



## GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW RESENTATION

COMPARTMENT # 291 ENTRY YEAR: 2012

GIS Compartment Acreage: 2417 County: Crawford

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**Revision Date:** August 23, 2010

**Stand Examiner:** Joan Charlebois

**Legal Description:** T28N R1W Sections 2, 3, 10, 11  
Lovells Township – Northeast 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. 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.

**Soils and Topography:** The compartment's terrain is primarily outwash plains on Grayling Sands. The swamps and drainages are on organic soils (Tawas-Leafriver, Lupton, and AuSable-Bowstring Mucks).

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** The lands adjacent to the compartment are almost entirely in State ownership except for private property interface along the compartment's west edge. The compartment is part of the Lovells Kirtland's Warbler Management Unit, blocks 52, 53, 54 & a small corner of 47.

**Unique, Natural Features:** In addition to Kirtland's Warbler habitat, the West Branch of Big Creek flows through the compartment. Several unique plant and animal species are associated with these areas.

**Archeological, Historical, and Cultural Features:** Old railroad grades cross through the area.

**Special Management Designations or Considerations:** The compartment is part of the Lovells Kirtland's Warbler Management Unit, a High Conservation Value Area (HCVA). The West Branch of Big Creek is also an HCVA, part of the AuSable's Natural Rivers designation.

**Watershed and Fisheries Considerations:** The West Branch of Big Creek and a tributary to the Middle Branch of Big Creek flow through the compartment.

**Wildlife Habitat Considerations:** Management per the Kirtland's Warbler plan not only benefits the warbler, but also provides habitat for other opening-dependent songbirds and white-tailed deer.

**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 800 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. The nearest gravel pit is four miles to the southwest, and gravel potential is considered limited on the upland areas. All of the State land in the compartment is currently leased for oil and gas. The Antrim Shale is the producing formation in the area, and produces to the north, east and west of the compartment.

**Vehicle Access:** County roads include CR 612, Walsh Road, Boondocks Road, M.B. Extension and Big Creek Trail. The snowmobile trails and state forest two-tracks provide additional access.

**Survey Needs:** None

**Recreational Facilities and Opportunities:** Two designated snowmobile trails (#4 & #409) run through the compartment, along with the Midland to Mackinaw hiking pathway.

**Fire Protection:** The compartment has jack pine in rotation for Kirtland's Warbler habitat. Several mature jack pine stands are proposed for harvest. Vehicle access is good along existing roads, and the stream and lowland types serve as fuelbreaks. The West Branch of Big Creek is the closest water source.

**LOTS Compartment Acreage:** 2,471 acres

- **The following reports are available:**
  - ◆ **Cover Type by Age Class**
  - ◆ **Proposed Treatment Summaries**
  - ◆ **Dedicated Conservation Area Details**
  - ◆ **Listing of Forested Stands**
  - ◆ **Listing of Non-Forested Stands**
  - ◆ **Proposed Treatments – No Limiting Factors**
  - ◆ **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**
  - ◆ **Proposed road access system**
  - ◆ **Special Conservation areas**

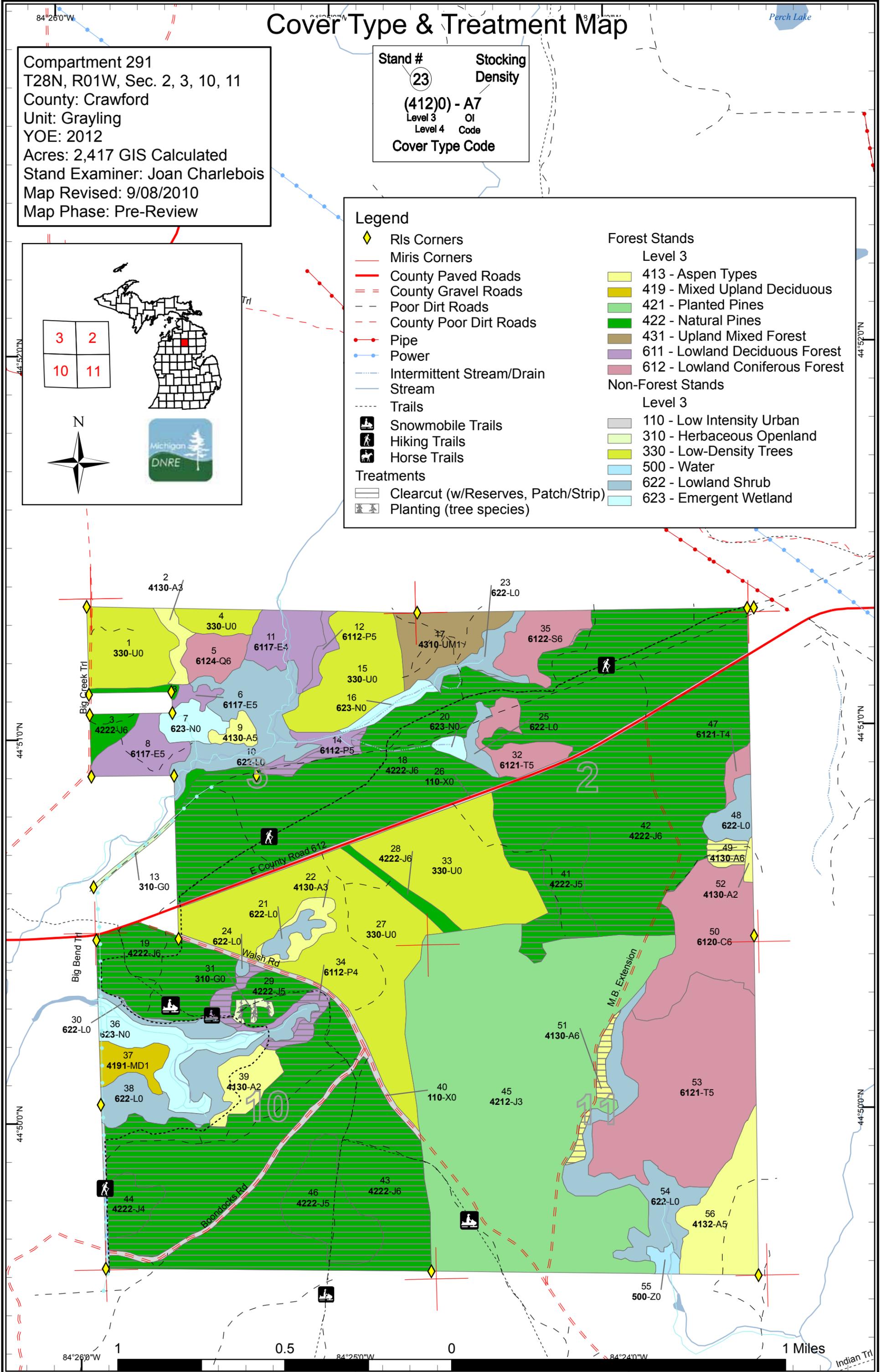
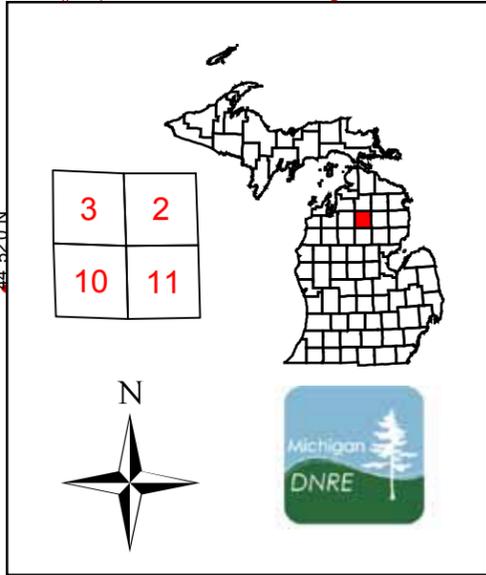
# Cover Type & Treatment Map

Compartment 291  
 T28N, R01W, Sec. 2, 3, 10, 11  
 County: Crawford  
 Unit: Grayling  
 YOE: 2012  
 Acres: 2,417 GIS Calculated  
 Stand Examiner: Joan Charlebois  
 Map Revised: 9/08/2010  
 Map Phase: Pre-Review

**Stand #**  
 23  
**Stocking Density**  
 (412)0 - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**

## Legend

- ◆ RIs Corners
  - Miris Corners
  - County Paved Roads
  - == County Gravel Roads
  - - Poor Dirt Roads
  - - - County Poor Dirt Roads
  - Pipe
  - Power
  - Intermittent Stream/Drain
  - Stream
  - - - Trails
  - 🛷 Snowmobile Trails
  - 🚶 Hiking Trails
  - 🐎 Horse Trails
  - ▭ Clearcut (w/Reserves, Patch/Strip)
  - 🌲 Planting (tree species)
- Forest Stands**
- Level 3
- 413 - Aspen Types
  - 419 - Mixed Upland Deciduous
  - 421 - Planted Pines
  - 422 - Natural Pines
  - 431 - Upland Mixed Forest
  - 611 - Lowland Deciduous Forest
  - 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 110 - Low Intensity Urban
  - 310 - Herbaceous Openland
  - 330 - Low-Density Trees
  - 500 - Water
  - 622 - Lowland Shrub
  - 623 - Emergent Wetland





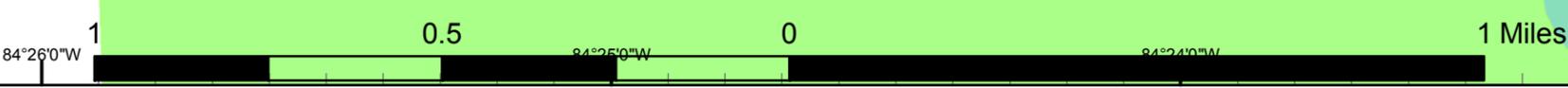
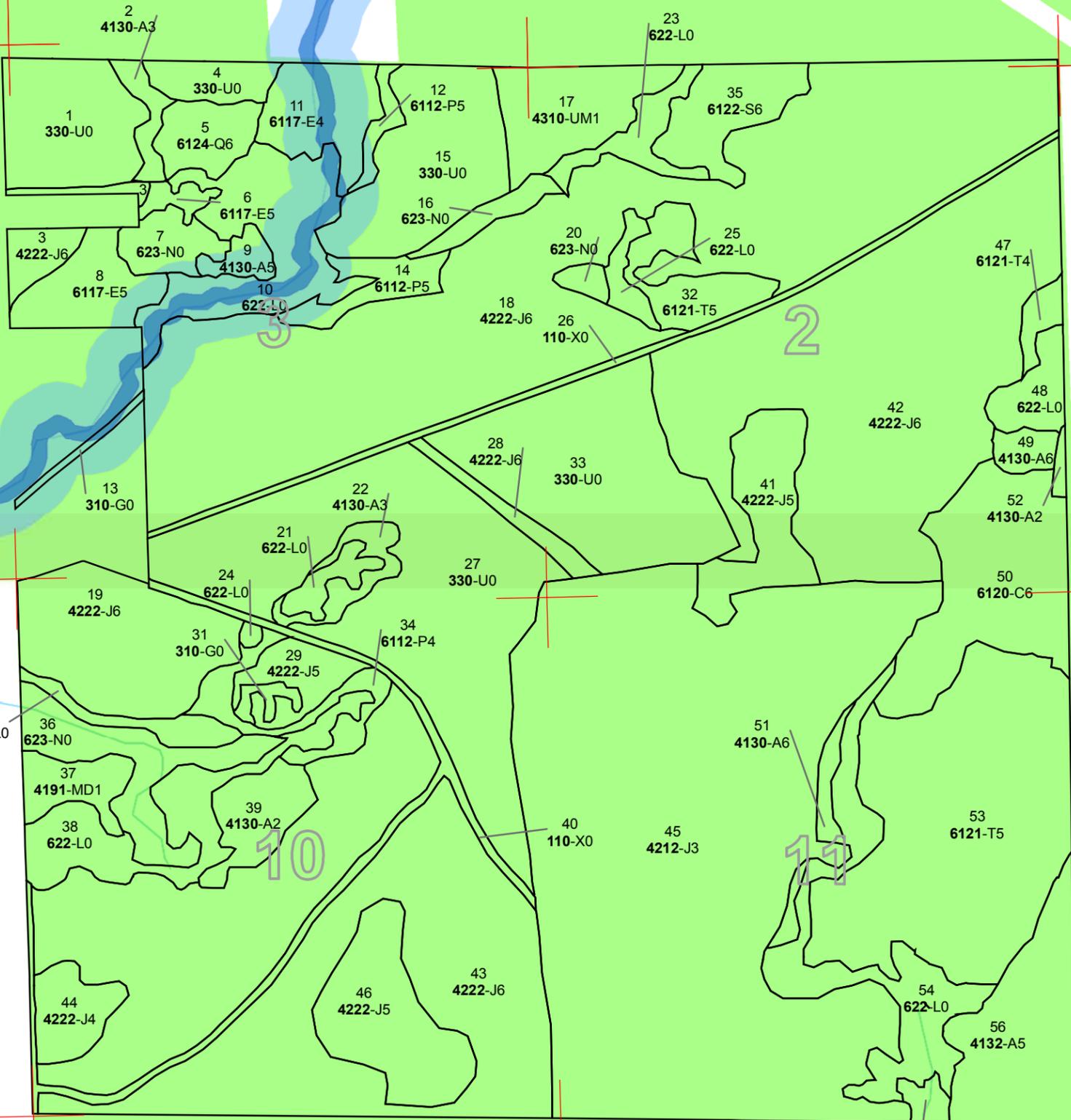
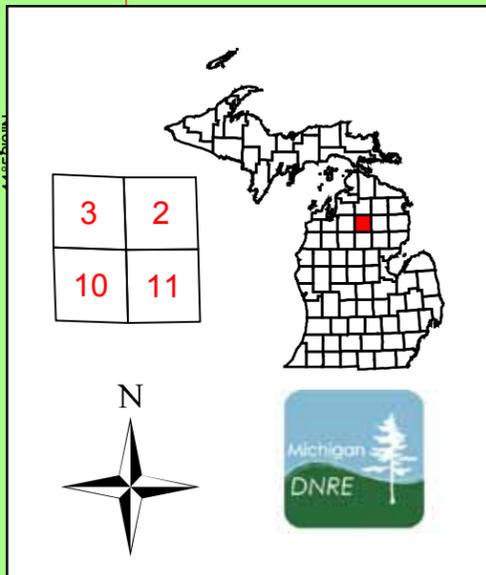
# Dedicated & Proposed Special Conservation Area Map

Compartment 291  
 T28N, R01W, Sec. 2, 3, 10, 11  
 County: Crawford  
 Unit: Grayling  
 YOE: 2012  
 Acres: 2,417 GIS Calculated  
 Stand Examiner: Joan Charlebois  
 Map Revised: 8/11/2010  
 Map Phase: Pre-Review

**Stand #**  
 23  
**Stocking Density**  
 (412)0 - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**

## Legend

- Miris Corners
- Stand Boundaries
- Dedicated Special Conservation Areas**
- Cold Water Streams
- OI Special Conservation Areas
- Kirtland Warbler Habitat
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer
- Forest Stands**
- Level 3
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 110 - Low Intensity Urban
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- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland



**Table 1 – Total Acres by Cover Type and Age Class**

Data updated before 2:00 PM



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Uneren Age
Aspen	0	18	18	0	47	19	0	0	0	0	0	0	0	0	0	101
Cedar	0	0	0	0	0	0	0	0	0	0	63	0	0	0	0	63
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Jack Pine	0	0	0	381	30	40	558	323	0	0	0	0	0	0	0	1333
Low-Density Trees	325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325
Lowland Aspen/Balsam Poplar	0	0	0	0	15	17	0	0	0	0	0	0	0	0	0	32
Lowland Conifers	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	14
Lowland Deciduous	0	0	0	0	0	21	28	0	0	0	0	0	0	0	0	49
Lowland Shrub	173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	173
Lowland Spruce/Fir	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	23
Marsh	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
Mixed Upland Deciduous	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Tamarack	0	0	0	0	0	138	19	5	0	0	0	0	0	0	0	163
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30
Urban	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
Water	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
<b>Total</b>	<b>596</b>	<b>18</b>	<b>30</b>	<b>381</b>	<b>92</b>	<b>236</b>	<b>643</b>	<b>328</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>2417</b>



## Table 2 – Proposed Treatment Summaries

Data updated before 2:00 PM

**Grayling Mgt. Unit**  
**Year of Entry 2012**

**Compartment 291**  
**Total Compartment Acres: 2417**

### Acres by Treatment Type

Commercial Harvest - 961	Site Prep - 0	Tree Planting - 3	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

### Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	13	0	0	0	0	0	13
Jack Pine	929	0	0	0	0	0	929
Lowland Aspen/Balsam Poplar	18	0	0	0	0	0	18
<b>Total</b>	<b>961</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>961</b>

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
14 72291014-cc	5.8	6112 - Lowland Aspen	Medium Density Pole	43	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Final harvest the portion between the upland JP type to the south and the drainage to the north.

Specs:

Other Comments: Lowland edge interface cut. Incorporate into the adjacent KW harvest. When establishing the north boundary, maintain an appropriate buffer along the drainage. Also take into consideration the type of equipment that will be used to harvest the majority upland JP type and avoid incorporating ground that would be inoperable for that class of equipment.

Next Steps: Natural regen: aspen with mixed deciduous & conifer.

18 72291018-ccr	305.8	42220 - Natural Jack Pine	High Density Pole	63	Harvest	Clearcut with Reserves	Low Density Conifer Trees	Cmpt. Review Proposal
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Prescription Final harvest with fire-skip simulated retention islands. In addition, leave the oak and naturally-established red pine. Cut the rows of planted RP along both edges of the old railroad grade. Natural regen goal: require whole-tree skidding to scarify & disperse seed when the ground is not snow-covered.

Other Comments: 2013 KW entry. Note Natural Rivers set-back from West Branch Big Creek in stand's NW. Green-up: recent clearcut in Otsego Co, adjacent to stand's NE. Concrete slab/foundations in RR grade in NW from torn-down cabins (OFS point). Protect identified survey corners and witness trees, and also the E quarter corner of Section 3 -- I didn't look for this interior corner during boundary verification, but it was recorded on a 1984 survey.

Next Steps:

19 72291019-cc	56.0	42220 - Natural Jack Pine	High Density Pole	51	Harvest	Clearcut with Reserves	Planted Jack Pine	Cmpt. Review Proposal
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Prescription Final harvest with vortex or small patch retention.

Specs:

Other Comments: 2013 or 2015 KW entry. Midland to Mackinaw pathway and snowmobile trail run through. Note that there is a narrow strip of this JP type on the west side of the cleared powerline ROW.

Next Steps: Trench & plant JP to KW specs.

29 72291029-cc	13.8	42220 - Natural Jack Pine	Medium Density Pole	57	Harvest	Clearcut with Reserves	Planted Jack Pine	Cmpt. Review Proposal
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Prescription Final harvest with small patch reserves.

Specs:

Other Comments: Add to 2013 or 2015 KW entry? Snowmobile trail and Midland to Mackinaw pathway cross through. Maintain appropriate buffer along drainage to south.

Next Steps: Trench & plant JP to KW specs.

34 72291034-cc	12.6	6112 - Lowland Aspen	Low Density Pole	38	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest with retention in riparian buffer.

Specs:

Other Comments: Lowland edge interface cut. Incorporate into the adjacent KW harvest. When establishing the lowland boundary, maintain an appropriate buffer along the drainage. Also take into consideration the type of equipment that will be used to harvest the majority upland JP type and avoid incorporating ground that would be inoperable for that class of equipment.

Next Steps: Natural regen: aspen with mixed deciduous & conifer.

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41 72291041-cc	29.6	42220 - Natural Jack Pine	Medium Density Pole	38	Harvest	Clearcut	Planted Jack Pine	Cmpt. Review Proposal

Prescription Final harvest  
Specs:

Other 2013 KW entry. Protect survey monument/possible witness trees for the S quarter corner of section 2 -- I didn'tt look for this interior corner  
Comments: during boundary verification but it is shown on the previous YOE map as having been found.

Next Trench & plant JP to KW specs  
Steps:

42 72291042-ccr	206.6	42220 - Natural Jack Pine	High Density Pole	58	Harvest	Clearcut with Reserves	Planted Jack Pine	Cmpt. Review Proposal
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Prescription Final harvest with simulated fire-skip retention islands.  
Specs:

Other 2013 KW entry. Evaluate need for closure of interior roads in FTP W72-550 area that were not planted-over as specified in the FTP & consider  
Comments: building that spec into the harvest contract. Re-close temporary logging road where a bypass was created around the existing closure (at SE edge of stand, adjacent to small aspen stand). Protect survey monument/possible witness trees for the S quarter corner of section 2 -- I didn't look for this interior corner during boundary verification but it is shown on the previous YOE map as having been found.

Next Trench & plant JP to KW specs, avoiding pockets of aspen that will regenerate along the lowland interface.  
Steps:

43 72291043-cc	262.9	42220 - Natural Jack Pine	High Density Pole	57	Harvest	Clearcut with Reserves	Planted Jack Pine	Cmpt. Review Proposal
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Prescription Final harvest with vortex retention. Consider leaving supercanopy-stature RP toward lowland edge. Incorporate pockets of aspen along the  
Specs: lowland edge.

Other 2015 KW entry. Note that there is a narrow strip of this type on the west edge of the cleared powerline corridor, adjacent to PVT in the NW.  
Comments: Midland to Mackinaw pathway and snowmobile trails cross through the stand. When establishing the harvest boundary along the lowland edge, maintain an appropriate riparian buffer near the stream, and only incorporate aspen pockets on ground that is operable with the equipment that will be used to harvest the upland JP type. Consider building into harvest contract the closure of interior roads in the FTP W72-550 area that were not planted-over as specified in the FTP.

Next Trench & plant JP to KW specs, avoiding pockets of aspen that will regenerate along the lowland interface.  
Steps:

44 72291044-cc	14.5	42220 - Natural Jack Pine	Low Density Pole	67	Harvest	Clearcut	Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest  
Specs:

Other 2015 KW entry. Green-up: stand to W trenched, not yet planted. Midland to Mackinaw pathway runs on powerline corridor on west edge.  
Comments:

Next Trench & plant JP to KW specs  
Steps:

46 72291046-cc	40.2	42220 - Natural Jack Pine	Medium Density Pole	42	Harvest	Clearcut with Reserves	Planted Jack Pine	Cmpt. Review Proposal
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Prescription Final harvest with vortex retention  
Specs:

Other Snowmobile trail runs through.  
Comments:

Next Trench & plant to KW specs  
Steps:

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
49 72291049-cc	5.7	4130 - Aspen	High Density Pole	43	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription: Final harvest, leave the oak.

Specs:

Other Comments: Lowland edge interface cut. Incorporate into adjacent KW cut. Re-close temporary logging road where a bypass was created around the existing closure.

Next Steps: Natural regen: aspen with mixed deciduous and conifer.

51 72291051-cc	7.3	4130 - Aspen	High Density Pole	40	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription: Final harvest, leave the supercanopy RP.

Specs:

Other Comments: Lowland edge interface cut. Incorporate into one of the adjacent KW harvests.

Next Steps: Natural regen: aspen with mixed deciduous & conifer.

31 NF_72291031-Plant	3.2	Non-Forested		0	Tree Planting	Hand Plant	Planted Jack Pine	Cmpt. Review Proposal
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Prescription: If encompassing stand is prescribed for harvest and planting, consider carrying planting across this opening.

Specs:

Other Comments: Snowmobile trail runs through stand.

Next Steps:

**Total Treatment  
Acreage Proposed: 964.1**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription  
Specs:

Other  
Comment:

Next  
Steps:

Limiting Factor and No  
Treatment Reason

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**Total Treatment**  
**Acreage Proposed:        0**

Data updated before 2:00 PM

Out of YOE -- Treatments  
Prescribed with No Limiting Factor

Year of Entry: 2012



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription  
Specs:

Other  
Comments:

Next  
Steps:

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**Total Treatment  
Acreage Proposed: 0**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4130 - Aspen	High Density Sapling	6.6	3		Cut in 2006 (TS 720520201) by Inman F.P. A3 between upland JP plantations & swamp edge. Picks up a little tag alder swale to the NW.
3	42220 - Natural Jack Pine	High Density Pole	10.8	55		JP with scattered RP & very poor health/quality NPO. JP poles mostly in the 50's, with younger poles in 40's and a third component around 70 years. Individual stem mortality in the oldest JP. North polygon of stand is a narrow strip left uncut along the private when the rest of the type was harvested.
5	6124 - Lowland Spruce- Fir	High Density Pole	14.5	55		Swamp conifer stand was dominated by northern white cedar, but that is shifting toward black spruce. There has been & continues to be widespread decline & dieback in the cedar, with dead tops & thin crowns common, along with pockets of windthrow. Black spruce has been progressively filling in. The cedar mortality seems to be related to depth-to-watertable: the stand is on low ground that grades up onto slightly higher "low" ground, along with small upland inclusions, and the healthiest cedar tends to occur on that slightly higher ground. First age meta an ave between older & younger spruce overstory poles. There are also small pockets of trembling aspen.
6	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	4.1	51		Decent aspen clones on slightly higher ground separated by sparser aspen on lower ground with tag alder swales. Bam & tamarack mixing in on the lowest ground, black spruce mixed in throughout. Some hypoxylon. Beaver cutting in the past on S edge.
8	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	21.3	44		Aspen starts on high ground along upland JP stand but, over short distance, grades down onto lower ground with tag alder swales, bam mixing in, and picks up black spruce & tamarack where the swales finger down to the adjacent L/N. High ground inclusions along 2-track & PVT to S. JP small poles & scattered RP saw concentrated on the high ground (merchantable JP was cut in 1970). Scattered overmature pioneer aspen, but majority in 40's (cores hard to age). Some breaking up already occurring due to hypox, heart rot. SE edge within West Branch of Big Creek's Natural River buffer (150').
9	4130 - Aspen	Medium Density Pole	5.6	43		Island of high ground rising out of the floodplain, surrounded by L & streams (West Branch Big Creek to S & E), varying amount of beaver flooding. Trembling aspen cover being cut by beaver, small pockets of aspen regen occurring as a result. Mixed in are JP small poles & saps, a few RP saw & poor-quality NPO, along with RP, WP & NPO saps, Aspen core difficult to age. Aspen tends to be short and scraggly, impacted by black canker. Stand appears to have been accessed from the west before beaver flooding increased.
11	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Pole	23.7	55		Low-density floodplain P/Q over tall tag alder over marsh grass on saturated muck soils. West Branch of Big Creek -- part of the AuSable's Natural River designation -- flows through the stand. Primarily bam along the creek banks, a little trembling aspen on the perimeter against adjacent uplands, and pockets of tamarack, black spruce, balsam fir & northern white cedar scattered in between. Bam very poor quality: top die-back & epicormic branching common, and beaver-gnawed boles near the creek. Dieback & windthrow common in the NWC. Recent up-tick in beaver activity has raised the water level in the floodplain. Distinguishing rings on heartrot/stained bam very difficult -- extrapolated across the indiscernable portions.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	6112 - Lowland Aspen	Medium Density Pole	4.6	45		Trembling aspen on floodplain margin (over tall tag alder) & grading up edge of terrace onto drier adjacent upland ground. Sparsest where trails out into L3. Rings difficult to distinguish (in mid-late 40's?). Poor health, hypox, conks, breaking up.
14	6112 - Lowland Aspen	Medium Density Pole	12.4	43		Trembling aspen beset by fungal diseases, & beaver working on its N edge. Beaver cutting & disease-related decline are reducing the aspen component, shifting the stand towards more U, RM, WP. Aspen generally in its 40's (core difficult to age), but with scattered older pioneer stems that are largely breaking up. This narrow stand occupies both upland and lowland ground, extending from the JP edge down onto the tag alder floodplain. N 1/2 cut by small stream that empties into the West Branch of Big Creek. Substantial old RR grade runs the length of the stand.
17	4310 - Pine, Oak Mix	Low Density Sapling	29.8	Uneven Age		Cut in 2003 by Inman FP (TS 720520201), all merch JP & aspen, leaving all RP & NPO. Resid from cut: scattered RP of all age/size classes, terrible health/quality NPO, less WO, JP 1-stk poles. Uncut margin along L to SE with aspen and jack pine poles. Wide spectrum of pre-existing and post-harvest established regen: JP seedlings/sm saps, advanced NPO saps, some RP. Truly multistoried, variable stand.
18	42220 - Natural Jack Pine	High Density Pole	308.7	63		JP generally early-mid 60's, w/ older & younger components mixed in. Very overmature JP (70+) scattered throughout and concentrated along lowland interface along with small pockets of mostly decadent aspen. Younger age-classes of JP exist where the overstory has been breaking up. There is also poor health/quality NPO, and scattered RP; both species increasing to the east. Stand with progressing mortality in the older JP component. A few tightly-spaced rows of RP poles were planted along either side of the substantial abandoned RR ROW that runs the length of the stand. Midland-to-Mackinaw hiking trail runs through stand.
19	42220 - Natural Jack Pine	High Density Pole	56.3	51		Aside from ~10 rows of planted JP along CR612, the stand is naturally-established. Median age 50-60, but the south edge along the lowland has very overmature JP saw w/ much decadence, and in the NW there is younger JP in its 40's mixed in. Midland to Mackinaw pathway winds through, and snowmobile trail. Note that there is a narrow strip of this JP type on the west side of the cleared powerline ROW.
22	4130 - Aspen	High Density Sapling	9.4	5		Cut under 720510201 before the 2005 growing season. A buffer was left around the lowland brush type it encompasses. Trembling aspen regen on transition zone between upland JP plantation and lowland brush; spreading into both types.
28	42220 - Natural Jack Pine	High Density Pole	7.4	55		Vortex left in recent KW harvest 720510201. Some JP windthrowing on W edge, variable NPO regen.
29	42220 - Natural Jack Pine	Medium Density Pole	13.8	57		The stand ranges from relatively uniform self-pruned poles (50-60), to very overmature JP (logs 70+) near the A/L to NW, to branches-to-the-ground younger JP colonizing the grassy opening. Sparse trembling aspen & U/G mixing in to S & E. Snowmobile trail and Midland to Mackinaw pathway cross through.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	6121 - Tamarack	Medium Density Pole	19.1	59		Mostly tamarack with black spruce, and scattered struggling trembling aspen along the edges. Over sphagnum moss & marsh grass, colonizing the L along margins & inclusions; tag alder common in the subcanopy. The bulk of the tamarack is around 60, with older pioneer tamarack that initially colonized the lowland, and black spruce progressively filling in. A couple of supercanopy WP. Built-up RR grade crosses through.
34	6112 - Lowland Aspen	Low Density Pole	15.5	38		Aspen on transition zone from upland JP to lowland brush, mixing into both types. Characterized by pole/sap/log trembling aspen clones separated by U/G/L with scattered, low-vigor aspen stems trying to fill in between. A real mixed bag, sparse overall, starting to break up. Wraps around small feeder stream. Snowmobile trail crosses through in two places.
35	6122 - Black Spruce	High Density Pole	23.2	56		On sphagnum mat, but with some marginally drier-ground inclusions. Mostly black spruce, tamarack mixed in, pockets of northern white cedar, scattered paper birch, pocket of windthrow to N edge. Closed-canopy portions of the stand are relatively open below; areas with lower crown densities have BS saps filling in. L inclusions common. Tamarack tends to have poor form, forked tops, porky damage.
37	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	12.9	17		High-ground peninsula with N/L on 3 sides. Cut in early 1993 under 7202109201. Patchy mix of post-harvest residual and natural regen: trembling aspen, cherry, JP, NPO and black spruce. Beaver have been reducing the aspen component, expanding the U/G. Small finger to SE was not cut -- has pocket of BS & JP poles.
39	4130 - Aspen	Medium Density	17.6	17		A3, with U/G inclusions that bring the overall canopy closure down a category, bordering L3 on west & north sides. Harvested in early 1993 under 720219201. Beaver cutting ongoing especially in SW near major run. Midland to Mackinaw pathway runs through it.
41	42220 - Natural Jack Pine	Medium Density Pole	29.6	38		Cut in 1972, 8" diam at stump and up. Predominantly large sap/small pole JP in late 30's, early 40's, with scattered older JP residual from the 1972 harvest.
42	42220 - Natural Jack Pine	High Density Pole	206.6	58		JP type was diameter-limit cut (10" diam at stump & up) in 1960, with a portion of that salvaged again in 1970. JP poles generally 50-60, with younger age class in 40's, scattered poor health/quality NPO, occasional RP & white oak. Picks up small amount of aspen on the east edge adjacent to lowlands.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	42220 - Natural Jack Pine	High Density Pole	263.5	57		In the 1960's, several small, mostly salvage/improvement harvests were carried out across portions of this jack pine type. Some overlapped previously-treated portions, while other parts of the stand were never harvested. The harvests were mostly diameter-limit cuts focusing on removing the overmature JP saw. Because of its varied treatment history & also likely fire influences, the stand is represented by multiple age-classes of JP, mostly poles in their 50's and 60's, with younger poles in their 30's & 40's (mixing in to N & W) and overmature large pole/small saw JP (70+) mostly along the lowland edge to the north & in pockets in to the NE, but also scattered throughout. Progressing mortality in the older JP is opening up areas of U/G along the lowland edge, where there are also pockets of aspen. Very poor quality NPO stems are scattered across the stand, along with RP (more to NW). Midland to Mackinaw pathway & snowmobile trail cross through. SI 46
44	42220 - Natural Jack Pine	Low Density Pole	14.5	67		Multiple fire plow lines encompass the stand (apparent on '67 photos), was salvaged afterwards. Open, park-like below scattered overstory, with JP, RP & NPO seeding into the grassy openings. Likely same JP median age as the encompassing unburnt JP stand (50's & 60's).
45	42120 - Planted Jack Pine	High Density Sapling	381.5	23		KW JP planted 1987. Large sap/small pole JP, NPO stumpsprouts, occasional RP small poles, small pockets of trembling aspen along east edge. Pocket of older poles to N center edge. South edge, east of MB Extension road, has small bog inclusions (OFS layer), and an unplanted strip with naturally-established JP.
46	42220 - Natural Jack Pine	Medium Density Pole	40.2	42		Most of the merchantable JP was harvested, with 8" DBH and under stems left over a portion of the area, in 1968. The stand is in a lower canopy closure class than the encompassing type and has, on average, younger JP (sm pole/lg saps in their 30's & 40's ) although there are older poles - singley & in pockets - residual from the 1968 cut. Snowmobile trail runs through stand.
47	6121 - Tamarack	Low Density Pole	5.0	68		Spindley, slow-growing tamarack on sphagnum hummocks, tag alder below & tag alder inclusions in processes of filling in with tamarack. Usually flooded, dry this spring. Rimmed by black spruce & scattered breaking-up trembling aspen.
49	4130 - Aspen	High Density Pole	5.7	43		Trembling aspen on slightly higher ground than adjacent Q/L, few wolfy NPO, balsam fir below, Already some heart rot, conks. A3 along logging road.
50	6120 - Lowland Cedar	High Density Pole	63.0	98		Northern white cedar on sphagnum moss with black muck/standing water in holes in root mat. Thick balsam fir regen below & filling in opener areas of tag alder. Scattered tamarack, black spruce & balsam fir poles mixed in. Perimeter on transition zone to uplands is dominated by BF & BS, w/ a little trembling aspen.
51	4130 - Aspen	High Density Pole	7.3	40		Merchantable stems cut by '72 growing season. Narrow aspen stand on transition zone from upland JP to L/Q. Die-back occurring in dominant/co-dominant stems, RM filling in below, a handful of poor-quality NPO, a supercaonpy RP.

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Grayling Mgt. Unit

## 5 – Forested Stands

Compartment: 291

Data updated before 2:00 PM

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
52	4130 - Aspen	Medium Density	1.7	5		Cut under 720420301, most of harvest area in adjacent compt 292. Trembling aspen regen with lower-stocked areas and cherry brush.
53	6121 - Tamarack	Medium Density Pole	138.5	48		Tamarack that has been colonizing a large lowland brush area over the past several decades. Spindley tamarack small poles/large saps, with a minority of older large pole/small saw stems. The scattered low-density pioneer component has been dying out. On sphagnum hummocks with L3 below, also L3 inclusions (more to E) & pick up more black spruce to E along with paper birch. NWC mixing in at N end transition with cedar type. Scattered small islands of high ground within the stand. ring 41 ht 44'
56	4132 - Aspen, Jack Pine	Medium Density Pole	47.0	38		Cut in 1970, all merchantable JP, aspen & oak. Trembling aspen (& a few BTA) clones separated by U/G/JP, on low sandy ridge. NPO stump sprouts approaching pole-size. JP short, limby. Scattered RP poles & saw, residual from cut. Access was from south through compt 272; culvert still in place, but washed-out around due to periodic beaver damming.



Stand	Cover Type	Acres	Gen Cmts:
1	3302 - Low Density Conifer Trees	37.6	Cut in 2005 (TS 720520201) by Inman F.P. Trenched 2007 & planted 2008 (FTP C72-566). JP ~1' tall, NPO & cherry stump sprouts, small patches of A3. JP recruiting on its own at landings & skid routes. W 1/2 of stand has higher % tree cover than E, more oak & volunteer JP, but overall averages less than 25% cover.
4	3302 - Low Density Conifer Trees	10.9	Cut in 2006 (TS 720520201) by Inman F.P. Trenched 2007 & planted 2008 (FTP C72-566). JP ~ 1' tall, NPO & cherry stump sprouts, pocket of A3 in SW corner near swamp.
7	6239 - Mixed Emergent Wetland	11.7	Marsh grass rimmed with mostly salix, some L colonizing inward due to lower water levels. Significant drawdown (since 1998 imagery was taken) due to reduced beaver activity, and recently, drought. Feeder stream originates in this marsh and empties into the West Branch of Big Creek.
10	6220 - Alder/willow	47.4	L3 floodplain along West Branch of Big Creek, dominated by tag alder, along with salix, bog birch, spiraea. Small pockets of trembling aspen, bam, tamarack & black spruce, also encroaching along margins. Varying levels of beaver activity over time have made for fluctuating amounts of flooded areas; generally at a low right now.
13	3105 - Mixed Upland Herbaceous	2.6	Substantial abandoned RR ROW, grassing-over, with a few tightly-spaced rows of RP poles planted along either side. Gate on W end, powerline runs down it, and a portion is crossed by driveways to adjacent private property.
15	3302 - Low Density Conifer Trees	51.8	Cut in 2005 by Inman FP (TS 720520201), all merchantable JP & aspen, leaving all RP & NPO. FTP C72-566: trenched 2007 & planted 2008. JP ~1' tall, tough site, struggling during establishment. Scattered residual RP & NPO poles/saw & saps; significantly less advanced regen & residual than E third of harvested area that was typed out as a forested stand.
16	6239 - Mixed Emergent Wetland	7.2	Narrow feeder stream terraced by a series of beaver dams. Lack of recent dam maintenance and dry spring resulted in significant drawdown of the string of mini-ponds. Mostly marsh grass with tag alder colonizing.
20	6239 - Mixed Emergent Wetland	3.3	Marsh grass, rimmed by L3, mostly salix. Appears to normally have standing water, but water table is completely below ground right now.
21	6220 - Alder/willow	6.7	L3 with a perimeter of black spruce & struggling trembling aspen that was left when the adjacent upland aspen/JP was cut. Lots of deer activity.
23	6220 - Alder/willow	11.8	Tall tag alder over marsh grass, tamarack snags, small feeder stream originates in it, dry now. From imagery, there are small pockets of low-density P/Q. Seasonal drain is crossed by a 2-track; pieces of wood are thrown in for driving across.
24	6220 - Alder/willow	1.1	Small L3 with scraggly trembling aspen along the margin.
25	6229 - Mixed lowland shrub	6.0	L that usually would have some standing water, dry now. Abandoned built-up RR grade cuts through.
26	11 - Low Intensity Urban	14.8	Cleared paved county road ROW (CR 612).



Stand	Cover Type	Acres	Gen Cmts:
27	3302 - Low Density Conifer Trees	143.2	Cut under 720510201 between 2004 & 2006. FTP W72-550: trenched & planted (2008) KW JP, NPO stumpsprouts, cherry brush. From what can be seen above snow in trenches, there are seedling mortality & thrift concerns (top kill & littleleaf symptoms), lots of deer sign, with browse increasing to W near A/L.
30	6220 - Alder/willow	9.0	L3 over marsh grass, bordering N/Z beaver flooding, scattered tamarack & black spruce.
31	31022 - Warm Season Grass	3.2	Dry upland opening, JP colonizing. Couple of fire plow line segments w/ JP saps on east edge.
33	3302 - Low Density Conifer Trees	81.1	Cut under 720510201 between 2003 & 2004. FTP W72-550: trenched & planted (2008) KW JP, NPO stumpsprouts, cherry brush. From what can be seen above snow in trenches, there are seedling mortality & thrift concerns (littleleaf symptoms on growth since planting).
36	6239 - Mixed Emergent Wetland	29.9	Marsh with stream flowing through; water level varying with beaver activity/dam maintenance. Mostly marsh grass, a little cattail, extensive flood-killed snags, perimeter of L3. Beaver lodge. See OFS point.
38	6229 - Mixed lowland shrub	34.8	Lowland brush w/ marsh grass, water around hummocks closer to N/Z, rimmed with tamarack, trembling aspen & black spruce. Far NE encompasses headwaters of feeder stream w/ aspen & spruce bordering it. Midland to Mackinaw pathway crosses that stream.
40	11 - Low Intensity Urban	22.3	Gravel county road ROW (Walsh & Boondocks Roads), and cleared powerline ROW along west edge of compt.
48	6229 - Mixed lowland shrub	11.5	L with small pocket of N, tamarack colonizing from north.
54	6220 - Alder/willow	44.6	Lowland brush dominated by tall tag alder. Tamarack colonizing from the east. To south, in periodically-flooded area, see more bog birch & marsh grass.
55	50 - Water	4.0	Beaver-flooded area, recent inactivity & and draw-down since 2005 photo. L/N at margins, mostly bog birch.



### 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.

*Data updated before 2:00 PM*

Stand	SCA Type	SCA Name	Acres	Comments
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## 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.

*Data updated before 2:00 PM*

ERA = Ecological Reference Area

HCVA = High Conservation Value Area

SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.