

Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72286 Entry Year 2020 Acreage: 1,400

County Crawford

Management Area: AuSable Outwash

Revision Date: 2018-07-11

Stand Examiner: Thomas Barnes

Legal Description:

T27N R1W Sections 11, 12, 13 and 24

Identified Planning Goals:

To maintain species diversity while also addressing sustainability, forest health, productivity, wildlife habitat requirements (specifically the Kirtland Warbler), aesthetics, best management practices and recreational opportunities throughout the compartment. In addition, to maintain a healthy habitat for the endangered species Dendroica kirtlandii (Kirtland's Warbler), taking into account warbler management plan directives, species diversity and visual management.

Soil and topography:

Topography within this compartment is flat to gently rolling with some steep, narrow ridges transecting portions of the compartment, mainly localized in section 24. In terms of land forms present, this compartment consists mainly of upland flats throughout with stream terraces along the East Branch of Big Creek. The creek is actually not located within the compartment boundaries, however nearby landforms that are within the compartment are influenced by the river corridor. The major soil complex present in this area is Grayling sand with small inclusions of other types present, most notable being Graycalm-Grayling 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. The bottomlands of this compartment, mainly along the East Branch of Big Creek are made up mainly of Tawas-Lupton Muck and Leafriver Muck associations. These soil complexes are characterized as being poorly drained and are most often associated with a water course or water body. Major management concerns in these areas include equipment limitation, windthrow and seedling mortality.

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

The bulk of this compartment is state land separated by large blocks of private mainly localized along the Big Creek corridor. Recreational use is quite common in this area, mainly in the form of hunting, fishing and snowmobile riding. Snowmobile Trail #489 traverses the compartment in many locations and is used heavily throughout the snowmobile season. This trail is also part of the Midland-to-Mackinaw hiking and riding trail and therefore has relatively heavy use during the summer months as well. North of the compartment is Walsh Road Trail Camp so this area is used quite frequently for long distance horse rides. The compartment also has a great deal of land that is used quite commonly for deer hunting as well as some grouse and turkey hunting.

Unique Natural Features:

The East Branch of Big Creek runs in an east/west direction through this compartment. The river is approximately 10-25' wide through this stretch and is considered an excellent trout fishery. Wildlife abound within the river corridor and the surrounding areas.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations:

A portion of the compartment is within the Down River & Monument Kirtland's Warbler Management Unit, a High Conservation Value Area (HCVA). There is potential for dry prairie plants in grassy openings to include pine barren's species of Hill's thistle, rough fescue, Alleghany plum and pale agoseris. There also is potential for pine barren's species including dusted skipper, grizzled skipper and red-legged spittlebug to be present in these openings. Warbler species will be found in the young jack pine stands that abound in this region. There is also the potential for eastern massasauga rattler, wood turtle and loon to exist within the riparian zones of this compartment. Bald Eagle have been documented in this area.

Watershed and Fisheries Considerations:

While not technically within the compartment, the Big Creek watershed is of great importance within this area for wildlife as well as recreational purposes. The creek is influenced greatly by nearby management decisions and therefore should always be considered when making management recommendations in this vicinity.

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 river corridor and surrounding swamps also provide large tracts of uninterrupted land used by a variety of wildlife species for breeding and nesting, protection from predators and forage grounds. Management decisions within this compartment are influenced greatly by wildlife considerations.

Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pit is located approximately four miles away, but sand & gravel potential appears to be good within the compartment on the uplands. There is currently no active oil and gas leasing within the compartment, but active state oil & gas leases exist immediately to the south. These leases are held by production from the Conner's Marsh Field, which produces gas from the Ordovician Prairie du Chien (St. Peter Sandstone). There may be additional gas potential beneath the compartment. No known metallic mineral potential exists in this part of the state.

Vehicle Access:

Access to this compartment is adequate via North Down River Road and Walsh Road. Many two-tracks and forest roads travel from these main roads into the surrounding forest land.

Survey Needs:

Survey information within this compartment is good. The majority of corners are confirmed where state land intersects private. Two sets of double corners exist at the Crawford/Oscoda county line.

Recreational Facilities and Opportunities:

A multi use designated trail occurs on portions of state forest and county roads running north and south thru the compartment in the east half of section 12, NE corner of section 13, and along the east edge of Section 24. It is used by equestrians, hikers, and snowmobiles. The forest roads in the compartment are open to ORV's; but not part of a designated trail. Due to the proximity to private property this compartment receives moderate impacts from wildlife viewing, hunting, and recreational use throughout the year.

Fire Protection:

Fire protection is considered in this area because of its close proximity to large jack pine plantations and its tendency for 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.

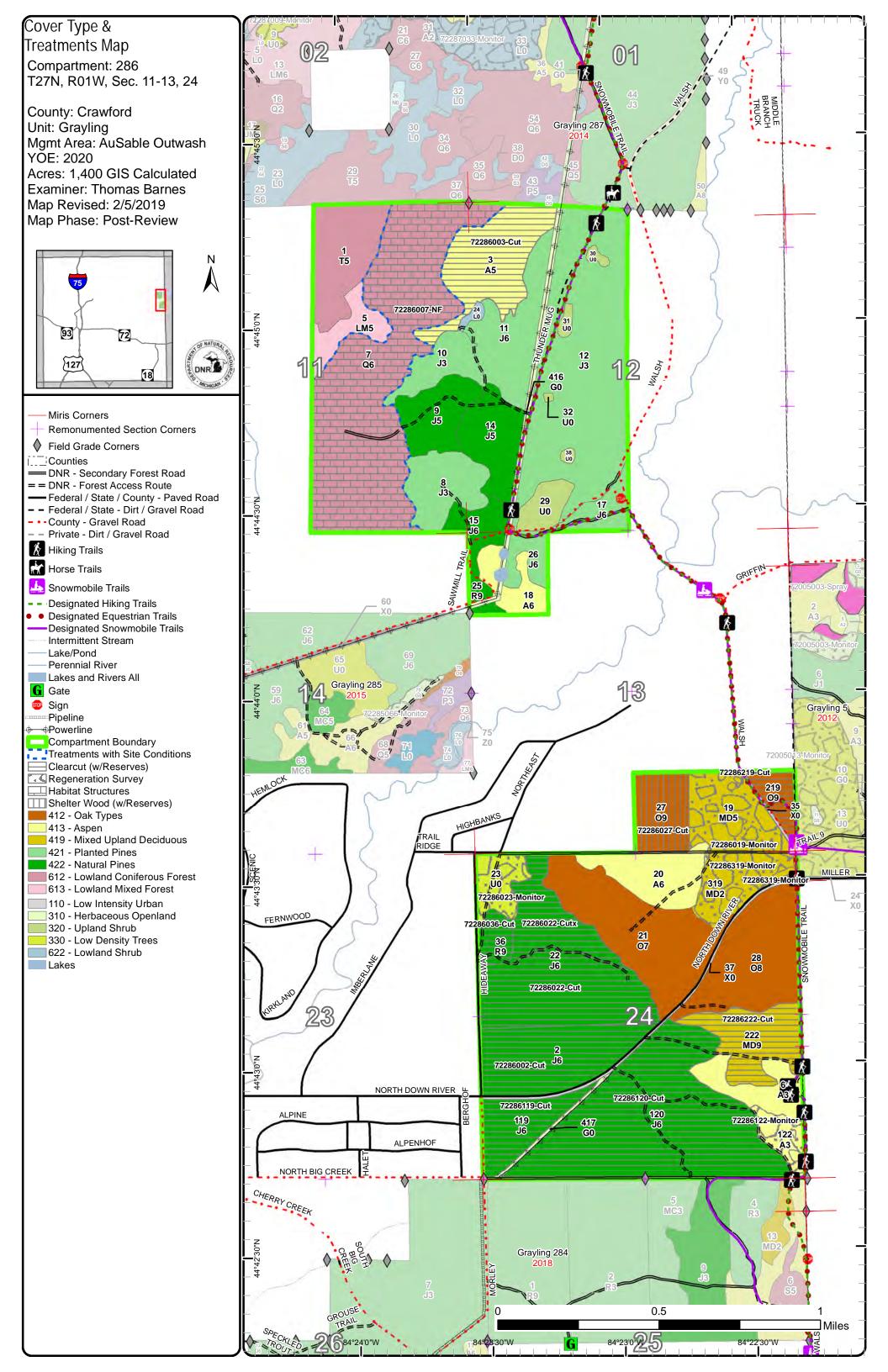
Additional Compartment Information:

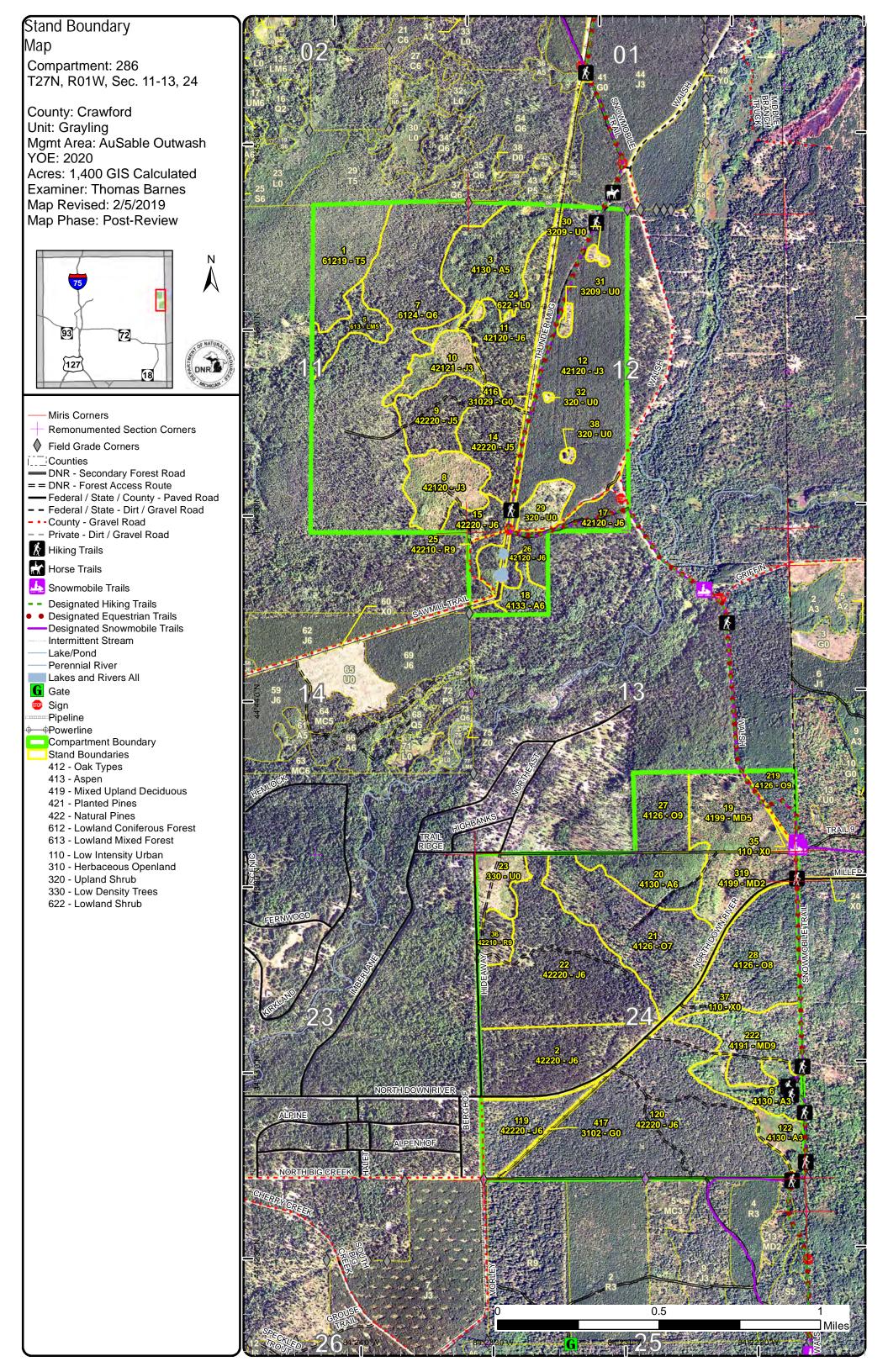
The following reports from the Inventory are attached:

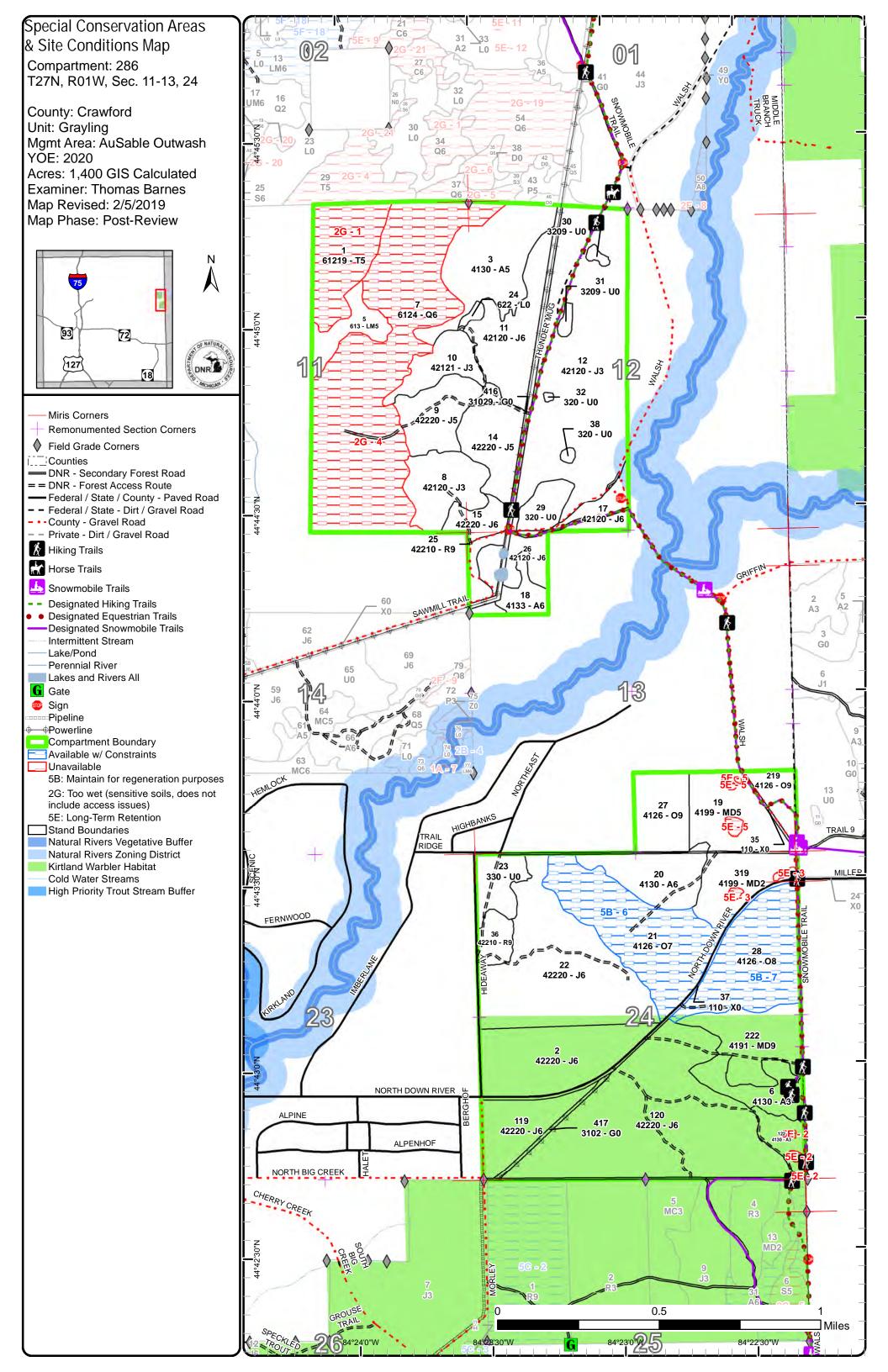
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

The following information is displayed, where pertinent, on the attached compartment maps:

Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system







Compartment 286 Year of Entry 2020

Thomas Barnes: Examiner

Grayling Mgt. Unit



Age Class

	Not Not	A STATE OF THE PROPERTY OF THE		\$\ \$\ \$\	\$5.0°	\$ \\	8 70°S	, % /%		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	80.00	\$ /w/	70.	8 <u>,</u> /&	82 / E/	\$5.7. /s/	St. S.	St Jue	De La
Aspen	0	34	0	0	47	52	0	0	0	0	0	0	0	0	0	0	0	0	133
Herbaceous Openland	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Jack Pine	0	0	49	30	174	97	323	0	0	0	0	0	0	0	0	0	0	0	673
Low-Density Trees	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Lowland Conifers	0	0	0	0	0	175	0	0	0	0	0	0	0	0	0	0	0	0	175
Lowland Mixed Forest	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Lowland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mixed Upland Deciduous	0	0	68	0	0	0	0	0	0	0	37	0	0	0	0	0	0	0	105
Oak	0	0	0	0	0	0	0	0	0	0	175	0	0	0	0	0	0	0	175
Red Pine	0	0	0	0	0	0	10	0	9	0	0	0	0	0	0	0	0	0	19
Tamarack	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	0	42
Upland Shrub	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Urban	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	62	34	117	30	238	324	333	0	9	42	212	0	0	0	0	0	0	0	1400



Report 2 – Treatment Summary

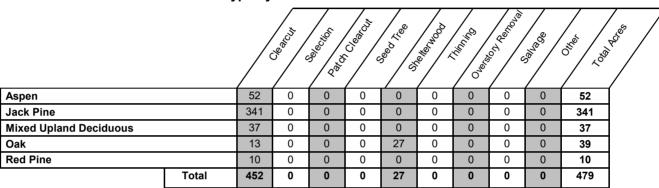
Grayling Mgt. Unit Year of Entry: 2020

Acres of Harvest

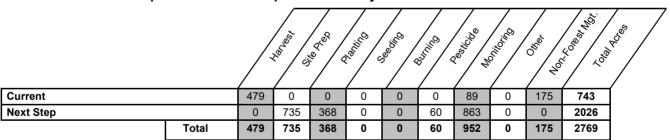
Compartment 286
Total Compartment Acres: 1,400

Commercial Harvest - 479 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method



Proposed and Next Step Treatments by Method



Comment

Spruce-Fir **Debris Creation** Coniferous Boundary Forest

Habitat Cut: No Site Condition: Too Wet

Prescription WLD will create horizontal cover for snowshoe hare within this stand by hinge cutting and dropping conifer species(primarily black spruce and balsam fir) except cedar. This horizontal cover work will be focused primarily along the stand's edge and around canopy gaps. Specs:

18

Medium

Immatu

Monitoring

Natural Regen

(Re-Inventory)

412 - Oak Types Even-Aged

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

Upland Deciduous Monitor

Habitat Cut: No

72286019-

Site Condition:

35.7 4199 - Other Mixed Poletimber

Specs:

Prescription

Next Step

Treatments:

Acceptable Oak with maple, aspen and other species meeting minimum stocking levels.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 6 /7 /2018 Draft Field

Boundary



Compartment: 286

Year of Entry: 2020

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
22	72286022-Cut	69.7	42220 - Natural Jack Pine	Poletimber Well	53	51-80	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No Site Condition:

Prescription Final harvest with retention follow standard retention guidelines. Retention should mimic fire vortices. Sale should be restricted to a short wood operation, no chipping, low stumps and slash is to be scattered throughout sale. Site will be scarified, following harvest. If sale does not Specs: naturally regenerate then site prep as needed and plant to jack pine.

SitePrep, Scarification; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); SitePrep, Trenching; Planting, Interplant Next Step **Treatments:**

Acceptable Naturally regenerated jack pine at a density suitable for KW Habitat. If natural regen fails then plant site to jack pine.

Regen:

Other Comment:

10/1 /2020 **Proposed Start Date:**

42220 - Natural 72286022-4211 - Planted 33 2 Poletimber 53 51-80 Clearcut with **Draft Field** Harvest Even-Aged Cutx Jack Pine Well Retention Red Pine Boundary

Habitat Cut: No Site Condition:

Prescription Final harvest with retention, focus retention along the perimeter to help with next step treatments. Site prep as needed. Include low stump and Specs: chipping spec to help with planting.

SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Pesticide, (Inactive)Skidder/Mechanical; Monitoring, Artificial Next Step <u>Treatments:</u> Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Planted red pine at a density to ensure a well stocked red pine plantation.

Regen:

Other Comment:

Proposed Start Date: 8 /1 /2018

23 Natural Regen 4211 - Planted Draft Field 72286023-16.7 330 - Low-Density Nonstocked Unspec Monitoring Even-Aged Red Pine Monitor Trees ified (Re-Inventory) Boundary

Habitat Cut: No Site Condition:

Prescription Check Regen, Regen check failed for Oak MO. Change MO to planted red pine. Site prep work to be conducted at the same time stand 36 and northern half of stand 22 is prepped. Specs:

SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Pesticide, (Inactive)Skidder/Mechanical; Monitoring, Artificial Treatments: Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Planted red pine at a density to ensure a well stocked pine plantation.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 2 /23/2015

72286027-Cut 26.8 4126 - White, Sawtimber 94 51-80 Harvest Shelterwood 4199 - Other Even-Aged Draft Field Mixed Upland Black, N. Pin Oak Well Boundary Deciduous

Habitat Cut: No Site Condition:

Prescription Remove all species except white oak and red or white pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Fair to medium stocked stand with maple, oak and conifer with oak being 20-30 percent of next stand.

Regen:

Other Comment:

Proposed Start Date: 10/1 /2019



Compartment: 286

Year of Entry: 2020

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
36	72286036-Cut	10.3	42210 - Natural Red Pine	Sawtimber Well	59	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Site Condition: Habitat Cut: No

Prescription Final harvest without retention do to size of stand. Follow harvest site prep area as needed.

Specs:

S

SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, (Inactive)Skidder/Mechanical; Planting, Initial Plant; Monitoring, Artificial Next Step

<u>Treatments:</u> Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Planted red pine at a density to ensure a well stocked red pine plantation.

Regen:

Other Comment:

Proposed Start Date: 10/1 /2019

119 72286119-Cut 28 7 42220 - Natural Poletimber 47 81-110 Harvest Clearcut with 4222 - Natural Even-Aged Draft Field Jack Pine Well Retention Jack Pine Boundary

Habitat Cut: No Site Condition:

Prescription Final harvest with retention follow standard retention guidelines. Retention should mimic fire vortices. Sale should be restricted to a short wood operation, no chipping, low stumps and slash is to be scattered throughout sale. Site will be scarified, following harvest. If sale does not Specs:

naturally regenerate then site prep as needed and plant to jack pine.

Next Step SitePrep, Scarification; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); SitePrep, Trenching; Planting, Interplant

Treatments:

Acceptable Naturally regenerated jack pine at a density suitable for KW Habitat. If natural regen fails then plant site to jack pine.

Regen:

Other Comment:

10/1 /2021 **Proposed Start Date:**

42220 - Natural Poletimber 120 72286120-Cut 150.3 51-80 Clearcut with 4222 - Natural Draft Field Harvest Even-Aged Jack Pine Well Retention Jack Pine Boundary

Habitat Cut: No Site Condition:

Prescription Final harvest with retention follow standard retention guidelines. Retention should mimic fire vortices. Sale should be restricted to a short wood operation, no chipping, low stumps and slash is to be scattered throughout sale. Site will be scarified, following harvest. If sale does not Specs: naturally regenerate then site prep as needed and plant to jack pine. Also add snowmobile/ORV/Horse trail spec. Site prep as needed.

Next Step SitePrep, Scarification; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); SitePrep, Trenching; Planting, Interplant **Treatments:**

Acceptable Naturally regenerated jack pine at a density suitable for KW Habitat. If natural regen fails then plant site to jack pine.

Regen:

Other Comment:

Proposed Start Date: 10/1 /2024

72286122-122 4130 - Aspen Sapling Immatu Natural Regen 41299 - Oak (OI) Even-Aged Draft Field 11.1 Monitoring Well (Re-Inventory) Boundary Monitor re

Habitat Cut: No Site Condition:

Prescription Specs:

Next Step Treatments:

Acceptable Oak and mixed species meeting minimum stocking levels.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 2 /23/2015

Grayling Mgt. Unit Report 3 -- Treatments Compartment: 286 s Year of Entry: 2020 t а **Treatment** Stand Size Stand BA **Treatment Treatment Cover Type** Acres Age **Approval** n Method Name CoverType Density Age Range Type Objective Structure **Status** d 72286219-Cut 12.6 4126 - White. Sawtimber 51-80 Clearcut 4199 - Other Draft Field 219 97 Harvest Even-Aged Black, N. Pin Oak Well Mixed Upland Boundary Deciduous **Habitat Cut: No Site Condition:** Prescription Clearcut without retention do to size. Leave a red and white pine. Use 4" and up spec as well as regen protections spec. Also include rec trail Specs: Next Step Monitoring, Natural Regen (Re-Inventory) Treatments: Acceptable Fair to medium stocked stand of maple, oak and conifer with oak being 30-40 percent of next stand. Regen: Other Comment: 10/1 /2019 **Proposed Start Date:** 94 Draft Field 36.6 4191 - Mixed Sawtimber 51-80 Clearcut with 222 72286222-Cut Harvest 4130 - Aspen Even-Aged **Upland Deciduous** Well Retention Boundary with Conifer **Site Condition: Habitat Cut: No** Prescription Final harvest with retention following standard retention guidelines. Add rec trail spec as well a drumming log spec. Specs: Next Step Monitoring, Natural Regen (Re-Inventory) **Treatments:** Acceptable Medium to well stocked stand of aspen with other associated species. Regen: Other Comment:

Natural Regen

(Re-Inventory)

Habitat Cut: No

Proposed Start Date:

72286319-

Monitor

Upland Deciduous

Site Condition:

Sapling

Medium

11

Immatu

re

Monitoring

25.8 4199 - Other Mixed

Prescription Specs:

Next Step

<u>Treatments:</u>

<u>Acceptable</u> Oak with a mix of other species that meets minimum stocking level.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 2 /23/2015

Total Treatment Acreage Proposed:

743.3

10/1 /2019

Draft Field

Boundary

41299 - Oak (OI) Even-Aged

Grayling Mgt. Unit : Examiner

Compartment: 286 Year of Entry: 2020

*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)	42	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
2	Unavailable Comments:	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
3	Unavailable Comments:	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified

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: 286
Year of Entry 2020



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.

Conservati Area	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions stocked trout populations and those of other coldwater fish specific conditions for coldwater fishes may occur in Michigan lakes if the groundwater inflows, or are located in colder (northern) areas of Director's action and designated as trout resources by Fisheries	ies to persist from year to year. Suitable ey are relatively deep, have substantial the state. Such lakes are established by
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen cond stocked trout populations and those of other coldwater fish specified year to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such streams designated as trout resources by Fisheries Order 210.	ies (e.g., slimy sculpin) to persist from ese conditions due to substantial
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and coop U.S. Fish and Wildlife service for the recovery of threatened and 365, Endangered Species Protection, of the Natural Resources and 451, and the Federal Endangered Species Act of 1973. This species plans in various stages of review. As of now only two explover Habitat.	l endangered species, as governed by Part and Environmental Protection Act, 1994 is an active program, with proposed
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spapproved distance from the river centerlines. The Natural Rivers most Natural Rivers. The Vegetative Buffer ranges from 25 to 10 and Vegetative Buffers for each Natural River see the table local folder.	s Zoning District is a 400 foot buffer for 00 feet. To view specific Zoning Districts

S t	Grayling	Grayling Mgt. Unit			- Forested	Stands Compartment: 286 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	61219 - Tamarack (OI)	Poletimber Medium	41.5	89	51-80	Remote Call didn't visit stand old data comments were - low wet mucky soils with standing water in several places. Lots of deer sign and mossy ground cover. Black spruce understory. Old data was tamarack 60 BA averaging 1 - 3 sticks with average diameter of 6 and site index of 42. OPIC - FMD: 1998: USED OLD SITE INDEX LEAVE AS A DEER YARD
2	42220 - Natural Jack Pine	Poletimber Well	58.6	53	51-80	Variable jack pine stand. Density fluctuates as does size/density throughout stand. Jack pine is of fair quality. Red pine is good quality as well. Scattered balsam fir, mainly localized in pockets which may indicate some areas of higher water table. Areas of fair oak regen, heavy browse in most all of these areas. Hawthorn scattered throughout stand as well. Openings exist in many areas of the stand, providing diversity and variable structure. Some larger jack pine within stand providing additional diversity. Some of these larger individuals are developing into standing snags as well as creating nice DWD. Part of KW Block 77 which is to be planted in 2029 as per wildlife. OPIC - FMD: Stand 121 of compartment 284 has been added to this stand since the southern 1/2 of section 24 which was previously part of compartment 284. The southern portion of this stand is part of the North Branch KW Unit and is therefore to be considered an HCVA (old comment) J2-02. VARIABLE AGE- '83 CUT WAS OS REM. RP IN NW. SOME MAT IN 20YR. (old comment from compartment 284) KW Block 5. N Branch KW Unit, YOE 2018.
3	4130 - Aspen	Poletimber Medium	52.0	45	Unspecified	OPIC - FMD: Variable stand with open areas, lots of balsam fir and areas that are A3/A6. Stocking is quite variable overall as is DBH with the largest size and densest portions of the overall stand lying in the southern reaches. Some poor quality jack pine mixed throughout. High water table in places, some declining aspen in localized pockets. (old comment) 1998: STAND HAS JUST REACHED A4 STATUS.
5	613 - Lowland Mixed Forest	Poletimber Medium	16.5	37		Remote call didn't visit the site very wet to get to used old inventory to make call. OPIC - FMD: Variable stand, growing slow. Low site index, standing water in places. Very difficult to access and inventory, thick stand with understory well established. (old comment) FTP 1982. S2-P2-L: MIXED REGEN 1998: USED OLD SITE INDEX. LEAVE FOR DEER YARD. DO NON-COMMERCIAL CUTS FOR WINTER DEER FEED IN SEVERE WINTER.
6	4130 - Aspen	Sapling Well	22.1	9	Immature	Sale harvested under timbersale 72-022-10-01 Deuce Deuce Mix, sale was taken away from producer. You my aspen stand with some residual oak and conifer. One retention area left east of 2 track.
7	6124 - Lowland Spruce- Fir	Poletimber Well	175.2	49	51-80	Mixed swamp conifer of large sapling to small pole size. Only able to access the edge of the stand do to amount of water standing within stand. Large white pine could be seen from the edge and appear to be scattered throughout stand. OPIC - FMD: Mixed stand of swamp conifers. Variable in places with pockets of Q6/Q3-2. Large white pine in places, mostly localized at the perimeters of the stand. Difficult to access entire stand at time of inventory, did not make it to the far western edge but could see more overstory white pine in the distance. Spruce and tamarack are short in height with relatively small DBH's throughout stand. (old comment) SPRUCE, TAMARACK, FIR. AGE APPROX.

s t	Grayling	g Mgt. Unit		Report 7	– Forested	Stands Compartment: 286 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
8	42120 - Planted Jack Pine	Sapling Well	29.9	11	Immature	Young jack pine plantation with some cherry brush, oak and aspen scattered about. OPIC - FMD: Stand final harvested in 2001. Looks to have not been planted, although possibly trenched. Currently a U-type with cherry brush present, heavier on west side. Some jack pine seedlings present, mostly near old landing. FTP W72-451 has been sent in for replanting. (old comment) 1998: CLEAR CUT AND REPLANT TO JACK PINE. POSSIBLITY OF USING DIRECT SEEDING INSTEAD OF PLANTING. MNFI IS TO INSPECT FOR ENDANGERED SPECIES. LEAVE SNAGS. Clear cut spring of 2001, contract # 72-036-00-01. Planted Jack Pine May, 2008 per C72-451.
9	42220 - Natural Jack Pine	Poletimber Medium	27.6	49	1-50	Jack pine stand that does not appear to be planted. Stems resemble open grown averaging 1-3 sticks of mixed diameters from sapling to pole. Scattered oak, aspen and cherry. Along the western edge lowland conifers were present. Three BA swings were taken with a stand average of 30. OPIC - FMD: J3 stand in many places, just on the verge of becoming J4-J5. Some of these areas contain merchantable timber although it is quite scattered. Stand seems to be J3 at edges and in portions of the south, although once the stand was inventoried, it was found to be a J4 stand overall. Spruce/fir scattered throughout, mainly concentrated on the western side of the stand, becoming established from adjacent Q-type. (old comment) SCATTERED RESIDUAL. AGE VARIABLE - CUT WAS OS REMOVAL.
10	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	19.3	11	Immature	Stand planted in 2008 as per FTP C72-451. Stand also has cherry and a few pockets of aspen within the plantation. OPIC - FMD: Final harvested in 2001. Mixed stand that was supposed to be planted to jack pine, however it does not look like it's been planted, possibly trenched. Overall the stand is a mixture of A3, U2/3 and J3. Jack pine concentrated in the western portions of the stand while aspen occupies the center and u-type remains dominant around the edges. FTP W72-451 has been sent in for replanting. (old comment) 1998: CLEAR CUT AND REPLANT TO JACK PINE OR DIRECT SEED IF POSSIBLE. MNIF IS TO INSPECT FOR ENDANGERED SPECIES. LEAVE SNAGS. Clear cut the spring of 2001, contract # 72-036-00-01. Planted Jack Pine in May, 2008 per C72-451.
11	42120 - Planted Jack Pine	Poletimber Well	40.2	44		Jack pine stand of primarily pole sized stem with both sapling and log size. Stocking low to medium with openings of both dry and wet areas Scattered oak, red pine, aspen and spruce/fir. OPIC - FMD: Lightly stocked J3 stand with some merchantable timber present, mostly overstory oak that are scattered throughout stand and are of very poor quality. Aspen, fir and red pine are also present in low numbers. Openings throughout, lots of wildlife activity. Some areas of J4, some larger jack pine individuals, however overall should be classified a J3 stand. (old comment) TRENCH AND SEED BEFORE HARVEST. COULD LEAVE 10 SQ FT FOR SEED SOURCE 1998: OVERSTORY REMOVAL DONE IN 1991. STAND IS SLOWLY REGENERATING TO JACK PINE AND ASPEN MIX. SOME SCATTERED MATURE TIMBER TO MAKE STAND A J4 STATUS.

S t	Graylin	Grayling Mgt. Unit				Stands Compartment: 286 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	42120 - Planted Jack Pine	Sapling Well	147.4	31	Immature	Jack pine with several small opening nested within. Larger diameter trees a long snow trail and power line. Merged with stand 13. OPIC - FMD: J3 stand with openings scattered throughout stand. Pockets of J5/6 near perimeter of stand, mainly along roads and 2-tracks. Lots of wildlife activity in stand, looks as though deer use this area for thermal cover during the winter. Did not find any information regarding the stand being designated official KW habitat when stand was inventoried. (old comment)PRESCRIBED BURN SPRING 1988. LEAVE OPENINGS WHEN PLANTING. WEINRICH TO CHECK TO OFFICIALLY DESIGNATE THIS AREA AS KW HABITAT WITH THE USFWS.
14	42220 - Natural Jack Pine	Poletimber Medium	30.0	28	1-50	Stand is very similar to stands 11 and 14, open grown jack pine that does not appear to have been planted. Scattered oak and aspen within stand as well. Five BA swings taken with stand average of 40. OPIC - FMD: Slightly higher density than stand 11, also slightly higher DBH which in this case results in it being classified a J4 stand. Aspen along with overstory oak exist throughout stand. Fir also present. (old commnet) CUT RESIDUAL OVERSTORY WITH STAND 11 OVERSTORY IS HIGH RISK.
15	42220 - Natural Jack Pine	Poletimber Well	11.4	51	1-50	Jack pine stand with some growth variations. Quality is not that good only 1.5 to 3 sticks. Lower end of canopy closure. Some scattered red pine, oak and aspen. Snow trail on south and east boundary. OPIC - FMD: Jack pine stand, variable growth condition throughout stand. Short in height-1-1.5 sticks/tree. Red pine scattered around, growing well. Also some aspen along with scattered oak, both of poor quality. Borders snowmobile trail #409. (old comment) SCATTERED R4-R7.
17	42120 - Planted Jack Pine	Poletimber Well	14.5	34	Immature	Planted jack pine with some scattered red pine and oak. Rec trail and county Rd run thru stand. OPIC - FMD: Stand is a mixture of J5/J3 and R8. Fair quality overall, red pine demonstrating best growth/form within stand. Some aspen present in low numbers, mainly along southern edge of stand. Overall types to a jack pine stand-J5 with medium stocking. Snowmobile trail runs at southern edge of stand, along with a few trail roads that traverse stand in an east/west direction. (old commnet) SOME J3. PLANT SPARSE AREAS WTIH STAND 12. SOME R7-CUT NEXT CYCLE.
18	4133 - Aspen, Mixed Pine	Poletimber Well	15.7	38	Unspecified	you my aspen stand bordered by power in and wet swale. Good density of stems. Some pine component mixed within. Same type of stand as stand 118. OPIC - FMD: A3 stand, growing fairly well. Jack pine mixed in in many areas. Some larger red pine present along with pockets of A4. Understory is grassy with some sweetfern and also a small amount of oak regen mixed in. This regen is browsed heavily and is in bad shape overall. (old comment) SCATTERED R4-R7.

s t	Grayling	Grayling Mgt. Unit				Stands Compartment: 286 Year of Entry: 2020	RESOURCE.
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	<i>?</i>
19	4199 - Other Mixed Upland Deciduous	Poletimber Medium	38.0	18	Immature	Stand was final harvested in 2010/11 with retention. There are 3 retention island left from 2010 treatment. The stand has regenerated nicely to a primary mix to oak and maple. There is a small component of pole size red and white pine. Regen is both stump sprout and rootstock. Northern portion of stand more open. OPIC - FMD: Descent oak stand with moderate stocking. More diverse than stands 33 and 21. More of a red pine component than surrounding stands, mainly concentrated along CR-608. Less dense understory overall. Oak are of descent quality, some decline along with standing snags in places. Areas where M3 is very thick and is actually the dominant timber type. These are areas where openings previously existed as the stump count in these locations is low. These areas contain more seed source regen as opposed to the stump sprouting that is common throughout stand. White pine is also a minor component within stand. Originally this stand was combined with stand 319 and was split after compartment review. Stand 19 is to be final harvested with some retention throughout stand in order to maximize oak regeneration. Mark to leave some red pine as part of the retention component within this stand. Protect white pine regeneration in order to develop more of a natural oak/pine stand. Treat concurrently with stand 319. (old comment) CUT TO 30-40 SQ FT. FAVOR RP BY RD. CONVERT TO ASPEN WHERE POSSIBLE. USE 5-SPOT SHELTERWOOD METHOD. PRESCRIPTION CHANGED TO FINAL HARVEST. LEAVE PATCHES FOR MAST AND TO BREAK UP VISUAL FROM WALSH ROAD. Timber Sale #72-044-01-01 Walsh Corner Oak)	
20	4130 - Aspen	Poletimber Well	31.3	37	81-110	Aspen stand with red pine, red maple and oak present throughout stand. Overall stand is growing well, lots of wildlife activity and what looks like a fair amount of hunting pressure in area. Lots of browse at edges of stand where smaller regen exists. OPIC - FMD:(old comment) MIX OF ASPEN AND OAK WITH SOME RED AND WHITE PINE.	-
21	4126 - White, Black, N. Pin Oak	Sawtimber Poor	75.3	91	1-50	Stand was harvested in 2003 under contract 72-071-01-01. Very good regeneration of maple, aspen and oak. Aspen and maple found in think pockets and oak has so me dense pockets. Oak has stem heights from small seedling to 20-30 f t an competing with maple and aspen. Four BA swings were taken with average of 27. White oaks are doing well, however, hybrid oak does hare mortality. Stands 33 and 34 were merged with this stand. Stand was prescribed for a residual BA for Oak was 20 BA. OPIC - FMD: Open grown, fair to poor quality oak. Thick regen of red maple aspen and oak in places, all of descent quality. Lots of browse present. Overstory trees are of descent quality with some poor quality individuals. Some mortality, DWD and standing snags throughout stand. Lots of fuelwood cutting within stand boundaries. Harvest type created a nice visual corridor along CR-608. Will eventually develop into an aspen/oak stand with red maple and aspen being dominant in many places. Some red pine regen present-small amount. (old comment) 1998: STAND HAS BEEN SEVERELY CUT FOR FIREWOOD OR WOOD THEFT. MARK TO LEAVE 40% CROWN CLOSURE. Stand was harvest in fall of 2003. 40 ba remains	

S t	Graylin	g Mgt. Unit		Report 7	– Forested	Stands Compartment: 286 Year of Entry: 2020	OF NATURAL PROBLEMS OF NAT
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	MICHIGAN .
22	42220 - Natural Jack Pine	Poletimber Well	103.0	53	51-80	Variable jack pine stand. Density fluctuates as does siz throughout stand. Jack pine is of fair quality. Red pine quality as well. Scattered balsam fir, mainly localized ir which may indicate some areas of higher water table. If air oak regen, heavy browse in most all of these are Hawthorn scattered throughout stand as well. Opening many areas of the stand, providing diversity and var structure. Some larger jack pine within stand provi additional diversity. Some of these larger individual developing into standing snags as well as creating nice OPIC - FMD: Stand 121 of compartment 284 has bee to this stand since the southern 1/2 of section 24 which previously part of compartment 284. The southern porti stand is part of the North Branch KW Unit and is therefor considered an HCVA (old comment) J2-02. VARIABL '83 CUT WAS OS REM. RP IN NW. SOME MAT IN 20 comment from compartment 284) KW Block 5. N Brand Unit, YOE 2018.	e is good n pockets Areas of eas. s exist in riable ding s are e DWD. n added ch was on of this ore to be E AGE- YR. (old
25	42210 - Natural Red Pine	Sawtimber Well	8.9	78	81-110	Mixed conifer stand of large pole/ log Jack pine and I pine. Small size with ctyrd and private bordering wes Very little understory with sweet fern and blueberry as cover. OPIC - FMD: Large red pine, limby in form, look: been groing open for quite some time. Oak in under browsed quite heavily. Overall, a small amount of re present with lots of browse on what is there. (old con 1998: RED PINE SAWLOG STAND	t side. ground s to have story, gen is
26	42120 - Planted Jack Pine	Poletimber Well	11.9	38	1-50	Planted jack pine with a small component of residual re Aspen present throughout the stand and in pockets. It some opens within as well. OPIC - FMD: J3 stand wit overstory red pine, constituting approximately 10-20 BA Aspen are mixed throughout with small pockets of A3. small openings that could be considered U-type stands very small. There is one small seep within this stand to adjacent to powerline ROW. There is leatherleaf through area along with clumps of red-osier dogwood. (old con NEAR STAND 3. 1998: STAND HAS 20 BASAL AR RED PINE SAWTIMBER IN OVERSTORY	ne re are h some l overall. Some s but are that lies ghout this mment)
27	4126 - White, Black, N. Pin Oak	Sawtimber Well	26.8	94	51-80	Mixed oak stand with red pine and some white pine. Do and maple stump sprouts with maple being higher perored Red pine mostly poles with son log and saplings. Hybrideclining and exhibiting he any mortality. Stand was the 2003 under contract 72-019-01-01. Three BA swings to average of 65Residual BA for oak was 50. OPIC - In Descent oak stand that was thinned in 2003. Red in sprouting heavily along with oak in many places/ Fair as red pine regen in the understory spaced fairly evenly. The anice component to diversity as well as vertical structure is of fair quality. Red oak/mixed oak is dominant with white oak present, localized areas of thicker W.O. Lots activity, multiple squirrel nests as well as some turke activity. Thin/Shelterwood next YOE. (old comment) STAND WAS PART OF STAND #19 BUT WAS NOT CINTAND WAS PART OF STAND #19 BUT WAS NOT CINTAND TREES ARE MARKED. MARK TO LEAV CROWN CLOSURE. Stand treated sumer and winter Closed 2004. Average residual 50 BA of mixed on the standard stand	entage. id oak is inned in aken with FMD: naple mount of This adds a some of wildlife y/deer 1998: UT WITH E 40%

s t	Grayling	Grayling Mgt. Unit			– Forested	Stands Compartment: 286 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	4126 - White, Black, N. Pin Oak	Sawtimber Medium	60.7	92	1-50	Stand was harvested in 2004/05 under contract 72-069-01-01. Residual BA for oak was 50. Mixed stand with white and hybrid oak with some red pine. white oak is doing well, however, hybrid oak is experiencing heavy mortality. Midstory is a mix oak, maple, and aspen roughly 20-30ft tall. Heavy presence of white oak seeding less than 4.5 ft tall. Open areas of canopy mortality, has highest oak stem densities Five BA swings taken with a live BA of 26, dead top and dead BA of 20 .OPIC - FMD: Oak stand, similar to surrounding stands. Descent red pine/white pine component throughout stand with red/mixed oak being dominant and white oak a substantial component. Oak is of fair quality, not great. Again, a great deal of wildlife activity abounds in this area. Numerous species including deer, turkey, squirrel and other small mammals seem to utilize this area heavily. Some small patches of A3 mixed throughout stand. Previous stand 35 was absorbed into this stand. There were some general differences in the area where previous stand 35 was located, mainly related to conifer stocking in the understory. Oak however were very similar across stand lines. Portion of stand 28 that lies west of the powerline ROW is now numbered stand 128. (old comment) 1998: SPECIES REMOVAL REMOVING ALL THE ASPEN AND RED MAPLE. MARK TO LEAVE 40% CROWN CLOSURE. Part of Timber Sale 72-069-01-01 Next To Horse Trail Block
36	42210 - Natural Red Pine	Sawtimber Well	10.3	59	81-110	Sale harvested in 2014 under timbersale 72-003-12-01 Deuce Deuce Deuce, this sale was a readvertisement for Deuce Deuce which was taken away from original producer. Sale was a thinning and incorrectly a regen survey was noted during next inventory cycle.
119	42220 - Natural Jack Pine	Poletimber Well	28.7	47	81-110	Sparse jack pine stand that lies between power lines and d Down River Rd. Lower end of canopy closure with 1-2.5 sticks per stem. Ground cover grass and blueberry. Some oak seedlings. Part of KW Block 77 which is to be planted in 2029 as per wildlife.
						OPIC - FMD: Very close to being a J4/5 stand however at this point, although typed a J4 stand, the stand is mostly J3. Nice jack pine, growing fairly well. Low site on kotar scale as evidenced by understory plant species and combination of what is apt to develop into overstory forest type. Added to compartment 286 from compartment 284 in june of 2002. Some areas of J5 with merchantable sticks present however in very low numbers. Stand is part of North Branch KW Unit and is therefore to be considered an HCVA (old comment) Kirtland Warbler Cutting Block 5 YOE 2018
120	42220 - Natural Jack Pine	Poletimber Well	150.3	54	51-80	Jack pine dominated stand with hybrid and whit oak, aspen an Some red pine. Varied diameters from sapling to log however, stems are a bout 2-3 stick a nut real good quality. Oaks are large pole to log size. Cherry brush is in understory. Ground cover blue berry and ferns. Part of KW Block 77 which is to be planted in 2029 as per wildlife. 'OPIC - FMD: Lightly stocked J6 stand with jack pine, mixed oak species and occasional red pine throughout. Fair quality overall aside from oak species. Lots of wildlife using stand for cover and feeding. 2-tracks bisect stand from CR-608. Stand was added from compartment 284 in june of 2002. Stand is part of North Branch KW Unit and is therefore to be considered an HCVA (old comment) KW Block 5. North Branch KW Unit, YOE 2018.

s t	Grayling	g Mgt. Unit		Report 7	Forested	Stands Compartment: 286 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
122	4130 - Aspen	Sapling Well	12.3	7	Immature	Young stand of aspen with oak and maple. The re are two retention islands. Aspen and maple regeneration is in most part taller than oak. Sale harvested in 2014 under timbersale 72-003-12-01 Deuce Deuce Deuce, this sale was a readvertisement for Deuce Deuce which was taken away from original producer. North portion of stand was harvested under Deuce Deuce.
219	4126 - White, Black, N. Pin Oak	Sawtimber Well	12.6	97	51-80	Mixed oak stand with red and whitepine. Understory is primarily red maple with pockets of dense oak regen in canopy gaps. Medium to low oak seedling found throughout. Hybrid oak show signs af dedine and matality. Three BA swings were taken with stand average of 76. OPIC - FMD: Copy of original stand 19, this is the portion of stand 19 that lies east of Wash Road. Snowmobile transects stand. Very similar in makeup to stand 19, possibly more white pine in understory and less red pine overall. Overall very similar, slightly higher DBH. Share comments from stand 12. (old comment) CUT TO 30-40 SQ FT. FAVOR RP BY RD. CONVERT TO ASPEN WHERE POSSIBLE. USE 5-SPOT SHELTERWOOD METHOD. PRESCRIPTION CHANGED TO FINAL HARVEST. LEAVE PATCHES FOR MAST AND TO BREAK UP VISUAL FROM WALSH ROAD. Timber Sale #72-044-01-01 Walsh Corner Oak)
222	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	36.6	94	51-80	Mixed stand of oak, aspen, maple and red & Jack pine. Majority of hybrid oak is dying or dead, however, white oak component is doing ok. Good amount of coarse woody debris. Good oak seedling and maple In the midstory. Four BA swings were taken with a stand average of 65. OPIC - FMD: Mixed stand with oak, aspen, red maple and some red and white pine present. Slightly better quality in places than stands to the north, overall very similar. Some oak stems are declining with standing snags present and a fair amount of DWD developing on ground. Added to compartment 286 from compartment 284 in June of 2002. Recommend to treat next YOE with shelterwood or seed tree harvest, areas of final harvest. Protect visual along forest roads. Stand is part of North Branch KW Unit and is therefore to be considered an HCVA (old comment) Was stand 22 in compartment 284.
319	4199 - Other Mixed Upland Deciduous	Sapling Medium	29.7	11	Immature	Sale harvested in 2014 under timbersale 72-003-12-01 Deuce Deuce Deuce, this sale was a advertisement for Deuce Deuce which was taken away from original producer. This stand everything greater than 6" was harvested. Residual stems from sale average about 2" in DBH. Modified age a little to reflect larger residual left. Regen from harvest is a mixture of oak, aspen and maple. Stand is fairly equal in species mix, oak will be a component of the future stand. Heavy deer browse.

Compartment: 286 Year of Entry: 2020



Stand	Cover Type	Acres	Managed Site	General Comments:
23	330 - Low-Density Trees	17.0		Stand was harvested in 2014 under contract 72-003-12-01. Stand is sparse oak stump sprouts with cherry brush. Stand should be plant to red pine. OPIC - FMD: Overall poor quality oak with lots of firewood theft occurring, some of this theft has been so heavy that portions of the stand are more u-type. Red pine mixed in is in good shape. Some balsam fir and white pine present throughout. Adjacent to road and some private nearby. Mainly sawlog sized and although it is relatively open-in some spots more of a u-type, BA classifies stand as an O9 type. Some pockets of variable timber were lumped into stand because of size/volume. It was determined at pre-review on 8/26/09 that this stand should be harvested based on age, SI and forest health criteria. Treat stand by final harvesting with retention along private and rd. Retention should be in the form of leave trees rather than leave islands. Red pine and oak should be targeted to be left as residual following harvest. (old comment) POOR QUALITY OAK. Approved at 11-10-09 Compartment Review.
24	622 - Lowland Shrub	2.1	No	Small opening with standing water. Leatherleaf and willow dominate this site. Some scattered tamarack and Spruce as well.
				OPIC - FMD: N-type surrounded by conifers and some aspen. A couple large white pine exist nearby. Lots of hare and squirrel activity near stand. This stand creates nice diversity in this area and good habitat for wildlife of all kinds. Alder and other wetland species exst in many of the openings with grasses of variable species also present. (old comment) SCATTERED OPENINGS. 1998: MARSH WITH LOTS OF FROGS
29	320 - Upland Shrub	12.0	No	Upland brush type with cherry and scattered jack pine, stand is getting close to being considered forested. OPIC - FMD: U-type with upland cherry bruch and jack pine interspersed. Surrounded by J3 stand. Sweet fern is aggressive as ground cover although overall stand seems to be dominated by grass species. (old comment) 1998: NO SITE INDEX AVAILABLE
30	3209 - Upland Shrub (OI)	1.7	No	Old comments still apply wit some scattered Jack pine. OPIC - FMD: One of a few small u-types located within stand 12. Lots of wildlife activity within this stand. Some cherry brush around edges with sweetfern and grasses dominating as ground cover. (old comment) 1998: NO SITE INDEX AVAILABLE
31	3209 - Upland Shrub (OI)	2.2	No	old comments still hold true. OPIC - FMD: U-type island within stand 12. Slightly more vegetation within this stand. Cherry around perimeter along with some aspen stems present. Flushed grouse within this stand that seemed to be feeding in this general area. (old comment) 1998: NO SITE INDEX AVAILABLE
32	320 - Upland Shrub	0.5	No	Small u-type island, jack pine, cherry and aspen present. 1998: NO SITE INDEX AVAILABLE
35	110 - Low Intensity Urban	1.4	No	Walsh Road
				OPIC - FMD: Walsh road between stands 19 and 119.
37	110 - Low Intensity Urban	6.8	No	County Road 612
				OPIC - FMD: 1998: COUNTY ROAD 608 PAVED. Morley Road is sand/gravel.
38	320 - Upland Shrub	1.1	No	Small u-type island, jack pine, cherry and aspen present. More aspen than other small u-type stands in the area. Pocket of sapling trees in center of stand differentiates this openings from others in the area as well. (old comment) 1998: NO SITE INDEX AVAILABLE

Compartment: 286 Year of Entry: 2020



Stand	Cover Type	Acres	Managed Site	General Comments:
416	31029 - Grass (OI)	14.0	No	South end has wet area with illegal vehicle and ORV activity. OPIC - FMD: Electric Line. Mostly grassy opening with sweetfern present along with some blueberry at edges. Snowmobile trail #409 travels down PROW until eventually veering into adjacent stand 13. (old comment) ELECTRIC LINE R-O-W
417	3102 - Grass	3.0	No	Power Line and Gas line Corridor
				OPIC - FMD: Electric Line. Mostly grassy opening with sweetfern present. This area has been added to compartment 286 from compartment 284 and therefore this is a new stad to compartment 286. (old comment) ELECTRIC LINE R-O-W