

Compartment Review Presentation

Grayling Forest Management Unit

Compartment 294
Entry Year 2016
Acreage: 1,440

County Crawford

Management Area: Kirtland's Warbler

Revision Date: 08/19/2014

Stand Examiner: Scott Shooltz

Legal Description:

T25N R2W Sections 5, 6 & 7 and T26N R2W Section 32 West part of South Branch Township and Southeast Grayling Township, Crawford Co.

Identified Planning Goals:

Compartment 294 is part of the Kirtland's Warbler Management Area. Kirtland's warbler management is guided by two documents: Kirtland's Warbler Breeding Range Conservation Plan and Operational Plan for Kirtland's Warbler Habitat Management on Michigan State Forests. Most of this compartment is designated as essential habitat and will be managed in occordance with the above mentioned documents. Management on the portions that are not classified as essential habitat will emphasize balancing the age classes and regenerating the aging oak resource.

Soil and topography:

The soils are well-drained Grayling and Roscommon sands. Topography is mainly flat to rolling, with a few steeper hills in Sections 6 and 7.

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

This compartment consists of fairly solid State ownership intermixed with several federally-owned parcels managed by the U.S. Fish and Wildlife Service for the Kirtland's Warbler. There are some privately-owned parcels in the compartment.

Unique Natural Features:

Kirtland's Warbler (Dendroica kirtlandii), and Henry's Elfin (Incisalia henrici)- last observed 1932.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Most of this compartment is designated for Kirtland's Warbler Management within the Pere Cheney Kirtland's Warbler Unit.

Watershed and Fisheries Considerations:

No streams or lakes occur within the compartment.

Wildlife Habitat Considerations:

Maintenance of Kirtland's Warbler habitat, a featured species, is the primary management goal. Other featured species include; Pileated woodpecker, Ruffed grouse, Snowshoe hare, Wild turkey, and White-tailed deer. Management for these species outside of designated essential habitat will include the maintenance of young forest; large open grassland complexes and marsh/grassland complexes; the retention of large, over-mature trees and snags and the maintenance and expansion of hard mast and mesic conifer components.

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 600 feet. Beneath the glacial drift is the Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. Gravel pits are located in the area and potential should be good on the upland areas. This area has been sparsely drilled. The nearest production is Hickeys Creek Field, located four miles to the southeast, producing oil from the Richfield and gas from the Prairie du Chien. Oil and gas leases are located in Sections 17 and 18.

Vehicle Access:

County Roads include Stephan Bridge Road, Four Mile Road and Pere Cheney Road. Sandy Trail, Darrow Trail and other un-named trails across State land are currently the primary access for adjacent seasonal residences.

Survey Needs:

The NW 1/16th corner of Section 7 as well as the 1/4 corner and the S 1/16th corner common to sections 5 & 6. These corners will need to be established in order to manage stands within above mentioned sections.

Recreational Facilities and Opportunities:

One designated trail, the Shore-To-Shore Horse Trail, runs through Section 5. The compartment does support dispersed recreation in the form of hunting, as evidenced by the abundant tree stands located throughout the compartment.

Fire Protection:

Access throughout the compartment is adequate. Stephan Bridge, Four Mile and Pere Cheney Roads are well-maintained. In addition, several trail roads provide good access throughout the rest of the compartment. In addition there is a maintained fuel break, stand 3, which runs for a half mile along the west side of Stephan Bridge Rd. in Section 6. There is no natural water source within the compartment that can be used to re-supply fire units. The best source would be the Beaver Creek Fire Station, located at the corner of Old 76 and Seven Mile Road.

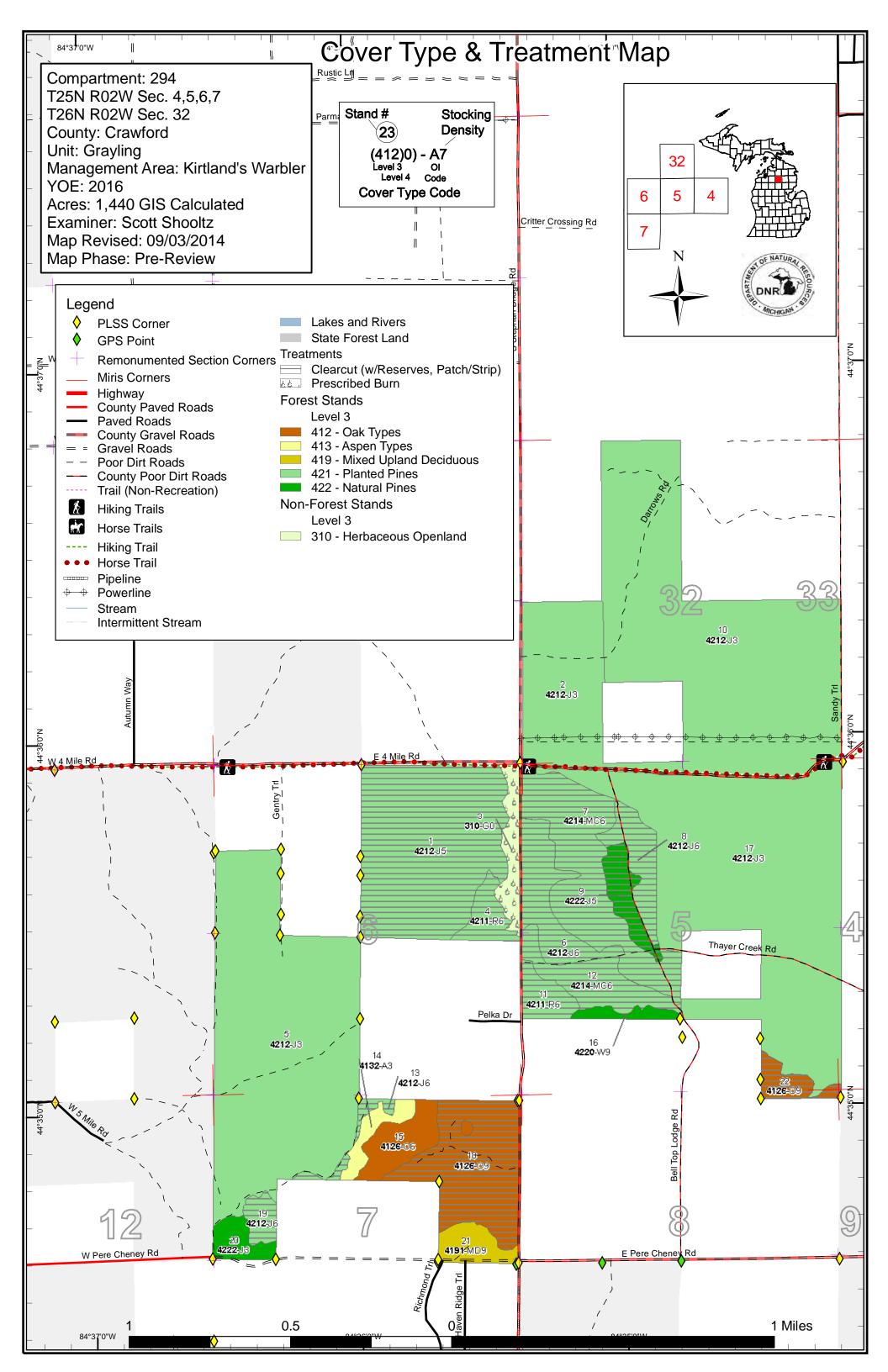
Additional Compartment Information:

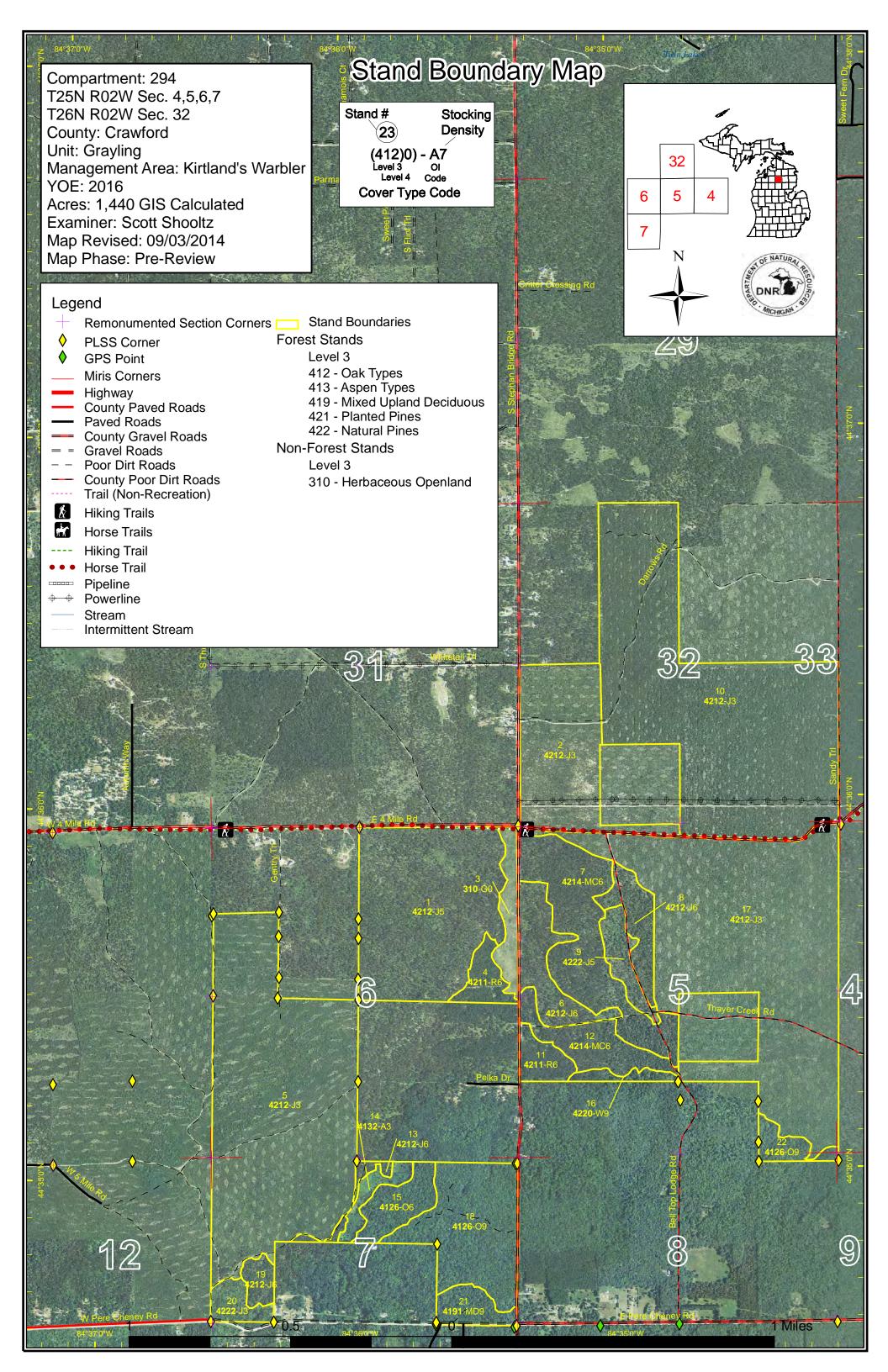
The following reports from the Inventory are attached:

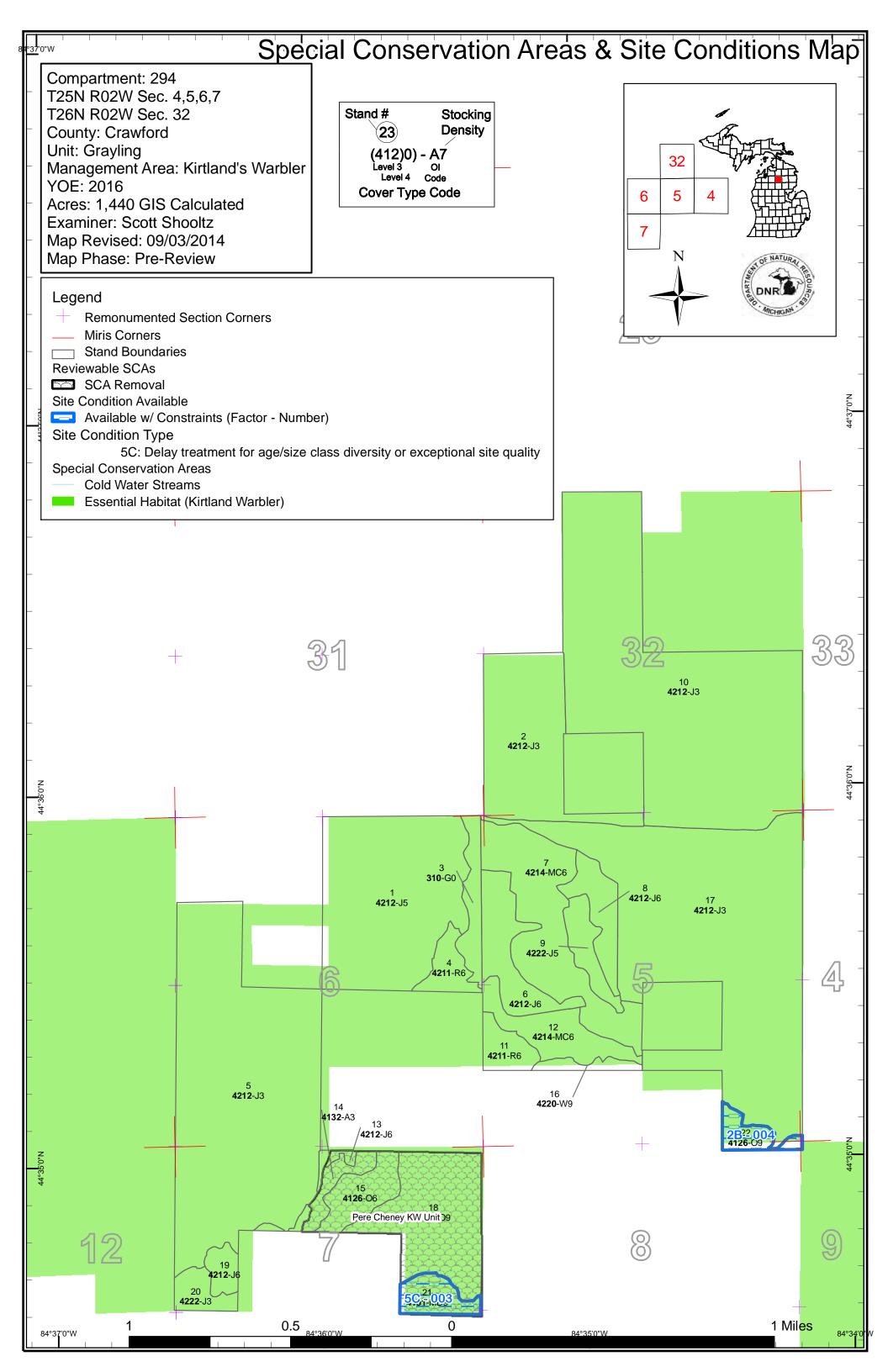
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

The following information is displayed, where pertinent, on the attached compartment maps: Base feature information, stand boundaries, cover types, and numbers

Base feature information, stand bo Proposed treatments Site condition boundaries Details on the road access system







Scott Shooltz : Examiner

Compartment 294 Year of Entry 2016



Age Class																
		6.9	\$7.0	St. C.	S. S	AD PROPERTY OF THE PROPERTY OF	\$ P.	80,00	10,00	\$ \$ \$ \$ \$	358	00,00	70,73	,70 [×] /3°	Po V	, do la company de la company
Aspen	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	ĺ
Herbaceous Openland	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
Jack Pine	0	635	287	0	14	0	196	16	0	0	0	0	0	0	1149	
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	15	0	0	0	0	15	
Oak	0	0	0	0	0	22	0	0	0	85	0	0	0	0	107	
Planted Mixed Pines	0	0	0	0	79	0	30	0	0	0	0	0	0	0	109]
Red Pine	0	0	0	0	27	0	0	0	0	0	0	0	0	0	27]
White Pine	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	
Total	27	635	287	0	120	22	226	16	0	107	0	0	0	0	1440	



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit Year of Entry 2016

Compartment 294 Total Compartment Acres: 1,440

Acres by Treatment Type

Commercial Harvest - 447

Tree Planting - 348

Other - 16

Habitat Cut - 0

Opening Maintenance - 0

	Cover Type by Harvest Method								
		/ (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Se of	100 S	Normood A	Citating Ord		S. Property of the second
atural Pines		16	0	0	0	0	0	16	
ak Types		84	0	0	0	0	0	84	
lanted Pines		347	0	0	0	0	0	347	
	Total	447	0	0	0	0	0	447	

Compartment: 294 Grayling Mgt. Unit Report 3 -- Treatments Prescribed Year of Entry 2016 with No Limiting Factor s t а **Treatment** Acres CoverType Size BA **Treatment Treatment Cover Type** Approval n Density Method Objective **Status** d Name Age Range Type 140.7 42120 - Planted 4212 - Planted Jack Cmpt. Review 72294001-Cut Medium 64 Harvest Clearcut with Jack Pine Density Reserves Pine Proposal Pole Prescription Final harvest 2" and up. No retention because of small stand size a KW management goal. Specs: Other Kirtland Warbler Habitat cut. Apply low stumps and chip site. Comments: <u>Next</u> Trench and re-plant to jack pine for KW habitat. Steps: <u>Proposed</u> Start Date: 10/01/2015 72294004-Cut 13.3 42110 - Planted High 45 141-170 Harvest Clearcut 4212 - Planted Jack Cmpt. Review Red Pine Pine Proposal Density Pole Prescription Final harvest 2" and up. No retention because of small stand size and KW management goal. Specs: <u>Other</u> Kirtland Warbler Habitat cut. Apply low stumps and chip site. Comments: Trench and re-plant to jack pine for KW habitat. <u>Next</u> Steps: Proposed Start Date: 10/01/2015 72294006-Cut 34.2 42120 - Planted High 62 Harvest Clearcut with 4212 - Planted Jack Cmpt. Review 6 Jack Pine Density Reserves Pine Proposal Pole Prescription Final harvest 2" and up. Apply standard area retention. Specs: <u>Other</u> Remove and buffer kettle holes located within this stand. KW habitat cut. Apply low stumps and chipping. Comments: **Next** Trench and re-plant jack pine. Steps:

Proposed

Start Date: 10/01/2015

7 72294007-Cut 79.4 42140 - Planted High 45 111-140 Harvest Clearcut with 4212 - Planted Jack Cmpt. Review Mixed Pine Density Reserves Pine Proposal

Pole

 $\underline{\text{Prescription}}\ \ \text{Final harvest 2"}$ and up. Apply standard area retention.

Specs:

Other KW habitat cut, apply low cut stumps and chipping.

Comments:

Trench and re-plant jack pine.

<u>Next</u> Steps:

<u>Proposed</u>

Start Date: 10/01/2015

Report 3 -- Treatments Prescribed Compartment: 294 Grayling Mgt. Unit Year of Entry 2016 with No Limiting Factor s t а **Treatment** Acres CoverType Size BA **Treatment Treatment Cover Type** Approval n Density Method Objective **Status** d Name Age Range Type 42120 - Planted 4212 - Planted Jack Cmpt. Review 72294008-Cut 21.5 High 62 Harvest Clearcut with 8 Jack Pine Density Reserves Pine Proposal Pole Prescription Final harvest 2" and up. Apply standard area retention along east edge of stand. Specs: Other KW habitat cut, apply low cut stumps and chipping. Comments: <u>Next</u> Trench and re-plant to jack pine. Steps: <u>Proposed</u> Start Date: 10/01/2015 72294009-Cut 15.7 42220 - Natural Medium 74 Harvest Clearcut 4212 - Planted Jack Cmpt. Review Jack Pine Pine Proposal Density Pole Prescription Final harvest 2" and up. Do not apply retention because of small stand size. Specs: Other KW habitat cut, apply low stumps and chipping. Comments: Trench and re-plant jack pine. <u>Next</u> Steps: Proposed Start Date: 10/01/2015 72294011-Cut 13.4 42110 - Planted High 45 171-200 Harvest Clearcut 4212 - Planted Jack Cmpt. Review 11 Red Pine Density Pine Proposal Pole Prescription Final harvest 2" and up. No retention because of small stand size a KW management goal. Specs: <u>Other</u> Kirtland Warbler Habitat cut. Apply low stumps and chip site. Comments: **Next** Trench and re-plant to jack pine for KW habitat. Steps: **Proposed** 10/01/2015 Start Date: 72294012-Cut 30.0 42140 - Planted High 62 111-140 Harvest Clearcut with 4212 - Planted Jack Cmpt. Review 12

Reserves

Pine

Mixed Pine

Pole

Prescription Final harvest 2" and up. Apply standard area retention.

Density

<u>Prescription</u> Final harvest 2" and up. Apply standard area retent <u>Specs:</u>

Other KW habitat cut, apply low stumps and chipping.

Comments:

Next Trench and re-plant jack pine.

Steps:

Proposed Start Date: 10/01/2015

Proposal

Compartment: 294 Grayling Mgt. Unit Report 3 -- Treatments Prescribed Year of Entry 2016 with No Limiting Factor s t а **Treatment** Acres CoverType Size BA **Treatment Treatment Cover Type** Approval n Density Method Objective **Status** d Name Age Range Type 42120 - Planted 5.7 High 48 Harvest Clearcut 4191 - Mixed Cmpt. Review 13 72294013-Cut Upland Deciduous Jack Pine Density Proposal with Conifer Pole Prescription Final harvest 2" and up. Do not apply retention because of small stand size. Specs Other Objective of this harvest is to reduce the stands fuel load and expand the adjacent aspen clone or create a natural open stand. Comments: <u>Next</u> Natural regeneration survey. Management objective is a mix of aspen, maple, and jack pine but will accept any upland mix. Will also accept any Steps: stocking level. <u>Proposed</u> Start Date: 10/01/2015 18 72294018-Cut 72.9 4126 - White, High 141-170 Harvest Clearcut with 4191 - Mixed Cmpt. Review **Upland Deciduous** Black, N. Pin Oak Reserves Proposal Density Log with Conifer Prescription Final harvest 2" and up except leave the super canopy white pine. Apply standard area retention around pockets of dense white pine

Specs: regeneration.

<u>Other</u> One large kettle hole is located in this stand. Removed from treatment area.

Comments:

Natural regeneration survey. Management objective is oak but will accept any upland mix.

<u>Next</u> Steps:

Proposed

10/01/2015 Start Date:

72294019-Cut 8.6 42120 - Planted High 48 Harvest Clearcut 42260 - Natural Cmpt. Review 19 Jack Pine Density Pine, Mixed Proposal Deciduous Pole

Prescription Final harvest 2" and up. Apply standard area retention.

Specs:

<u>Other</u> Remove inoperable parts of ravine from the sale area. Summer harvest in order to scarify soil.

Comments:

Natural regeneration survey. Management objective is a natural mixed pine stand but will accept any upland mix.

Next Steps:

Proposed

10/01/2015 Start Date:

72294022-Cut 4126 - White, 96 4191 - Mixed Cmpt. Review 22 11.4 High 81-110 Harvest Clearcut with Upland Deciduous Black, N. Pin Oak Density Log Reserves Proposal with Conifer

Prescription Final harvest 2" and up except leave all the red pine and white pine. Apply standard area retention along private boundary.

Specs:

Other Access will be limited to this stand. Road building will be necessary from the north.

Comments:

Natural regeneration survey. Management objective is oak but will accept any mix of upland species.

Next Steps:

Proposed

Start Date: 10/01/2015

Report 3 -- Treatments Prescribed with No Limiting Factor

ВА

Range

Compartment: 294 Year of Entry 2016 **Approval**

NF_72294003-3

Treatment

Name

Burn

16.5 3102 - Grass

CoverType

Prescribed Burn

Treatment

Type

Treatment Method Unspecified

Cover Type Objective 310 - Herbaceous

Openland

Status Cmpt. Review

Proposal

Prescription Maintain fuel break integrity by removing or reducing fuels.

Acres

Specs: <u>Other</u>

s t а

n

d

2 -4 ft jack pine throughout site. Stand will become a forested stand if not treated within this 10 years.

Size

Density

Stand

Age

Comments:

Next Steps:

Proposed

Unspecified Start Date:

Total Treatment

463.0 Acreage Proposed:

Grayling Mgt. Unit Report 4 -- Treatments Prescribed with Compartment: 294 a Site Condition s Year of Entry 2016 t **Treatment** Acres CoverType Size Stand ВА **Treatment Treatment Cover Type Approval** n Method Objective 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

Grayling Mgt. Unit

Scott Shooltz: Examiner

109

27

1,424

109

27

1,424

100%

Compartment 294 Year of Entry 2016

Availability for Management Dominant Site Conditions Total Acres Acres 5C 2B Acres Available Not Available No 10 10 10 Aspen 1149 1149 Jack Pine 1,149 15 15 Mixed Upland Deciduous 15 107 107 Oak 95 11

Planted Mixed Pines

Red Pine

White Pine

Total Forested Acres

Relative Percent

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

11

109

27

1,397

15

	Dominant Site ond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	15				
C	omments:						
004	Available	2B: Unknown if access through adjacent landowner(s) is possible	11				
C	omments:	iandowner(e) is possible					

Access from the north is limited by KW plantation. Accessing stand from the SE will require permission from adjacent land owner. An old trail runs along the south side of section 4.

Compartment: 294 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				

Grayling Mgt. Unit Compartment: 294





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						
Critical Habitat U.S. Fish and W 365, Endangere PA 451, and the		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 expectations are considered to the service of the serv	habitat areas are established via a consultative and cooperative process between the DNR and the sh and Wildlife service for the recovery of threatened and endangered species, as governed by Part idangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994, and the Federal Endangered Species Act of 1973. This is an active program, with proposed plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Habitat.						

s t	Graylin	Grayling Mgt. Unit			Forested	Stands Compartment: 294 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42120 - Planted Jack Pine	Medium Density Pole	140.7	64		Pocket and single mortality occuring in the jack pine. Jack pine and oak filling in canopy gaps at variable densities. Small ridge runs east to west along south third line of stand. Oak dominates understory in south 1/3rd along with pockets of white pine adjacent to canopy white pine. Jack pine understory is less dense than oak but occupies more area. N. pin oak is dying out of the stand.
2	42120 - Planted Jack Pine	High Density Sapling	87.7	18		
4	42110 - Planted Red Pine	High Density Pole	13.3	45	141-170	Red Pine Essential Habitat within KW management plan. Jack pine becomes more dense towards north end. Red pine rows are less distinguishable.
5	42120 - Planted Jack Pine	High Density Sapling	256.3	16		
6	42120 - Planted Jack Pine	High Density Pole	34.2	62		Heavy mortality in the jack pine has caused a build up of fuel in this stand. Several kettle holes in southern portion.
7	42140 - Planted Mixed Pine	High Density Pole	79.4	45	111-140	Stand underplanted with red pine in 1969. Heavy budworm activity in mature jack pine last YOE. Some pocket mortality. Three old burn areas. A ridge runs along west edge of this stand. Majority of the under planted red pine grew up into the canopy. The rest still remains in the understory. All needs to be thinned or released.
8	42120 - Planted Jack Pine	High Density Pole	21.5	62		Jack pine is healthier than in surrounding stands. Planted red pine occupies the understory. Still vigorous and should respond to a release.
9	42220 - Natural Jack Pine	Medium Density Pole	15.7	74		Jack pine experiencing heavy mortality in pockets and scattered trees. Under planted red pine is more sparse than in surrounding stands. Natural jack pine is filling in some canopy gaps.
10	42120 - Planted Jack Pine	High Density Sapling	287.5	25		Scattered older oak and red pine throughout.
11	42110 - Planted Red Pine	High Density Pole	13.4	45	171-200	Small ridge runs west to east through the center of the stand. Jack pine is concentrated along east edge. RP essential habitat within KW management area.
12	42140 - Planted Mixed Pine	High Density Pole	30.0	62	111-140	42 year old red pine planted under 62 year old jack pine. Red pine grew well in 40-50% of the stand. The remaining portion was supressed by jack pine. Jack pine is now deteriorating. Heavy white pine understory along south edge.
13	42120 - Planted Jack Pine	High Density Pole	5.7	48		Originated as a dense stand of jack pine. Mortality has been occuring over the past 10 - 20 years creating a heavy woody debris load. Aspen is encroaching from adjacent cut.

s t	Grayling	g Mgt. Unit		Report 8	Forested	Stands Compartment: 294 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	4132 - Aspen, Jack Pine	High Density Sapling	10.5	7		Serves as a fuel break. Stand is filling in with thick regeneration.
15	4126 - White, Black, N. Pin Oak	High Density Pole	21.7	54	111-140	Final harvest in 1960. Left scattered white oak, pine, and aspen. Oak has a small diameter for its age. Possibly because of late recruitment into the canopy. Stand growing well now.
16	42200 - Natural White Pine	High Density Log	6.6	92	141-170	Single tree mortality in parts of stand. Has been occuring for some time. Advanced regeneration occupying gaps nicely. Understory white pine is thickest along north edge. Good advanced regeneration throughout.
17	42120 - Planted Jack Pine	High Density Sapling	279.4	18		KW plantation. One pocket of aspen in the center of the stand.
18	4126 - White, Black, N. Pin Oak	High Density Log	73.8	94	141-170	Mature oak stand with a good portion made up of white oak. Dense white pine understory throughout. Scattered large diameter white pine. Ground cover is predominantly oak under 3 ft. 1 - 2 large kettle holes in the stand. No water observed in the bottom.
19	42120 - Planted Jack Pine	High Density Pole	8.6	48		Deep ravine runs north and south through the middle of the stand. Small portion cut in SW corner along private. Area in and along ravine was left. Area of the ravine farthest south contains water during wettest times of the year.
20	42220 - Natural Jack Pine	High Density Sapling	11.8	18		Good mix of species. Stand is on the lower of the canopy closure range.
21	4191 - Mixed Upland Deciduous with Conifer	High Density Log	14.9	94	81-110	White pine understory varies from sub-canopy to seedling. Previous salvage promoted dense white pine pockets and released supressed individuals. Oak and aspen appear healthy still.

4126 - White, Black, N. High Density Pin Oak Log

11.4

96

81-110

22

Heavy browse. Oak regeneration under 2', primarily white oak. WP RM understory dominates.

Report 9 - Nonforested Stands

Compartment: 294 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	3102 - Grass	16.5	Yes	High	Fuel break along S. Stephon Bride Road. Just under 25% canopy closure. May be forested next YOE.