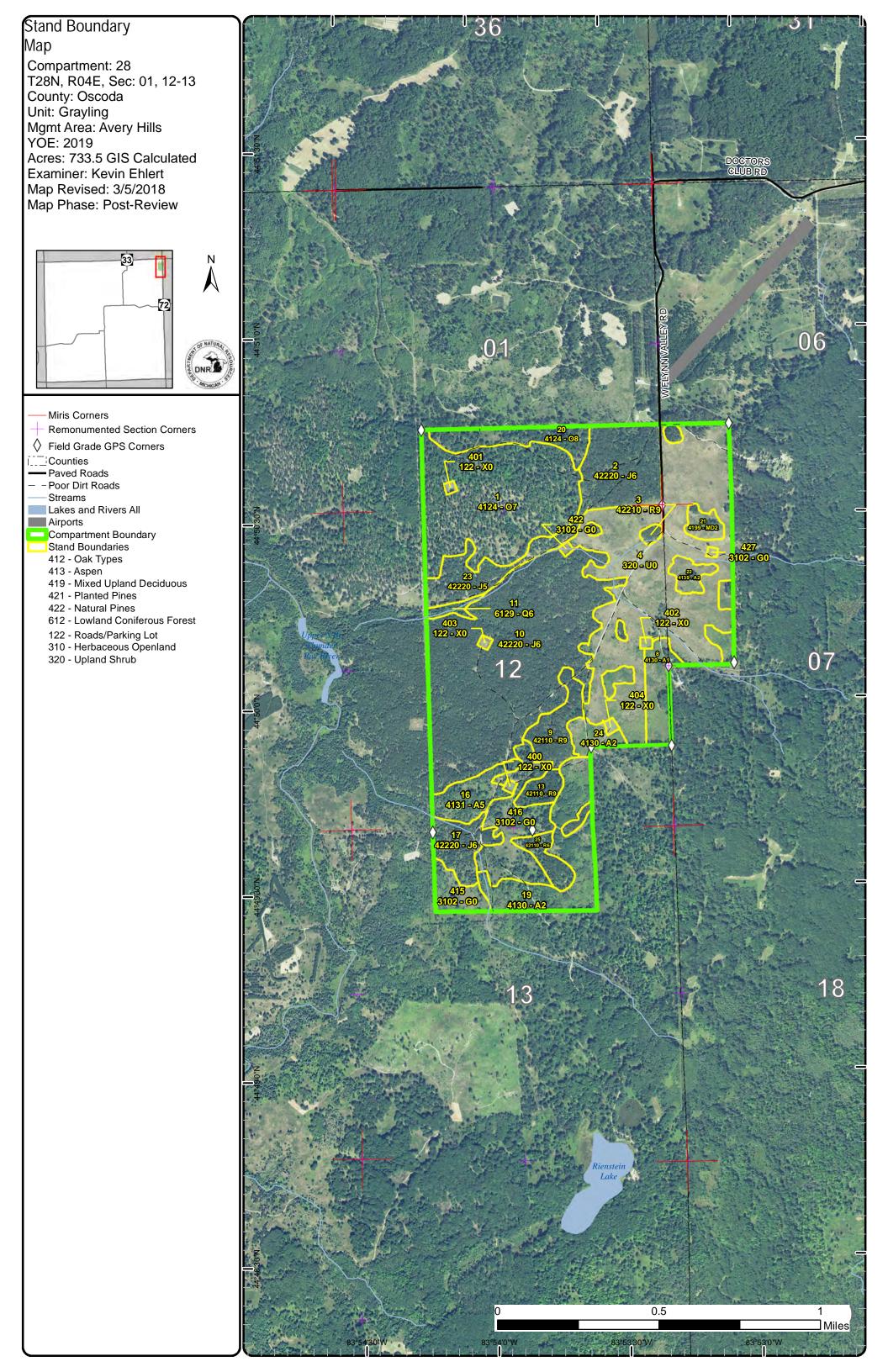
The following reports from the Inventory are attached:

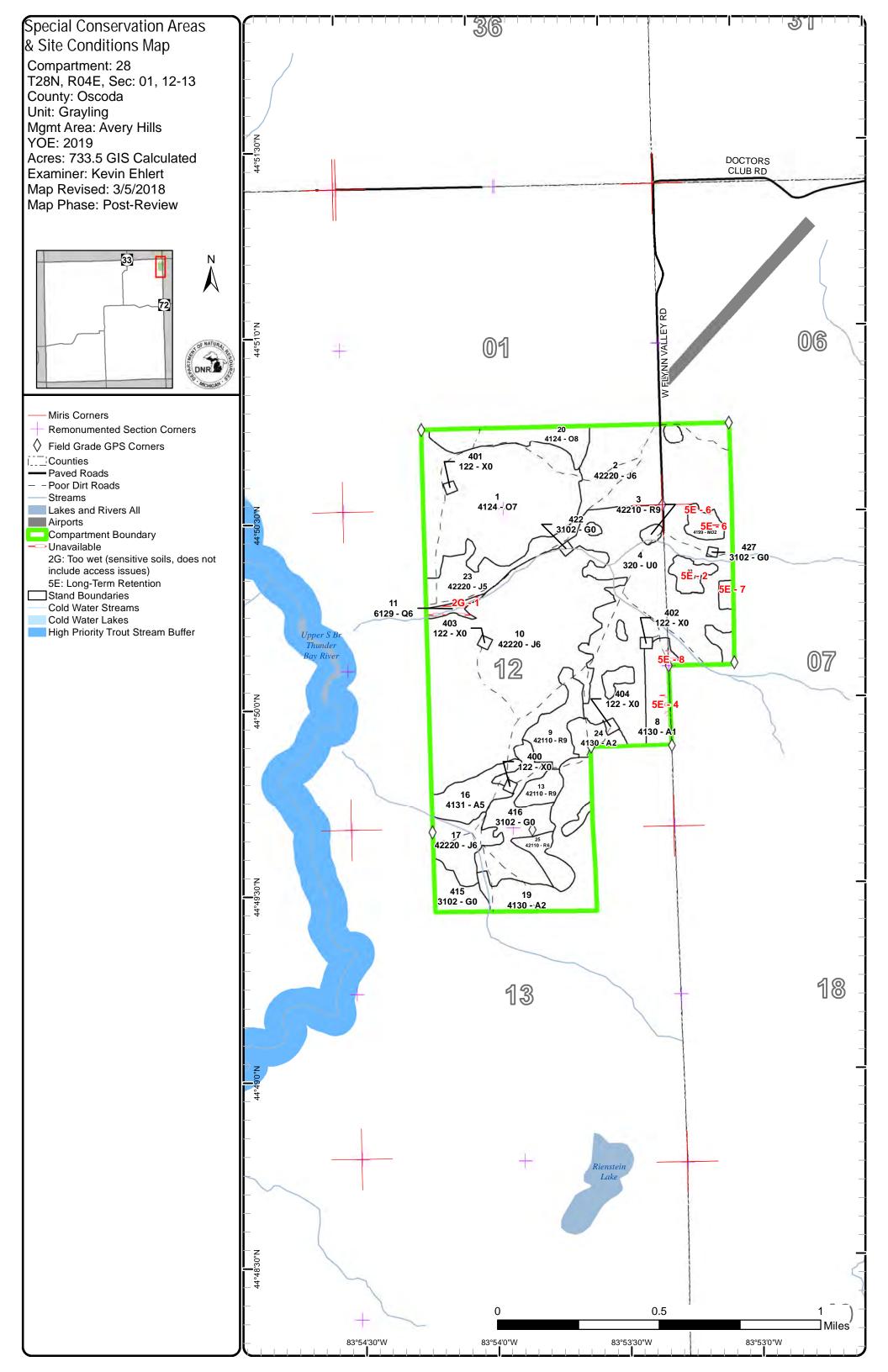
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







Grayling Mgt. Unit

Compartment 28

Year of Entry 2019



Kevin Ehlert : Examiner

Age Class

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Aspen	0	41	43	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	101	
Herbaceous Openland	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	
Jack Pine	0	0	0	0	0	0	249	0	0	0	0	0	0	0	0	0	0	0	249	
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	
Mixed Upland Deciduous	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
Oak	0	0	0	0	0	0	0	0	0	0	0	0	122	0	0	0	0	0	121	
Red Pine	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	41	
Upland Shrub	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160	
Urban	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	211	47	43	0	0	0	249	58	0	0	0	0	126	0	0	0	0	0	733	



Report 2 – Treatment Summary

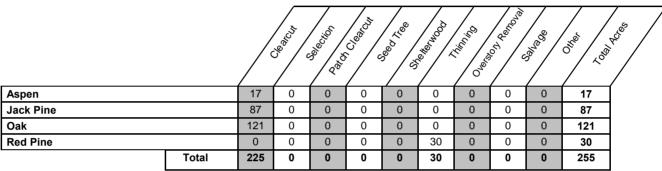
Grayling Mgt. Unit Year of Entry: 2019

Acres of Harvest

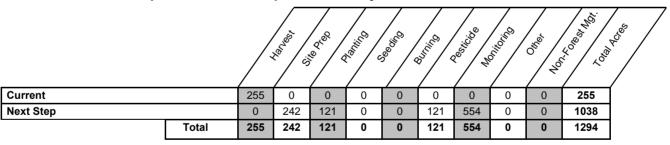
Compartment 28
Total Compartment Acres: 734

Commercial Harvest - 255 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method



Proposed and Next Step Treatments by Method



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a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	72028001-Cut	100.6	4124 - Red with White Oak	Sawtimber Poor	110	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No Site Condition:

<u>Prescription</u> Final harvest stand. Cut all species 2"+. Follow standard retention guidelines. Require chipping if markets allow. Use low stump spec and <u>Specs:</u> place retention islands along perimeter of stand to facilitate planting operations.

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Treatments: Pesticide, Aerial; Monitoring, Natural Regen (Intermediate)

Acceptable Planted red pine. Plant around areas with successful natural regeneration.

Regen:

Other PVT line needed. Gas well site and pipeline within stand.

Comment:

Proposed Start Date: 10/01/2018

42210 - Natural 72028004-Cut 5.8 Sawtimber 60 141-Harvest Crown Thinning 4211 - Planted Even-Aged Draft Field Red Pine Red Pine Well 170 Boundary

Habitat Cut: No Site Condition:

Prescription Thin stand to target BA of 100sqft/acre. Target suppressed and low quality stems to reach desired BA. In spots with higher density, do not

Specs: remove more than 50% of current BA.

Next Step Treatments:

Acceptable Regen:

Other Comment:

This treatment takes place in retention islands left behind during final harvest of stand 4. These islands are planted red pine that has been row thinned in the past and currently in need of thinning. This should be done to create more desirable conditions for long term retention and make them more resilient to forest health risk.

Long Term Retention Site Condition removed until Thinning treatment is implemented. Afterwards, stand is to be site conditioned as 5E, Long Term Retention for sale # 72-040-09-01 (Comp 28 Red Oak)

Proposed Start Date: 10/01/2018

72028009-Cut 42110 - Planted Crown Thinning 17.5 Sawtimber 60 171-Harvest 4211 - Planted Even-Aged Draft Field Red Pine Well 200 Red Pine Boundary

Habitat Cut: No Site Condition:

<u>Prescription</u> Remove all jack pine, then thin stand to target BA of 120sqft/acre. Target suppressed and low quality stems to reach desired BA. In spots with <u>Specs:</u> higher density, do not remove more than 50% of current BA.

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

Poletimber 10 72028010-Cut 42220 - Natural 52 111-4222 - Natural Draft Field 69.4 Harvest Clearcut with Even-Aged Jack Pine Well 140 Retention Jack Pine Boundary

Habitat Cut: No Site Condition:

<u>Prescription</u> Final harvest all trees 2"+. Follow standard retention guidelines. Use whole tree spec to maximize scarification. Use low stump spec and place <u>Specs:</u> retention at perimeter of stand to facilitate planting if natural regen fails.

Next Step Monitoring, Natural Regen (Re-Inventory); Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable A moderately stocked jack pine stand.

Regen: If natural regen fails, roller chop, trench and plant a fully stocked red pine stand. Monitor and aerial spray if needed.

Other PVT line needed on West boundary. Allow aspen to expand from stand 16.

Comment:

Proposed Start Date: 10/01/2018

Compartment: 28 Year of Entry: 2019

a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
13	72028013-Cut	7.1	42110 - Planted Red Pine	Sawtimber Well	60	171- 200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No Site Condition:

<u>Prescription</u> Remove all jack pine, then thin stand to target BA of 120sqft/acre. Target suppressed and low quality stems to reach desired BA. In spots with <u>Specs:</u> higher density, do not remove more than 50% of current BA.

Next Step

Treatments:

Acceptable

Regen: Other

Comment:

Proposed Start Date: 10/01/2018

16 72028016-Cut 16.9 4131 - Aspen, Oak Poletimber 63 51-80 Harvest Clearcut 413 - Aspen Even-Aged Draft Field Boundary

Habitat Cut: No Site Condition:

Prescription Final harvest all species 4"+. Leave no retention to maximize natural regeneration.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Accept a poorly to moderately stocked aspen stand with other associated mixed deciduous species. Resulting stand will be a mosaic of

Regen: forested/non forested areas.

Other PVT line needed on West edge.

Comment:

Proposed Start Date: 10/01/2018

72028017-Cut Draft Field 17.5 42220 - Natural Poletimber 52 51-80 Clearcut with 4222 - Natural Harvest Even-Aged Retention Jack Pine Jack Pine Well Boundary

Habitat Cut: No Site Condition:

Prescription Final harvest all trees 2"+. Follow standard retention guidelines. Use whole tree spec to maximize scarification. Use low stump spec and place

<u>Specs:</u> retention at perimeter of stand to facilitate planting if natural regen fails.

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Natural Regen (Re-Inventory)

Treatments:

<u>Acceptable</u> A moderately stocked jack pine stand.

Regen: If natural regen fails, roller chop, trench and plant a fully stocked red pine stand. Monitor and aerial spray if needed.

Other PVT line needed on W boundary. Allow aspen to fill in from stand 16 to the North.

Comment:

Habitat Cut: No

Proposed Start Date: 10/01/2018

4124 - Red with 72028020-Cut 20.5 Sawtimber 110 1-50 Clearcut with 4211 - Planted Draft Field Harvest Even-Aged White Oak Medium Retention Red Pine Boundary

Site Condition:

Prescription Final harvest stand. Cut all species 2"+. Follow standard retention guidelines. Require chipping if markets allow. Use low stump spec and

place retention islands along perimeter of stand to facilitate planting operations.

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr);

Treatments: Pesticide, Aerial; Monitoring, Natural Regen (Intermediate)

Acceptable Planted Red Pine. Plant around areas of successful natural regeneration.

Regen:

Specs:

Other PVT line needed.

Comment:

Proposed Start Date: 10/01/2018

Total Treatment 255.3
Acreage Proposed:

Grayling Mgt. Unit

Kevin Ehlert : Examiner

Compartment: 28 Year of Entry: 2019

Availability for Management Total Acres Acres Avail Acres **Dominant Site Conditions** Available With Condition Not Available 2G 5E Acres 102 98 4 Aspen 4 0 46 46 0 Herbaceous Openland 0 249 249 0 Jack Pine 0 3 3 0 **Lowland Conifers** 3 0 6 5 Mixed Upland Deciduous 0 121 121 0 Oak 0 0 Red Pine 41 41 0 160 160 0 0 Upland Shrub 0 4 4 Urban 0 734 725 8 **Total Forested Acres** 3 5 1% 99% 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.

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition	
1	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments:							
2	Unavailable	5E: Long-Term Retention	0	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments: Long Term Retentio	n for sale #72-040-09-01, Co	mp 28 Re	ed/Oak				
4	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified	
Comments: Long Term Retention for sale #72-040-09-01, Comp 28 Red/Oak								

Report 4 – Site Conditions

Grayling Mgt. Unit
Kevin Ehlert: Examiner

Compartment: 28
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6	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Long Term Retention	on for sale #72-040-09-01, Com	p 28 R	ed/Oak						
7	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Long Term Retention	on for sale #72-040-09-01, Com	p 28 R	ed/Oak						
8	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Long Term Retention for sale #72-040-09-01, Comp 28 Red/Oak									

Mgt. Unit

Compartment: #Type! Year of Entry:



Report 5 - 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				

Grayling Mgt. Unit Compartment: 28
Year of Entry 2019



Report 6 – 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	Туре	Description	HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA I	Riparian Area	influences the aquatic ecosystem and vice-versa streams and open water wetlands, riparian area communities are ecologically and socially signifi	ial ecosystems in which the terrestrial ecosystem a. Because of the unique conditions adjacent to lakes, is harbor a high diversity of plants and wildlife. Riparian icant in their effects on water quality and quantity, as well duction, and their contribution to overall biodiversity.

S t	Graylin	g Mgt. Unit		Report 7	– Forested	Stands Compartment: 28 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4124 - Red with White Oak	Sawtimber Poor	100.6	110	1-50	This stand was never scarified or seeded with acorns. Very minor understory is present in this stand due to deer browsing; almost every stem below the browse line has been damaged by deer. A few of the aspen clones are vigorous and regenerating well. Could not find any oak regen that has made it past the browse line.
						Old Comment: Select cut Oak 30 - 35% Crown Cover, Clearcut Aspen clones, scarify after cut. Plant Acorns. Stand shelterwood harvested in 2002, FTP submitted for planting of acrons 3-2002.
						Old OI Notes: Recommend a final harvest and planting the stand to pine. The aspen clones and any other patches of regeneration should be left during planting and harvesting activities. A few oak should be left to maintain diversity in the stand. Per Pre-Review discussion 8-21-07: Leave the shelterwood oak; give the stand more time to regenerate. Evaluate next YOE to determine if underplanting of pine would be appropriate.
2	42220 - Natural Jack Pine	Poletimber Well	39.6	50	81-110	This is a variable jack pine stand with areas of young and mature jack pine. A small amount of red pine and oak are scattered throughout. Average BA over 4 plots was 110. A few open areas were found within the stand. There were no signs of damage or forest pests and the stand can hold another 10 years.
3	42210 - Natural Red Pine	Sawtimber Well	5.6	60	141-170	Small stands that were left as retention for Comp 28 Red/Oak, 72-040-01-01 which was cut in 2011. Stands have been row thinned in the past. A marked thinning will reduce Basal Area, allowing for more diameter growth and more desirable conditions for long term retention along with reducing risk of forest health concerns.
						Long Term Retention Site Condition removed until Thinning treatment is implemented. Afterwards, stand is to be site conditioned as 5E, Long Term Retention for sale # 72-040-09-01 (Comp 28 Red Oak)
8	4130 - Aspen	Sapling Poor	16.4	7	Immature	Stand was treated under timber sale 72-040-09-01 "Comp 28 Red/Oak" and completed in November of 2011. FTP 72-715 was sent to the District Silviculturalist for approval. Regen is poor. Could not find successful oak regen. Contains pockets of aspen and cherry, and open areas. Regen is 10-20' tall.
9	42110 - Planted Red Pine	Sawtimber Well	17.5	60	171-200	Red pine stand, has been row thinned. Stand is ready to be thinned again. BA ranges from 160-200 in most of the stand and over 200 in some spots. Thin stand to 120sqft/ac. Do not remove more than 50% of BA.
10	42220 - Natural Jack Pine	Poletimber Well	169.1	52	111-140	Pole size jack pine stand with little to no sub-canopy. Average BA over 5 plots was approximately 130. Average DBH of 7", but varies from 4-9" throughout the stand. Jack pine appears in good health overall. Stand could be treated at this time, but would have no problem holding another 10 years.
11	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	3.5	110	81-110	This is a small lowland-tamarack stand surrounded by jack pine. Contains large red and white pine, concentrated near the stand edges. Surface water present, drains to Upper South Branch of Thunder Bay River on adjacent private property. Stand is very unique within this compartment.

S	Graylinç	g Mgt. Unit		Report 7	- Forested	Stands Compartment: 28 Year of Entry: 2019
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	42110 - Planted Red Pine	Sawtimber Well	7.1	60	171-200	Red pine stand that includes some open areas. Red pine has been row thinned previously. Current BA is between 170-200. Thin down to 120 sqft/ac target BA. Do not remove more than 50% of BA in more heavily stocked areas.
16	4131 - Aspen, Oak	Poletimber Medium	16.9	63	51-80	This stand consists of scattered aspen clones in a opening. The quality and size vary throughout the stand, there is some oak and pine scattered throughout. Leave some oak and red pine for retention.
17	42220 - Natural Jack Pine	Poletimber Well	17.5	52	51-80	This is an open, low stocked jack pine stand. The stand has higher stocking on the north end where there is a north aspect slope. Lots of small open areas throughout the stand. Open grown form, lower quality than other JP in compartment. Canopy cover is toward lower end of 75-100% range. Stand also includes inclusion of planted red pine mixed with natural jack pine on east end of stand. This was merged with stand 17 due to small size not meeting mapping standards.
19	4130 - Aspen	Sapling Medium	43.2	17	Immature	This stand was harvested in 2000/2001 (011-01-01, Flynn Valley Oak). The management objective was oak; the only species that is successfully regenerating is aspen. This entire compartment has a very heavy deer browsing problem. Where the oak has regenerated, it has been browsed. The aspen is growing vigorously and has grown above the browse line throughout most of the stand. Lots of open areas, overall 50-75% canopy closure.
20	4124 - Red with White Oak	Sawtimber Medium	20.5	110	1-50	This stand contains large diameter, open grown oak with some jack pine mixed throughout. The understory is sparse with some scrub oak and cherry growing in. Previously site conditioned for wildlife concerns(unavailable) by WLD.
21	4199 - Other Mixed Upland Deciduous	Sapling Medium	6.1	7	Immature	Small stand that was not planted with surrounding area. Stand contains two islands of 8-12"DBH oak left during 2011 harvest. Pin cherry is the only successful regeneration in the stand.
22	4139 - Aspen, Mixed Deciduous	Sapling Medium	13.0	7	Immature	Stand was treated under timber sale 72-040-09-01 "Comp 28 Red/Oak" and completed in November of 2011. FTP 72-715 was sent to the District Silviculturalist for approval. Stand is regenerating to bigtooth aspen and pin cherry. Contains inclusion of mature red oak retention in NE corner.
23	42220 - Natural Jack Pine	Poletimber Medium	22.8	52	51-80	OPIC - FMD: This stand is on a south-facing aspect slope and consists of poor quality jack pine. The stand is open in areas and the trees are poor quality. Could treat at same time as stand 10.
24	4130 - Aspen	Sapling Medium	12.1	7	Immature	Stand was treated under timber sale 72-040-09-01 "Comp 28 Red/Oak" and completed in November of 2011.
25	42110 - Planted Red Pine	Poletimber Well	11.2	60	111-140	This is a small red pine stand that has been third row thinned. Some areas are transitioning to saw timber sized trees. Tree density varied, some open areas were included in the stand. Thinning is not yet needed in this stand.

Compartment: 28 Year of Entry: 2019



Stand	Cover Type	Acres	Managed Site	General Comments:
4	320 - Upland Shrub	160.4		Stand was clear-cut in 2011 (Comp 28 Red/Oak, 72-040-01-01). Trenched in 2013, and planted to red pine in 2014 (FTP: C72-715). Planted stock appears to be doing well. Average height is just below 3'.
400	122 - Road/Parking Lot	0.7	No	Gas Well Site:HRF Exp and Production, L.L.C.State Clinton #D2-13T28N R03E - NE 1/4 SE 1/4 SW1/2 Sec. 12Oscoda Co, Clinton TwpEmergency Phone #: (989)705-2811MPSC well 12665
401	122 - Road/Parking Lot	0.7	No	Active Well site. State Clinton D2-1, Permit No. 51720, Paxton Resources LLC.
402	122 - Road/Parking Lot	0.8	No	Active wellsite, in good condition. State Clinton B4-12, Permit No. 52022, Paxton Resources LLC.
403	122 - Road/Parking Lot	0.8	No	Active well site, in fair condition, the access road has some rutting and erosion concerns. State Clinton B2-12, Permit No. 51725, Paxton Resources LLC.
404	122 - Road/Parking Lot	0.9	No	Gas well: Permit: 59394; HRF Exp.; SW1/4 NE 1/4 Sec 12, T28N R4E. Oscoda Co, Clinton Twp. Emergency phone: (989) 705-2811. MPSC Well 12665
415	3102 - Grass	10.9	No	This stand is primarily a opening. There are some aspen clones and pockets of pine scattered through out but canopy cover is still below 25%.
416	3102 - Grass	34.3	No	This stand is primarily a opening. There are some aspen clones and pockets of pine scattered through out but canopy cover is still below 25%. Pockets of mature timber could be treated with harvest in adjacent stand in later YOE.
422	3102 - Grass	0.7	No	Well site that has been removed. Filled in with grass, no erosion issues.
427	3102 - Grass	0.6	No	Old wellsite, is not being used at this time.