



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 279

Entry Year 2016

Acreage: 1,357

County Crawford

Management Area: AuSable Outwash

Revision Date: 08/17/2014

Stand Examiner: Joan Charlebois

Legal Description:

T27N R02W Sections 35, 36

T26N R02W Sections 1, 12

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. And in addition, for Section 36, to provide an area that allows for National Guard training.

Soil and topography:

The compartment is characterized by gently rolling upland terrain on primarily Grayling and Croswell-AuGres sands, interspersed with numerous low, poorly-drained areas on Tawas-Lupton mucks and Dawson-Loxely peats.

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

Section 36 is under a long term lease (L-1479) with the Michigan National Guard, DMA to provide for military usage with no permanent buildings or improvements to be erected (Act 154, P.A. 1935). Sections 1 and 12 are general State Forest land. Part of Section 12 was obtained using Pittman-Robertson Funds. The blocks of state land in section 12 interface several private parcels that have a mix of year-round and seasonal residences.

Unique Natural Features:

The Barker Creek Fen was identified as a high quality example of the Northern Fen natural community type. There is the potential for rare plant and animal species to be associated with the compartment's lowland covertypes.

Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

Watershed and Fisheries Considerations:

Barker Creek, a designated trout stream, flows through the northern third of the compartment. It is a tributary to the AuSable, a designated Natural River. There is a long history of beaver activity along the compartment's permanent streams.

Wildlife Habitat Considerations:

With its diverse mix of open marsh, bogs, conifer swamps, and upland pine, oak and aspen cover types, this compartment supports a variety of game and non-game wildlife species.

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 400 feet. Beneath the glacial drift is the Marshall Sandstone. The Marshall was quarried for building stone in the past. Gravel pits are located three miles to the north and potential appears to be limited. This area has been sparsely drilled for oil and gas. The nearest production is Conners Marsh Field, two miles to the northeast. The field has produced over 20 Bcf gas from the Ordovician Prairie du Chien. Oil and gas leases are located one mile to the northeast.

Vehicle Access:

County roads include: Dyer Truck Trail, Conner's Flat Road, Polly Trail (as far as Payne Road), Payne Road, and Wakeley Bridge Road. Access through existing trail roads in Section 36 has been limited by expanding beaver floodings. Two short State trail roads (one of which has been paved) are used as driveways for two houses on the south side of Conner's Flat Road in Section 1. Several cottages and residences along the AuSable River derive their sole access via another trail road (off Polly Trail in Section 12) which has been signed on the ground as "Appleton Avenue". Two other cabins and one residence are accessed across State land in the NENE of Section 12. An easement for construction of an access roadway,

granted to the State of Michigan as part of the Ludington Pump Storage Settlement Agreement, runs south of Polly Trail in Section 12 and then east into the adjacent Compt 280.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

The compartment does not contain designated recreational trails or facilities, but it does support dispersed recreation in the form of hunting, trapping, camping and wildlife viewing.

Fire Protection:

The northwest end of the compartment was impacted by the Stephan Bridge Fire in 1990, which burned through upland pine types until it hit the swamps. Marshes, bogs, swamps and streams serve as fuel breaks but also limit access to suppression equipment.

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**

Cover Type & Treatment Map

84°28'0"W

Compartment: 279
 T26N R02W Sec. 01,12
 T27N R02W Sec. 35,36
 County: Crawford
 Unit: Grayling
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 1,357 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 09/05/2014
 Map Phase: Pre-Review

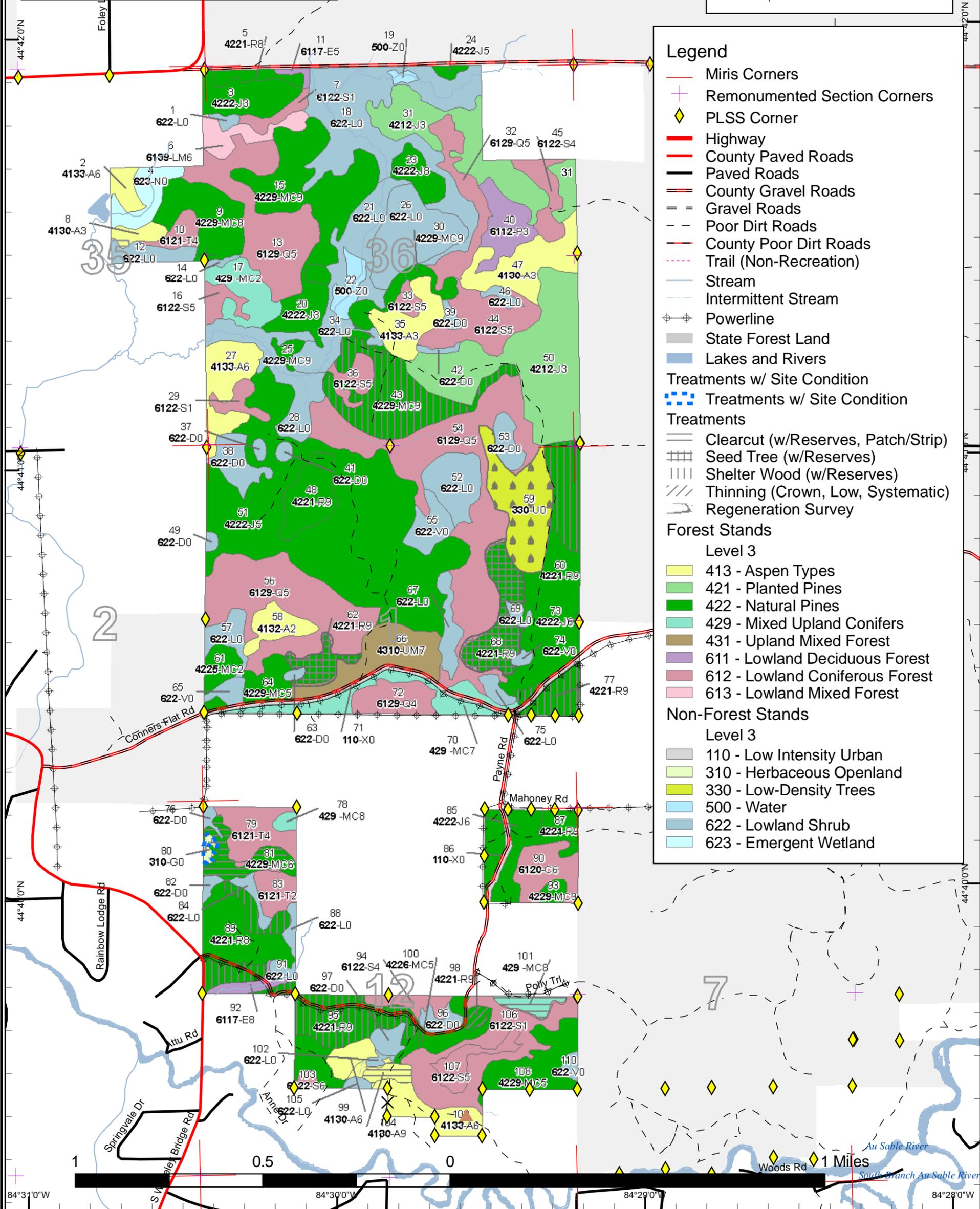
Stand # **23**
(412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

35	36	31
2	1	6
	12	7



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)
- Stream
- Intermittent Stream
- ⊕ Powerline
- State Forest Land
- Lakes and Rivers
- Treatments w/ Site Condition
- ▤ Treatments w/ Site Condition
- Treatments
- Clearcut (w/Reserves, Patch/Strip)
- ▤ Seed Tree (w/Reserves)
- ▤ Shelter Wood (w/Reserves)
- ▤ Thinning (Crown, Low, Systematic)
- ▤ Regeneration Survey
- Forest Stands
- Level 3
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 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
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland



44°42'0"N

44°41'0"N

44°40'0"N

44°39'0"N

84°31'0"W

84°30'0"W

84°29'0"W

84°28'0"W



Stand Boundary Map

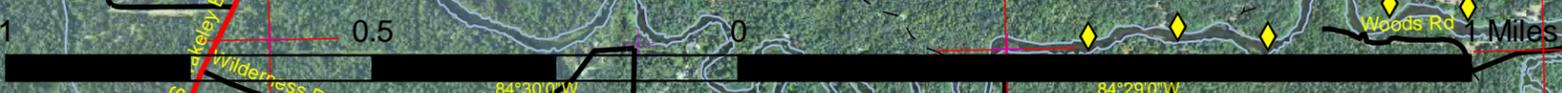
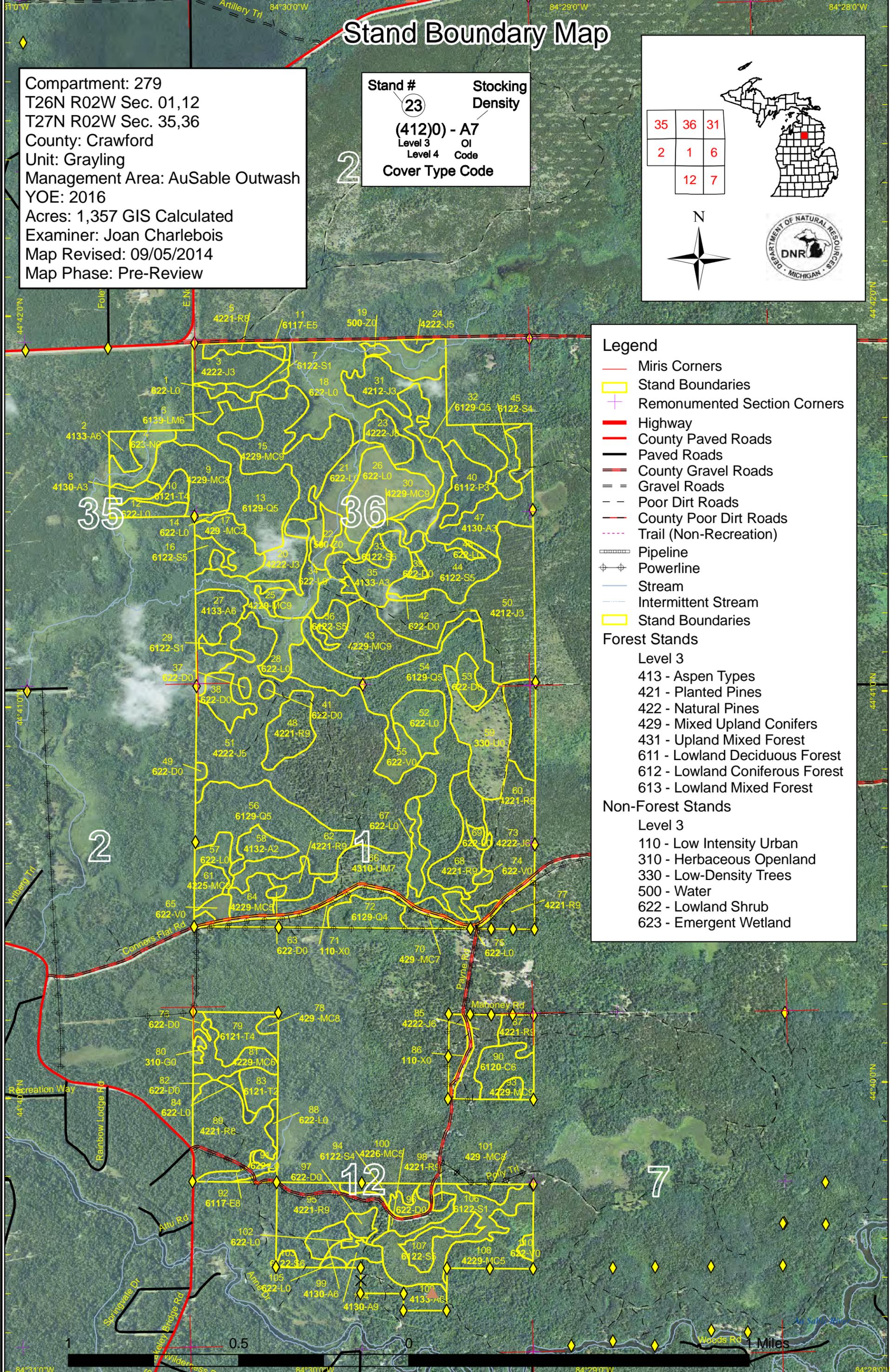
Compartment: 279
 T26N R02W Sec. 01,12
 T27N R02W Sec. 35,36
 County: Crawford
 Unit: Grayling
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 1,357 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 09/05/2014
 Map Phase: Pre-Review

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

35	36	31
2	1	6
	12	7

Legend

- Miris Corners
 - Stand Boundaries
 - Remonumented Section Corners
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Pipeline
 - Powerline
 - Stream
 - Intermittent Stream
 - Stand Boundaries
- Forest Stands**
- Level 3
- 413 - Aspen Types
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 429 - Mixed Upland Conifers
 - 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
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland



Special Conservation Areas & Site Conditions Map

84°28'0"W

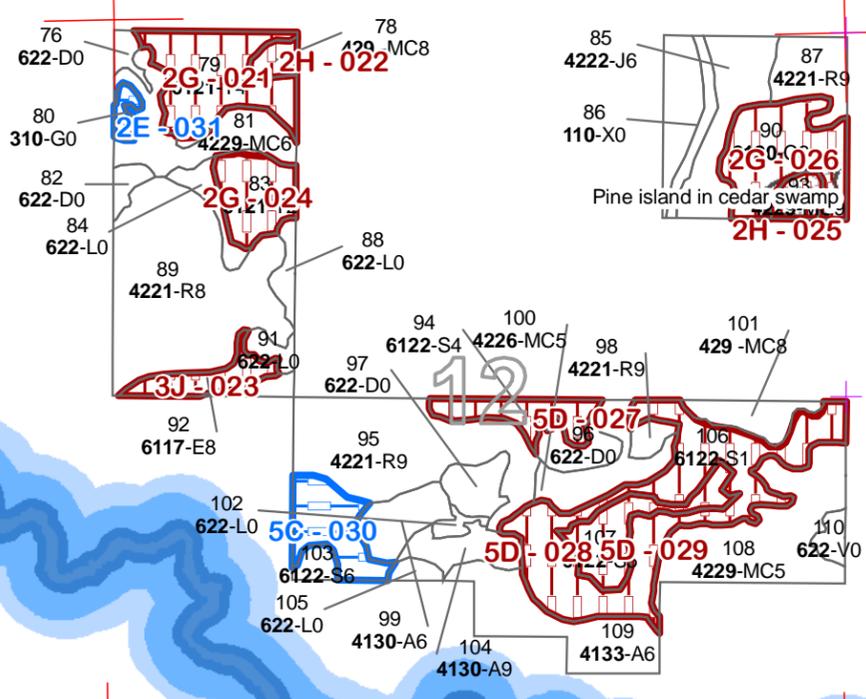
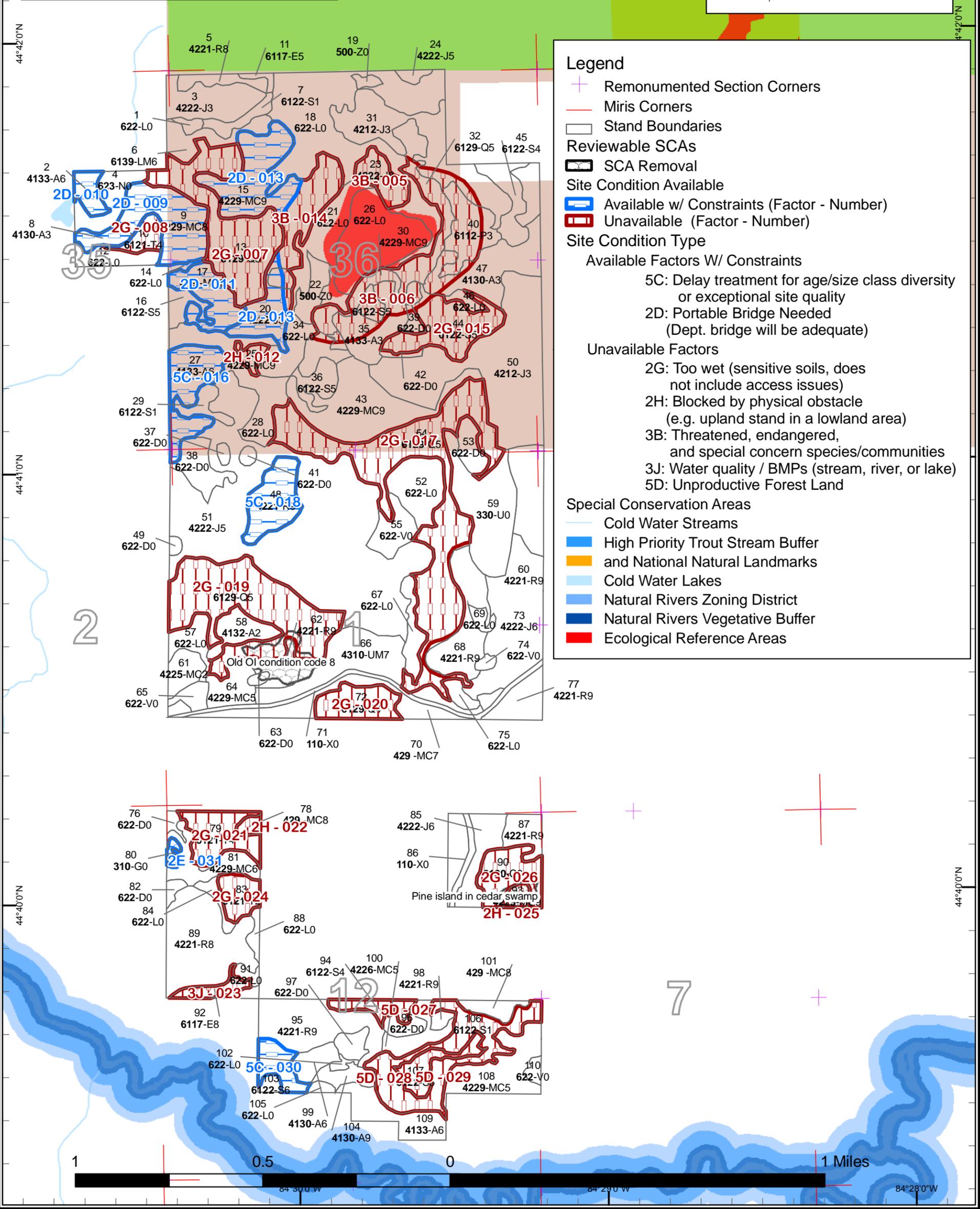
Compartment: 279
 T26N R02W Sec. 01,12
 T27N R02W Sec. 35,36
 County: Crawford
 Unit: Grayling
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 1,357 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 09/05/2014
 Map Phase: Pre-Review

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

35	36	31
2	1	6
	12	7

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
 - 2D: Portable Bridge Needed (Dept. bridge will be adequate)
- Unavailable Factors
 - 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
 - 3J: Water quality / BMPs (stream, river, or lake)
 - 5D: Unproductive Forest Land
- Special Conservation Areas
 - Cold Water Streams
 - High Priority Trout Stream Buffer and National Natural Landmarks
 - Cold Water Lakes
 - Natural Rivers Zoning District
 - Natural Rivers Vegetative Buffer
 - Ecological Reference Areas



84°30'0"W 84°29'0"W 84°28'0"W



	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	0	8	60	0	16	5	0	0	0	0	0	0	0	0	89
Bog	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Cedar	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Jack Pine	0	0	109	2	47	127	0	8	0	0	0	0	0	0	293
Low-Density Trees	26	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Lowland Aspen/Balsam Poplar	0	0	13	0	0	0	0	0	0	0	0	0	0	0	13
Lowland Conifers	0	0	0	0	0	11	0	0	0	15	107	48	0	0	182
Lowland Deciduous	0	0	0	0	0	0	0	1	0	0	0	0	4	0	5
Lowland Mixed Forest	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
Lowland Shrub	175	0	0	0	0	0	0	0	0	0	0	0	0	0	175
Lowland Spruce/Fir	0	0	4	5	0	0	6	15	28	0	7	0	0	28	93
Marsh	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Natural Mixed Pines	0	0	32	0	32	30	21	0	49	3	0	0	2	0	169
Red Pine	0	0	0	0	6	45	9	0	36	39	0	0	0	0	136
Tamarack	0	0	0	7	0	0	0	0	0	0	5	14	0	0	26
Treed Bog	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31
Upland Conifers	0	0	13	0	2	16	0	0	0	4	0	0	0	0	35
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	21	0	0	0	21
Urban	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Water	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	273	8	232	22	104	233	36	24	114	60	154	62	7	28	1357



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2016

Compartment 279
Total Compartment Acres: 1,357

Acres by Treatment Type

Commercial Harvest - 121	Tree Planting - 0	Other - 0
Habitat Cut - 13	Opening Maintenance - 1	

Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
(Habitat Cut)Natural Pines	0	0	0	13	0	0	13
Aspen Types	3	0	0	0	0	0	3
Mixed Upland Conifers	4	0	0	0	0	0	4
Natural Pines	9	0	26	75	2	0	113
Total	17	0	26	88	2	0	133



S
t
a
n
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
43 72279043-shwd	32.6	42290 - Natural Mixed Pine	High Density Log	54	51-80	Harvest	Shelter Wood with Reserves	42211 - Natural Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Designate-cut merch stems except the RP- WP-WO. Mark the mature RP-WP into seed tree range; thin within pockets of immature RP.
Specs: Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy RP-WP legacy trees. Focus on removing pine to improve spacing & operability, reduce impact on expected regen, release immature pine, and harvest sawtimber that are moving beyond utilization. Retention will consist of all legacy RP-WP, and boundary-excluded islands within swamp stand 36. Portions of the far east peninsula may also be excluded. Cut the operable transition ground swamp edges. Extend the harvest into the south end of stand 30 that lies outside of the ERA buffer and Barker Creek RMZ. Treatment boundary has been edited to approximate the intended inclusions/exclusions.

Other Comments: Create horizontal cover for wildlife along the lowland edge. Optimal harvest timing would be snow-off (scarification for pine regen) and dormant deciduous (for coppice regen).

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, oak, aspen, RM, spruce & fir. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

60 72279060-shwd	12.6	42211 - Natural Red Pine, Mixed Deciduous	High Density Log	58	51-80	Harvest	Shelter Wood with Reserves	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
------------------	------	---	------------------	----	-------	---------	----------------------------	---------------------------------------	-----------------------

Prescription Designate-cut merch stems except the RP- WP-WO. Mark the mature RP into seed tree range; thin within pockets of immature RP. Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy pine legacy trees. Focus on removing pine to improve spacing & operability, reduce impact on expected regen, release immature pine, and harvest sawtimber that are moving beyond utilization. Retention will consist of all legacy pine & white oak.

Other Comments: East edge of stand was within adjacent comp 280 harvests.

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, oak, aspen & RM. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

62 72279062-seed	7.4	42210 - Natural Red Pine	High Density Log	91	81-110	Harvest	Seed Tree with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
------------------	-----	--------------------------	------------------	----	--------	---------	-------------------------	-----------------------------	-----------------------

Prescription Designate-cut merch stems except the RP- WP. Mark the mature RP-WP into seed-tree range; thin within immature pockets. Cut the operable transition ground edge by the swamp. Protect the bog stand 63. Extend harvest into the untrenched edge of stand 66. Treatment boundary has been edited to approximate the intended inclusions. Leave all supercanopy RP-WP legacy trees. Retention will consist of all legacy RP-WP.

Other Comments:

Next Steps: Natural regen survey. Acceptable regen includes a mix of fir, pine, spruce, oak & RM. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

68 72279068-seed	18.7	42210 - Natural Red Pine	High Density Log	80	81-110	Harvest	Seed Tree with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
------------------	------	--------------------------	------------------	----	--------	---------	-------------------------	-----------------------------	-----------------------

Prescription Designate-cut merch stems except the RP- WP. Mark the mature RP-WP into seed-tree range; thin within immature pockets. Leave all supercanopy RP-WP legacy trees. Cut the operable transition ground swamp edges. Protect the adjacent wetland stands 69 & 74 and OFS bog. Retention will consist of all legacy RP-WP and the boundary-excluded peninsula in stand 69. Treatment boundary has been edited to approximate the intended inclusions/exclusions.

Other Comments: Create horizontal cover along the swamp edge. Note that an ephemeral drainage crosses at the bottleneck between stands 54 & 69; protect during harvest operations.

Next Steps: Natural regen survey. Acceptable regen includes a mix of fir, pine, spruce, oak & RM. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015



S
t
a
n
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
77 72279077-shwd	9.5	42210 - Natural Red Pine	High Density Log	63	81-110	Harvest	Shelter Wood with Reserves	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Designate-cut merch stems except the RP- WP-WO. Mark the mature RP into seed tree range; thin within pockets of immature RP. Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy pine legacy trees. Focus on removing pine to improve spacing & operability, reduce impact on expected regen, release immature pine, and harvest sawtimber that are moving beyond utilization. Retention will consist of all legacy pine & white oak. May exclude small poly north of county road.

Other Comments: Protect survey corner witness trees. Optimal harvest timing would be snow-off (scarification for pine regen) and dormant deciduous (for coppice regen).

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, oak, aspen, RM & spruce. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

81 72279081-ccr	9.4	42290 - Natural Mixed Pine	High Density Pole	47	81-110	Harvest	Clearcut with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
-----------------	-----	----------------------------	-------------------	----	--------	---------	------------------------	-----------------------------	-----------------------

Prescription Specs: Final harvest 2"+ DBH except for retention: exclude the far east end where most of the supercanopy RP-WP are located and leave the few individual supercanopy pine that occur elsewhere in the stand. Exclude the sparse cover around the upland opening stand 80. Cut the operable transition ground edge bordering the swamp. Treatment boundary has been edited to approximate the intended inclusions/exclusions. The two NW islands of the stand are separated from each other and the main stand by lowland swales. Evaluate conditions at time of sale prep and exclude if access concerns warrant. Protect the adjacent wetland stands.

Other Comments: Create horizontal cover along the swamp edges. This stand had two-track access from the tip of the mit stand 89. That grown-in road crosses a low swale connector between the flanking wetland stands 82 & 84. Winter access &/or crane mats are indicated.

Next Steps: Natural regen survey. Acceptable regen is a mix of pine, fir & spruce with oak, aspen & paper birch.

Proposed Start Date: 10/01/2015

89 72279089-shwd	0.0	42210 - Natural Red Pine	Medium Density Log	58	81-110	Harvest	Shelter Wood with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
------------------	-----	--------------------------	--------------------	----	--------	---------	----------------------------	-----------------------------	-----------------------

Prescription Specs: Designate-cut merch stems except the RP- WP. Mark the mature RP-WP into seed tree range; thin within immature pockets, and -- regardless of age -- thin only along the south edge stream RMZ. Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy RP-WP legacy trees. Retention will consist of the legacy RP-WP.

Other Comments: Most of the parent stand had JP-O-A removed in 1997, without addressing the RP-WP. This harvest focuses on two areas of denser cover that had little or no cutting due to boundary exclusion or a preponderance of designated-leave species (RP-WP). The treatment boundary has been edited to approximate the intended inclusions/exclusions.

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, fir, spruce, aspen & mixed deciduous. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

89 72279089-shwd	0.0	42210 - Natural Red Pine	Medium Density Log	58	81-110	Harvest	Shelter Wood with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
------------------	-----	--------------------------	--------------------	----	--------	---------	----------------------------	-----------------------------	-----------------------

Prescription Specs: Designate-cut merch stems except the RP- WP. Mark the mature RP-WP into seed tree range; thin within immature pockets, and -- regardless of age -- thin only along the south edge stream RMZ. Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy RP-WP legacy trees. Retention will consist of the legacy RP-WP.

Other Comments: Most of the parent stand had JP-O-A removed in 1997, without addressing the RP-WP. This harvest focuses on the two areas that had little or no cutting due to boundary exclusion or a preponderance of designated-leave species (RP-WP).

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, fir, spruce, aspen & mixed deciduous. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015



S
t
a
n
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
89 72279089-shwd	11.2	42210 - Natural Red Pine	Medium Density Log	58	81-110	Harvest	Shelter Wood with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal

Prescription Specs: Designate-cut merch stems except the RP- WP. Mark the mature RP-WP into seed tree range; thin within immature pockets, and -- regardless of age -- thin only along the south edge stream RMZ. Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy RP-WP legacy trees. Retention will consist of the legacy RP-WP.

Other Comments: Most of the parent stand had JP-O-A removed in 1997, without addressing the RP-WP. This harvest focuses on two areas of denser cover that had little or no cutting due to boundary exclusion or a preponderance of designated-leave species (RP-WP). The treatment boundary has been edited to approximate the intended inclusions/exclusions.

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, fir, spruce, aspen & mixed deciduous. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

89 72279089-shwd	11.2	42210 - Natural Red Pine	Medium Density Log	58	81-110	Harvest	Shelter Wood with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
------------------	------	--------------------------	--------------------	----	--------	---------	----------------------------	-----------------------------	-----------------------

Prescription Specs: Designate-cut merch stems except the RP- WP. Mark the mature RP-WP into seed tree range; thin within immature pockets, and -- regardless of age -- thin only along the south edge stream RMZ. Because of the variable distribution of mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy RP-WP legacy trees. Retention will consist of the legacy RP-WP.

Other Comments: Most of the parent stand had JP-O-A removed in 1997, without addressing the RP-WP. This harvest focuses on the two areas that had little or no cutting due to boundary exclusion or a preponderance of designated-leave species (RP-WP).

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, fir, spruce, aspen & mixed deciduous. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

95 72279095-shwd	22.0	42210 - Natural Red Pine	High Density Log	92	81-110	Harvest	Shelter Wood with Reserves	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
------------------	------	--------------------------	------------------	----	--------	---------	----------------------------	---------------------------------------	-----------------------

Prescription Specs: Cut merch stems except the RP- WP. Mark the mature RP-WP into seed tree range; thin within pockets of immature pine, and -- regardless of age -- thin only by the stream RMZ. Because of the variable distribution of the mature & immature pine, overall average residual will land in the shelterwood-seed range. Leave all supercanopy RP-WP legacy trees. Focus on removing pine to improve spacing & operability, reduce impact on expected regen, release immature pine, and harvest sawtimber that are moving beyond utilization. Retention will consist of the legacy RP-WP. Exclude from the harvest boundary portions to the south & east that have sparser mature pine cover &/or patches of the 1988 year of origin aspen. The treatment boundary has been edited to approximate the intended exclusions. Evaluate during sale prep and consider excluding the small triangle alongside the stream corridor stand.

Other Comments: Protect the adjacent wetland stands. Protect survey corner witness trees.

Next Steps: Natural regen survey. Acceptable regen includes a mix of pine, fir, spruce, aspen & mixed deciduous. Areas with thinning-level residual will not be expected to have regen.

Proposed Start Date: 10/01/2015

98 72279098-thin	2.0	42210 - Natural Red Pine	High Density Log	90	111-140	Harvest	Crown Thinning	4221 - Natural Red Pine	Cmpt. Review Proposal
------------------	-----	--------------------------	------------------	----	---------	---------	----------------	-------------------------	-----------------------

Prescription Specs: Mark RP down into thinning range. Leave all supercanopy RP-WP legacy trees. Expand SE boundary to harvest the band of mature aspen in adjacent stand 100. The harvest boundary has been edited to approximate the intended inclusion.

Other Comments: Site landing off SW corner of stand but protect the DNR-surveyed base station point (carsonite marker nearby).

Next Steps: Intermediate harvest. No regen survey needed.

Proposed Start Date: 10/01/2015



S t a n d	Grayling Mgt. Unit		Report 3 -- Treatments Prescribed with No Limiting Factor				Compartment: 279 Year of Entry 2016			
	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
101	72279101-cc	4.5	429 - Mixed Upland Conifers	Medium Density Log	98	51-80	Harvest	Clearcut	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest merch stems except RP & WP. No designated retention due to small stand size. Cut the operable transition ground edge by the swamp.</p> <p><u>Specs:</u></p> <p><u>Other</u> Polly Trail, which accesses this stand, is not a county road.</p> <p><u>Comments:</u></p> <p><u>Next</u> Natural regen survey. Acceptable regen includes a mix of conifers, oak & aspen.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
104	72279104-ccr	3.4	4130 - Aspen	High Density Log	54	81-110	Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest 2"+ DBH except for retention leave the supercanopy RP-WP legacy trees and exclude the low ground on the west end. The treatment boundary has been edited to approximate the intended exclusions.</p> <p><u>Specs:</u></p> <p><u>Other</u> An ephemeral drains crosses through the west end in the area to be excluded. Protect the adjacent wetland stands.</p> <p><u>Comments:</u></p> <p><u>Next</u> Natural regen survey. Acceptable regen includes aspen, RM & mixed conifers.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										

**Total Treatment
Acreage Proposed: 144.4**



S
t
a
n
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
80 NF_72279080_WLO	1.2	3105 - Mixed Upland Herbaceous				Non-Forest Management	Other - Specify	3105 - Mixed Upland Herbaceous	Cmpt. Review Proposal

Prescription Periodic opening maintenance, as needed, that may include disking, fertilizing, planting, food plot seeding, no-till prairie grass drill seeding,
Specs: mowing, brushing, burning and herbicide application.

Other
Comment:

Next
Steps:

Proposed
Start Date: 01/04/2016

Limiting Factor 2E: Road needed

**Total Treatment
Acreage Proposed: 1.2**

Report 5 – Site Conditions

Grayling Mgt. Unit
Joan Charlebois : Examiner

Compartment 279
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.*



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
Pine island in cedar swamp	Potential Old Growth		SCA Removal	3.3
Comments doesn't meet Type I or II Old Growth criteria				
Old OI condition code 8	Other SCA		SCA Removal	10.3
Comments doesn't meet Type I or II Old Growth criteria				



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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
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	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.



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
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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4133 - Aspen, Mixed Pine	High Density Pole	4.7	24	51-80	Merch JP & A were cut in 1970 (#13-70), then the north half burned in 1990. Stand's 1st age is set to the fire and 2nd age to the 1970 harvest. The fire-origin aspen is sapling-pole sized, while the 2nd age class of aspen is majority pole-sized. JP saplings mix in on the fire side, and large pole-small saw WP are common in the unburned south half. Xlog RP & WP rim the creek floodplain. There is a small tag alder inclusion in the stand's north half, and a beaver clearing.
3	42220 - Natural Jack Pine	High Density Sapling	14.4	24		Burned trees were salvaged in 1990 (#30-90-2) after the Stephan Bridge Road fire. The stand regenerated to densely-stocked JP with NPO stump clumps, along with a patch of aspen on the SE edge. A majority of the stems are still sapling sized. Scattered above are RP saw that survived the fire. The stand's south edge is sparser, trailing down toward the lowlands.
5	42210 - Natural Red Pine	Medium Density Log	4.4	83	81-110	Small stand of RP sawtimber bordering Dyer Truck Trail. Burned trees were salvaged in 1990 (#30-90-2) after the Stephan Bridge Road fire. Sparse on the margins where it burned hottest. Some fire-regenerated JP & NPO below. The far east end didn't burn as hard; it has small amounts of fir, oak, aspen & WP. RP overstory age range 70-100 years old, ave 83.
6	6139 - Mixed Lowland Forest	High Density Pole	8.8	38	81-110	Merch stems were cut in 1976 (#42-75), removing mostly A, RM, PB, BF, NWC & JP. The stand regenerated to a mix of spruce-fir and lowland aspen. The merch & up cutting specs left a minority of older stems, now in the small saw class. The understory has mostly balsam fir and tall tag alder, over rich damp ground and a diverse forb/fern layer. The 1990 fire salvage fingered into this stand's north edge. The stand is lowland overall but picks up some upland edge in the SE.
7	6122 - Black Spruce	Low Density Sapling	4.0	24		Was cut in 1976 (#42-75), then burned trees were salvaged in 1990 (#30-90-2) after the Stephan Bridge Road fire. The ground is marshy, with tag alder and patches of cattail. The colonizing regen (spruce, tamarack, JP & misc deciduous) barely makes the forested benchmark. Stand age was set to the fire, but new age classes are still recruiting. Locally high cover in tag alder. The drier transition ground has patches of JP & black cherry.
8	4130 - Aspen	High Density Sapling	4.0	24		Burnt in 1990 Stephan Bridge Road fire. Regenerated to aspen, with some JP on the west end. A few surviving RP saw are in the east end. The stand is upland overall but has a tag alder swale cutting up through the middle, and transition ground on the perimeter. Some beaver felling there.
9	42290 - Natural Mixed Pine	Medium Density Log	20.7	63	51-80	Mixed pine stand with immature to overmature components. Fire-scarred supercanopy RP scattered across the stand seeded in the canopy dominant RP saw (1st age, 63). Overmature JP saw (2nd age, 99, old inventory) shares that canopy level but is top-dying and breaking up. Below the RP & JP is a codominant-intermediate layer of WP with fir, aspen, spruce, RM & terrible quality NPO. WP & balsam fir are filling in where the JP is dropping out. The 1990 fire burned into the NW & SE edges of the stand. The NW spot fire patch filled in with JP & WP. The SE spot fire is still sparse.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
10	6121 - Tamarack	Low Density Pole	4.9	104	1-50	Marginal tamarack and spruce stand with traces of RM, paper birch & WP. Cover is dense on the transition ground edge, but the rest of the stand is sparse, growing over tussock sedge/marsh grass with standing water, spots of cattail. Porcupine damage common in the tamarack, black spruce with spindly tops.
11	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	1.2	75		Lowland E-P-Q stand rimming the upland RP stand. Mostly RM, QA & balsam poplar, with misc. conifers (WP, fir, spruce & tamarack), over tag alder. Includes some transition ground edge.
13	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	37.7	109	51-80	Mixed conifer swamp on saturated ground. The stand's north half has water visible in root mat holes but is on richer ground than in the south half. Much of the south half is growing on bog conditions, with sparser cover and smaller diameters; canopy closure drifts off the low end of 50-75% there. Species distribution varies from majority tamarack to majority black spruce, with the cedar concentrated in two patches of slightly drier ground in the NW & NE peninsulas. Very slow-growing tamarack cored 150 years - did not average that one into the 1st age.
15	42290 - Natural Mixed Pine	High Density Log	49.5	82	51-80	A significant amount of overstory removal is apparent on the 1938 aerial photos. Aside from the scattered xlog RP-WP, most of the current pine canopy was sapling-sized at the time of harvest or seeded in afterwards. The median RP saw is around 80 years old. The overmature breaking up JP is in its early 70's, and the intermediate-codominant pole-log WP is a couple decades younger. Canopy dominance shifts back and forth between the RP-JP-WP across the stand. Minor associates include aspen (beaver periodically started new age classes), terrible quality NPO, RM, and fir-spruce (concentrated along the lowland edge). Snow load breakage in the densely stocked WP & BF poles. WP branch flagging common. RP SI
16	6122 - Black Spruce	Medium Density Pole	4.5	65	1-50	Lowland spruce stand with variable canopy closure. Dense spruce cover over sphagnum moss alternates with sparse cover over full tag alder/standing water. Best growth is on the drier transition ground. RM, fir, aspen and paper birch are strung along the upland edge.
17	429 - Mixed Upland Conifers	Medium Density	13.3	24		Was salvaged in 1990 (#42-90-02) after the Stephan Bridge Road fire, merch stems except only the marked RP & WP. Large residual RP & WP survived on the lee side of the swamp. Cover alternates between dense patches of J3 and A3, with poorly- to non-stocked inclusions between. Those sparse areas drag the canopy closure down into the 50-75% range. Fir, spruce and balsam poplar rim the lowland edges.
20	42220 - Natural Jack Pine	High Density Sapling	2.0	24		Spot fire from the Stephan Bridge Road fire, with dense JP sapling cover.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	42220 - Natural Jack Pine	Medium Density Log	8.0	77	51-80	Pine island surrounded by lowland shrub wetland. A significant amount of overstory removal is apparent on the 1938 aerial photos. Aside from the scattered xlog RP, most of the current pine canopy was sapling-sized at the time of harvest or seeded in afterwards. The overmature breaking-up JP is in its 70's & 80's. Minor associates include RP of all size classes, poor quality NPO, aspen (beaver periodically started new age classes), WP & spruce.
24	42220 - Natural Jack Pine	Medium Density Pole	1.5	30		Island of high ground along Dyer Truck Trail, with an old borrow pit. The overmature JP is dying out, being replaced by pole-sapling JP. Black spruce and tamarack rim the lowland edge.
25	42290 - Natural Mixed Pine	High Density Log	2.5	95	81-110	Pine island surrounded by lowland shrub wetland. Xlog RP form a supercanopy layer above the main canopy of log-pole RP & WP. Minor associates include NPO, RM & aspen, with fir & spruce along the lowland edge. Balsam fir & WP are filling in below.
27	4133 - Aspen, Mixed Pine	High Density Pole	16.4	49	81-110	Was cut in 1965 (#36-64 & #15-65), merch JP & aspen, except for green-marked JP seed trees. Remaining merch JP, fir & spruce were cut in 1972 (#15-72). Under a deer range improvement FTP (#67-G) all stems 2"+ DBH except RP & WP were to be non-commercially cut. Marked RP & WP sawtimber were removed between 1973-1975 (#23-72 & #6-74). The stand has QA clones with swaths of balsam fir, WP & JP in between. RP sawtimber occurs mostly along the lowland and wetland inclusion edges. While the aspen age was set to the first harvest and the oak age to the last FTP, the series of cuts started new age classes within each species. The minority overmature aspen along the floodplain has largely died out. There is a tag alder inclusion at the stand's bottleneck.
29	6122 - Black Spruce	Low Density Sapling	4.5	34		Tag alder wetland that has been colonized enough to cross into the forested category. Mostly black spruce with tamarack, and a trace of mature aspen on the west end. Seen from the edges and entered only to core one sapling. Given the progressive nature of the colonization, the stand likely has multiple age classes.
30	42290 - Natural Mixed Pine	High Density Log	13.5	44	51-80	This shallow dry ridge flanking the floodplain has a mix of pine, aspen & oak, with perimeter spruce-fir. The WP & RP cover ranges from pole to xlog in size. The median small saw WP are relatively young (1st age, 44). The stand's 2nd age (92) on the larger RP saw is likely also representative of the mature to overmature JP, oak, RM & spruce. Slash is building as the overmature components break up. Beaver were probably responsible for starting new age classes in the aspen. Ephemeral drainage channels cross through the stand, connecting adjacent swamps to the creek floodplain.
31	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	34.6	25		Was part of a larger harvest cut 2"+ DBH in 1987 (#001-87). This drier portion of the harvest area was roller chopped and hand-seeded to JP in fall 1989 (C72-222). Random furrows serpentine through the stand. Densely-stocked bands of JP alternate with poorer-stocked swaths. Open-grown form is common in those unseeded swaths. Vigorous NPO stump sprouts are mixed in, often taller than the JP. Small clones of quaking aspen occur on the stand's perimeter, with openings created by beaver felling. Older residual spruce, tamarack, aspen & RP are strung along the lowland edge.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	14.5	92	51-80	Narrow lowland forested stand between the Barker Creek floodplain and the uplands. The stand is collectively a string of forested patches separated by sparse/marsh/shrub swales. The forested patches range from majority tamarack, to black spruce, to a mix of WP-aspen-RM on the slightly drier transition ground. Flood-killed snags are common on the fen edge. First age (92) is from the mature tamarack. 2nd age (48) was on younger black spruce. Those age brackets are likely representative of the older & younger components present across most of the stand's species.
33	6122 - Black Spruce	Medium Density Pole	2.8	80	1-50	Small swamp stand surrounded by uplands. Black spruce & tamarack are growing above tag alder in standing water. Large WP rim the upland edge. An ephemeral drainage channel connects this stand with the Barker Creek floodplain.
35	4133 - Aspen, Mixed Pine	High Density Sapling	13.5	26		Was part of a larger harvest cut 2"+ DBH in 1988 (#004-87), but not much JP established from the subsequent hand-seeding FTP (C72-221). The stand regenerated more to aspen and WP, with NPO stump sprouts, some JP, and spruce-fir along the lowland edge. Cover between the dense aspen clones is sparser and more open-grown. The young aspen is still transitioning into the pole class, but there is a minor component of older residual aspen along the margins.
36	6122 - Black Spruce	Medium Density Pole	6.0	70	51-80	Black spruce and tamarack growing on saturated sphagnum and tag alder covered ground. The stand wraps around small islands of upland pine and has a considerable amount of transition ground edge. There are likely younger age classes of spruce on that edge, but only one spruce was cored on the stand's interior low ground.
40	6112 - Lowland Aspen	High Density Sapling	12.9	27		Was part of a larger harvest cut 2"+ DBH in 1987 (#001-87). Patches to the N & NE were roller chopped and hand-seeded to JP in fall 1989 (C72-222). This lowland portion of the harvest saw little of the planting, and instead regenerated to quaking aspen with balsam fir and balsam poplar. There is some dry ground by the road but most of this stand is on intermediate-low ground, dissected by mucky tag alder swales, with intermittent drainage to the west. Tag alder cover is high along the swales but averages to low overall.
43	42290 - Natural Mixed Pine	High Density Log	29.8	54	51-80	Mixed upland pine stand with oak. A significant removal in the stand's north half is visible on the 1938 air photos; it looked like a shelterwood-seed residual. The south half had all JP except marked stems cut in 1965 (#82-64). RP is the dominant species: a majority of it is relatively young, small saw-large pole material, 45-60 years old (ave 54, 1st age), but there is a notable xlog component, some of it supercanopy in stature & hitting legacy tree marks (24" SCR, 188 years old). JP in the 1965 harvest area is mostly younger, but overmature JP (2nd age, 106) is the norm across the rest of the stand. The NPO has terrible quality/health; both it and the older JP are breaking up. The WP is generally intermediate pole-log material, with some supercanopy WP along the swamp edge. The stand's long swamp border is rimmed with RM, spruce, fir, & aspen. Small islands of the stand on the west side are separated from the mainland by low swales. RP SI 53-62



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
44	6122 - Black Spruce	Medium Density Pole	19.9	82	1-50	The southern 2/3rds of the stand is growing on bog conditions. The north 1/3rd has a band of drier PARVCo ground, with saturated, tag alder-covered ground on its north edge. The PARVCo band has large cull RM & overmature JP above dense spruce-fir-WP pole cover. The bog cover is sparser, with mostly black spruce and tamarack, but also a fair amount of WP & RP. The less dense canopy over the bog drags the stand's overall closure down into the 50-75% category.
45	6122 - Black Spruce	Low Density Pole	8.6	77	1-50	Black spruce and tamarack with balsam fir, scattered NWC, and misc. deciduous. The transition ground supports the densest cover; the saturated interior is sparser, with tag alder and patches of cattail below. The stand's south ½ was within a larger 1987 harvest, spec'd to be cut 2"+ DBH (#001-87). Low ground conditions prevented complete harvesting. The residual there, albeit sparser, is still the featured canopy, and some of the post-harvest regen is recordable in the canopy (2nd age, set to harvest).
47	4130 - Aspen	High Density Sapling	20.1	27		Was part of a larger harvest cut 2"+ DBH in 1987 (#001-87). Patches to the N & NE were roller chopped and hand-seeded to JP in fall 1989 (C72-222). This upland portion of the harvest saw little of the planting, and instead regenerated to quaking aspen with RM, oak stump sprouts and misc. conifers. Black canker is widespread in some clones. The stand has a lot of lowland edge but is upland overall.
48	42210 - Natural Red Pine	High Density Log	14.1	82	81-110	Was thinned in 2008 (72-057-06-01), marked RP, merch JP & some of the oak, except for a 2-acre retention island in the middle. Majority cover in the overstory is small-medium RP saw, along with WP poles & saw (mostly on the west side), widely-scattered supercanopy RP and terrible quality NPO. The residual distribution varies but still averages out to R9. Well-released RP are showing positive growth response. Wide range of ages present in the 12-15" DBH RP: 60-100 years old, ave 82. RP SI ave 57, high of 61. WP understory heaviest in the retention island. RP & fir present in the understory but at lower than recordable levels.
50	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	58.2	25		Was part of a larger harvest cut 2"+ DBH in 1988 (#004-87), then roller chopped and hand-seeded to JP in fall 1989 (C72-221). Densely-stocked bands of JP alternate with poorer-stocked swaths. Open-grown form is common in those unseeded swaths. Vigorous NPO stump sprouts are concentrated in the stand's SE on the hill. The aspen, fir & spruce occur mostly along the swamp edge. The stand has small wetland inclusions (OFS).
51	42220 - Natural Jack Pine	Medium Density Pole	126.6	50	51-80	Was cut in 1964 (#38-63A), merch JP (except marked seed trees), fir & aspen. The remaining JP was cut by 1972 (#62-70, #37-71), and deer range improvement FTPs (#68-G, #69-G, #62-G) non-commercially cut 2"+ residual aspen & oak by 1973. Several small contracts removing RP sawtimber were carried out in the early 1970's. The stand has JP pole cover with residual log-xlog RP, small clones of aspen (mostly on the stand perimeter), and NPO stump sprouts. The RP occurs scattered throughout the interior and in dense pockets along the swamp edge. While the JP age was set to the first harvest and the aspen age to the last FTP, the series of cuts started new age classes across both species. The stand has a long lowland border and wraps around several wetlands. The cover is dense along the transition ground edge but sparser interior, where open-grown form is common.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	69.5	105	51-80	<p>Long, narrow swamp stand. Its irregular boundary wraps around several non-forested wetland stands and is flanked by uplands. Away from the considerable transition ground edge, this stand is very wet. Ephemeral drainages originate within the stand and flow out the NW and south ends. Canopy dominance shifts back and forth between NWC, tamarack and spruce as you move across the stand. The transition ground supports denser, larger-diameter cedar and spruce cover. The most saturated ground has almost pure tamarack. Cover adjacent to the non-forested wetlands is sparse and continuing to fill in. Small amounts of QA, balsam poplar, RM & paper birch are scattered along the margins. The stand's 1st & 2nd ages were on the majority mature components. A younger class of spruce and tamarack is present on the upland edge but was not cored.</p>
56	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	48.3	111	51-80	<p>Mixed conifer swamp with canopy closure varying with the degree of flooding. The most saturated ground has sparse spruce and tamarack over tag alder. The drier transition ground has dense cedar, spruce or tamarack cover. Ground falling in between the two extremes supports a moderately stocked mix of the canopy dominants. 1st age was on the NWC pole cover. 2nd age was on the minority NWC saw. Younger spruce cored on the upland edge was around 50 years old. Minor associates include balsam fir, aspen, RM, WP and paper birch.</p>
58	4132 - Aspen, Jack Pine	Medium Density	8.1	18		<p>Was cut 2"+ DBH in 1996 (#18-96), except for the perimeter and SW peninsula. That peninsula was part of an island-hop used to access the harvest and is cut off by tag alder swales. Looks like the wood was skidded SW out to the adjacent uplands. The main harvested island has dense aspen regen in the middle, surrounded by a sparsely-stocked zone with JP & balsam fir. The transition ground edge has dense cover in residual WP, NPO, aspen, RM, RP & balsam fir. 2nd age is on the small saw WP residual.</p>
60	42211 - Natural Red Pine, Mixed Deciduous	High Density Log	13.9	58	51-80	<p>RP stand on a hillside with NPO & patches of BTA. Was cut in 1970 (#48-70), spec'd to remove only the JP saw. A majority of the RP is relatively young, small saw-large pole material in its 50's & 60's (ave 58, 1st age). Some of the older minority xlog component is supercanopy in stature. Terrible quality NPO occurs throughout (106, 2nd age); break-up is creating canopy gaps. Two pockets of aspen are in the north half. RM poles and cull saw are on the hilltop, JP is on the flats by the two-track. The east edge of this stand was harvested with adjacent sales in comp 280. RP SI 58-60</p>
61	42250 - Pine, Oak	Medium Density	6.8	21		<p>These two polygons were cut in 1993 (72-015-91-01), merch conifers and 2"+ DBH hardwoods, part of a larger harvest area in the adjacent comp 258. The canopy is roughly 75% regen from the harvest and 25% residual. The regen includes NPO stump sprouts and JP saplings. The residual is mostly JP poles and stocky, small saw RP & WP. The stand has sparse areas where open-grown form is common.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
62	42210 - Natural Red Pine	High Density Log	6.4	91	81-110	RP stand bordering the swamp and wrapping around a treed bog. Was part of a larger area cut in 1996 (#18-96), merch JP, aspen & dead oak. This part of the harvest had heavy RP residual. The stand's supercanopy RP component (platey bark & fire-scars common, did not core) seeded in the majority large saw RP (cored in their 80's & 90's, ave 91 years, 1st age). WP, fir & spruce are mostly intermediate in the canopy, and filling in below. The terrible health/quality NPO continues to break up. RM occurs on the PARVCo edge. RP SI 64
64	42290 - Natural Mixed Pine	Medium Density Pole	8.1	46	1-50	Was cut in 1996 (#18-96), merch JP, aspen & dead oak. The harvest's considerable residual is the featured canopy and the regen is recorded in the understory. Marginal mixed stand with pole JP & balsam fir, open-grown log-pole WP and terrible quality NPO saw. RP of varying size classes are scattered across the stand, spruce rims the lowlands, and there are traces of RM & aspen. JP sapling regen from the cut is dense at the landing and sparse elsewhere. 1st age is on the JP pole residual. 2nd age is an estimate on the oak, based on mature oak in the stand to the east.
66	4310 - Pine, Oak Mix	Low Density Log	21.2	106	1-50	Was cut in early 2008 (72-19-06-01), removing JP, RM & marked NPO (stated cruise residual of 20 sq. ft. NPO, 20 sq. ft. conifers). A small bog inclusion was red-line excluded (OFS pt). Was trenched in 2010 & interplanted to WP in 2011 as a nurse crop for the oak (C72-598). The residual is the featured canopy. Its overmature oak continues to break up, but the younger mixed conifer components (WP, RP, fir, JP & spruce) are keeping the stand in the forested category. There is good survivorship in the planted WP, but a majority are still <3' tall. Aside from the black cherry, natural regen is sparse. Not much oak was cut, so oak stump sprouts have less than 2% coverage.
68	42210 - Natural Red Pine	High Density Log	18.0	80	81-110	RP stand between the upland JP and the swamp. Also borders three non-forested wetlands. Four acres of the stand's densest cover were cut in 2008 (72-057-06-01), removing marked RP and merch JP & oak. The prescription was for a seed tree cut, with a mixed pine regen objective. Residuals are running in the heavy thinning range. A majority of the RP is mature large saw (80, 1st age) but there is also a smaller immature component (44, 2nd age) and significantly older supercanopy stems. Favorable access to the water table; RP SI 65. Regen is thickest along the lowland edge. Has a bog inclusion (OFS) in the north end, and an ephemeral drainage crosses at the bottleneck between the wetland and the swamp. Of two RP cored that were 80 years old, one was 15" DBH & the other was 24" DBH; both tall and clean-boled.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
70	429 - Mixed Upland Conifers	Low Density Log	16.2	51	1-50	Was cut in early 2008 (72-19-06-01), merch stems except RP, WP, spruce, fir, birch & marked NPO. Mostly JP & oak were removed along with small amounts of RM & aspen. The stand's narrow far ends were red-line excluded (half-acre swamp inclusion on the W end & half-acre sparse driveway area on the east end. The narrow poly on the N side of the road was also excluded from the harvest. Residual from the harvest is RP/WP of multiple size classes and poor quality NPO saw, with pole-sap balsam fir, JP & black spruce. Small amounts of QA, RM, PB & tamarack occur mostly along the swamp margins. Regen is a variable mix of pine, fir, spruce, aspen & oak. JP regen is the most common but its coverage is low overall. NPO stump sprout coverage is trace due to the small amount of oak cut and deer browse. The stand's narrow shape and distribution of residual & regen would limit cultural treatments. The stand's current condition with progressively filling in regen is accepted.
72	6129 - Mixed Coniferous Lowland Forest	Low Density Pole	11.4	57	1-50	Aside from a pine island inclusion, this stand is on saturated to flooded ground with a diverse lowland shrub understory. From west to east, the cover starts with a dense patch of spindly spruce poles, moves onto a small island of RP-JP, drops back down into the swamp with very sparse cover, then picks up more cedar and tamarack at the east end. Traces of aspen, RM & paper birch rim the uplands. An ephemeral drain empties into the stand from the NE.
73	42220 - Natural Jack Pine	High Density Pole	32.0	44	51-80	Was cut in 1970 (#53-70, #40-70), merch JP east of the two-track and JP saw west of the two-track. Most of the residual RP was then cut in 1974 (#45-73). Stand was sprayed for JP budworm control (W71-194, approved 1982). The stand regenerated well to JP. Ground with good access to the water table achieved excessive stocking (west side). The east side on the hill is drier and didn't seed in as densely. Form is more open-grown and oak stump sprouts from the cut are concentrated there. Older residual from the harvests include pole-xlog RP, terrible quality NPO saw, and small saw JP (mostly west of the 2-track and bordering the county road).
77	42210 - Natural Red Pine	High Density Log	9.5	63	81-110	RP stand with significant JP-NPO components, and misc. aspen, RM, WP & spruce. The poly south of the county road had JP saw removed in 1970 (#53-70), and possibly some mark-to-cut RP (#45-73). The RP had multiple regen events and a wide range of ages. The small saw-large pole RP cored were in their 40's, 50's & 80's, ave 63 yrs (1st age). There is also a supercanopy RP component (did not core) that appears significantly older. Most of the stand's JP is overmature (2nd age, 95 yrs), but there is also a younger pole component along the road. The terrible health/quality NPO is breaking up along with the older JP; areas heavy to those species are dropping a canopy closure category. There is a small patch of QA in the SW and spruce in the SE.
78	429 - Mixed Upland Conifers	Medium Density Log	1.7	43		Small finger of dry ground that extends from the adjacent private property into the swamp. Cover includes log-pole WP and dense patches of pole balsam fir, with cull RM saw & black spruce rimming the swamp, terrible quality NPO, and clumps of large RP. 2nd age is an estimate intending to represent the older components.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
79	6121 - Tamarack	Low Density Pole	13.7	110	1-50	The stand's core saturated ground has sparse tamarack over marsh/tag alder. Denser NWC cover fingers in on the N & E edges. A string of small PARVCo islands across the north end have fairly dense cover in WP, fir, RM & spruce. The stand's SW has majority cover in black spruce over sphagnum/leatherleaf.
81	42290 - Natural Mixed Pine	High Density Pole	10.6	47	81-110	Mixed conifer stand on a shallow ridge bordered by lowlands. Variable JP cover with significant WP & black spruce components, lesser amounts of RP, NPO & balsam fir, and traces of aspen & paper birch. Within an area cut in 1960 (#85-60A), merch aspen & marked JP. The west end then had merch JP cut in 1976 (#12-76); a larger adjacent private harvest appears to have occurred around the same time. Part of the 1976 harvest area is separated out as a non-forest stand with a food plot trespass. Most of the JP cored 45-50 years old (ave 48, 1st age). The stand's 2nd age (92 yrs) is on the overmature JP component. The spruce is concentrated on the stand's transition ground edge. Most of the xlog RP is at the stand's east end. Slash is building as the overmature NPO, JP & aspen breaks up. Fir, WP & spruce are filling in below. Two small islands in the stand's NW are separated from the mainland by leatherleaf swales.
83	6121 - Tamarack	Medium Density	7.1	37		Tamarack, with black spruce and occasional WP & RM, on saturated ground. The stand's pole component (2nd age, 93) is concentrated on the perimeter. The interior has majority sapling cover (1st age, 37). There is likely a wide range of ages in the sapling class, given the progressive nature of the colonization, but only one sapling was cored. The shrub layer has short tag alder, with swamp birch, leatherleaf and Labrador tea, over sphagnum hummocks. Amount of standing water influenced by beaver activity on drainage to SE on private.
85	42220 - Natural Jack Pine	High Density Pole	15.5	41	1-50	Was part of a larger area cut in 1973 (#14-73A, majority in adjacent comp 280), merch JP-oak-hdwds, & BF-BS if associated with the JP. All RP & WP were left. The stand has variable distribution in JP regen from the harvest, averaging toward the low end of the 75-100% closure category. Dense patches of small pole-large sapling JP alternate with sparse openings. Oak stump sprouts reach the main canopy level and small clones of aspen regenerated in the southeast. Most of the harvest's RP & WP residual lands in the saw class, as does the occasional terrible quality residual NPO.
87	42210 - Natural Red Pine	High Density Log	6.4	48	51-80	Was part of a larger area cut in 1973 (#14-73A, majority in adjacent comp 280), merch JP-oak-hdwds, & BF-BS if associated with the JP. All RP & WP were left. This part of the harvest area had more RP & JP residual than regen. The main canopy layer is made up of small saw-large pole RP with residual JP poles. Scattered above that is an older age class of xlog-log RP. JP and NPO (stump sprout) regen from the harvest lands mostly in the subcanopy, with a minority extending into the canopy. Spruce, fir, WP & a trace of aspen rim the swamp. Canopy closure averages toward the low end of the 75-100% category.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
89	42210 - Natural Red Pine	Medium Density Log	30.6	58	81-110	Within an area cut in 1960 (#85-60A), merch aspen & marked JP. Was cut again in 1997 (72-027-96-01), 2"+ DBH aspen, JP & oak, except for a couple acres each along the stream corridor & in the thumb. The species-removal harvests released young RP & WP that are now small saw-large pole material in their 40's, 50's & 60's (1st age, RP ave 59). A second, significantly older class of residual RP saw occurs at low densities interior and at R9 levels in perimeter patches (2nd age, ave 95). A third minor class is the scattering of even older supercanopy RP & WP. Most of the stand's aspen is in the thumb, age set to the first harvest. Canopy closure is variable; dense cover alternates with numerous canopy gaps. The most uniform, intact canopy is along the stream and lowland edges. WP, fir & RP are recruiting in the understory, heaviest along the lowlands, & there are some NPO stump sprouts from the 1997 harvest. RP SI 55-63.
90	6120 - Lowland Cedar	High Density Pole	13.2	103	111-140	The stand's core saturated ground has dense NWC pole cover with black spruce & tamarack mixed in. Moving out toward the stand's perimeter, the proportion in NWC decreases while that species DBH increases. The stand's drier transition ground edge and small PARVCo islands have dense black spruce pole cover with some RP & WP saw, paper birch & cull RM. Balsam fir common in the understory
92	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Log	4.1	120	51-80	Mixed lowland stand occupying the stream valley. A permanent stream serpentine across the width of the floodplain. Mucky hillside seeps feed into the stream. Variable cover in RM, paper birch & quaking aspen, with xlog WP hugging the stream and fir-spruce on the sideslopes. Occasional NWC & RP. Cull and break-up common in the overmature components. RM age had to be extrapolated due to pervasive interior rot. WP age extrapolated due to corer bit limitations.
93	42290 - Natural Mixed Pine	High Density Log	2.4	162	141-170	Island of dry ground in the cedar swamp, dominated by supercanopy-stature RP & WP. Occasional NPO and overmature quaking aspen. RM & paper birch are intermediate-suppressed in the canopy. The understory has locally full cover in balsam fir & WP.
94	6122 - Black Spruce	Low Density Pole	5.3	80	1-50	West end of the stand is not much above treed bog status, with conifer cover establishing through deep leatherleaf. Moving east, the leatherleaf gives way to more sphagnum moss groundcover with Labrador tea and blueberry. The majority spruce cover there is spindly and small-crowned, with similar-stature tamarack and occasional WP, RP & JP.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
95	42210 - Natural Red Pine	High Density Log	31.0	92	81-110	Within an area cut in 1960 (#84-60A), merch aspen & marked JP. Was cut again in 1988 (72-002-87-01), 2"+ DBH except only the marked RP & WP. A few young aspen clones were cut merch & up. NW multi-poly was not in the 1988 harvest area but had an acre cut in 1997 (72-027-96-01), 2"+ DBH aspen, JP & oak. Wide range of ages in the pine overstory. Roughly a third of the current canopy was sapling-sized at time of the '88 harvest & is now large pole-small saw in size (most of it WP (2nd age 44), some RP). Roughly a third of the stand is large saw 80-100 years old (mostly RP, 1st age 92, some WP). In between is medium RP saw, generally in its 70's. Except where stocking held up, there is a tendency toward persistent heavy limbs in the large RP. Small patches of aspen are scattered across the stand; log-pole clones dating to the 1960 harvest & sapling-pole to the 1988 harvest. Filling in below is a mix of WP, RP, fir & JP, with occasional oak stump sprouts. RP SI 53-55.
98	42210 - Natural Red Pine	High Density Log	1.6	90	111-140	Small pocket of naturally established RP, part of a larger harvest cut by 1988 (72-002-87-01), 2"+ DBH and only the marked RP & WP. The medium RP saw have good form. There are a few WP along the swamp edge. Open below, with trace amounts of RP & WP regen. BA swings 90-140-140. RP SI 55
99	4130 - Aspen	High Density Pole	5.2	26	51-80	Within an area cut in 1960 (#84-60A), merch aspen & marked JP. Was cut again by 1988 (72-002-87-01), 2"+ DBH and only the marked RP & WP. This part of the harvest had much less RP residual and more aspen regen (1st age, 26). The aspen clones that regenerated aren't completely transitioned into the pole class; some are majority sapling-sized. Pole-log WP, RP & balsam fir occupy the same canopy level and are concentrated on the perimeter. Residual from the harvest is scattered above: large RP (2nd age, 82), and aspen from the 1960 harvest.
100	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	7.1	26	51-80	Within an area cut in 1960 (#84-60A), merch aspen & marked JP. Was cut again by 1988 (72-002-87-01), 2"+ DBH and only the marked RP & WP. A few young aspen clones were cut merch & up. Regen from the harvest, along with then-sapling material released by the harvest, make up the featured canopy. That canopy includes pole-sapling JP, aspen, stump-origin oak & balsam fir, and stocky, open-grown log-pole WP (2nd age, 35) & RP. Distribution is patchy, with upland brush/grassy opening inclusions common. Scattered mature residual includes log RP & WP and some log-pole aspen from the 1960 harvest.
101	429 - Mixed Upland Conifers	Medium Density Log	4.0	98	51-80	Small upland stand along the compartment/private property boundary and hemmed in by the swamp. JP with significant oak and aspen components, and lesser amounts of WP, RP, spruce & fir. The top three species are largely overmature, with cull, decadence & snags common and contributing to the slash load. Low overall understory cover in a mix of pine, spruce & fir.
103	6122 - Black Spruce	High Density Pole	1.6	67		Small pocket of low ground with vigorous black spruce pole cover, cull RM, and occasional paper birch, NWC & balsam fir. The ground is sphagnum-covered but without standing water.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
104	4130 - Aspen	High Density Log	4.6	54	81-110	Within an area cut in 1960 (#84-60A), merch aspen & marked JP. Now a mature quaking aspen stand with RM, balsam fir, WP & paper birch associates. Balsam fir is a minor canopy component but dominates in the understory. Slash is accumulating from snow-load breakage in the fir understory, and break-up of the mature overstory fir & aspen (P. tremulae present). RM is mostly oversized pulp. The stand's west end has lowland swales with ephemeral drainages cutting through to the south. The small amount of balsam poplar occurs there.
106	6122 - Black Spruce	Low Density Sapling	28.4	Uneven Age		Black spruce and tamarack slowly filling in over dense leatherleaf groundcover. Tag alder and bog birch rim the perimeter. Occasional WP, RP & JP. Progressive colonization has created a multi-storied, multi-aged stand. Barely averages above treed bog status; with bog & treed bog inclusions.
107	6122 - Black Spruce	Medium Density Pole	7.5	100	51-80	Spindly black spruce with tamarack growing on spongy sphagnum & sedge-covered ground. The pole-sapling overstory barely averages 6" DBH. Leatherleaf and Labrador tea are sparser below than in the surrounding younger spruce stand.
108	42290 - Natural Mixed Pine	Medium Density Pole	18.4	26	1-50	Was cut by 1988 (72-002-87-01), 2"+ DBH except for a narrow band of swamp along the middle of the private line. Regen from the harvest, along with then-sapling material released by the harvest, make up the featured canopy. That canopy includes pole-sapling JP, aspen, balsam fir & stump-origin oak, and stocky, open-grown log-pole WP (2nd age, 37) & RP. Distribution is patchy; dense cover alternates with upland brush/grassy openings.
109	4133 - Aspen, Mixed Pine	High Density Pole	12.3	26	51-80	Was cut by 1988 (72-002-87-01), 2"+ DBH. Regen from the harvest, along with then-sapling material released by the harvest, make up the featured canopy. The canopy has dense pole-sapling QA clones with sparser, open-grown cover in between: stocky, branches-to-the-ground WP "saw" (2nd age, 37), RP, stump-origin oak, balsam fir and cherry. Conifers growing within the dense aspen clones have better form. The aspen clones' density offsets the sparse cover separating them, floating the overall canopy closure into the 75-100% range.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6220 - Alder/willow	1.4	No	Low	Was within the 1976 (#42-75) harvest area and may also have burned in 1990. It is a non-forested wetland now, with dense tag alder, some salix, and perimeter JP, spruce & fir saplings.
4	6233 - Wet Meadow	9.8	No	Low	Beaver marsh, drawn down right now, with a permanent stream flowing through. Sedge/marsh grass cover with short colonizing salix and dense patches of tag alder. Not enough combined shrub cover to call alder/willow overall. NWC & supercanopy WP snags are common, with Q scattered along the stand margins.
12	6220 - Alder/willow	6.4	No	Low	Tag alder with scattered spruce and tamarack, NWC snags, and a sub-acre patch of marsh by the creek.
14	6220 - Alder/willow	1.0	No	Low	Flooded tag alder swale with Q/E on the margins. An intermittent stream flows west through it, draining the adjacent swamp.
18	6229 - Mixed lowland shrub	54.6	No	Low	Large beaver meadow with mixed lowland shrub cover filling in: tag alder, sweet gale, salix, spiraea, bog birch, leatherleaf, shrubby cinquefoil and bog laurel. The stand picks up small upland islands and scattered colonizing Q along the perimeter. Snags common.
19	50 - Water	1.3	No	Low	Open water with yellow pond lily, behind beaver dam.
21	6221 - Fen	25.3	No	Low	Beaver marsh with varying water levels, flooded to south. Cover is sedge/marsh grass with colonizing sweet gale, some patches of tag alder and spiraea, and snags near the upland edge. Adjacent to an MNFI-identified Northern Fen ERA on the other side of the creek.
22	50 - Water	5.6	No	Low	Water backed up behind beaver dam, with some floating aquatic plants (yellow pond lily, etc.).
26	6221 - Fen	25.1	No	Low	MNFI-identified Barker Creek Northern Fen ERA. Sedge/marsh grass with patches of <40% cover in short shrubs: sweet gale, shrubby cinquefoil, spiraea, bog birch, leatherleaf. Pitcher plant common.
28	6220 - Alder/willow	19.1	No	Low	Tag alder over marsh grass on the Barker Creek floodplain. Some areas of open marsh. Snags common, with Q along the perimeter.
34	6220 - Alder/willow	1.0	No	Low	Flooded tag alder wetland with Low-Density Tree levels of tamarack, spruce & WP. An ephemeral drainage channel connects this stand to the Barker Creek floodplain.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
37	6224 - Treed Bog	1.1	No	Low	Treed bog: leatherleaf and Labrador tea with tamarack, black spruce, JP, RP & WP.
38	6224 - Treed Bog	8.5	No	Low	Leatherleaf bog with increasing cover in tamarack, spruce, WP & RP. The stand's south 1/3rd is also being colonized by taller shrub cover (salix, tag alder, spiraea & bog birch).
39	6224 - Treed Bog	1.7	No	Unspecified	Thick leatherleaf cover with scattered WP, black spruce, et al.
41	6224 - Treed Bog	1.2	No	Low	Atypical treed bog: leatherleaf cover with taller shrubs colonizing in addition to the expected conifers. Colonizers include bog birch, tag alder, salix, spiraea, spruce & tamarack.
42	6224 - Treed Bog	1.1	No	Unspecified	Thick leatherleaf cover with scattered WP, black spruce, et al. The south edge overlaps the 1988 harvest area.
46	6220 - Alder/willow	1.9	No	Unspecified	Flooded tag alder swale with patches of cattail and scattered E/Q. The stream to the west likely originates within this swale.
49	6224 - Treed Bog	1.0	No	Low	Leatherleaf bog being colonized by JP, spruce, tamarack, RP & WP.
52	6220 - Alder/willow	13.4	No	Low	Tag alder with Low-Density Tree levels of pole-sapling tamarack, spruce, aspen and fir.
53	6224 - Treed Bog	5.4	No	Low	Treed bog: leatherleaf and Labrador tea, with sapling-pole spruce, tamarack, and some JP-RP.
55	6225 - Bog	7.9	No	Low	Leatherleaf bog rimmed with treed bog (spruce, JP, WP, RP, tamarack) that is slowly colonizing the interior.
57	6220 - Alder/willow	6.2	No	Low	Tall tag alder with scattered tamarack, fir & spruce.
59	3302 - Low Density Conifer Trees	25.8	Natural Regen	Jack Pine	Was cut Nov 2008, merch JP & oak, leaving all RP & WP (stated cruise residual of 10 sq. ft., mostly RP). Two interior bogs were red-line excluded (OFS pts). The stand has regenerated to seedling-sapling JP with black cherry & occasional NPO stump sprouts. The JP distribution varies from fully- to under-stocked, but that variation is expected and acceptable under the natural regen goal.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
63	6224 - Treed Bog	1.0	No	Low	Leatherleaf with some labrador tea & tag alder, being colonized by WP, black spruce, tamarack to more or less treed bog status.
65	6225 - Bog	3.4	No	Low	Flooded bog. Full leatherleaf cover, with patches of taller shrub above (salix, spiraea, tag alder, viburnum) and colonizing tamarack & spruce.
67	6220 - Alder/willow	6.3	No	Low	Lowland shrub swale being progressively colonized by the swamp to the east. Cover is salix, tag alder & spiraea, with increasing tamarack & black spruce.
69	6220 - Alder/willow	1.9	No	Low	Flooded lowland shrub wetland with tag alder, salix, leatherleaf and bog birch.
71	11 - Low Intensity Urban	7.4	No	Unspecified	County road corridor.
74	6225 - Bog	1.2	No	Low	Leatherleaf bog with some swamp birch, and colonizing JP, RP spruce & tamarack.
75	6220 - Alder/willow	2.8	No	Low	Tag alder with some salix, being colonized by tamarack, spruce, WP & RM. There may be a bog patch in the middle.
76	6224 - Treed Bog	1.3	No	Low	Leatherleaf bog colonized to treed bog status with black spruce, tamarack, WP & JP.
80	3105 - Mixed Upland Herbaceous	1.2	No	Low	Within an area cut in 1960 (#85-60A), merch aspen & marked JP. Was then cut in 1976 (#12-76), again removing merch JP. Appears to have been cut in conjunction with a larger adjacent private harvest. This part of the harvest was split out as a non-forested stand. Cover is a mix of grass, weeds and low shrubs, with scattered trees (NPO, JP, WP & RP).
82	6224 - Treed Bog	1.4	No	Low	Leatherleaf bog with colonizing JP, spruce, WP & RP.
84	6220 - Alder/willow	2.6	No	Low	Tag alder with sparse black spruce, tamarack, aspen & paper birch.
86	11 - Low Intensity Urban	2.5	No	Unspecified	County road corridor.
88	6220 - Alder/willow	1.9	No	Low	Tag alder over marsh, with flood-killed snags. Beaver flooding drawn down and drier right now.
91	6220 - Alder/willow	1.6	No	Low	Tag alder & salix over marsh grass. East end above the old beaver dam is mostly marsh, with some ponding.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
96	6224 - Treed Bog	3.6	No	Unspecified	Thick leatherleaf cover colonized to treed bog status by tamarack, black spruce & WP.
97	6224 - Treed Bog	3.6	No	Low	Atypical treed bog. There is full cover in leatherleaf and Labrador tea, but also tag alder, salix & spiraea above it, in addition to the colonizing tamarack, black spruce & WP.
102	6220 - Alder/willow	1.0	No	Unspecified	Tag alder and salix, with some cattail and perimeter WP, QA, black spruce & tamarack.
105	6220 - Alder/willow	1.2	No	Low	Tall tag alder over marsh, with a patch of spruce, aspen & paper birch in the east end.
110	6225 - Bog	1.6	No	Unspecified	Thick leatherleaf cover with some labrador tea, and treed bog perimeter (colonizing black spruce, JP, WP & RP).