

GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 295 ENTRY YEAR: 2013

GIS Compartment Acreage: 808 County: Crawford

Revision Date:	August 23, 2011
Stand Examiner:	Joan Charlebois
Legal Description:	T26N R02W Sections 18, 30, 31 Grayling Township – southeast part

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management.

Soils and Topography: Soils are almost exclusively Grayling sands, with minor amounts of Graycalm-Grayling sands and Tawas-Lupton mucks. Terrain is generally level in the south two blocks of the compartment, but becomes rolling to steep in section 18.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment consists of three separate blocks surrounded by private property. The adjacent private property has been developed for a mix of seasonal and year-round residences. The north block (in Section 18) has numerous illegal ORV trails coming in from adjacent private land on all sides. The parcel in section 30 is currently up for disposal as part of the Phase II/III land consolidation/disposal effort.

Unique, Natural Features (include only non-site specific and non-sensitive information): Rare dry prairie plants, insects and birds have been recorded in similar habitats in surrounding compartments.

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

Special Management Designations or Considerations: None.

Watershed and Fisheries Considerations: None.

Wildlife Habitat Considerations: The compartment's jack pine, aspen and oak components provide a variety of habitats for game and non-game wildlife.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Michigan Formation and the Marshall Sandstone. These formations are or have been quarried for gypsum and building stone elsewhere in the State. The nearest gravel pit is located two miles to the east and potential is thought to be good. This area has been sparsely drilled and there are no oil and gas leases in this compartment. The nearest production is Hickeys Creek Field, located five miles to the southeast, producing oil from the Richfield and gas from the Prairie du Chien.

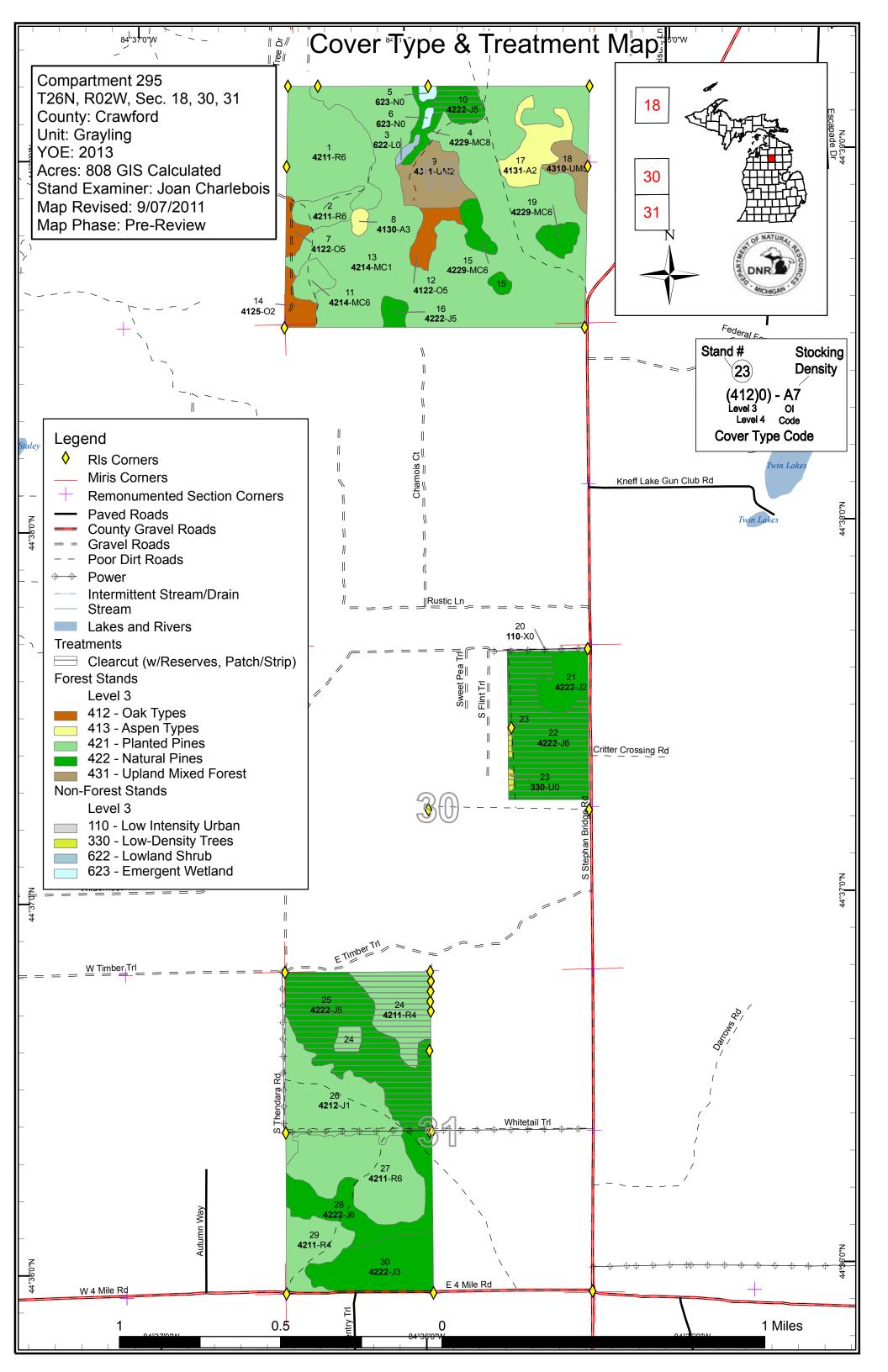
Vehicle Access: County roads include Stephan Bridge and Four Mile Roads. Two-track access is good except in section 18 where the terrain is steep.

Survey Needs: The center-east sixteenth corner of Section 30 needs to be located, if the parcel does not sell.

Recreational Facilities and Opportunities: Hunting appears to be the primary form of legal dispersed recreation within the compartment.

Fire Protection: Access is adequate for fire protection, with steep terrain being the only limiting factor in Section 18.

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



Compartment 295 T26N, R02W, Sec. 18, 30, 31 County: Crawford Unit: Grayling YOE: 2013 Acres: 808 GIS Calculated Stand Examiner: Joan Charlebois Map Revised: 9/07/2011 Map Phase: Pre-Review

Stand Boundary Map

18

Legend

- Rls Corners
- Miris Corners
- + Remonumented Section Corners
- Paved Roads
- County Gravel Roads
- = = Gravel Roads
- – Poor Dirt Roads
- Paved Roads
- = = Gravel Roads
- – Poor Dirt Roads
- → Power
- Stand Boundaries

Forest Stands

- Level 3
- 412 Oak Types
- 413 Aspen Types
- 421 Planted Pines
- 422 Natural Pines
- 431 Upland Mixed Forest

Non-Forest Stands

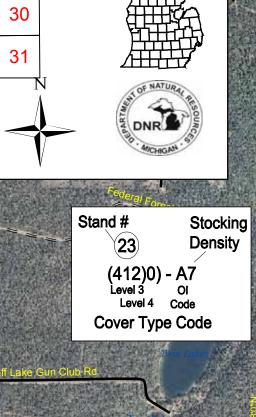
Level 3

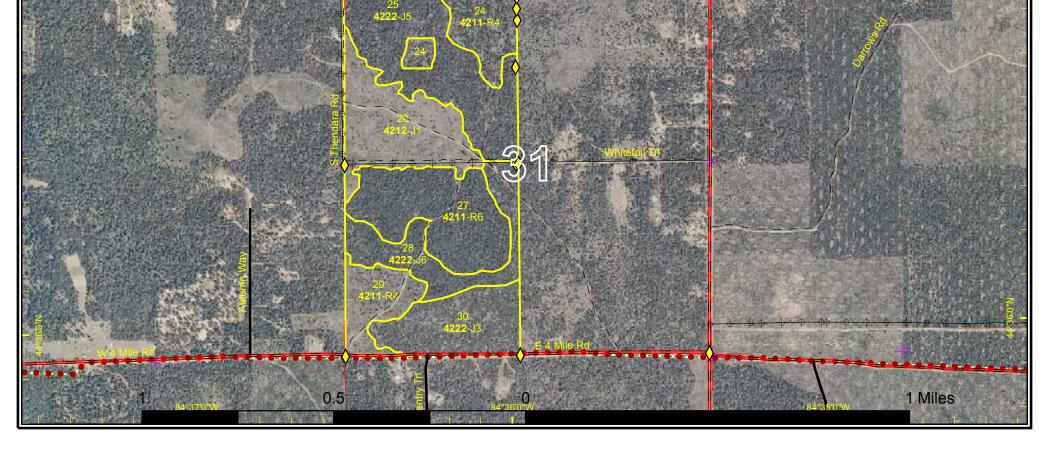
- 110 Low Intensity Urban
- 330 Low-Density Trees
- 622 Lowland Shrub
- 623 Emergent Wetland

Kneff Lake Curr

18







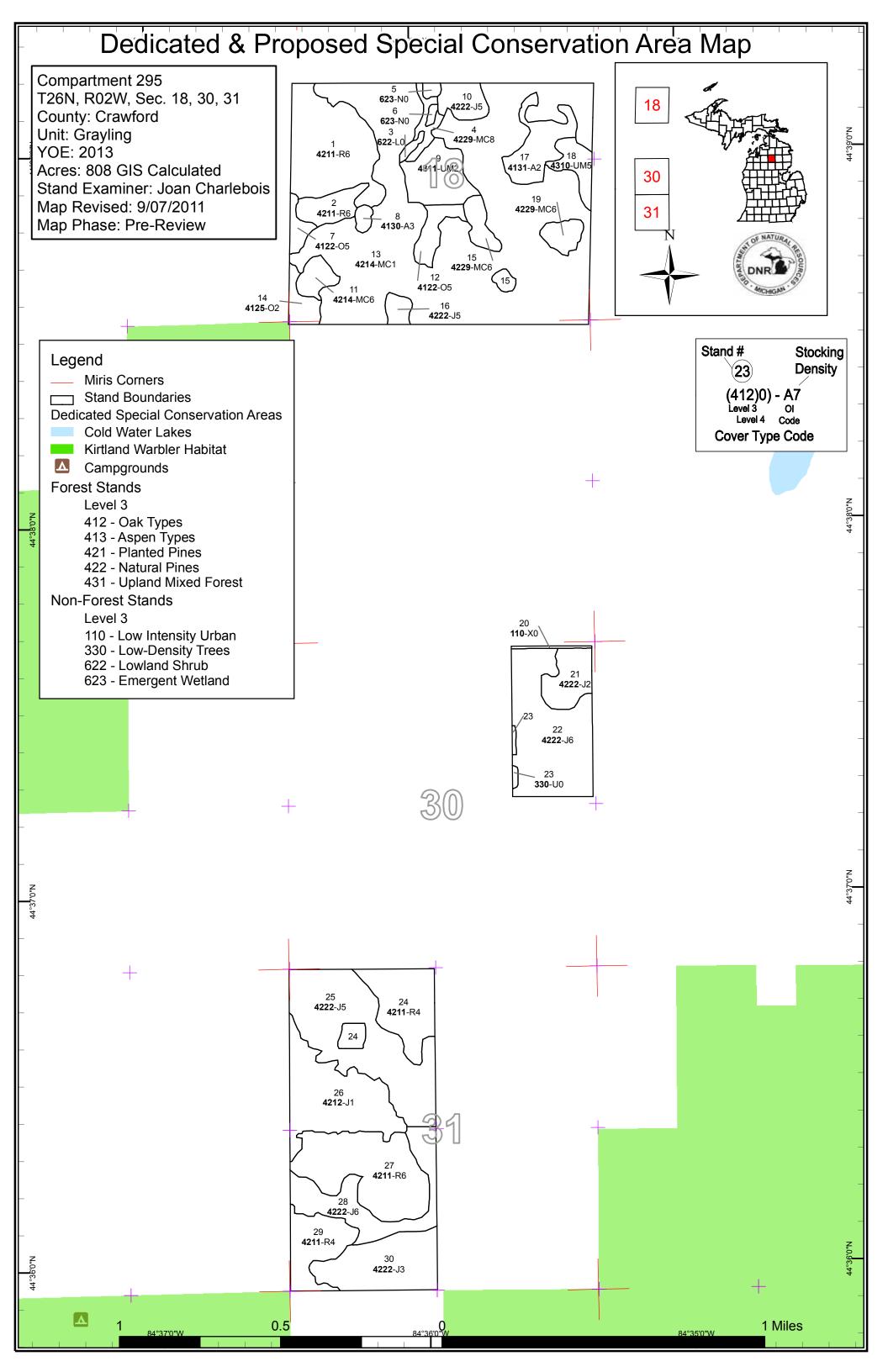


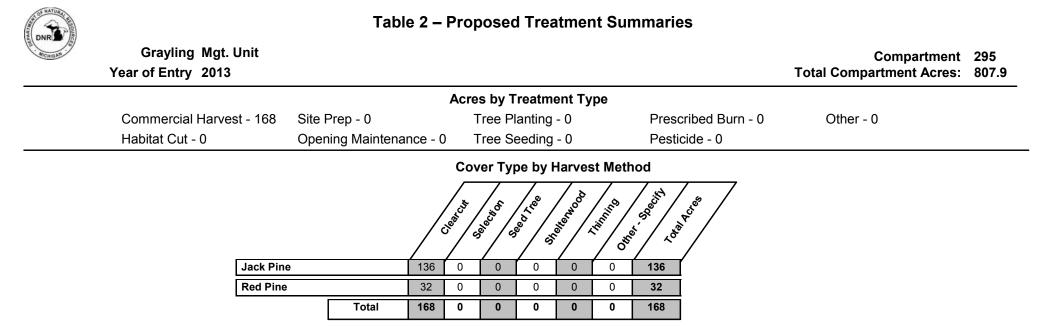
Table 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit Joan Charlebois : Examiner

Compartment 295 Year of Entry 2013



Age Class																	
	Nor	Asise of the second	6'z	10,79	67. 10 ²	62.12 12	10 ⁻¹⁰	85.05	69.09	R. D.	69-10 69-10 0	66.00	60 ¹ .00	8LL'0L	120× 1500	SC LER A	io,
Aspen	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	21	
Jack Pine	0	47	15	0	68	68	57	14	0	0	0	0	0	0	0	268	
Low-Density Trees	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Lowland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Marsh	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Natural Mixed Pines	0	0	0	0	0	7	9	5	0	0	0	0	0	0	0	21	
Oak	0	0	7	0	0	0	0	0	0	9	5	0	0	0	0	20	
Planted Mixed Pines	0	267	0	0	0	7	0	0	0	0	0	0	0	0	0	275	
Red Pine	0	0	0	0	0	166	0	0	0	0	0	0	0	0	0	166	
Upland Mixed Forest	0	0	21	0	0	0	0	0	0	0	9	0	0	0	0	30	
Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total	7	315	63	0	68	247	66	19	0	9	14	0	0	0	0	808]



Compartment: 295 Grayling Mgt. Unit Table 3 -- Treatments Prescribed with No Limiting Factor Year of Entry 2013 s t а Treatment Acres Stage1 Size Stand Treatment Treatment Cover Type Approval n CoverType Density Method Objective Name Status Type d Age 10 72295010-rel 9.6 42220 - Natural Medium Density 61 Harvest Clearcut with 4122 - Oak, Pine Cmpt. Review Reserves Jack Pine Pole Proposal Prescription Cut the JP & NPO in order to release the existing regen. For retention: exclude sideslope down to wetland & leave the few WO. Specs: Other Comments: <u>Next</u> Oak is the primary management species, with a mixture of oak & pine expected and accepted. Follow-up with natural regen survey. Steps: 22 72295022_ccr 58.5 42220 - Natural High Density Pole 54 Harvest Clearcut with 42120 - Planted Jack Cmpt. Review Jack Pine Reserves Pine Proposal Prescription Final harvest with reserves: leave roughly 3% total cover by retaining the RP, WP, WO & making up the rest in island retention. Specs: This parcel was slated for disposal and put up for auction through the Phase II boundary reveiw, but only 5 acres along the south end sold in Other_ 2011. If this parcel will be sold in the near future, the harvest may be modified, delayed or cancelled. The treatment area encompasses the Comments: currently non-forested stand 23 polygons along the west edge. Survey work will be needed to delineate the west boundary line. Next Trench and plant JP, follow-up with regen survey. Steps: 42110 - Planted 42120 - Planted Jack 24 72295024-ccr 31.9 Low Density Pole 40 Harvest Clearcut with Cmpt. Review Red Pine Reserves Pine Proposal Prescription Final harvest (2" DBH & up) with reserves: leave roughly 3% in island retention (ie: one 1-acre island). Set up as one harvest with stand 25. Specs: Other_ Comments: Trench and plant JP in one integrated block with the adjacent stand 25, follow-up with regen survey. Next Steps: 25 72295025_ccr 67.8 42220 - Natural Medium Density 47 Harvest Clearcut with 42110 - Planted Red Cmpt. Review Jack Pine Reserves Pine Proposal Pole Prescription Final harvest (2" DBH & up) with reserves: leave roughly 3% in island retention (ie: two 1-acre islands that encompass a mix of JP, RP & NPO). Set up as one harvest with stand 24. Specs: Other_ Comments: Trench and plant JP in one integrated block with the adjacent stand 24, follow-up with regen survey. <u>Next</u> Steps: **Total Treatment**

Acreage Proposed: 167.8

S t a		Gray	ling Mgt. Unit	Table 4		ents Prescrib ng Factor	Compartment: 295 Year of Entry 2013	DI NATURAL	
n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error						
Presc Spece	ription <u>s:</u>								
<u>Other</u> Comr									
<u>Next</u> <u>Steps</u>	<u>:</u>								
	ng Factor and No ment Reason	<u>)</u>							
Ac	Total Treatmer creage Propose		0						

Year	of Entry:	2013
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Out of YOE -- Treatments Prescribed with No Limiting Factor

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

Steps:

Total Treatment Acreage Proposed:

0

S t	Grayling	Grayling Mgt. Unit			prested Sta	nds Compartment: 295 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42110 - Planted Red Pine	High Density Pole	50.0	49	81-110	RP was interplanted around JP & NPO on a PVCd site. The JP overstory was heavy enough in places to have kept some of the planted RP suppressed in the understory. JP and oak 4" DBH & up were spec'd to be cut in 1994 under 720619301. More JP and oak residual from the cut than expected, varies widely (none to 60 sq. ft., averaging 30 sq. ft.). NPO has very poor quality/health. Given the poor site, interplanting & varying amount of competition, the RP stocking & growth is highly variable across the stand. The cover ranges from patches of RP with intact rows & uniform growth, to sketchy rows with suppressed saplings, to patches with just JP (second age) & declining NPO. Plantation doesn't extend to W pvt line along entire edge; there's a variable-width poorer-stocked swath with mainly JP & NPO.
2	42110 - Planted Red Pine	High Density Pole	10.5	49	111-140	Same age as RP to N, but was planted around less JP & NPO residual. Overall better row integrity & less disparity in growth. Hasn't been row-thinned yet, 140 median BA, ~200 sq. ft. in best of best, 90 sq. ft. in areas where the RP was planted around residual.
4	42290 - Natural Mixed Pine	Medium Density Log	5.3	68	51-80	Mixed stand surrounding string of wetlands, mostly on steep sideslopes. Multiple age-classes: supercanopy WP & RP, mature to overmature JP, oak & BTA, younger WP, RP & trembling aspen poles/small saw, and large sap WP understory. Cull/decadence in the older age classes across all species. Was left when adjacent uplands were harvested. Diplodia scrobiculata symptoms in the WP understory.
7	4122 - Oak, Pine	Medium Density Pole	4.7	90	51-80	Mixed oak/pine stand bisected by two-tracks used to access adjacent cabins. Several age bands: mature WO & NPO around 90 years old (previous inventory), oak stump-origin poles & saplings around 40 years old that extend into the bottom of the canopy, stump-origin RM & a little BTA poles/saplings, largely overmature JP, WP poles & small saw, and RP (used adjacent plantation age) made up primarily of a couple rows planted through the stand along with scattered naturally-established stems. Pockets of advanced WO & NPO regen combined make moderate subcanopy coverage.
8	4130 - Aspen	High Density Sapling	2.4	16		Cut in 1994 under 720609301, all stems 4" DBH and up. Vigorous BTA regen with RM stump sprouts.
9	4311 - Pine, Aspen Mix	Medium Density	21.0	16		Cut in 1994 (720609301) 4" DBH & up. Sapling BTA, JP & oak regen from the cut, along with scattered residual WP, JP, oak & RP. That residual is small pole/large sapling in size, except for the WP & RP that are moving into the saw diameter class but also tend to be short & limby.
10	42220 - Natural Jack Pine	Medium Density Pole	9.6	61	51-80	Mature to overmature JP with scattered NPO, accelerating mortality in both species. Also a few mature WO. Well- established oak in the understory, along with JP and occasional RP & WP saplings.

S t	Grayling Mgt. Unit			5 – Fo	prested Sta	Ands Compartment: 295 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Pole	7.0	47	81-110	RP planted around & through pockets of oak & JP. WP has been filling in where NPO & older JP have been dropping out. Wide variation in cover, ranging from solid planted RP to only naturally-established oak, JP & WP, with all gradations in between. Edges have narrower than typical row spacing. Symptoms of Diplodia scrobiculata starting in the younger WP. Illegal ORV traffic on two-tracks through stand.
12	4122 - Oak, Pine	Medium Density Pole	8.7	87	51-80	Xeric oak-pine type occupying a couple hilltops. South half of stand on the highest knob has 80-90 year old NPO growing more in the tall shrub category, topping out at around 25' tall. Site improves marginally to the north. WO tolerating the site better. JP increases to the N, represented by a range of age & size classes. RP, WP & a trace of struggling BTA are scattered across the stand. Peninsula left in Yukon Jack harvest area.
13	42141 - Planted Mixed Pine, Mixed Deciduous	Low Density Sapling	267.5	5		All merch stems cut in 2005 (720350301 Yukon Jack), trenched & planted to JP in 2006 (FTP C72-528), weaving around pockets of residual sapling/pole WP, RP, JP & NPO. NPO stump sprouts from the cut occur scattered throughout the stand & in dense patches. The NPO is vigorous, working its way steadily past the browse line. Rolling to steep topography. Some areas have majority cover in natural regen (particularly on hillsides where it was too steep to trench) but plantation overall. NW portion of stand has patchy plantation-origin small pole/large sapling RP residual. Poor survivorship in JP seedlings in that NW portion will propose fill-in planting this spring. Stand experiencing heavy illegal ORV traffic, coming in from the adjacent private lands on all sides.
14	4125 - Black, N. Pin Oak	Medium Density	7.0	16	1-50	Nice advanced oak & JP saplings - most of that regen from the 1994 cut (720619301), a minority older residual from the cut - along with scattered mature NPO and a couple rows of planted RP. Mature NPO dying out.
15	42290 - Natural Mixed Pine	High Density Pole	9.2	53	81-110	Mixed W-R-J Pine stand with a minor component of very poor- quality oak. A few xlog WP & RP seeded in the majority pole- sapling-log cover. The JP ranges in age from around 50 to 70+ years old, with the overmature component dying out. Porcupine damage in the overstory & Diplodia scrobiculata symptoms in the WP understory. Stand occupies ridgetops, was left as islands within the surrounding Yukon Jack harvest area.
16	42220 - Natural Jack Pine	Medium Density Pole	4.2	66	51-80	Mature to overmature JP with widely scattered RP. JP declining, with most of the mortality on the east aspect. Stand occupies a deep, steep-sided kettlehole depression; was excluded from the surrounding Yukon Jack harvest.
17	4131 - Aspen, Oak	Medium Density	18.6	16		Was cut in 1994 (720609301), then the middle 7 acres burned in 1999 (second age). The stand is a mix of aspen, oak & pine, mostly sapling regen from the cut & fire, with scattered residual aspen, oak & pine poles left by the harvest. BTA in clones, with oak & JP in between. Patches of nice O3 within the fire perimeter. Illegal ORV trails loop through the stand from the adjacent private to east, also cutting down aspen on hilltop.

S t	Graylin	Grayling Mgt. Unit			prested Sta	Ands Compartment: 295 Year of Entry: 2013		
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:		
18	4310 - Pine, Oak Mix	Medium Density Pole	9.1	90	51-80	Xeric oak/pine stand on hilltop, heavy to WO & RP, with JP, WP & NPO. Oak is short & contorted. Roughly half of the stand burned in a 1999 wildfire (NW, within plowlines). Less pine, more oak in the understory there. Illegal ORV trails from private to east.		
19	42290 - Natural Mixed Pine	High Density Pole	6.6	46	81-110	Mixed pine stand on hilltop. Heavy to WP, with RP, JP, NPO & a little WO. A few older pioneer trees seeded in the dominant pole/small saw cover. WP continuing to recruit, but starting to see branch flagging symptomatic of Diplodia scrobiculata in that understory. NPO marginal health/quality.		
21	42220 - Natural Jack Pine	Medium Density	14.6	15	1-50	4" DBH & up JP cut in 1994 under 720129301, all oak left. JP regen & residual from the cut make up the canopy, while the mature NPO saw/poles comprise a "supercanopy" layer above the majority JP cover. This poor quality/health NPO (roughly 20 BA) has been breaking up and moving into the snag class.		
22	42220 - Natural Jack Pine	High Density Pole	57.2	54	51-80	Mostly mature to overmature JP with poor quality/health NPO. The older JP is in the 70's & 80's, the "younger" JP is in the 50's. The NPO & older JP are declining, with increasing top dieback, breakage, root-tipping and outright mortality. Oak seedlings/saplings increasing to S, relatively open below to N. Occasional RP saw with seeded-in poles/saps circa. A few understory WP.		
24	42110 - Planted Red Pine	Low Density Pole	31.9	40	1-50	4" DBH & up JP was cut in 1993 under 720599301, leaving the RP that had been interplanted by the USFS. Typical of interplanting, the RP cover is extremely variable, ranging from swaths with decent row integrity & growth (for the PVCd site), to suppressed saplings in sketchy row segments. The struggling portion of the RP is only subcanopy-stature. The harvest left JP residual poles in the 30s & 40s, occasional older JP & breaking up NPO. The subcanopy has the same age RP as the canopy, along with JP sapling regen from the cut. Stand is at the high end of the 25-50% canopy closure range. The subcanopy plumps up the appearance of the canopy on the imagery. As that regen recruits, the canopy closure will move solidly into the 50-75% range.		
25	42220 - Natural Jack Pine	Medium Density Pole	67.8	47	51-80	Three-aged stand: JP poles 40-50 years old, overmature dying out JP saw (60 to 80+ years old) with interplanted RP around 40 years old. Solid PVCd site. The interplanting made for highly variable RP cover, ranging from areas with decent row integrity and pole-sized stems, to sketchy, fragmented rows with suppressed sapling-sized stems. The RP planted in areas with the least overstory competition is recordable as part of the canopy. The suppressed RP is only recordable in the subcanopy. Occasional NPO saplings & terrible quality, breaking up NPO saw (mostly in NW). Canopy coverage appears 75-100% on the imagery, but that is from subcanopy RP filling in gaps; the canopy cover is toward the high end of 50- 75%.		
26	42120 - Planted Jack Pine	Low Density Sapling	47.0	5		Was JP with USFS-interplanted RP. All stems merch and up were cut in 2005 under 720350301 (Yukon Jack). Trenched and planted to JP in 2006 under FTP C72-528. The post-harvest regen (planted JP and NPO stump sprouts) make up the canopy, while the scattered residual RP form a "supercanopy" layer.		

S t	Graylin	Grayling Mgt. Unit				nds Compartment: 295 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	42110 - Planted Red Pine	High Density Pole	52.0	41	111-140	Planted RP and similar age JP, with a "super-canopy" of fading, overmature JP, RP saw, & terrible quality, breaking-up NPO. Typical of interplanted RP, diameters vary widely, depending on the level of suppression from above. 1-3 sticks tall, ~1' internodal growth, PVCd site. The residual that had been planted around was patchy, so the distribution of planted RP is also variable. The RP saw is mostly in the stand's N & east-center and tends toward heavy limbs & high taper, with crooks & forked tops common. The OM JP increases toward the stand's perimeter. NPO saw largely died out.
28	42220 - Natural Jack Pine	High Density Pole	32.1	38	51-80	Compared to the core RP plantation stand that it wraps around, this stand has fragmented segments of the interplanted ~ 40 year old RP and the dominance shifts to naturally-established JP in the 30's & 40's (first age), still with a component of overmature JP scattered above the main canopy layer and occurring in small pockets (second age). The most-suppressed of the planted RP is relegated to the subcanopy.
29	42110 - Planted Red Pine	Low Density Pole	21.5	41	1-50	USFS had interplanted RP around naturally established JP. All merch stems were cut in 2005 (720350301 Yukon Jack), opener areas in stand's S & W (~ 4 acres) were trenched & planted to JP in 2006 (FTP C72-528). Resulting stand has patchy residual 1-2 stick RP (featured canopy) with a subcanopy of planted & naturally recruited JP regen, along with NPO stump sprouts. Low end of 25-50% canopy cover. As the JP regen fills out, the stand's featured canopy will shift from the residual RP to the planted JP.
30	42220 - Natural Jack Pine	High Density Sapling	35.8	31		Previous inventory noted that the stand regenerated following a 1976 wildfire, but the regen continued to seed in for a few years after that event. Variable stocking in large sapling/small pole JP. Generally full- to over-stocked, but with open-grown inclusions. Mature JP & RP that survived the fire are scattered along the stand's north end.

Grayling Mgt. Unit

Compartment: 295 Year of Entry: 2013



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	6220 - Alder/willow	1.6	No	Low (NonForested)	Tag alder in narrow, steep-sided swale, rimmed with trembling aspen.
5	6233 - Wet Meadow	1.5	No	Low (NonForested)	Appears to be an intermittent wetland/infertile marsh. Seen in bare patches & above snow: mostly grass with some sedge or juncus?, few tag alder clumps, colonizing JP & a little cattail. ORV traffic within the marsh's edge.
6	6233 - Wet Meadow	1.0	No	Low (NonForested)	Seen in bare patches & above the snow: tussock sedge & grasses, rimmed with tag alder.
20	11 - Low Intensity Urban	1.1	Yes	Low (NonForested)	Cleared utility/road corridor. Signed "Parma" but not a county road. Overhead powerline with two-track used to access private residences to N & W.
23	3302 - Low Density Conifer Trees	1.4	No	Low (NonForested)	Open, with scattered residual and regen from the cut (sapling & small pole JP & NPO).



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

Stand	SCA Type	SCA Name	Acres	Comments



8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

Conservation Area	а Туре	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and coo U.S. Fish and Wildlife service for the recovery of threatened and 365, Endangered Species Protection, of the Natural Resources PA 451, and the Federal Endangered Species Act of 1973. This species plans in various stages of review. As of now only two e Plover Habitat.	d endangered species, as governed by Part and Environmental Protection Act, 1994 s is an active program, with proposed