

Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72254 Entry Year 2021 Acreage: 1,868

County Crawford

Management Area: Camp Grayling

Revision Date: 2019-02-13

Stand Examiner: Thomas Barnes

Legal Description:

T27N R2W, Section's 16, 17, and 18

Identified Planning Goals:

To provide an area that allows for National Guard training while maintaining forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment.

Soil and topography:

Topography within this compartment is flat to gently rolling with ridges in the northeast portions of the compartment as well as in the far western areas of the compartment. Level areas exist throughout the central portion of the compartment with exceptions in localized areas. The major soil complex present in this general area is Grayling sand with small inclusions of other types present, the most notable being Graycalm-Klackling sands. This association is found primarily on upland flats and low knolls which are dominated by jack pine stands commonly in association with red pine and oak species. This soil complex is characterized as being excessively drained with major management concerns including equipment limitation, seedling mortality and erosion from wind and water. Windthrow is also a concern throughout this soil type complex. There are small areas of lowland soils surrounding Kyle Lake. Soil types within these areas consist of Dawson-Loxley peats with inclusions of sandy soils throughout. Windthrow remains a concern in this area as well.

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

The entire compartment is comprised of Military Board lands intermixed with lease lands. Most of the compartment is is under the 1935 long-term lease agreement L-1479 (Act 154 P.A. 1935) with the Michigan National Guard, Department of Military Affairs. The agreement provides for use by the military during their encampment, with no permanent buildings or improvements to be erected. Military needs take precedence over resource management needs on long-term lease lands. The DNR will coordinate all prescribed activities with the National Guard to ensure they are compatible with military training needs. Most of this compartment lies with in the fenced area of Range 30.

Unique Natural Features:

Kyle Lake is located within this compartment. It lies within the Range 30 fenced area and is partially surrounded by riparian forests of varying age and size classes. It provides excellent habitat and a water source for various species of wildlife.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations:

Management within this compartment is dependent on military approval. Restrictions are applied based on military training schedules throughout this area. Portions of this area are part of Sub-Unit 5B of the North Camp Grayling Pine Barrens and under the Camp Grayling Pine Barrens Management Plan.

Watershed and Fisheries Considerations:

Kyle Lake is located within Range 30 of this compartment however access is restricted by the Range 30 fence. Typical concerns such as erosion and maintenance of riparian buffers should apply to this small body of water.

Wildlife Habitat Considerations:

This compartment is valuable for many species of wildlife. Jack pine plantations that are dense and large in terms of acreage provide tracts of land used for thermal and protective cover throughout the year by many wildlife species. The open areas that are prevalent throughout this compartment are valuable for wildlife species as well. Upland brush and grasses provide forage and cover for many mammals and avian species. Management decisions within this compartment are influenced greatly by wildlife considerations.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact outwash sand and gravel. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift is the Marshall Sandstone. The Marshall was previously used as a building stone. A gravel pit is located in Section 12, to the northwest and potential is good on the uplands. Currently, there are no oil and gas leases in this compartment.

Vehicle Access:

Access to the eastern portions of this compartment is adequate via county roads of Stephan BridgeRoad,, Ketcham Truck Trail, and Bucks E-W Road. In addition forest roads follow most of the section lines, and two-tracks traverse many of the interior stands. Vehicular access to the western side of the compartment is limited due to the Range 30 fence. No access is permitted in this restricted area because of military training.

Survey Needs:

No survey issues at this time.

Recreational Facilities and Opportunities:

Hunting is the main recreational opportunity in this area. Despite the fact the compartment does not contain any designated recreational trails, snowmobile traffic is also quite heavy in the winter months.

Fire Protection:

Fire protection is considered priority in this area because of its close proximity to large jack pine plantations on quite droughty soils. Many of the management decisions within this compartment are based on and influenced by the stands' probability to be a fire hazard before and after treatment. The compartment contains several maintained fuel breaks.

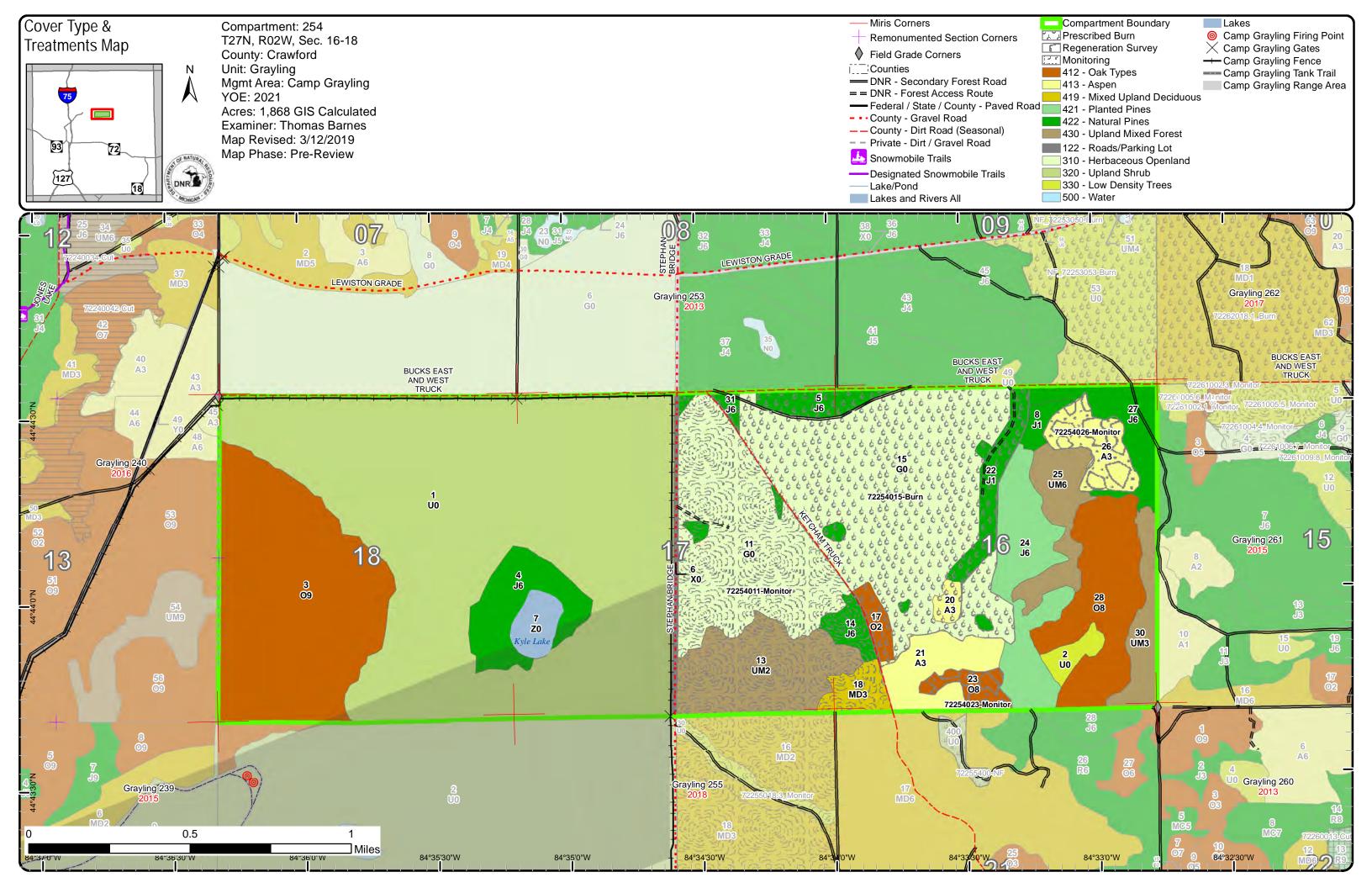
Additional Compartment Information:

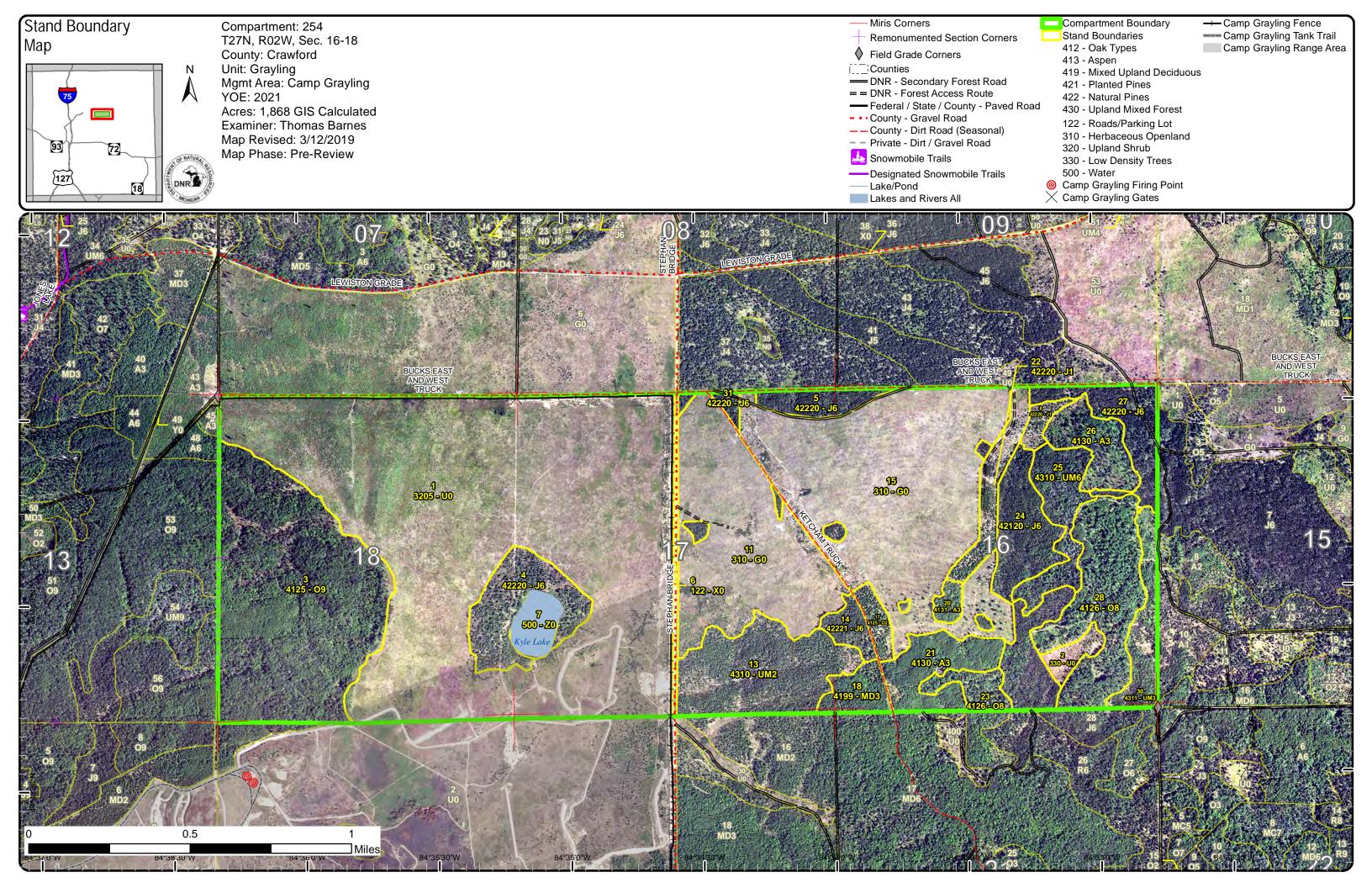
The following reports from the Inventory are attached:

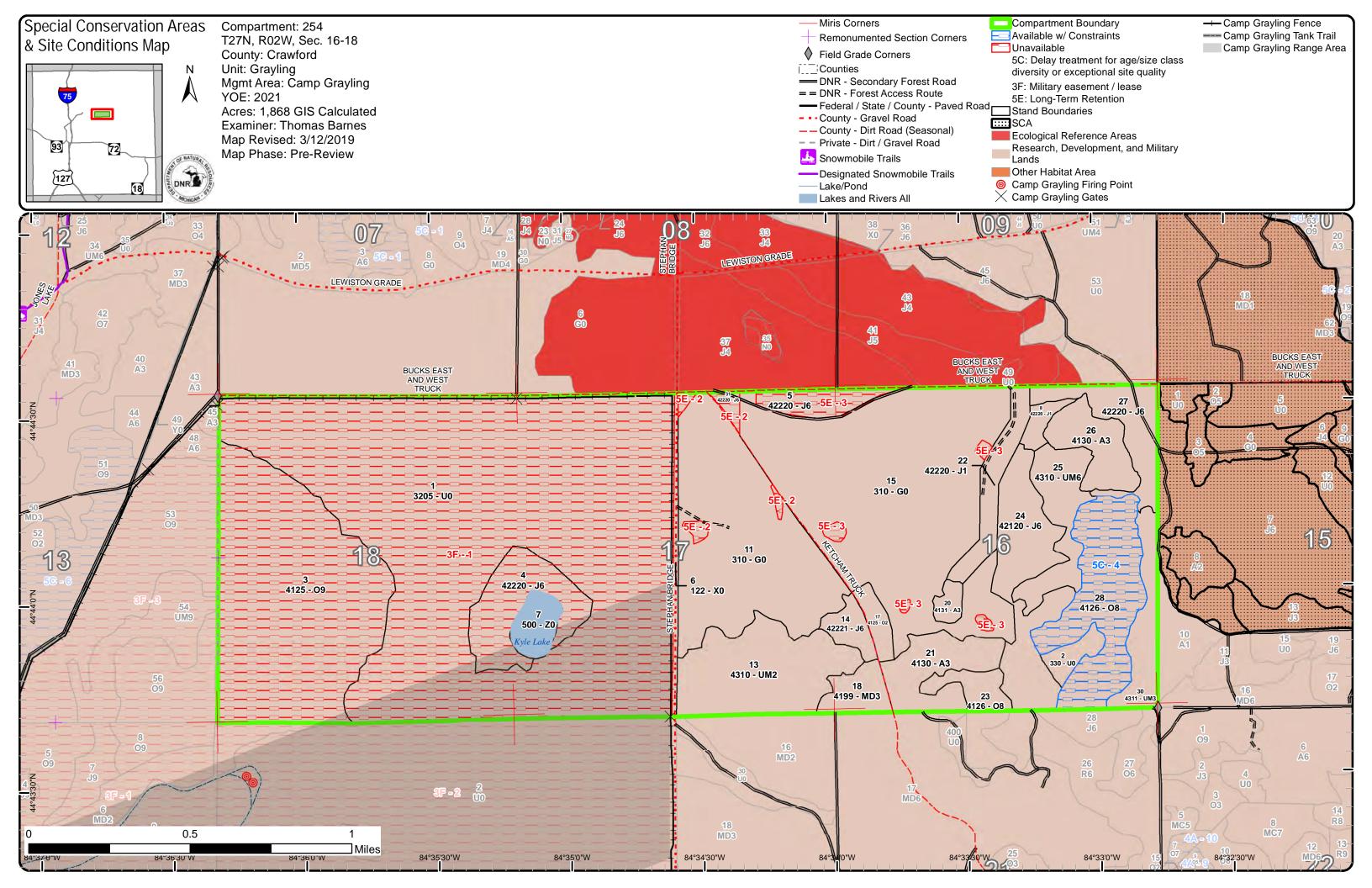
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit

Thomas Barnes: Examiner

Compartment 254 Year of Entry 2021



Age Class

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Aspen	0	30	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
Herbaceous Openland	420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	420
Jack Pine	0	0	7	25	0	0	104	43	48	0	0	0	0	0	0	0	0	0	227
Low-Density Trees	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Mixed Upland Deciduous	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Oak	0	0	0	10	0	0	0	0	0	0	96	224	0	0	0	0	0	0	330
Upland Mixed Forest	0	0	0	81	29	0	0	37	0	0	0	0	0	0	0	0	0	0	146
Upland Shrub	619	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	619
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Water	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	1073	30	51	133	29	0	104	80	48	0	96	224	0	0	0	0	0	0	1867



Report 2 – Treatment Summary

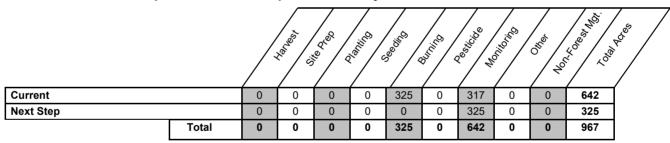
Grayling Mgt. Unit Year of Entry: 2021

Acres of Harvest

Compartment 254
Total Compartment Acres: 1,868

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

Proposed and Next Step Treatments by Method



Grayling Mgt. Unit Report 3 -- Treatments Compartment: 254 s Year of Entry: 2021 t а **Treatment** Stand BA **Treatment Treatment Cover Type** Acres Stand Size Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 11 72254011-273.2 310 - Herbaceous 3302 - Low Draft Field Nonstocked Monitoring Other - Specify Openland **Density Conifer** Boundary Monitor Trees **Habitat Cut: No Site Condition:** Prescription evaluate for re-burn needs (M72-822) Specs: Next Step Treatments: Acceptable Pine Barrens natural community characteristics. See the Plan. Regen: Other Percent to Treat = 100% Comment: 8 /1 /2020 **Proposed Start Date:** Draft Field 15 325.1 310 - Herbaceous Nonstocked Burn 3302 - Low 72254015-Opening Openland **Density Conifer** Boundary Burn **Trees Habitat Cut: No Site Condition:** Prescription Burn per the North Camp Grayling Pine Barrens Management Plan. The Plan's goal is to restore and maintain the pine barrens ecosystem Specs: through reintroduction of periodic fire. Next Step Monitoring, Prescribed Burn **Treatments:** Acceptable Pine Barrens natural community characteristics. See the Plan. Regen: Other

This block is Sub-Unit 5B of the North Camp Grayling Pine Barrens Management Area. Treatment approved by 2011 variance.

Comment:

Proposed Start Date: 4 /2 /2018

4126 - White, 4199 - Other 23 72254023-14.0 Sawtimber 1-50 Monitoring Natural Regen Even-Aged Field Boundary Monitor Black, N. Pin Oak Medium (Re-Inventory) Mixed Upland Deciduous

Habitat Cut: No Site Condition:

Prescription Stand was shelterwooded, all aspen and red maple was removed. Marked to approximately 40 sq ft. All red pine was left.

Specs:

Next Step **Treatments:**

Acceptable Acceptable regen is a mix of oak, aspen, red maple and red pine.

Regen:

Other If natural regen fails, underplant stand with white pine.

Comment:

Proposed Start Date: 10/1 /2019

72254026-29.6 Natural Regen 4131 - Aspen, Even-Aged Field Boundary 26 4130 - Aspen Sapling Immatu Monitoring Well (Re-Inventory) Oak Monitor re

Site Condition: Habitat Cut: No

Prescription Regen survey to determine if adequate regen has been established

Specs:

Next Step Treatments:

Acceptable Acceptable regeneration includes aspen, red maple, oak and any species of pine.

Regen: Other

Percent to Treat = 100%

Comment

Proposed Start Date: 10/1 /2019

Total Treatment 641.9 Acreage Proposed:

Compartment: 254

Grayling Mgt. Unit

Year of Entry: 2021 **Thomas Barnes: Examiner**

	Availa	bility for	Managemer	nt					
	Total	Acres	Acres Avail	Acres		Domina	nt Site	Cond	litions
	Acres	Available	With Condition	Not Available		5C	3F	5E	
	74	74	0	0	Aspen				
	420	420	0	0	Herbaceous Openland			0	
	228	149	0	79	Jack Pine	0	48	31	
	10	10	0	0	Low-Density Trees	0			
	17	17	0	0	Mixed Upland Deciduous				
	330	24	82	224	Oak	82	224		
	147	147	0	0	Upland Mixed Forest	0			
	619	0	0	619	Upland Shrub		619		
	9	9	0	0	Urban			0	
	15	0	0	15	Water		15		
	1,868	849	82	937	Total Forested Acres	82	906	31	
_		45%	4%	50%	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	3F: Military easement / lease	906				
	Comments:						
	This stand is inside	the range 30 fence.					
2	Unavailable	5E: Long-Term Retention	9	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
3	Unavailable	5E: Long-Term Retention	22	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
3/12	/2019 1:57:52 PM - Page	1 of 2					TONELLO

Report 4 – Site Conditions

Grayling Mgt. Unit

Compartment: 254 Year of Entry: 2021 **Thomas Barnes: Examiner**

5C: Delay treatment for Unspecified 4 **Available** 82 Unspecified Unspecified Unspecified age/size class diversity or exceptional site quality Comments:

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: 254





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	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for include the 5,847 acre Forest Fire Experiment Station, the 12,000 Area, the Beaver Islands Archipelago Wildlife Research Area (the High and Hog Islands, all state owned land on Beaver, South Fow Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Res Nursery, and over 144,000 acres of Military Lands.	O acre Houghton Lake Wildlife Research at includes most of Garden Island, all of and North Fox Islands), the Cusino
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of identified as Element Occurrences (EOs) by the Michigan Natura context of their natural community classification system. Element (Excellent) or B (Good) and a Global (G) or State (S) element (ra threatened (2), or rare (3) serve as an initial base of ERAs. They the State. The system is comprised of individual or associations of managed for restoration and maintenance of natural ecological p submit recommendations for lands as ERAs using the DNR Constitution.	I Features Inventory (MNFI) within the Occurrences with viability ranks of A rity) ranking of endangered (1), may be located upon any ownership in of natural community types that are rocesses and values. The public may

S t	Grayling	Mgt. Unit		Report 7	– Forested	Stands Compartment: 254 Year of Entry: 2021
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
3	4125 - Black, N. Pin Oak	Sawtimber Well	224.4	105	81-110	Portion of this stand was harvested for new range development. This stand was part of timber sale 72-619-12-01, The New Machine Gun Alley. This area is proposed to be used as a new machine gun range for military training. Funding for range has been suspended for the time being, unsure if area will be available during next inventory cycle. Old Comment: stand within range 30, in the process of regeneration. edge call.
4	42220 - Natural Jack Pine	Poletimber Well	47.9	70	111-140	Stand was left as a buffer to Kyle lake and was not part of timber sale 72-619-12-01, The New Machine Gun Alley. This area is proposed to be used as a new machine gun range for military training. Funding for range has been suspended for the time being, unsure if area will be available during next inventory cycle. Old Comment: stand within range 30, in the process of regeneration. edge call.
5	42220 - Natural Jack Pine	Poletimber Well	22.4	63	81-110	Merged stands 34 and 37 in with this stand. Retention islands left from timber harvest of stand 15. Dense stand of jack pine with roughly 3 sticks and in pretty good health. Old Comment - 2011 YOE canopy data for stand 15 was wiped during tsale closure updating. Canopy data roughed-in from treatment report in order to separate out this area of significant retention from the actual harvest area. Notes indicated planted.
8	42220 - Natural Jack Pine	Sapling Poor	7.2	18	Immature	Stand was harvested in 2001 under contract 72-005-01-01 as a final harvest. Stand has not regenerated all that well, with scattered jack pine, just barely making a forested stand. Old Comment: in the process of regenerating, low density. dominated by mixed oak species along with jp. some cherry brush and occasional red maple at edges. some aspen stems along edges where stand abuts stan 26. jp become a bit more dense in southern portions of stand. oak also heavier in places.
13	4310 - Pine, Oak Mix	Sapling Medium	81.3	27	1-50	Part of Sub-Unit 5A of the North Camp Grayling Pine Barrens Management area. Variance requested by the Military and approved to burn for ecosystem restoration and down-range fuels reduction. Burned 4-25-17 (M72-822). Left original canopy data intact; will need leaf-out to determine extent of fire-kill. Previous comments: Stand in the process of regenerating. Growing fairly well. Mixed overall with oak, jp and aspen being most common. Cherry spp present, shrubby form. Stand is heavier to JP in central/eastern areas while oak seems to be dominant in the western portion of stand. Canopy is approx 10-20' while sub is 5-8'. areas where JP is dominant in the light canopy, JP is very prevalent in the understory, stand does not look to be plantation origin.
14	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	11.8	60	141-170	Some of the underster, seems were killed by the Rxfire, primarily jack pine. Overstery is still in decent shape. Part of Sub-Unit 5A of the North Camp Grayling Pine Barrens Management area. Variance requested by the Military and approved to burn for ecosystem restoration and down-range fuels reduction. Burned 4-25-17 (M72-822). Left original canopy data intact; will need leaf-out to determine extent of fire-kill. No previous comments:

S t	Grayling	Mgt. Unit		Report 7	– Forested	Stands Compartment: 254 Year of Entry: 2021
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	4125 - Black, N. Pin Oak	Sapling Medium	9.6	20	Immature	Stand was harvested in 1999 under contract 72-016-99-01, this was part of the fuel break cut. It was excluded from the Hogans Goat cut as well. Stand has stump sprouting oak and scattered jack pine.
						New stand added. oak in the process of regenerating. mostly in the form of stump sprouts however some individual stems present. JP mixed in in north in low numbers, become more prevalent in extreme northern areas of stand. This area is the southern portion of the orginal stand 13 (nonforested).
18	4199 - Other Mixed Upland Deciduous	Sapling Well	16.6	27	Immature	Part of Sub-Unit 5A of the North Camp Grayling Pine Barrens Management area. Variance requested by the Military and approved to burn for ecosystem restoration and down-range fuels reduction. Burned 4-25-17 (M72-822). Left original canopy data intact; will need leaf-out to determine extent of fire-kill. Previous comments: mixed stand in the process of regeneration. growing well, not great quality. oak is most dominant overall with red maple common. JP scattered, mostly near edges.
20	4131 - Aspen, Oak	Sapling Well	6.1	18		Stand was harvested in 2001 under contract 72-005-01-01 as a final harvest. Stand has come back nicely with good stem density and diversity of species.
						Old Comment: aspen in the process of regenerating. growing well. approx 8-15' in height on aspen, 3-7' on oak species, shrubby form, stump sprout origin for majority of oak.
21	4130 - Aspen	Sapling Well	38.1	18		Stand was harvested in 2001 under contract 72-005-01-01 as a final harvest. Stand has come back nicely with good stem density and diversity of species.
						Old Comment:aspen stand with red maple and oak spp mixed throughout, approx 5-10% canopy closure for species other than aspen. sub canopy consists of sparse JP, oak species and cherry shrubs. canopy is 8-15' in height, sub is 2-5'.
22	42220 - Natural Jack Pine	Sapling Poor	25.4	20	Immature	Stand was harvested in 1999 under contract 72-016-99-01. This was a fuel break cut.
						in the process of regenerating, low density. dominated by mixed oak species along with jp. some cherry brush and occasional red maple at edges. some aspen stems along edges where stand abuts stan 26. jp become a bit more dense in southern portions of stand. oak also heavier in places.
23	4126 - White, Black, N. Pin Oak	Sawtimber Medium	14.0	90	1-50	Stand was harvested in 2014 under contract 72-618-11-01. All species were removed except marked oak. Old Comment: descent quality oak stand with some red pine and red maple. aspen is also relatively common. some areas have thick regen of oak, rm and wp w/ some scattered jp. heavy browse in some locations. pine species, red and jack become more common along eastern edge.

s t	Grayling	g Mgt. Unit		Report 7	Forested	Stands Compartment: 254 Year of Entry: 2021
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	42120 - Planted Jack Pine	Poletimber Well	68.9	56	81-110	Pole sized jack pine stand with oak, aspen and some red pine scattered. Some natural mortaility of jack pine. Averaging 2-3 sticks per Stem.
						Old Comment: jp growing fairly well. some oak mixed throughout in low density. fair amount of oak regen in uunderstory, heavy browse on much of it, some recruitment to sapling layer.
25	4310 - Pine, Oak Mix	Poletimber Well	36.5	62	81-110	Overall low quality stand originating from natural regen. oak and jp are codominant with wp, rm and asp present as well. some large dbh jp in southern finger of stand, also some 15+dbh white oak scattered throughout. Stand can hold for another 10 years.
26	4130 - Aspen	Sapling Well	29.8	5	Immature	Stand is regenerating to aspen oak and red maple. Residul hybrid oak that was left is mostly dead, white oak is doing ok. Stand is at the lower end of overstory coverage.
27	42220 - Natural Jack Pine	Poletimber Well	35.5	50	81-110	jack pine/oak stand. some pole sized oak, mix of of pole/sap jp. openings throughout stand. ovrall jp is dominant. small pocket of aspen mixed in in ne corner of stand. scattered stems elsewhere as well.
28	4126 - White, Black, N. Pin Oak	Sawtimber Medium	81.6	90	51-80	Stand was thinned in 2006 under contract 72-004-02-01. Stand is looking healthy with good regeneration underneath consisting of maple, aspen and oak. Hybrid oak residual are suffering mortality and white oak is doing ok. Regen is variable in density and height but coming in well and most are 2-3" dbh. Oak is holding its own and competing well with the other species and looks on a good path to being a very nice component of the next stand.
						Old Comment: New stand added. oak stand, thinned last yoe. fair quality red/white oak. some oak regen, heavy rm/asp regen. stand was previously part of stand 26 from pre-inv. after field review, new stand was created. small 1 acre aspen clone was left on west edge of stand. central portion of stand was final harvested and is included in 26A. should be separated into nonforested stand.
30	4311 - Pine, Aspen Mix	Sapling Well	29.0	30		Stand was harvested and has regenerated to a mixture of aspen and jack pine. There is some oak mixed in as well.
						Old Comment: in the process of regeneration. aspen with jp throughout. jp is heavier in southern portions. oak present in canppy/sub in relatively low numbers.
31	42220 - Natural Jack Pine	Poletimber Well	8.7	63	81-110	Merged stands 32 and 36 in with this stand. Retention islands left from timber harvest of stand 11. Dense stand of jack pine with roughly 3 sticks and in pretty good health. Islands were protected from Rx of 2017. Old Comment - 2011 YOE canopy data for stand 11 was wiped during tsale closure updating. Canopy data roughed-in from treatment report in order to separate out this area of significant retention from the actual harvest area. Notes indicated planted.

Compartment: 254 Year of Entry: 2021



Stand	Cover Type	Acres	Managed Site	General Comments:
1	3205 - Mixed Upland Shrub	619.4	No	This stand has been prescribed burned to reduce fuels and is still being proposed for a new range. Scattered sapling found throughout. The western portion of this stand has a higher stem density then rest of Stand. This stand was part of timber sale 72-619-12-01, The New Machine Gun Alley. This area is proposed to be used as a new machine gun range for military training. Funding for range has been suspended for the time being, unsure if area will be available during next inventory cycle. Old Comment: stand within range 30, in the process of regeneration.
2	330 - Low-Density Trees	9.9		Area appears to have been harvested when stand 28 was thinned, very little natural regeneration has come back and what has is scattered jack pine.
6	122 - Road/Parking Lot	8.8	No	Cleared county road corridor for Stephan Bridge Road.
7	500 - Water	14.6	No	Kyle Lk within range 30. Made remote call based on aerial imagery. Lake is surrounded by stand 4 (jack pine cover) for the most part, small buffer separates lake from nonforested area along southeastern edge.
11	310 - Herbaceous Openland	157.5	Yes	Merged stand 10 in with this stand. Part of Sub-Unit 5A of the North Camp Grayling Pine Barrens. Within a large variance requested by the Military and approved to burn for ecosystem restoration and down-range fuels reduction. Burned 4-25-17 (M72-822). Dense JP poletimber was final harvested in 2015 (#626-11), cutting stems 2"+ DBH except for island retention (split out as separate stand 5).
15	310 - Herbaceous Openland	262.5	Yes	Merged stand 12 in with this stand. Part of Sub-Unit 5B of the North Camp Grayling Pine Barrens. Dense JP poletimber was final harvested in 2015 (#626-11), cutting stems 2"+ DBH except for island and significant boundary-excluded retention (split out as separate stands). A variance approved in 2011 refers to following the Military's Pine Barrens Management Plan. The Military and FRD fire staff have identified this unit as a priority burn for 2018.