



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 283

Entry Year 2016

Acreage: 970

County Crawford

Management Area: AuSable Outwash

Revision Date: 08/17/2014

Stand Examiner: Joan Charlebois

Legal Description:

T26N R1W Sections 2 & 3
T27N R1W Section 35

Identified Planning Goals:

To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management. Conner's Marsh Flooding Master Plan concepts will be incorporated, where appropriate, along with the compartment-wide goals of enhancing wildlife habitat and providing for hunting and wildlife viewing opportunities.

Soil and topography:

The compartment is characterized by flat to gently-rolling terrain on primarily Croswell and Grayling sands, with steep side-slopes dropping down to the AuSable River valley. The compartment's interior has large contiguous blocks of swamp on mostly Tawas-Leafriver mucks.

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

The compartment consists of fairly solid State ownership, interfacing with several privately-owned parcels along the edges. A small stand lies south of the AuSable River and is isolated from the rest of the compartment. Section 3 contains some lands acquired with Pittman-Robertson funds. Section 2 contains the South Branch Township transfer station; ownership of that one-acre parcel was conveyed to the township in 2002.

Unique Natural Features:

There is the potential for rare plants and animals to be associated with the compartment's swamps, riparian corridors and upland pine barrens types.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

The northwest quarter of Section 3 lies within the Conner's Marsh Flooding State Wildlife Management Area (SWMA) which is also designated as a Special Conservation Area (SCA). The primary goal of the SWMA is the restoration and management of wild birds and mammals and provision for the public use of those wildlife resources. The AuSable River corridor is a High Conservation Value Area (HCVA).

Watershed and Fisheries Considerations:

The Conner's Marsh Flooding - maintained by a water control structure built in 1955 - is drained by the Conners Marsh Creek. The creek empties into the AuSable, a designated Natural River and high priority cold water trout stream. The compartment fronts a short segment of the AuSable River.

Wildlife Habitat Considerations:

Conner's Marsh Flooding Master Plan concepts include: considering longer rotations for coniferous forest types that border the impoundment, snag retention or creation, clear-cutting aspen, oak and jack pine to maintain a mix of forest types, applying prescribed fire to simulate historic occurrences, and maintaining the current level of public access while discouraging new trail roads (see Master Plan in blue folder). Waterfowl, Eagles, Osprey and various fur-bearing mammals use the marsh and associated beaver ponds. Snowshoe hare specifications should be maximized in aspen stands that are scheduled for harvest. Winter deer cuts, initiated through Forest Treatment Proposals, can be made in and along the swamp conifer types that constitute major deer yards.

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 200 and 600 feet. Beneath the glacial drift are the Marshall Sandstone and the Coldwater Shale. The Marshall was quarried for building stone in the past. A gravel pit is located in Section 2, State's McMaster's Pit, and potential

appears to be good. This area has been sparsely drilled for oil and gas. The nearest production is Conners Marsh Field, one mile to the north. The field has produced over 20 Bcf gas from the Ordovician Prairie du Chien. Oil and gas leases are located to the north.

Vehicle Access:

County roads include Conner's Flat Road and McMasters Bridge Road. Conner's Marsh Trail, Ermine Trail, and Nuremberg Road have road name signage, but they are not certified county roads. Conner's Marsh Trail is a state forest trail road. Ermine Trail and Nuremberg Road fall partially on private lands and partially on state. Trail roads on State land south of Conner's Flat Road provide the only access for many seasonal cottages and residences along the AuSable River.

Survey Needs:

Additional work is needed to determine if corners located in the NWSWSW of section 3 accurately delineate the state land as described in the deed. The current compartment boundary for that area was delineated based on the parcel's deed description.

Recreational Facilities and Opportunities:

The Rainbow Bend State Forest Campground and associated canoe-in access site borders the AuSable River. Over two and a half miles of the Midland to Mackinac Hiking Pathway runs through the compartment. Dispersed recreation in the form of hunting, trapping, fishing, canoeing and wildlife viewing is common throughout the compartment but is concentrated around the Conner's Marsh Flooding and the AuSable River.

Fire Protection:

The compartment's jack pine stands are small- to moderate-sized, with good access. The adjacent compartment to the north does contain a Kirtland's Warbler management area. Access is limited in the compartment's interior, but the predominant cover type there is swamp. Access to stands west of the Conners Marsh Creek will be restricted by the creek and a swamp, but the isolated stands do not pose particular fire hazards.

Additional Compartment Information:

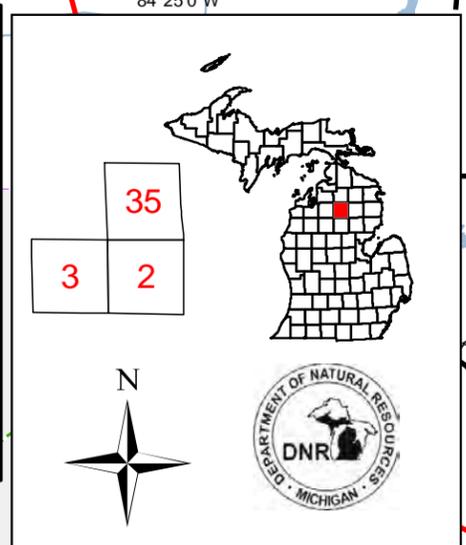
The following reports from the Inventory are attached:

- 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: 283
 T26N R01W Sec. 02,03
 T27N R01W Sec. 35
 County: Crawford
 Unit: Grayling
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 970 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 09/05/2014
 Map Phase: Pre-Review



Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Cover Type & Treatment Map

Legend

- Miris Corners
- Remonumented Section Corners
- PLSS Corner
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Gate
- Recreation
- State Forest Campgrounds
- Pipeline
- Powerline
- Stream
- Intermittent Stream
- State Forest Land
- Lakes and Rivers

Non-Forest Regeneration

- Natural
- Planted

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Prescribed Burn

Forest Stands

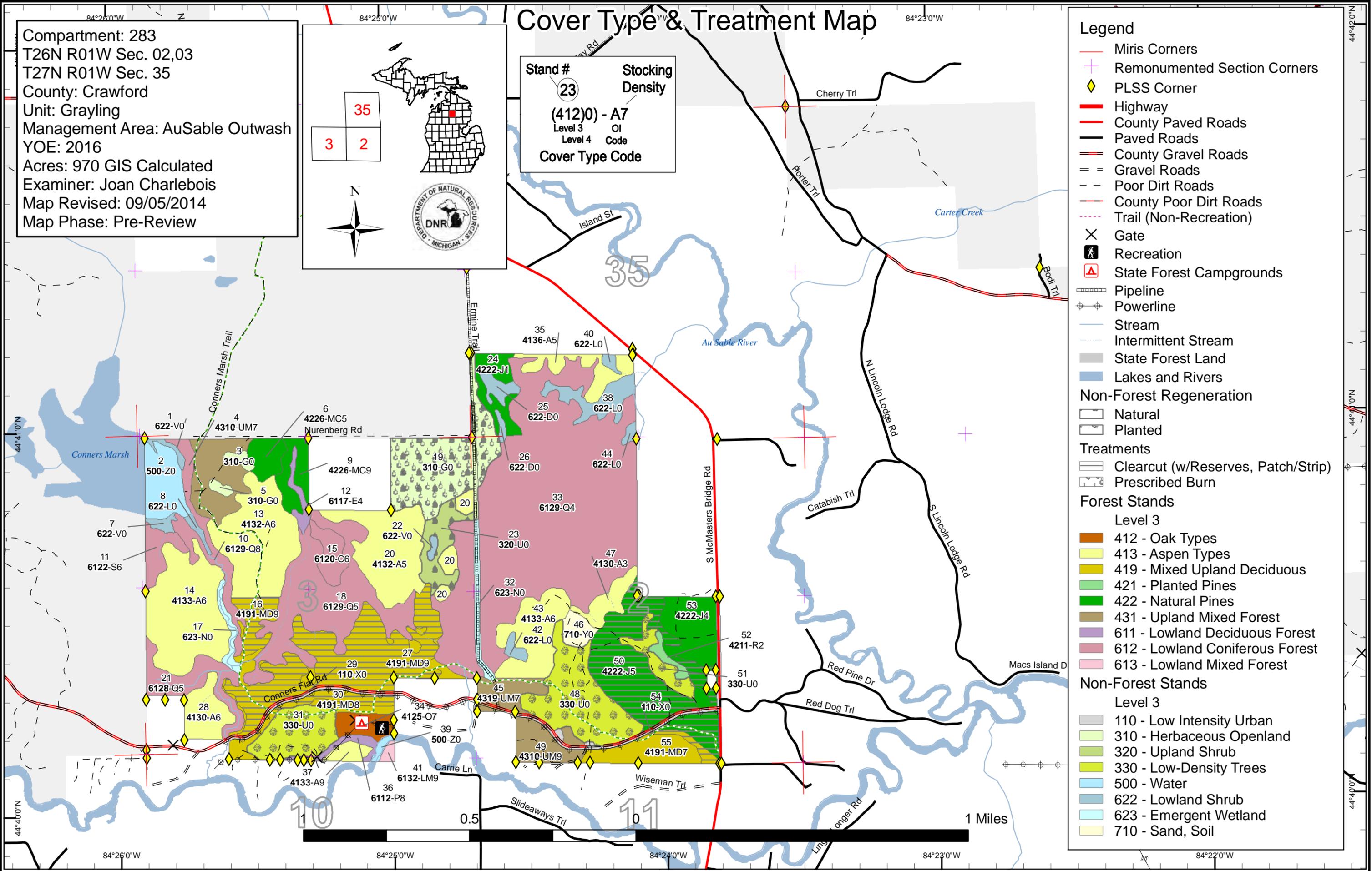
Level 3

- 412 - Oak Types
- 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
- 613 - Lowland Mixed Forest

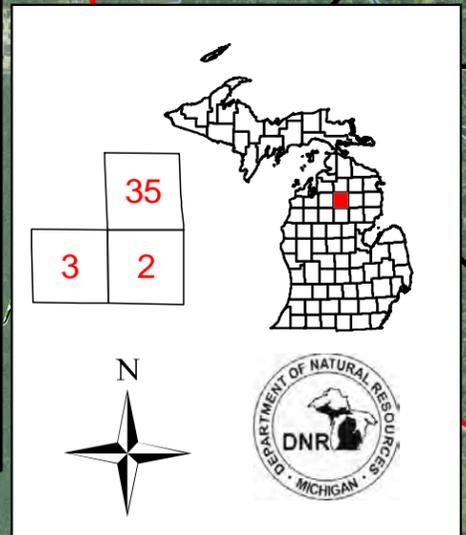
Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil



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Stand Boundary Map
 Stand # **23**
 Stocking Density
(4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

Legend

- Miris Corners
- + Remonumented Section Corners
- ◆ PLSS Corner
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Trail (Non-Recreation)
- × Gate
- ⚠ Recreation
- ⚠ State Forest Campgrounds
- Stream
- Intermittent Stream
- Pipeline
- ⊕ Powerline
- Stand Boundaries

Forest Stands

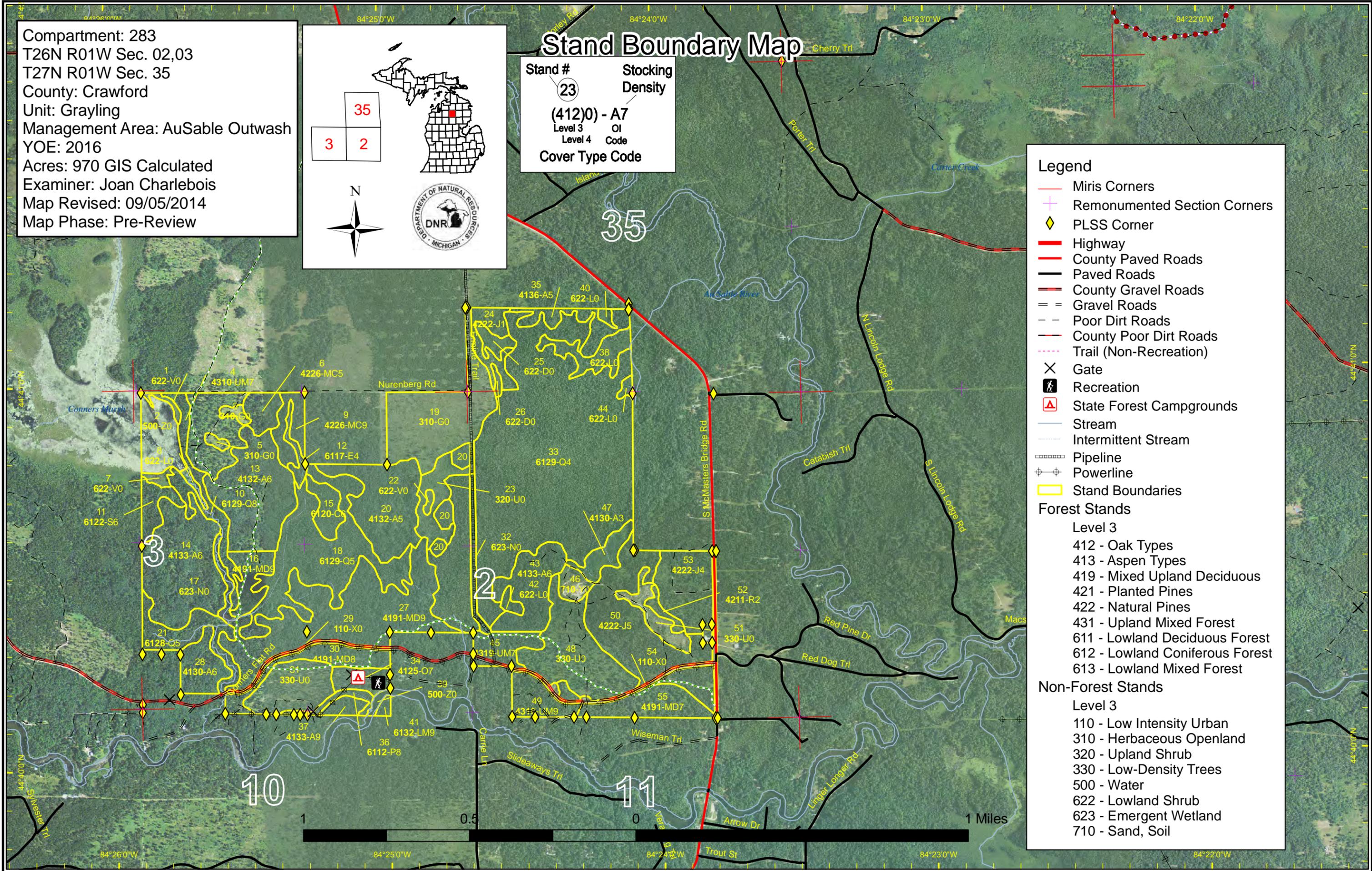
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Non-Forest Stands

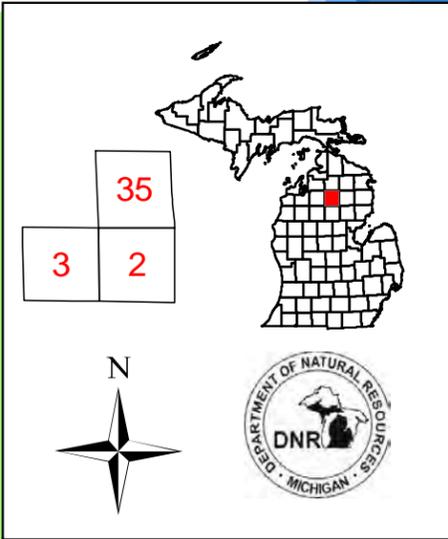
Level 3

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- 310 - Herbaceous Openland
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- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil



Special Conservation Areas & Site Conditions Map

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 T26N R01W Sec. 02,03
 T27N R01W Sec. 35
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Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
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Cover Type Code

Legend

- Remonumented Section Corners
- Miris Corners
- Stand Boundaries

Reviewable SCAs

- SCA Removal

Site Condition Available

- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)

Site Condition Type

Available Factors W/ Constraints

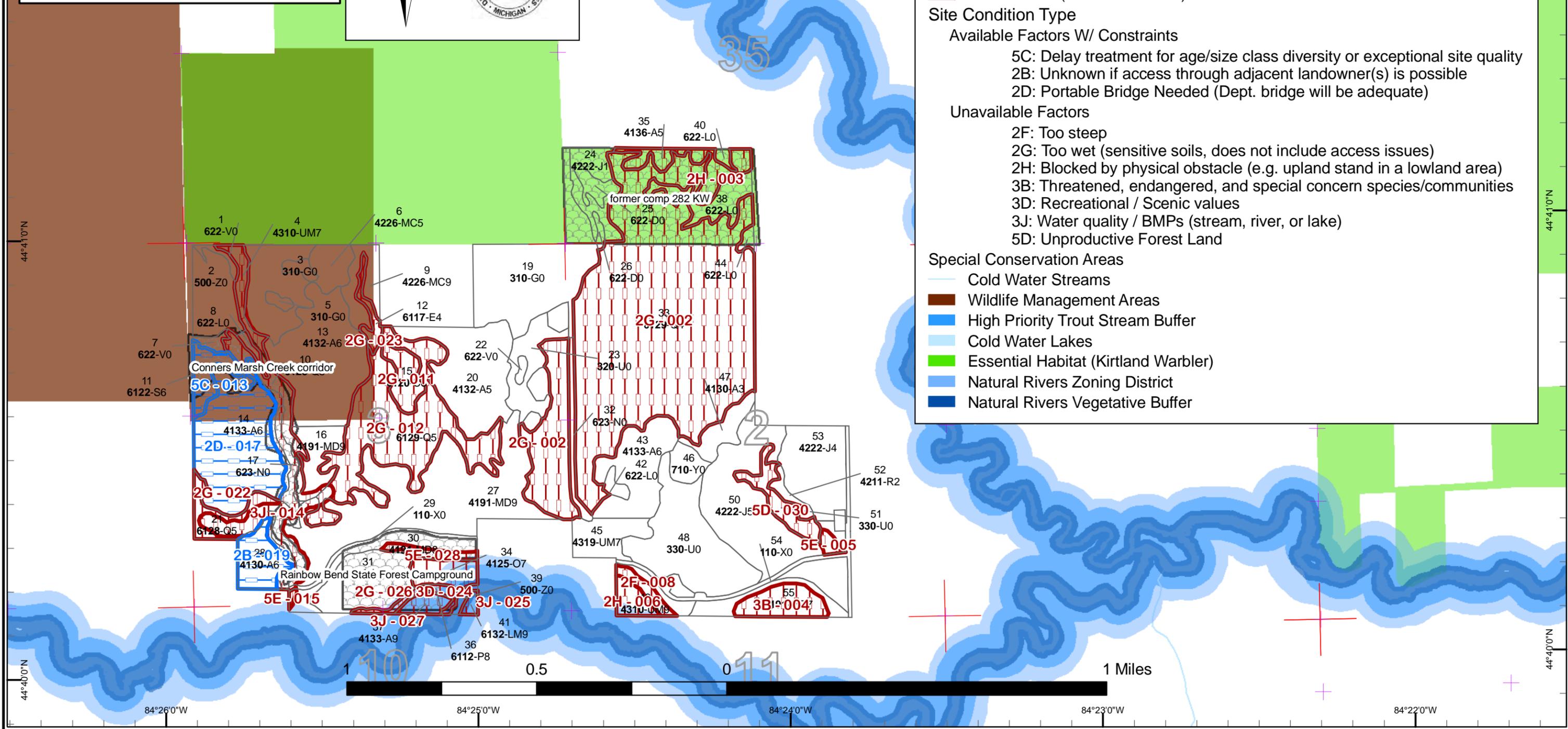
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2B: Unknown if access through adjacent landowner(s) is possible
- 2D: Portable Bridge Needed (Dept. bridge will be adequate)

Unavailable Factors

- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3B: Threatened, endangered, and special concern species/communities
- 3D: Recreational / Scenic values
- 3J: Water quality / BMPs (stream, river, or lake)
- 5D: Unproductive Forest Land

Special Conservation Areas

- Cold Water Streams
- Wildlife Management Areas
- High Priority Trout Stream Buffer
- Cold Water Lakes
- Essential Habitat (Kirtland Warbler)
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer





	Age Class														Total
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	
Aspen	8	0	0	23	155	0	0	0	0	0	0	0	0	0	186
Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Cedar	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
Herbaceous Openland	48	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Jack Pine	0	0	10	0	52	23	0	0	0	0	0	0	0	0	85
Low-Density Trees	67	0	0	0	0	0	0	0	0	0	0	0	0	0	67
Lowland Aspen/Balsam Poplar	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
Lowland Conifers	0	0	0	0	0	0	0	17	57	0	0	208	16	297	
Lowland Deciduous	0	0	0	0	3	0	0	0	0	0	0	0	0	3	
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
Lowland Shrub	16	0	0	0	0	0	0	0	0	0	0	0	0	16	
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	7	0	0	0	0	7	
Marsh	9	0	0	0	0	0	0	0	0	0	0	0	0	9	
Mixed Upland Deciduous	0	0	0	0	0	70	0	0	42	0	0	0	0	112	
Natural Mixed Pines	0	0	0	0	0	17	0	0	0	0	0	0	0	17	
Oak	0	0	0	0	0	0	0	0	8	0	0	0	0	8	
Red Pine	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
Sand, Soil	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
Treed Bog	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
Upland Mixed Forest	0	0	0	0	0	24	0	0	20	0	0	0	0	45	
Upland Shrub	12	0	0	0	0	0	0	0	0	0	0	0	0	12	
Urban	12	0	0	0	0	0	0	0	0	0	0	0	0	12	
Water	17	0	0	0	0	0	0	0	0	0	0	0	0	17	
Total	203	3	10	23	214	134	0	0	17	134	0	8	209	16	970



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2016

Compartment 283
Total Compartment Acres: 970

Acres by Treatment Type

Commercial Harvest - 136 Tree Planting - 57 Other - 40
 Habitat Cut - 0 Opening Maintenance - 0

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Mixed Upland Deciduous	79	0	0	0	0	0	79
Natural Pines	57	0	0	0	0	0	57
Total	136	0	0	0	0	0	136



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
16	72283016-ccr	9.2	4191 - Mixed Upland Deciduous with Conifer	High Density Log	90	51-80	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest 2"+ DBH, except leave for retention: RMZ's for the Conners Marsh Creek and trib, and the few super canopy RP-WP. Apply hare <u>Specs:</u> spec's along the swamp edge but leave an appropriate buffer around the vernal pool in adjacent stand 18 (OFS pt) and don't drop trees into the pool. Treatment boundary has been edited to approximate the intended exclusions.</p> <p><u>Other</u> <u>Comments:</u> Protect the hiking pathway that crosses through on the two-track.</p> <p><u>Next</u> <u>Steps:</u> Natural regen survey. Aspen-Oak regen goal, with conifer and mixed deciduous associates accepted.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
27	72283027-ccr	63.2	4191 - Mixed Upland Deciduous with Conifer	High Density Log	52	81-110	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest 2"+ DBH, except leave for retention: the supercanopy RP-WP, and exclude with an appropriate buffer the vernal pools and the <u>Specs:</u> Conners Marsh Creek and trib RMZ's. Treatment boundary has been edited to approximate the intended exclusions, but more wetlands may be identified during sale prep. Spring sale prep advisable for ID'ing the vernal pools. Apply hare specs along the swamp edge, but do not drop trees into the pools.</p> <p><u>Other</u> <u>Comments:</u> Note the ephemeral drainage features and hydrologic tie-ins between the OFS wetlands and the swamp. Follow BMP guidelines for harvest operations around those features (IC4011 pg. 29). See locked OFS. Protect the hiking pathway that crosses through the stand. Note interior survey marker at corner code #12 (pipe & red-top cedar post, in a vernal pool).</p> <p><u>Next</u> <u>Steps:</u> Natural regen survey. Aspen-Oak regen goal, with mixed conifer and deciduous associates accepted.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
30	72283030-ccr	6.5	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	90	51-80	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> On the hilltop portion bordering Conner Flat Road, final harvest 2"+ DBH, except leave: the RP, WP, white oak. Designated retention is the <u>Specs:</u> Conners Marsh Creek RMZ and the steep hillside by the campground.</p> <p><u>Other</u> <u>Comments:</u> Protect the hiking pathway that crosses through the stand. Note the campground at the bottom of the steep hill.</p> <p><u>Next</u> <u>Steps:</u> Natural regen survey. Aspen-Oak regen goal, with mixed conifer and deciduous associates accepted.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
50	72283050-ccr	56.9	42220 - Natural Jack Pine	Medium Density Pole	49	51-80	Harvest	Clearcut with Reserves	4212 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest 2"+ DBH, except leave for retention: an island along the east side of the gravel pit access two-track, and the few white oak and <u>Specs:</u> supercanopy RP. Extend the southwest boundary up the hillside edge of stands 48 & 55, and east into stand 53 to pick up denser mature JP cover there. Treatment boundary has been edited to approximate the intended inclusions & exclusions.</p> <p><u>Other</u> <u>Comments:</u> Protect the hiking pathway that crosses through the stand. Harvest when the ground is not snow-covered in order to expose mineral soil and promote natural seeding. Note that the Township Transfer Station fence does not encompass their entire deeded and surveyed parcel. See OFS, MNFI & SCA layers regarding ret island.</p> <p><u>Next</u> <u>Steps:</u> Schedule a natural regen check for two growing seasons after the harvest. Will accept a low- to moderately-stocked stand of JP and mixed natural regen. If the regen fails, trench and plant JP excluding: the southwest hillside and expected aspen regen, the portion between the gravel pit two-track and the transfer station, and the incorporated patches of stand 53. The retention island will be shifted to stand 53 post-harvest, with a low-density conifer tree (pine barrens) management objective. Schedule artificial regen surveys if planted.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19 NF_72283019-Burn	39.6	3102 - Grass				Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Manage for a mix of pine barrens and dry sand prairie. Periodic opening maintenance may include disking, fertilizing, planting, no-till prairie
Specs: grass drill seeding, mowing, brushing, burning and herbicide application, if consistent with the barrens/prairie ecosystem management objective.

Other Note the buried gas pipeline that crosses through.

Comments:

Next

Steps:

Proposed

Start Date: 01/05/2015

**Total Treatment
Acreage Proposed: 175.5**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type! #Type!

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

**Total Treatment
Acreage Proposed: 0.0**

Report 5 – Site Conditions

Grayling Mgt. Unit
Joan Charlebois : Examiner

Compartment 283
Year of Entry 2016

**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 Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	Not Available	2G: Too wet (sensitive soils, does not include access issues)	208				
<p>Comments: Aside from the drier transition ground edge and PARVCo islands in the north half, this stand has saturated soils with standing water in holes in the root mat. Ephemeral drainages flow out the S & E edges of the stand. The most flooded ground has sparse cover. Cutting the operable transition ground edge when the adjacent uplands are treated would be the practical limits of commercial harvesting.</p>							
003	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	11				
<p>Comments: Small stand with access challenges and marginal cover. The corner of the far NE finger just grazes the County Road corridor. Accessible portions of the adjacent private property were cut within the last five years. Cutting concurrent when the adjacent private was harvested would have been the best bet. Even then, some fingers probably wouldn't have been reached.</p>							
004	Not Available	3B: Threatened, endangered, and special concern species/communities	10				
<p>Comments:</p>							

Report 5 – Site Conditions

Grayling Mgt. Unit
Joan Charlebois : Examiner

Compartment 283
Year of Entry 2016

005	Not Available	5E: Long Term Retention	2	3B: Threatened, endangered, and special concern species/communities	
Comments:					
006	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	5	2B: Unknown if access through adjacent landowner(s) is possible	
Comments:					
This flat portion of the stand is bounded by a steep hill on state to the NE and private to the W & S. The road between this block and Conners Flat Road appears to swing down onto private before crossing back onto state. The road's hill segment was armored with crushed limestone to address the serious erosion potential.					
008	Not Available	2F: Too steep	3		
Comments:					
Steep hillside drop into the AuSable River Valley.					
011	Not Available	2G: Too wet (sensitive soils, does not include access issues)	8	5A: Not able to obtain desirable regeneration	
Comments:					
Cedar on saturated ground, standing water in holes in the root mat. Ephemeral drain flows out of the south end. Don't recommend commercial harvest within this stand due to low ground and coverytype conversion concerns.					
012	Not Available	2G: Too wet (sensitive soils, does not include access issues)	56		
Comments:					
Aside from the drier transition ground edge and small PARVCo islands, this stand has saturated soils with very active groundwater. Ephemeral drainages converge & flow out the SW & SE corners of the stand. Cutting the operable transition ground edge when the adjacent uplands are treated would be the practical limits of commercial harvesting.					

Report 5 – Site Conditions

Grayling Mgt. Unit

Joan Charlebois : Examiner

Compartment 283

Year of Entry 2016

013	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	2D: Portable Bridge Needed (Dept. bridge will be adequate)	
Comments: Operable transition ground portions of this stand were cut in 1972 (second age); the ground that was too wet was excluded (first age, which triggered the Silv. Criteria flag). Two ephemeral drains cut through the stand and out to the Flooding. Consider cutting the operable transition ground again when the adjacent upland aspen is prescribed, likely next YOE. Will need a bridge to get to this block.					
014	Not Available	3J: Water quality / BMPs (stream, river, or lake)	38	2G: Too wet (sensitive soils, does not include access issues)	
Comments: Conners Marsh Flooding, Creek and tributary RMZs and associated low ground. The 100-foot RMZ incorporates upland ground also.					
015	Not Available	5E: Long Term Retention	0	3J: Water quality / BMPs (stream, river, or lake)	
Comments: Conners Marsh Flooding, Creek and tributary RMZs and associated low ground. The 100-foot RMZ incorporates upland ground also. This portion is designated retention for a harvest.					
017	Available	2D: Portable Bridge Needed (Dept. bridge will be adequate)	43		
Comments: Was accessed from the southeast by crossing the Conners Marsh Creek. Significantly-expanded floodplain/beaver marsh will complicate bridge installation. Crane mats would also be needed for the approaches.					
019	Available	2B: Unknown if access through adjacent landowner(s) is possible	11	2D: Portable Bridge Needed (Dept. bridge will be adequate)	
Comments: Older aspen on the other side of the creek is proposed for harvest this YOE. Consider cutting this side of the creek next YOE. A two-track road runs from Conners Flat Road across private property and extends into this stand. If permission to cross private property cannot be obtained, a bridge would be needed to cross Conners Marsh Creek.					

Report 5 – Site Conditions

Grayling Mgt. Unit

Joan Charlebois : Examiner

Compartment 283

Year of Entry 2016

022	Not Available	2G: Too wet (sensitive soils, does not include access issues)	6		
Comments: Aside from the transition ground edge and a PARVCo island, the ground is very wet. Active groundwater, with ephemeral drains trickling into the permanent stream.					
023	Not Available	2G: Too wet (sensitive soils, does not include access issues)	4		
Comments: Tag alder/marsh swale with diffuse flow to the south.					
024	Not Available	3D: Recreational / Scenic values	8		
Comments: Rainbow Bend State Forest Campground and canoe-in access site.					
025	Not Available	3J: Water quality / BMPs (stream, river, or lake)	1	2F: Too steep	
Comments: Within the Natural Rivers RMZ.					
026	Not Available	2G: Too wet (sensitive soils, does not include access issues)	4	3J: Water quality / BMPs (stream, river, or lake)	
Comments: Flooded marsh swale with lowland aspen. Diffuse drainage to the east empties into the AuSable River.					
027	Not Available	3J: Water quality / BMPs (stream, river, or lake)	4		
Comments: Half of this small stand lies within 150' of the AuSable River. All but an acre lies within 300' of the river.					

Report 5 – Site Conditions

Grayling Mgt. Unit

Joan Charlebois : Examiner

Compartment 283

Year of Entry 2016

028	Not Available	5E: Long Term Retention	3	2F: Too steep
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Comments:

Steep hillside drop into the AuSable River Valley.

030	Not Available	5D: Unproductive Forest Land	9	
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Comments:

Former gravel pit and dump. Portions were planted to pine in 1996 but this area largely failed due to pit-run soil conditions.



Report 6 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Rainbow Bend State Forest Campground	Concentrated Recreation Area	State Forest Campground	SCA Removal	32.3
Comments refine SCA to match actual campground footprint (stand 34)				
Conners Marsh Creek corridor	Potential Old Growth		SCA Removal	32.8
Comments doesn't meet Type I or II Old Growth criteria				
former comp 282 KW	Habitat Areas or Corridors	Other Habitat Area	SCA Removal	81.1
Comments HCVA removal -- not managed for KW habitat (majority swamp)				



Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
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.
SCA	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4	4310 - Pine, Oak Mix	Low Density Log	20.4	99	1-50	Was cut in 2007 (72-021-06-01), merch stems except RP, WP & green-marked oak; stated cruise residuals: 20 BA oak, 10 BA pine. Was part of FTP C72-605 for supplemental planting RP; one stand was planted but this one wasn't. The residual is the featured canopy: large (slowly-breaking up) NPO saw, pole-saw RP & WP, and scattered RM, balsam fir, black spruce, JP & aspen. Black cherry is present in the canopy, some of it saw-sized but poor form. Regen from the cut is heavy to cherry brush, but the oak stump sprout saplings are vigorous & recruiting. The oak seedling layer was heavily browsed. WP, RP, JP & black spruce have been slowly seeding in. The regen is below moderate stocking but will be accepted as it is preferred for wildlife habitat near Conners Marsh. Two-tracks accessing the Conners Marsh flooding cross through the stand, as well as the Midland to Mackinac hiking pathway.
6	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	7.3	53	1-50	Was partially cut in 1974 (#12-74), merch & up on most of the JP, aspen & oak. The resulting stand is a mix of pre- & post-harvest JP & oak with lesser amounts of RP, WP, cherry & aspen. There is more JP residual than regen from the cut, with ages ranging from 40-60+ years old, ave 53. The younger JP tends to be stocky & limby. Oak stump sprouts from the cut are pole/small saw in size. Large residual oak, and RP & WP are scattered across the stand. The canopy black cherry is pole/saw sized but poor form. The canopy is patchy, barely averaging 50-75% closure, with a non-stocked inclusion in the middle.
9	42260 - Natural Pine, Mixed Deciduous	High Density Log	9.5	52	81-110	Was part of a larger 1974 harvest (#12-74) that cut merch JP-A-O and left the RP-WP. This stand has some regen from the cut (pole A-RM-O) but the canopy is majority pine residual from the cut. The RP & WP ranges from pole to xlog in size, but most land in the small-medium saw classes and date within 10-20 years pre-harvest. There are some dense pockets of RP saw with good form, but persistent heavy limbs and deep crowns are common elsewhere. The ephemeral drainage swale that cuts up through the stand was separated out as its own lowland stand.
10	6129 - Mixed Coniferous Lowland Forest	Medium Density Log	15.5	Uneven Age	51-80	Narrow stand on the Conners Marsh Creek floodplain and transition ground bordering the C. M. Flooding. Mucky hillside seeps flow into the creek. The multi-storied canopy has variable distribution in pine, lowland conifers and mixed hardwoods. Upland ridges flanking the creek have dense WP & RP saw cover. Decadence and cull are common in the overmature components. Beaver-felled aspen along the creek.
11	6122 - Black Spruce	High Density Pole	7.5	98	51-80	Black spruce with mixed pine & lowland hardwoods, on saturated to intermediate ground. The core lowest ground has mature black spruce (first age, 98 years), while the intermediate ground has younger spruce (cored 58 years) and most of the pine, fir, aspen, paper birch & RM. Part of that transition ground was cut under FTP # 66-G in 1972 (second age, 42 years). The overmature JP has largely died out. Two ephemeral drains cut through to the flooding.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Pole	3.5	40	1-50	Part of a larger harvest cut in 1974 (#12-74), merch JP, aspen & oak. This stand was only partially cut within the designated species due to low ground associated with a tag alder/marsh swale. A diffuse drainage flows south through that swale. 1st age was set to the harvest, 2nd is from the previous inventory on the RP. There is also an overmature RM & aspen component, residual from the cut. Black ash was heaviest in the south end; cover is sparse there now due to loss of the ash.
13	4132 - Aspen, Jack Pine	High Density Pole	41.9	40	51-80	Was cut in 1974 (#12-74 & 13-74), merch & up on the JP, aspen & oak, except for a strip that was excluded along the W edge. The stand regenerated to aspen with patches of either JP or upland brush between the clones. WP & balsam fir are scattered across the stand. Stump-origin oak from the harvest are pole/small saw in size. RP, RM & black spruce occur mainly on the perimeter transition ground edge. Black cherry is recordable in the canopy and common in the understory. WP understory cover is locally high on the perimeter but averages low overall. Health & development varies between the aspen clones; some barely ave 5" DBH, a few ave 8" DBH. Black canker, P. tremulae & hypoxylon are present within some. The merch & up cutting specs left scattered older aspen, JP & NPO, in addition to the excluded strip along the west edge where there is saw-sized representation in those species. Second age is from previous inventory on the post-harvest residual JP.
14	4133 - Aspen, Mixed Pine	High Density Pole	45.6	45	51-80	Saw-sized JP & merch aspen cut in 1964 (#58-64A). Notes ref a 1969 harvest (#21-69), then deeryard improvement FTPs 65-G & 66-G to cut residual (except RP & WP) in 1972. First age set to the '69 harvest, 2nd age to the FTPs. The initial '64 cut didn't regen much aspen. The resulting stand is now pole-sized aspen w/ stump-origin oak & a significant mixed conifer component. WP, JP & RP are scattered w/in the dense QA & BTA clones & make up the dominant cover between clones, along w/ upland brush. Open-grown form common in the pine. Fir & spruce are concentrated along the swamp/riparian edges; most of the supercanopy RP & WP occur there too. Growth & vigor varies between clones. The BTA is doing best, moving into the saw class, while some QA clones barely ave 6" DBH. Black canker & P. tremulae occur at low levels overall, mostly in the older post-harvest residual. Fair amount of beaver felling on the east edge.
15	6120 - Lowland Cedar	High Density Pole	7.7	118	141-170	Dense cedar pole cover with tamarack, spruce, RM & paper birch mixed in. The sphagnum-covered ground is saturated, with standing water in the rootmat holes. Balsam fir is common in the understory. The stand's slightly drier north end has larger diameter cedar. Very diffuse overland flow drains the stand's south end.
16	4191 - Mixed Upland Deciduous with Conifer	High Density Log	10.4	90	51-80	Mixed O-A stand with a significant conifer component. Mature NPO cover alternates with patches of aspen, WP-RP-Fir of varying age/size classes and overmature JP (largely died out). Black spruce, RM & paper birch are mostly along the swamp edge. A small amount of merch JP, A & oak were cut in the stand's north half in 1975 (#17-74), creating the youngest age class in the aspen. Outside of that area, median large pole aspen cored 48 years old. Did not get an age on the minor overmature aspen component. Beaver felling has occurred periodically on the streamside. The Midland to Mackinac Hiking Pathway crosses through the stand on an open two-track. See OFS on adjacent swamp edge.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	56.5	97	51-80	Mixed conifer swamp on saturated to intermediate ground. Very active groundwater, with diffuse flow to the SW & SE converging into perennial streams. The best health & growth is on the transition ground edge and scattered PARVCo islands. The stand's core saturated ground has smaller-diameter, sparser cover, particularly where the black ash died out.
20	4132 - Aspen, Jack Pine	Medium Density Pole	39.5	40	1-50	Most of the stand was cut in 1974 (#20-74), merch & up on the JP, aspen & oak, and a small amount of marked RP saw. The SE multi-polys were cut a year later under FTP 152-G. The stand regenerated to quaking aspen with a mixed pine component. The aspen clones are separated by varying cover in JP, WP, RP & upland shrub, with conifers scattered within the clones. There are small amounts of black spruce, balsam fir & stump-origin oak. Growth & health varies widely between the aspen clones; some barely average 5" DBH, while others are better developed. Black canker is present in some, as well as P. tremulae & hypoxylon. Open-grown form is typical in the pine. Black cherry is recordable in the overstory and common in the understory. OFS point in the NW is a small bog inclusion. A string of small upland openings occur in the stand's E1/2.
21	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	16.7	81	51-80	Swamp stand that contains part of the Connors Marsh Creek floodplain and a tributary from the west. Very active groundwater, many seeps converge with the trib and creek. The slightly drier ground has larger diameter NWC, spruce & cull RM. The core saturated ground has more pole-sized spruce, fir & aspen. Spruce cored 68-72-104 years old, ave 81 (1st age). 2nd age was on a 15" DBH NWC. The black ash has died out. Large RP & WP are scattered along the floodplain sideslopes.
24	42220 - Natural Jack Pine	Low Density Sapling	10.0	25		Was cut 2" DBH & up in 1989 (72-078-88-01). Regen from the cut is limby, open-grown JP with oak stump sprouts and occasional black spruce, balsam fir & RP. Distribution of that cover varies from low-density tree status to swaths of J3 bordering the lowland edges. The stand is on ground close to the water table but upland overall. It has some very small bog inclusions and a lot of lowland stand interface. The larger low ground portions of the original harvest area were split out as separate treed bog stands.
27	4191 - Mixed Upland Deciduous with Conifer	High Density Log	70.3	52	81-110	Mixed A-O stand with a significant conifer component. The aspen lands in roughly 3 age classes: 40's, 50's, and 80+. FTP 153-G was noted to have clearcut 2 acres for game in the stand's north end. Couldn't find the FTP, but aspen cored there was 43 years old. Stand 1st age (52 yrs) is the average of median small saw aspen cored. Second age (85 yrs) was on the overmature aspen. P. tremulae conks common in that class. The poor-quality NPO continues to break up. Decadence & cull are also common in the overmature JP, A & RM. The RP-WP ranges from intermediate poles to supercanopy saw. Spruce & fir are mostly along the swamp edge. RM sapling-poles have filled in below the declining JP; with WP & fir below elsewhere. Vernal pools (OFS) within the stand have vague hydrologic tie-ins to the swamp. Ephemeral drains cross two of the stand's peninsulas. The Midland to Mackinac Hiking Pathway crosses through the stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	4130 - Aspen	High Density Pole	12.6	48	81-110	This stand was cut in the mid-1960's when still in Consumers Power ownership. The cutting was pretty clean in the aspen but left a fair amount of oak, pine & RM. The aspen (mostly QA) is moving into the saw class. The xlog NPO is breaking up. Lesser canopy associates include oversize pulp RM, xlog RP, overmature JP, and intermediate fir, spruce & WP. The understory is filling in WP & fir. Former food plot trespass area has not been maintained and is reverting. Beaver-felled aspen along the creek.
30	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	14.1	90	51-80	Long and narrow mixed stand bordering Conners Flat Road. The west half wraps around a regenerating stand (planted 2010), and ends within the Conners Marsh Creek RMZ. A research plot with tagged trees was established in the west end to monitor WP decline. The stand's east half starts out on the hilltop, drops steeply down into the AuSable River Valley, and then levels out at the edge of the Rainbow Bend State Forest Campground. Canopy distribution varies, but there is a fairly even split between the A-O-Pine components. The aspen didn't have a single regen event; the overmature component is 70+ years old, but there is also a smaller component in its 40's. The poor-quality NPO continues to break up. The conifer component is represented by multiple size classes of RP-WP, overmature JP (largely died out), and scattered fir. Misc deciduous include RM, paper birch & white oak. The Midland to Mackinac Hiking Pathway crosses through the stand.
33	6129 - Mixed Coniferous Lowland Forest	Low Density Pole	208.0	122	1-50	Low productivity swampland with varying distribution in cedar, black spruce & tamarack. Minor canopy associates include RM, balsam fir, WP, JP, PB, QA, & balsam poplar. Canopy closure drifts off either end of the 25-50% category. The stand's narrow transition ground edge and occasional PARVCo islands support denser and healthier tree cover, but the majority saturated ground has sparse, struggling cover. Top mortality is common across all species there, where the root mat is an open lattice over standing water. Dwarf mistletoe is causing brooming & outright mortality in pockets of black spruce. Understory cover on the flooded ground is dense lowland shrub (tag alder with thickets of ilex). Where the water level isn't as high, balsam fir & black spruce are filling in the understory. The stand's N1/3 has lower water levels. Lowland hardwoods mix into.
34	4125 - Black, N. Pin Oak	Low Density Log	7.8	90	1-50	Rainbow Bend State Forest Campground, with drive-in and walk-in campsites, and a canoe access point on the AuSable River. Cover is predominantly mature NPO saw, with RP, JP & WP of various sizes. Small amounts of aspen and RM occur mostly on the stand's perimeter. Tough site, with continuing decline in the oak.
35	4136 - Aspen, Mixed Conifer	Medium Density Pole	11.4	49	1-50	This stand includes fingers of dry ground that are separated from each other by flooded swales & ephemeral drainages. The canopy closure ranges from 25-75%, with marginal QA, balsam fir, poor-quality NPO, and minor amounts of WP, spruce and RP. Most of the RP is concentrated in a pocket near McMasters Bridge Road; old borrow pit there too. The minority older aspen, fir & JP have largely died out. 2nd age on the oak is an estimate based on similar oak within the compartment.
36	6112 - Lowland Aspen	Medium Density Log	3.7	49	51-80	Seasonally flooded marshy swale with lowland aspen, dead ash, and occasional cedar, basswood, WP & RP on the margins. Cleared powerline corridor cuts through it. An ephemeral drainage flows out the east end, into the AuSable.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	4133 - Aspen, Mixed Pine	High Density Log	3.8	44	81-110	Upland aspen with RM, oak and conifer associates (RP, WP, balsam fir & JP). Balsam fir & WP are filling in below. The stand is separated from the rest of the compartment by a seasonally flooded lowland aspen/marsh swale.
41	6132 - Mixed Lowland Forest with Cedar	High Density Log	1.3	120		Small stand cut off from the rest of the compartment by the AuSable River and bounded by private property. This stand was not accessed for inventory. Viewed from across the river, there is cedar on the floodplain and large RP on the steep steep sideslope, with misc deciduous mixed in.
43	4133 - Aspen, Mixed Pine	High Density Pole	23.2	39	51-80	Was cut merch & up by late 1975 (#7-74 & #17-74). The stand regenerated to quaking aspen with mixed conifer associates, and lesser amounts of stump-origin RM & NPO. The WP, JP & RP occur throughout but are most concentrated along the stand's west side by the swamp. Most of the black spruce & balsam fir occur on the transition ground edge. Black cherry is recordable in the canopy and dominates the understory. Slash is from the QA self-thinning. Some P. tremulae conks present.
45	4319 - Mixed Upland Forest	Low Density Log	11.2	51	1-50	Except for a sub-acre patch in the NW, the stand was cut in early 1997 (72-045-96-02), removing merch JP & aspen north of Conners Flat Rd, and only orange-marked trees south of the road. The residual is the featured canopy and the regen from the cut is recorded in the understory. By next inventory, that young aspen will have moved solidly into the canopy, lifting the canopy closure to 75-100%. Residual from the harvest is mainly small saw-large pole WP, RM & log-xlog NPO, with small amounts of pole-log aspen. The harvest did not remove much volume west of the pipeline or south of the county road. A lowland swale inclusion occurs along the west edge of the stand.
47	4130 - Aspen	High Density Sapling	7.7	7		Was cut in Nov 2007 (72-021-06-01), 2" DBH & up except RP 16"+ DBH. Regenerated nicely to quaking aspen, with oak & RM stump sprouts. The RM was heavily browsed. A handful of super-canopy RP were left scattered above the regen. Two diffuse ephemeral drainages originate in the bordering swamp, flow southeast into the aspen stand and go underground within it. A trace of tag alder is associated with those marshy swales, as well as pole-sized hawthorn. Some black spruce has seeded in along the swamp edge.
49	4310 - Pine, Oak Mix	High Density Log	12.9	53	51-80	The stand starts out on the hilltop bordering Conners Flat Road, drops steeply down into the AuSable River Valley, and then levels out by the private property. Roads used to access residences along the river dissect the stand. The canopy has varying distribution in RP, NPO, aspen & WP. The near-majority pine component is small saw-large pole in size, with occasional supercanopy stems. There is a lot of standing dead oak, and mortality has increased since last year's drought and this year's gypsy moth defoliation. The stand's poly north of the county road has some immature aspen, but the bulk of the aspen south of the road is mature to overmature, with decadence and cull common. RP SI 60



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
50	42220 - Natural Jack Pine	Medium Density Pole	51.8	49	51-80	Salvage/improvement cuts in 1970 (#55-70 & #58-70) removed JP 10"+ at the stump, and a small amount of merch aspen in the NW. The resulting stand is roughly 2-aged, with JP poles in their mid-40's to mid-50's and JP saw in their mid-50's to mid-60's. There is also a large sapling JP component likely owing to the 1970 harvests, and a few rows of planted JP by the transfer station. The stand's SW edge climbs up a hillside; most of the A, O, WP & RP occurs there. Slash is building and the canopy is opening up where the overmature JP is dying. The stand's 2-aged condition has made it prone to JP budworm infestation. Significant JP budworm defoliation noted later in July.
52	42110 - Planted Red Pine	Medium Density	2.8	18		East edge of former gravel pit and dump. The entire pit was trenched and planted to RP (75%) & JP (25%) in 1996 (C72-367). The deepest/most pitted west side was separated out as a Low-Density Tree stand due to poor tree survivorship.
53	42220 - Natural Jack Pine	Low Density Pole	23.1	51	1-50	Was cut in spring 1996 (72-017-96-01), merch stems except oak and balsam fir. The featured canopy is patchy residual: JP poles in their 40's & 50's, mature NPO saw, vigorous large sapling/small pole oak, and scattered WP, RP & balsam fir. Trace to low amounts of JP & oak regen occurred post-harvest. Large portions of the stand have pine barrens characteristics.
55	4191 - Mixed Upland Deciduous with Conifer	Low Density Log	17.3	97	1-50	Marginal oak stand with aspen & pine components. The stand occupies a dry plateau and the sideslopes down to the outwash plains. The cover is densest on the sideslopes, with aspen & pine concentrated there. The stand's interior on the benchtop has sparser canopy cover with large, poor quality NPO, varying size classes of WP, RP & JP, and small patches of aspen. The mosaic of openings has mast producing shrubs and big bluestem. The oak had been slowly declining, but mortality has increased since last year's drought and this year's gypsy moth defoliation.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6225 - Bog	1.6	No	Unspecified	Bog along flooding. Leatherleaf with some labrador tea, bog birch, encroaching tamarack & black spruce.
2	50 - Water	15.5	No	Unspecified	Connors Marsh flooding. Water control structure built in 1955 by Game Division of the Department of Conservation.
3	3102 - Grass	2.0	No	Unspecified	Grassy opening with big & little bluestem, sedge, patches of sweetfern & blueberry, and scattered JP, oak & black cherry.
5	3102 - Grass	1.4	No	Unspecified	Grassy opening with sedge, big & little bluestem, patches of blueberry, sweetfern, & cherry.
7	6225 - Bog	1.9	No	Unspecified	Bog bordering the flooding. Leatherleaf with some bog birch, spiraea, colonizing WP.
8	6220 - Alder/willow	1.5	No	Unspecified	Connors Marsh creek floodplain below the water control structure. Tag alder over marsh grass, with scattered WP, RM & black spruce.
17	6233 - Wet Meadow	3.9	No	Low	Area behind beaver dam. 2010 imagery showed much of it flooded; appears to have been drawn down in the last year or so. Cover ranges from exposed mud flats to marsh to tag alder patches.
19	3102 - Grass	44.1	Natural Regen	Jack Pine	Most of the stand was cut in late 2007 (72-027-06-01), all species 2" DBH & up, except oak & BT's. Previous YOE Rx to plant JP was changed at proposal to natural regen. Checked in 2012; nat regen failed, so FTP C72-706 was submitted for trenching and planting JP per the approved prescription. The residual consists of scattered NPO saw and a couple super-canopy RP. Regen is sparse except along the lowland edges and bordering aspen stands. Cherry brush is the most common interior. The harvest's S1/2 was split off as a U-type. This stand's NE 3 acres were cut 2" DBH & up in 1989 (72-078-88-01), with sparse oak stump sprouts and JP saplings. The pipeline corridor was cleared prior to both harvests.
22	6225 - Bog	1.0	No	Unspecified	Was within an area cut 2" & up in late 2007 (72-027-06-01), Thin leatherleaf cover with hummocks of grass, and scattered seedling-sapling black spruce, JP & WP.
23	3204 - Mast Producing Shrub	12.2	Natural Regen	Jack Pine	Was cut in late 2007 (72-027-06-01), all species 2" DBH & up, except the scattered oak. Previous YOE Rx to plant JP was changed at proposal to natural regen. Checked in 2012; nat regen failed, so FTP C72-706 was submitted for trenching and planting JP, per the approved prescription, while avoiding the aspen regen and transition ground edge. Black cherry sprouts from the harvest are the dominant cover, in 5-15' tall clumps. Aspen sprouted along the border of adjacent aspen types and there is sparse seedling-sapling JP, WP & BS. The harvest's N1/2 had significantly less cherry brush and was split off as a grass type.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
25	6224 - Treed Bog	3.9	No	Unspecified	Was within an area cut 2" DBH & up in 1989 (72-078-88-01). Currently treed bog. Leatherleaf and labrador tea with colonizing sapling tamarack, black spruce & JP. Patches of tag alder & marsh, The tamarack is filling in thick in places.
26	6224 - Treed Bog	1.1	No	Unspecified	Except for the south end, was within an area cut 2" DBH & up in 1989 (72-078-88-01). Currently treed bog. Leatherleaf with sapling-pole JP, black spruce & tamarack.
29	11 - Low Intensity Urban	3.5	No	Low	Cleared county road corridor.
31	3302 - Low Density Conifer Trees	20.8	Plantation	Upland Conifers	Was cut in late 2008 (72-018-06-01), merch JP, aspen & unmarked oak. All RP & WP were left (stated cruised residual of 30 sq. ft), & less than 10 sq. ft. in marked-to-leave oak. RP was planted without trenching at lower stocking/random spacing in 2010 under C72-604 to supplement the residual without creating uniform plantation rows. Year 3 regen survey averaged 250 RP seedlings & 1500 oak/cherry sprouts per acre. IFMAP inventory found browsed terminal buds on a minority of the planted RP. Oak stump sprouts from the cut are vigorous, 5-8' tall. Black cherry stump sprouts are common. Decline & mortality is continuing in the residual NPO. The residual RP & WP ranges from sapling to super-canopy in stature, with varying distribution & canopy levels. The perimeter makes the forested benchmark but the stand averages to Low Density Tree overall. As the natural & planted regen recruits, this stand will shift entirely into the forested category. The harvest/planting visual management objective relative to the campground has been achieved and follow-up treatments are not needed.
32	6239 - Mixed Emergent Wetland	5.2	No	Unspecified	Cleared pipeline corridor across low ground. Cover includes marsh grass, patches of cattail, tag alder & salix, and encroaching tamarack & black spruce.
38	6220 - Alder/willow	10.5	No	Unspecified	Tag alder over marsh with sparse E/Q (black spruce, tamarack, balsam fir & aspen) on margins and scattered interior. Diffuse slough drainage to east.
39	50 - Water	1.4	No	Unspecified	AuSable River. Rainbow Bend canoe access site.
40	6220 - Alder/willow	1.2	No	Unspecified	Tag alder over marsh, with E/Q along margins. Drains to southeast.
42	6220 - Alder/willow	1.9	No	Unspecified	Was within an area cut merch & up by late 1975 (#7-74 & #17-74). Current cover is lowland shrub (tag alder, aronia, spiraea, ilex, viburnum) with low-density tree cover (WP, black spruce & quaking aspen residual & regen from the harvest). Standing water in the spring.
44	6220 - Alder/willow	1.3	No	Unspecified	Tag alder over marsh with sparse perimeter Q/E (tamarack, black spruce, balsam fir, balsam poplar).



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
46	710 - Sand, Soil	5.0	No	Unspecified	Formerly leased clay pit. Some water ponding in lowest points, else dry. Sub-acre patches of pole-sized quaking aspen & balsam poplar, & encroaching sapling cover.
48	3303 - Mixed Low Density Trees	37.3	Plantation	Oak	Was cut in early 2009 (72-021-06-01), merch stems except RP, WP & green-marked trees. Stated cruise residual: 10 BA oak & 10 BA RP/WP. Sparser areas along Conners Flat road were boundary-line excluded from the harvest. 32 acres were interplanted to RP (as a nurse crop for the oak) in 2011 under FTP C72-605. Current condition: scattered overstory saw-pole NPO, RP & WP, with natural and artificial regen below. Due for Year 3 artificial regen survey. Year 1 survey showed ~600 RP/ac and 800 BC-A-O/ac. Minor deer browse on the RP seedlings this winter. Natural regen from the cut includes medium-full black cherry brush, vigorous oak stump sprouts 5-8' tall, a browsed oak seedling layer, & locally high cover in BTA sprouts (mostly in the south). As the planted RP recruits, that component will lift the entire stand into the forested category, and the regen will become the featured canopy. Previous YOE oak M.O. with RP as a supplemental nurse crop. Passes regen check for mix of oak-pine, but does not make forested benchmark due to planted RP being unrecordable in IFMAP subcanopy (under 3' tall).
51	3302 - Low Density Conifer Trees	8.7	Plantation	Planted Mixed Pines	Former gravel pit and dump. Was trenched and planted to RP (75%) & JP (25%) in 1996 (C72-367). Poor seedling establishment in the deepest/most pitted areas. Between the surviving planted RP and the remnant patches of older JP and black cherry, the cover makes the Low-Density Tree benchmark. Much of the ground has vege'd in with grass (including big & little bluestem), low shrubs and moss. The portion of the planting on the east side's higher ground had decent survivorship and was separated out as a forested stand.
54	11 - Low Intensity Urban	8.3	No	Unspecified	Cleared county road corridor and some adjacent openings.