Compartment Review Presentation

Grayling Forest Management Unit

Compartment 64
Entry Year 2015
Acreage: 3,223
County Alcona
Management Area: Wurtsmith

Revision Date: 06/12/2013

Stand Examiner: Joan Charlebois

Legal Description:

T25N R08E Sections 25, 36
T25N R09E Sections 8, 17, 19, 20, 28-33

Identified Planning Goals:

To maintain riparian and forest health, structural and species diversity, and overall productivity while providing for sustainable multiple uses.

Soil and topography:

The compartment's considerable lowland acreage occurs on saturated organic soils such as Lupton, Tawas and Leafriver mucks. Two series representative of the compartment's more productive upland sites are Coppler loamy sand and the Zimmerman-Annalake complex. AuGres, East Lake and Croswell sands are common across the south half of the compartment.

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

Adjacent private lands support both year-round residential and seasonal recreation use. A golf course borders the compartment's south edge. Two National Forest parcels adjoin state land near the Cedar Lake Swamp complex.

Unique Natural Features:

Two natural communities were identified within the compartment: a Northern Shrub Thicket and a Northern Wet Meadow. There is the potential for dry prairie plants to occur in upland openings, and for uncommon plants and animals to occur in the lowlands and riparian areas.

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:

The Pine River - a cold water stream Special Conservation Area - crosses through the compartment's west edge.

Watershed and Fisheries Considerations:

The compartment is within the Pine River watershed and contains associated tributaries. Beaver activity along those smaller streams has created ponds with fluctuating water levels.

Wildlife Habitat Considerations:

The compartment’s wide variety of cover types – ranging from upland pine, aspen and oak, to conifer swamp, lowland brush and super-canopy stature pine -- provide habitat for many game and non-game wildlife species.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact outwash sand and gravel, lacustrine (lake) sand and gravel and fine-textured glacial till. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. Gravel pits are located to the west and north and potential appears to be good on the upland areas. This compartment is not leased for oil and gas development.

Vehicle Access:

Direct county road access is by way of Wissmiller, Barlow, Poor Farm and Kings Corner roads. Access is limited to the compartment's Cedar Lake Swamp area. Upland stands in the south half of the compartment have decent access, with the exception of sections 28 and 33; the only trail roads there cross private property.

Survey Needs:

The following survey work is needed: Pine River east meander corner for the N1/16th line of T25N R8E section 25, and corners K & L in T25N R9E section 30.

Recreational Facilities and Opportunities:

The compartment contains no developed sites or designated trails, but dispersed recreation opportunities include hunting, fishing, trapping, and wildlife viewing.

Fire Protection:

Access to the compartment's upland pine types is good. Nearby water sources include the Pine River and associated tributaries.

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**

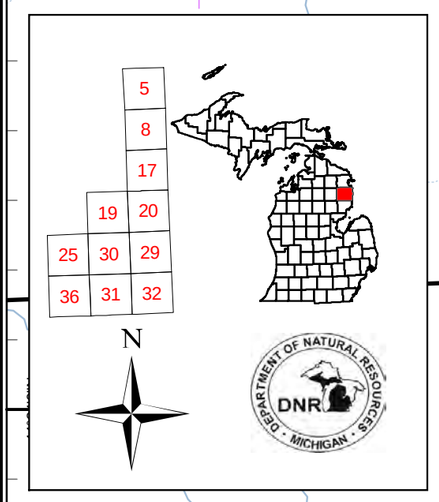
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

Compartment: 064
T25N R08E Sec. 25, 36
T25N R09E Sec. 08, 17, 20, 19, 28-30, 31-33
County: Alcona
Unit: Grayling
YOE: 2015
Acres: 3,223 GIS Calculated
Examiner: Joan Charlebois
Map Revised: 09/04/2013
Map Phase: Pre-Review

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



Legend

- GPS Point
- Remonumented Section Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Gate
- Berms
- Culverts
- Stream
- Intermittent Stream
- Powerline
- Lakes and Rivers
- State Forest Land

Planned Regeneration
- Natural

Treatments w/ Site Condition
- Treatments w/ Site Condition

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)
- Regeneration Survey

Forest Stands
Level 3
- 411 - Northern Hardwood
- 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

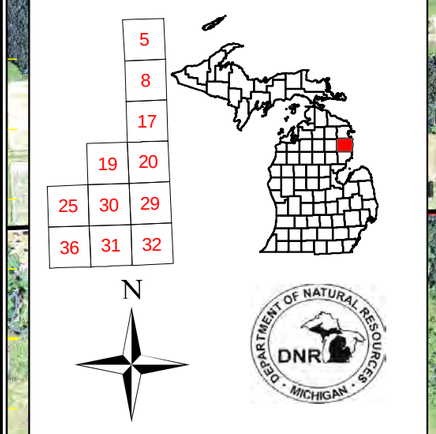
Non-Forest Stands
Level 3
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil

1 Miles

Stand Boundary Map

Compartment: 064
T25N R08E Sec. 25, 36
T25N R09E Sec. 08, 17, 20, 19, 28-30, 31-33
County: Alcona
Unit: Grayling
YOE: 2015
Acres: 3,223 GIS Calculated
Examiner: Joan Charlebois
Map Revised: 09/04/2013
Map Phase: Pre-Review

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



Legend

- GPS Point
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- Stream
- Intermittent Stream
- Stand Boundaries

Forest Stands

Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
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Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
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- 500 - Water
- 622 - Lowland Shrub
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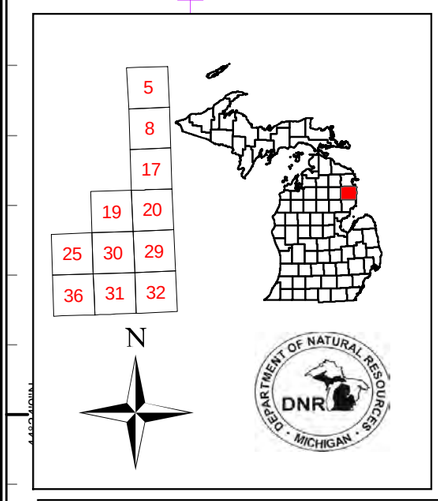
- 710 - Sand, Soil

1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 064
T25N R08E Sec. 25, 36
T25N R09E Sec. 08, 17, 20, 19, 28-30, 31-33
County: Alcona
Unit: Grayling
YOE: 2015
Acres: 3,223 GIS Calculated
Examiner: Joan Charlebois
Map Revised: 09/04/2013
Map Phase: Pre-Review

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



Legend

- Remonumented Section Corners
- Miris Corners
- Stand Boundaries

Site Condition Available

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

Site Condition Type

Available Factors W/ Constraints

- 5B: Retention for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2B: Unknown if access through adjacent landowner(s) is possible

Unavailable Factors

- 1C: Other dept or div proc/practices
- 2A: Adjacent landowner denied access
- 3H: Deer Wintering Areas
- 3J: Water quality / BMPs (stream, river, or lake)

Reviewable SCAs

- SCA Removal

Dedicated Special Conservation Areas

- Cold Water Streams
- Ecological Reference Areas
- Cold Water Lakes
- High Priority Trout Stream Buffer

Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit **Compartment 064 Year of Entry 2015**

Joan Charlebois : Examiner

Age Class

	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	Total
Aspen	163	140	260	30	182	22	0	95	0	0	0	0	0	0	**892**
Bog	28	0	0	0	0	0	0	0	0	0	0	0	0	0	**28**
Cedar	0	0	0	0	0	0	0	0	0	401	61	20	169	0	**651**
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Jack Pine	0	0	40	0	0	101	0	0	3	0	0	0	0	0	**144**
Low-Density Trees	7	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Lowland Aspen/Balsam Poplar	30	0	0	0	9	51	0	0	0	0	0	0	0	0	**90**
Lowland Conifers	0	0	0	0	4	0	91	23	0	11	12	0	0	0	**140**
Lowland Deciduous	0	0	0	0	13	31	20	17	15	33	0	0	0	0	**129**
Lowland Mixed Forest	0	0	0	0	0	0	61	0	30	0	20	0	0	0	**111**
Lowland Shrub	326	0	0	0	0	0	0	0	0	0	0	0	0	0	**326**
Marsh	62	0	0	0	0	0	0	0	0	0	0	0	0	0	**62**
Mixed Upland Deciduous	79	0	43	0	0	0	4	0	0	28	0	0	0	0	**155**
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	13	0	0	**13**
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	38	0	0	0	**38**
Oak	40	0	65	0	0	0	0	0	6	13	0	0	0	0	**123**
Sand, Soil	46	0	0	0	0	0	0	0	0	0	0	0	0	0	**46**
Tamarack	0	0	0	0	0	0	0	0	0	0	0	17	0	0	**17**
Treed Bog	125	0	0	0	0	0	0	0	0	0	0	0	0	0	**125**
Upland Mixed Forest	0	0	62	0	0	5	0	0	0	0	0	37	0	0	**104**
Upland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Urban	10	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
Water	9	0	0	0	0	0	0	0	0	0	0	0	0	0	**9**
Total	**927**	**140**	**471**	**30**	**207**	**211**	**176**	**135**	**53**	**486**	**131**	**87**	**169**	**0**	**3223**

Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2015

Compartment 064
Total Compartment Acres: 3,223

Acres by Treatment Type

Commercial Harvest - 271	Tree Planting - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	77	0	0	0	0	0	**77**
Lowland Deciduous Forest	45	0	0	0	0	0	**45**
Lowland Mixed Forest	30	0	0	0	0	0	**30**
Northern Hardwood	0	0	0	0	32	0	**32**
Planted Pines	82	0	0	0	0	0	**82**
Upland Mixed Forest	5	0	0	0	0	0	**5**
Total	**239**	**0**	**0**	**0**	**32**	**0**	**271**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	72064002-ccr	41.2	4131 - Aspen, Oak	High Density Log	70	111-140	Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up, except leave the pole oak <10" DBH, the wolfy xlog oak, the RP & WP.

Other Comments: To maintain mature aspen representation in this grouse management block over the next ten years, only half of stand 2 will be harvested this YOE. The reserves are the designated leave species. Additonal area-based island retention will not be applied to this half of the stand. While setting up this harvest, do natural regen surveys on stands 6 & 7, and update the regen log.

Next Steps: Natural regen survey. Will accept a mix of aspen, oak, paper birch, RM & pine.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41	72064041-ccr	29.9	6132 - Mixed Lowland Forest with Cedar	High Density Log	84	141-170	Harvest	Clearcut with Reserves	6139 - Mixed Lowland Forest	Cmpt. Review Proposal

Prescription Specs: Cut the merch RM-PB-balsam fir. Leave the NWC, hemlock, WP, beech & oak. May have to exclude former ash swale in NE if too low for operations. Shortwood only, leave tops, winter cut to lay down browse. Mark out a chain-wide strip through the cedar on the west end for forwarding access and for cedar regen, cutting all species 2" & up within it.

Other Comments: The reserves are the designated leave species. Additonal area-based island retention will not be applied. Apply hare habitat improvement specs, such as pushing-over marked boundary line trees (preferably balsam or other confiers) along the cedar strip cut unit, and leaving drumming logs near the stand edge. Will need crane mats to forward across the narrow ephemeral draw on the west panhandle.

Next Steps: Natural regen survey. Will accept a mix of the current species. A longer timeframe for achieving regeneration in the strip cut is expected.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
53	72064053-ccr	28.4	42121 - Planted Jack Pine, Mixed Deciduous	Medium Density Pole	53	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the oak, RP & WP.

Other Comments: The reserves are the designated leave species. Additonal area-based island retention will not be applied. If stand 41's harvest boundary cannot be carried across the ash swale, pick up the adjacent transition ground east edge of stand 41 within this JP stand's harvest boundary.

Next Steps: Natural regen survey. Will accept a mix of of the current species, with lower-stocked patches expected where the current tree cover is sparse.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
61	72064061-ccr	5.0	4311 - Pine, Aspen Mix	High Density Pole	53	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the oak & any WP, RP.

Other Comments: The reserves are the designated leave species. Additonal area-based island retention will not be applied.

Next Steps: Natural regen survey. Will accept a mix of of the current species, with lower-stocked patches expected where the current tree cover is sparse.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73	72064073-ccr	45.3	6112 - Lowland Aspen	High Density Log	50	81-110	Harvest	Clearcut with Reserves	6119 - Mixed Lowland Deciduous Forest	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the hemlock, NWC, WP, RP, yellow birch. Cut the merchantable ash also. Consider boundary-excluding the dense conifer pockets if they are close to the stand's edge. Exclude the sideslope down to the river plus the appropriate RMZ buffer (at least 100 feet). Exclude the steep-sided draw near the northwest edge. Exclude the poly west of the Pine River.

Other Comments: Apply hare & grouse habitat improvement specs, such as leaving top piles and drumming logs. Note that the east-west 2-track road near the stand's south end does not run true to the property line. It starts out on state at Barlow Road and then drifts south of the property line as you go west toward the Pine River.

Next Steps: Natural regen survey. Will accept a mix of the current species, with lower-stocked areas accepted where the current tree cover is sparse.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
74	72064074-Cut	21.4	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	53	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the oak & any WP, RP.

Other Comments: Do not cut serviceberry. The reserves are the designated leave species. Additonal area-based island retention will not be applied.

Next Steps: Natural regen survey. Will accept a mix of the current species, with pockets of lower stocking expected where the tree cover is sparse.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
80	72064080-ccr	35.4	4131 - Aspen, Oak	High Density Log	48	111-140	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the pole oak (<10" DBH), some of the xlog oak (the good future den trees, with high wildlife value), the WP, RP & NWC. Buffer the bog stand 94. Cut as close as possible to the L3 stands 64, 68 & 78. Swing harvest boundary southeast into stand 109 and pick up the more intact patches of the 1960 JP plantation along that edge.

Other Comments: Do not cut serviceberry. Apply hare & grouse habitat improvement specs such as leaving top piles, drumming logs. The reserves are the designated leave species. Additonal area-based island retention will not be applied. Do natural regen survey on stand 96 when in the area doing sale prep.

Next Steps: Natural regen survey. Will accept a mix of the current species.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
83	72064083-ccr	8.2	42120 - Planted Jack Pine	High Density Pole	53	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the oak, WP and the sapling aspen.

Other Comments: The reserves are the designated leave species. Additonal area-based island retention will not be applied. Note that at time of inventory, LOTS records did not show State ownership of the adjacent RR grade.

Next Steps: Natural regen survey. Will accept a mix of the current species.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
106	72064106-ccr	12.9	42120 - Planted Jack Pine	High Density Pole	53	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the oak, WP & naturally-established RP. Cut the half-dozen rows of RP planted in the east end.

Other Comments: The reserves are the designated leave species. Additonal area-based island retention will not be applied. Note that at time of inventory, LOTS records did not show State ownership of the adjacent RR grade.

Next Steps: Natural regen survey. Will accept a mix of the current species, with pockets of lower stocking expected where the current tree cover is sparse.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
128	72064128-ccr	11.0	42120 - Planted Jack Pine	High Density Pole	53	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves: 2" & up except leave the oak, WP & RP.

Other Comments: Depending on ground conditions at the time of sale prep, may exclude the sub-acre patch of naturally-established JP in the stand's west end that extends down onto the bog. The reserves are the designated leave species. Additonal area-based island retention will not be applied.

Next Steps: Natural regen survey. Will accept a mix of the current species.

Proposed Start Date: 10/01/2014

Total Treatment Acreage Proposed: 238.7

Report 4 -- Treatments Prescribed with a Limiting Factor

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19	72064019-thin	8.1	4119 - Mixed Northern Hardwoods	High Density Log	102	111-140	Harvest	Crown Thinning	4110 - Sugar Maple Association	Cmpt. Review Proposal

Prescription Specs: Thin the stand's core northern hardwood type to 80-90 sq. ft. Run line to buffer stand 17; that will end up excluding most of the aspen & PB. This first entry will focus on removing poor quality / high risk stems. After doing that, there will be little opportunity to address spacing or diameter distribution. Leave all hemlock.

Other Comment: Access will have to be obtained across private property. See stand M.C.'s.

Next Steps:

Proposed Start Date: 10/01/2014

Limiting Factor: 2B: Unknown if access through adjacent landowner(s) is possible

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	72064022-thin	24.4	4112 - Maple, Beech, Cherry Association	High Density Log	108	111-140	Harvest	Crown Thinning	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Specs: Thin the stand to 80-90 sq. ft. Run line to buffer the grassy opening inclusion along the north end. This first entry will focus on removing poor quality / high risk stems. After doing that, there will be some opportunity to address spacing and crop tree release, but not diameter distribution. Leave all hemlock and the few BTA.

Other Comment: Access will have to be obtained across private property. See stand M.C.'s.

Next Steps:

Proposed Start Date: 10/01/2014

Limiting Factor: 2B: Unknown if access through adjacent landowner(s) is possible

Total Treatment Acreage Proposed: 32.4

Data updated before 2:00 PM

Report 5 – Site Conditions

Grayling Mgt. Unit | **Compartment 064**

Joan Charlebois : Examiner | **Year of Entry 2015**

Availability for Management

Total Acres	Acres Available	Acres Not Available	Dominant Site Conditions	No	5C	5B	3J	3H	2G	2B	2A	1C
892	892		**Aspen**	621	150					121		
650	194	456	**Cedar**	150			18	397	41	44		
144	142	3	**Jack Pine**	142								3
90	86	4	**Lowland Aspen/Balsam Poplar**	86			4					
140	140		**Lowland Conifers**	69	23					49		
128	128		**Lowland Deciduous**	81		32				15		
111	96	15	**Lowland Mixed Forest**	30					15	66		
155	151	4	**Mixed Upland Deciduous**	151							4	
13	13		**Natural Mixed Pines**		13							
38	38		**Northern Hardwood**							38		
123	123		**Oak**	105	18							
17		17	**Tamarack**						17			
104	104		**Upland Mixed Forest**	67	37							
2,606	2,107	499	Total Forested Acres	1,501	242	32	22	397	73	332	4	3
	81%	19%	Relative Percent									

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond	Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003		**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	80				

Comments:

72-018-86-01 was cut in this block in 1986, presumably with permission to cross the adjacent private, although the closed tsale contains no documentation to that end beyond some names & contact info of adjacent landowners and a letter regarding a trespass by the logger.

005		**Not Available**	**3H: Deer Wintering Areas**	397	5A: Not able to obtain desirable regeneration	2B: Unknown if access through adjacent landowner(s) is possible	No Limiting Factor

Comments:

Cedar Lake Swamp. The south end of this roughly 400-acre stand can be reached by a state forest two-track road. The stand itself lacks ground dry enough for road construction.

006	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	14	No Limiting Factor	

Comments:

Upland hardwoods. Best access would be across adjacent private uplands to the west. Extensive road-building through the large state cedar swamp to the east would be impractical.

007	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	25	No Limiting Factor	

Comments:

Upland hardwoods. Best access would be across adjacent private uplands to the North. Extensive road-building through the large state cedar swamp to the east would be impractical.

011	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	22	2E: Road needed	

Comments:

Best access would be across adjacent private uplands to the North. Extensive road-building through the large state cedar swamp to the southeast would be impractical.

012	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	75	No Limiting Factor	

Comments:

Most of area flooded at time of inventory.

013	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	49	2E: Road needed	

Comments:

Bounded by private on 3 sides, large cedar swamp on the south side..

014	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	15		

Comments:

Cedar stand down on the Pine River floodplain. Steep climb up to terrace top.

015	**Available**	**5B: Retention for regeneration purposes**	33		

Comments:

Was select cut by 2007, leaving 55 ave residual. I am concerned that this ground will swamp if the residual overstory is removed before the regen becomes better established and able to pump more water into the air.

016	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	1	No Limiting Factor	

Comments:

Small poly of state land on the off side of the Pine River, within the RMZ.

017	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	11		

Comments:

Naturally-established pine stand on intermediate-to-low ground. Most of the stand was just thinned 3 years ago. By age, it should have a regen cut prescribed, but the ground conditions makes it unsuitable for planting. I am concerned that the ground will swamp if the stand is re-entered at this time. In addition, the aspen stand on the back side is proposed for harvest. Consider for restart harvest next YOE, with natural regen goal.

018	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	12		

Comments:

Naturally-established pine stand on intermediate-to-low ground. Stand was just thinned 3 years ago. By age, it should have a regen cut prescribed, but the ground conditions makes it unsuitable for planting. I am concerned that the ground will swamp if the stand is re-entered at this time. Consider for restart harvest next YOE, with natural regen goal.

019	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	22		

Comments:

Aspen stand with immature and mature components. Aspen is 54 and 41 years old. Let the younger component grow another 10 years and let the older component hit the MA plan's aspen regulation age of 60. Will be available for harvest next YOE to start a new age class of aspen.

020	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	13	No Limiting Factor	

Comments:

This stand was set up for harvest in the 80's but did not sell. It has a drainage swale cutting through its south end and is bordered by a larger drainage on its east side. The ground is intermediate, barely above lowland status. Judging from the harvest to NW, windthrown would be a concern if opened up. Let that adjacent harvest area grow up more before considering entering this stand.

021	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	8		

Comments:

Patchy oak cover left from the 1996 harvest. Densest roadside, not much above seed-tree toward the back. 17 year old regen growing up around it. The oak is not of great quality. I don't see much value or opportunity lost in leaving it for now while the young stand around it matures.

022	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	77		

Comments:

Aspen stand approaching 50 years old. Let it grow out to the MA plan's aspen regulation age of 60. Will be available for harvest next YOE to start a new age class of aspen.

023	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	5		

Comments:

Narrow strip of oak left between the gravel pit and the swamp. I like the proximitiy of this mature mast source up against the swamp edge. Leave for now.

024	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	6	2B: Unknown if access through adjacent landowner(s) is possible	No Limiting Factor

Comments:

This mature oak stand had the aspen & RM removed in 1973, part of the larger aspen harvest to the north. Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands. Given this oak stand's small size, defer its treatment until the main aspen stand is ready for entry, then treat them both within the same access window.

025	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	37	2B: Unknown if access through adjacent landowner(s) is possible	

Comments:

This stand was part of a larger harvest area in which the A-RM-O were cut in 1973, leaving residual RP & WP. The stand is two-aged, with mature pine and 40-year old deciduous cover. Most of the residual pine in this stand is well beyond utility pole size. I recommend not entering this stand until the aspen component is ready for restart, then final harvesting this stand at the same time as stand 103, during the same access window. Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands.

026	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	21	

Comments:

Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands

027	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	45	

Comments:

Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands

028	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	18	

Comments:

Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands.

029	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	36		

Comments:

Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands.

030	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	23	No Limiting Factor	

Comments:

Access would need to be obtained to cross private property unless a road was built & frozen down across the lowlands.

031	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	4		

Comments:

Floodplain surrounding stream corridor.

032	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	2		

Comments:

Small piece of high ground on the off side of the stream.

033	**Not Available**	**1C: Other dept or div proc/practices**	3		

Comments:

Retention island left within 2011 harvest area.

034	**Not Available**	**2A: Adjacent landowner denied access**	4	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	

Comments:

Small stand tucked between the cedar swamp/stream and the golf course. Crossing the golf course would not be feasible, and the disturbance and cost of installing a bridge to cross the stream would not be practical.

037	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	51

Comments:

Pre-Review WLD input: cut half the stand this YOE, leaving the other half to maintain a mature aspen component for the next ten years.

039	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	3

Comments:

RMZ along Pine River

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
North M9	Potential Old Growth		**SCA Removal**	14.0
Comments				
The stand's age profile, disturbance history & structural characteristics do not meet the current criteria for Type I or II old growth.				
South M9	Potential Old Growth		**SCA Removal**	28.3
Comments				
The stand's age profile, disturbance history & structural characteristics do not meet the current criteria for Type I or II old growth.				

Report 7 – DEDICATED CONSERVATION AREA DETAILS

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

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.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Sapling	18.5	17		Was cut 2" & up in 1996 (#056-95). Vigorous BTA & oak. QA less robust, mostly on the lower slopes. Not enough transitioned to pole class to call pole overall, but close. See M.C.s
2	4131 - Aspen, Oak	High Density Log	92.1	70	111-140	Aspen-oak stand w/ paper birch, RM & a scattering of pine. Two+ age classes across main species due to variable cut history: 3 harvests occurred across portions of the stand between 1963 & 1968 (#069-62, 079-66, 045-67). The harvests ranged from merch & up on the A-RM-PB, to12" & up on the aspen and log & up on the oak except for leaving 5 oak saw per acre for mast. Older aspen cored at 70 years old, but the aspen component regenerated from the harvest is 45-50 years old; the oak has similar immature to overmature components. I did not break out the A-O by age classes. 16" red oak cored at 46 years -- very nice quality, clean-boled 91 feet tall. Some of the oak saw left for mast back in the 60's are massive, open-grown, heavy-limbed specimens. Aspen & oak cover swaps dominance across the stand. The PB occurs in dense patches. The RM is mostly over-sized pulp. Large WP & RP are mostly in the stand's NE. Trace of beech & hard maple. High-end site for aspen-oak.
3	4130 - Aspen	High Density Pole	17.3	27	51-80	Was cut 4" & up in 1986 (#014-85). Aspen stand with not all stems transitioned into the pole class. Mostly BTA. Nice NRO stump sprouts; some in the small saw class, most with dominant or co-dominant crowns. Occasional larger oak saw, residual from the harvest. See M.C.s
5	4130 - Aspen	High Density Pole	56.1	27	111-140	Was cut 4" & up in 1986 (#014-85), regenerated nicely to aspen. Also vigorous oak stump sprouts from the cut and larger residual oak saw. Merch & up cut also left some residual aspen & RM that are edging into the small saw class. North end more fully transitioned into the pole class. Traces of WP & dead white ash.
6	4130 - Aspen	Medium Density	17.8	1		Was cut in 2012 (#012-09), 4" & up except WP. Sprout regen from the cut (A-RM-O) is the featured canopy. Residual from the cut (large sapling/small pole RM-O, plus WP, RP, balsam fir) represents a "super-canopy" layer above that. The aspen regen is jumping up there, but the RM & oak are being browsed. A fair amount of the oak was browsed too low to be recorded in the canopy at this time (<3' tall). See M.C.s
7	4130 - Aspen	Medium Density	14.5	1		Was cut in 2012 (#012-09), 4" & up except WP & green-marked trees. Regen from the cut (mostly BTA) is the featured canopy. The scattered mature leave trees represent a "super-canopy" layer above that regen. The trees marked-to-leave were mostly large oak, but also some aspen, PB, WP & white ash (now dead). The RM & oak sprouts are browsed low. The RM cover includes large sapling residual from the cut. See M.C.s
8	4130 - Aspen	High Density Sapling	34.5	17		Was cut 2" & up in 1996 (#056-95). Nicely regenerating aspen stand with a vigorous oak component. RM crown position mostly suppressed to intermediate. Trace of residual oak saw.
10	4130 - Aspen	High Density Pole	12.1	27	81-110	Was cut 4" & up in 1986 (#014-85). A-O-RM stand with the aspen nearly all in the pole class, and some small saw residual from the cut. The oak holds co-dominant to dominant crown postitions. The RM is smaller-diameter and intermediate in the canopy.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	4130 - Aspen	High Density Sapling	33.4	5		Was cut by 2008 (#061-05), 4" & up except WP. Well-established aspen regen. Vigorous oak stump sprouts 5-10' tall. QA occupying the lower terrain, BTA the upper ground. RM overtopped by the aspen. See M.C.s
12	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	48.5	64	51-80	E/Q cover trending toward the low end of 50-75% canopy closure. Paper birch, tamarack & balsam fir swap dominance across the stand. Minor associates include NWC, black spruce & RM. Subcanopy is mostly tall tag alder with balsam fir. PB SI 47. See M.C.s
13	4130 - Aspen	High Density Pole	15.2	27	51-80	Was cut 4" & up in 1986 (#014-85). Nice aspen stand. BTA more fully transitioned into the pole class than the QA. Vigorous NRO stump sprouts. RM regen furthest behind and intermediate in the canopy.
14	6120 - Lowland Cedar	Medium Density Pole	20.2	105	111-140	NWC stand with Q/E inclusions. Patches of the stand were harvested in the 1960's, resulting in a mosaic of mature and immature cover. Typed as "deeryard" harvests, roughly seven acres were cut in 1963 (#101-62), and another half-acre in 1969 (#032-69). Stand's second age is set to the 1963 harvest. The mature cedar cover (first age) is healthiest in the stand's west, and becomes more spindly to the east. The cut patches are filled in prodominantly with PB, balsam fir, black spruce & QA, with a notable exception: the stand's far east patch (OFS point) has truly younger sapling-pole NWC mixed in that regenerated post-harvest. Cored 3" diam NWC was 45 years old. NWC SI 30.
15	4130 - Aspen	High Density Pole	40.8	26	81-110	Was cut 2" & up by 1987 (#018-86). Vigorous BTA, QA less so, with overtopped RM and occasional black cherry, PB and nice NRO. BTA more fully transitioned into the pole class than the QA. Balsam fir recruiting below. See M.C.s
16	6119 - Mixed Lowland Deciduous Forest	Medium Density Log	15.1	83	81-110	Narrow E/P/Q stand occupying the transition ground between the cedar swamp and the uplands. Has patches of hemlock, NWC and large WP mixed into the majority RM-QA-PB cover. The deciduous cover is sharply two-aged, with mature & immature components. The mature log-pole cover alternates with majority pole-sapling patches that were cut in 1963 (#101-62). Second age is set to that harvest. See M.C.s
18	4130 - Aspen	High Density Log	3.4	75	111-140	Narrow strip of overmature aspen that was prescribed but not cut in 1987 due to an unresolved fence trespass. Upland QA & BTA with RM and intermediate balsam fir. See M.C.s
19	4119 - Mixed Northern Hardwoods	High Density Log	12.7	102	111-140	Upland hardwood stand occupying a shallow knob of dry ground sloping down to the Cedar Lake Swamp. The stand has a wide perimeter up against the swamp where most of the RM, hemlock & balsam fir is concentrated. The paper birch and aspen occur in the stand's NW, growing around an old opening. The stand's south half has the highest terrain, and is where most of the sugar maple occurs, along with RM, beech, yellow birch, black cherry and a few red oak. Most of the species have a low-quality xlog component, especially the beech. There are some good 12-18" hard maple stems, but a fair amount of cull stems also, particularly on the stand's perimeter. The YB & xlog beech are starting to break up. Sugar Maple SI 63. See locked OFS for concerns.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	6131 - Hemlock, White Pine, Maple, Birch	High Density Log	20.4	108	81-110	Lowland stand on transition ground between the upland hardwoods and the cedar swamp. Driest ground has dense hemlock cover with RM & occasional xlog BTA. NW has QA & RM over balsam fir. S end has RM-PB-QA over NWC. Narrow cleared path loops through. Two-track crosses to the adjacent private property.
22	4112 - Maple, Beech, Cherry Association	High Density Log	25.4	108	111-140	Northern hardwood stand on a shallow plateau, bordered by the Cedar Lake Swamp on the SE, lowland RM & hemlock on the S/W, and PVT to the north. Dominant cover is hard maple & red maple with beech and lesser amounts of hemlock, yellow birch, paper birch, black cherry and big tooth aspen. The hemlock and large BTA are on the stand's S/W edges. The RM cover is highest there also, giving way to majority hard maple on the stand's core interior. The beech and RM, and to a lesser extent the HM, have xlog components that are largely cull. The HM small log component has a decent proportion of quality stems 12-16" in diam. Slash is accumulating from the long-term break-up of hemlock, birch, beech & RM. The stand has a sub-acre grassy opening along the PVT line. RM SI 65. See locked OFS for concerns.
25	6120 - Lowland Cedar	High Density Pole	400.7	93	141-170	Part of the 1000+ acre lowland complex known as the Cedar Lake Swamp. This stand's 400 acres tax-reverted between 1928 & 1939. Cover is dense NWC poles, 1 to 3 sticks tall, sweep common. High water table, a lot of walking on ice. Root-tip & windthrow common, from single stems to small clumps. Median age band is 100+/-10. The stand's narrow transition ground to the uplands - and anywhere else 1-2' of ground occurs above the water table - has larger-diam, taller, more robust cedar. Skid routes visible on the 1938 photos. The only harvesting in recent history was a roughly 3-acre "deeryard" cut in 1962 (#070-61) at the far south end (OFS pt). 3.5" diam NWC cored there was 87 years old. The cut appears to have released large sapling cedar but didn't start a new age class. Net result was decreased overall canopy coverage, decreased proportion in cedar & increased balsam fir. NWC SI 27. See M.C.s
26	6132 - Mixed Lowland Forest with Cedar	Medium Density Log	15.2	67	51-80	Marginal E/Q stand on majority flooded ground. Walked on a lot of ice. Loss of the spindly ash caused it to drop a canopy closure class. Narrow bands of slightly higher, only partially-flooded ground have more and larger RM cover. The proportion in cedar increases on the lower ground. Ilex thickets below where ash loss was greatest. Previous inventory age on the aspen was 81. Trimmed up footpath crosses into stand from the east.
27	6120 - Lowland Cedar	Low Density Pole	38.1	127	1-50	Stand has patches of dense log-pole cedar cover on islands of slightly higher ground, alternating with tag alder and very sparse small-pole cedar cover on the majority flooded ground. Root-tip, leaners common. Spindly black ash component long gone. Ilex thickets occupy the lowest ground where the ash cover was greatest.
28	6121 - Tamarack	Medium Density Pole	16.8	115	1-50	Marginal, flooded stand, once had a significant black ash component (large sapling/small pole); now long gone. What remains is tamarack with minor amounts of cedar, PB, RM, balsam fir. Ilex/tag alder thicket below, over marsh grass. See M.C.s

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	6127 - Lowland Pine	High Density Log	22.4	60	111-140	Multi-poly stand occupies a series of shallow ridges dissected by drainages and further split by the private RR grade. Highest spines of the ridges are dry ground, but the stand is lowland overall, with seasonal flooding, and some formerly dry polys are swamping due to impeded drainage. Majority cover in WP & RP saw-poles, with some overmature JP & aspen, and E inclusions along the margins. Ground is lowest east of the RR grade. Wide illegal quad path from the private to the west runs one of the ridges. WP SI 68
32	6119 - Mixed Lowland Deciduous Forest	Low Density Pole	12.7	46	1-50	RM-QA-PB stand that barely makes the forested benchmark. Has better canopy closure on the narrow band of transition ground with the uplands, but the stand's core ground is a sparse flooded drainage swale. The QA (second age, previous inventory) is terrible quality, top-dying, with conks. RM (first age) & PB are filling in. High cover in lowland brush, over marsh grass. Illegal wide quad path was built up with dirt from the adjacent drier ground to get across this stand's far NW end.
33	6127 - Lowland Pine	High Density Log	22.6	71	111-140	Mixed pine & lowland conifer stand. Experiences seasonal flooding, but the west end is wettest year-round. That end is heavier to black spruce, JP & WP, with more leatherleaf groundcover. Moving east, the spruce decreases and the WP & RP cover picks up. Shrub cover there still indicates cool, wet acid conditions but it was dry enough for RP to become established. That RP is barely tolerating the current depth to water table. The stand's perimeter picks up some A-RM where it borders E/P stands. The conifer cover is large pole/small saw in size with scattered larger pioneer stems. Enough of the canopy was in log-sized stems (30%) that the stand had to be called log overall. The stand has a roughly chain-wide swath of thinner cover adjacent to the private property which was harvested. Illegal wide quad path crosses through this stand from that adjacent private. RP SI 53. See M.C.s
35	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Log	4.8	69	1-50	Sparse, marginal stand of oversized RM pulp, tamarack & PB with small pole RM & QA. L3 below over sheep laurel & leatherleaf. Handfull of hemlock. QA terrible quality. See M.C.s
37	6113 - Lowland Maple	Medium Density Log	32.7	93	51-80	Except for the far south edge, this stand was cut in a selection harvest by 2007 (#028-05), all aspen, ash & orange-marked trees (mostly RM, PB, balsam fir), to a stated residual of 60 sq. ft. The residual is large RM saw (often cull), with small amounts of PB, BF, NWC, hemlock, hard maple, basswood, beech & oak. The regen is patchy; locally high but averaging to moderate at best, and very sparse in the stand's N-center swale that has the wettest ground and was poorly-stocked to start with. An old dug channel runs east-west through the stand from Barlow Road to the river terrace. OFS points mark two ephemeral draw features. RM SI 55. Previous inventory age on the RM was 78. See M.C.s

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
38	6120 - Lowland Cedar	High Density Pole	25.9	108	111-140	Cedar stand with typical profile in this area: vigorous, robust cedar on the drier transition ground by the uplands, quickly giving way to shorter, smaller-diameter cedar as you level out onto the swamp's core low ground. Walked on a lot of ice there. Top-mortality, root-tip common on the low ground. Balsam fir recruitment is what's keeping this stand from dropping a canopy class. Scattered supercanopy WP. Trace of hemlock at the north end. Two chain-wide strips were harvested in 1962 (#070-61) as part of a "deeryard" cut (OFS points). There was some post-harvest cedar regen. Two 3.5" diam cedar cored were 43 & 44 yrs. The strips have <25% cedar cover, and some of that was residual from the cut. Moving to the west in the strips where the ground gets wetter, there's almost no cedar.
39	4134 - Aspen, Spruce/Fir	Medium Density	21.2	17		Was cut in 1996 (#058-95), merch & up except NWC & hemlock. Shallow ridge, upland overall with transition ground to the adjacent lowlands. Dense aspen clones with scattered residual cedar & balsam fir are separated by sparser areas filling in with fir, PB, spruce & tamarack. The north poly's aspen saw some beaver cutting; there is also an intact patch of mature NWC & hemlock. OFS point is a private gate.
40	6126 - Lowland Jack Pine	Medium Density Pole	2.7	84	51-80	Retention island left as prescribed within the 2011 harvest (#029-07). Overmature JP with WP and occasional RP, BS, over leatherleaf and sheep laurel.
41	6132 - Mixed Lowland Forest with Cedar	High Density Log	29.9	84	141-170	Majority cover in the stand's middle has three layers: log-sized red maple & paper birch over pole/log northern white cedar over sapling balsam fir. That ground is lowland overall, but not saturated, and is dry enough to support the occasional beech and oak. In the NE, the stand picks up a lower swale with tag alder; cover is sparser there due to ash mortality. Toward the stand's NW, the majority cover shifts from RM-PB-NWC to mostly NWC with some hemlock and WP. The cedar sharing the drier ground with the RM & PB have healthy crowns, although ring shake & heartrot were encountered. The west panhandle has a narrow ephemeral drain cutting through it roughly N-S (OFS pt). Slash is accumulating from PB & balsam fir break-up. NWC SI 33. A lot of hare, deer & hunter use. See M.C.s
43	6120 - Lowland Cedar	Medium Density Log	14.6	105	81-110	Cedar swamp on Pine River floodplain, including sideslope up to terrace top. Hillside seeps. Best cedar health/growth is on that steep sideslope; on floodplain itself, there is more top-dieback and mortality. Overstory ash are dead. Balsam fir is recruiting from the dense subcanopy.
47	6112 - Lowland Aspen	Medium Density	16.9	7		Was cut in 2006 (#047-05), all species except the NWC & one large oak. Aspen regen on ground close to the water table. Some uplands with BTA, but long transition edge with the adjacent wetlands and swaths of sedge/rush interior. Scattered residual NWC. RM sapling cover includes regen from the cut and residual large saplings. Traces of tamarack and spruce regen. See M.C.s
50	6112 - Lowland Aspen	Medium Density	12.7	7		Was cut in 2006 (#047-05), all species except NWC. Aspen regen at moderate to full stocking except sparser at the landing and the wettest ground on the west edge. Some drier ground with BTA, but lowland overall due to seasonal high water table. Patches of woolgrass and sheep laurel.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
51	6126 - Lowland Jack Pine	Medium Density Pole	13.9	54	51-80	Not much above treed bog status. Patchy JP & WP cover over leatherleaf. The minority overmature JP is top-dying. WP & spruce regen are filling in, with some JP.
53	42121 - Planted Jack Pine, Mixed Deciduous	Medium Density Pole	28.4	53	81-110	JP planted in 1960 in natural openings and around considerable residual. The residual oak tends to be open-grown, with very poor form. The planted JP is breaking up, with heaviest mortality around the oak. The plantation peters out in the NE; it's predominantly oak there with some underplanted JP. The stand's west edge up against the swamp is an uplanted strip with sparse canopy coverage in oak, aspen and WP. The SW corner has a pocket of supercanopy WP & RP. Regen coverage across all understory species increases as you move west toward the lowlands.
54	4139 - Aspen, Mixed Deciduous	High Density Log	77.1	49	81-110	Aspen stand with RM, oak & PB components and a deep list of minor species (WP, RP, JP, hemlock, black cherry, balsam fir, beech, sugar maple, cedar, dead white ash). Could not find the cut record for this stand, but 10" BTA cored was 49 years old. The stand has the profile of being cut merch & up on the A-RM-PB-and a portion of the oak, with everything else left; that residual now representing an older cohort which I did not age. There are open-grown xlog oak, but also large pole/small log oak that likely regenerated with the aspen. High-end site for aspen & oak. Low end of the sugar maple's site tolerance (generally exhibiting poor form & vigor). Stand is upland with extensive lowland interface; includes some cedar & balsam poplar along the lowland transition ground edges. See M.C.'s & locked OFS.
57	6113 - Lowland Maple	Medium Density Log	17.3	76	51-80	From the small knobs of dry ground along on the stand's north edge, the ground quickly drops onto lowlands. The canopy is roughly two-aged and two-layered, with large cull RM, PB & aspen over small pole RM, PB & balsam fir. The lowest swales once heavy to ash are sparse now, with small PB, RM & fir filling in over the tag alder. Slash accumulation is from break-up of the overmature component and beaver-felling. The few large oak and BTA are found on the dry ground knobs. The poly north of the stream is an island of dry ground with more WP. Trimmed-up footpath runs through the stand to the RR grade.
60	4121 - Oak, Aspen	Medium Density	23.4	26		Was cut by 1987 (#015-86, #021-86 E of rd), 2" & up except a few marked oak. Oak with patches of BTA regen. Transitioning into the pole class but not quite enough to call pole overall. The stump-origin oak are better developed than the single-stem oak. Occasional small oak saw residual. Scattering of short brushy conifers, with balsam fir heaviest along the lowland edge. Understory oak with potential to recruit.
61	4311 - Pine, Aspen Mix	High Density Pole	5.0	53	81-110	JP planted in 1960, wrapping around a pocket of open-grown, poor-form oak, and bordered by generally pole-sized BTA with the few odd saw. Previous inventory age on the oak was 65 yrs.
65	6120 - Lowland Cedar	Medium Density Pole	19.9	115	51-80	Marginal cedar-fir stand with dead ash, at the low end of 50-75% canopy closure. Declining NWC with small pole balsam fir, RM & PB, over a subcanopy of fir & tag alder. Occasional super-canopy WP. Partially flooded ground, walked on mostly ice; even the balsam fir is struggling. Root-tip common. The stand's long south peninsula along the stream corridor has the best cedar cover. On that transition ground, the cedar is larger & healthier. NWC SI 28

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
66	6127 - Lowland Pine	Medium Density Log	11.2	98	51-80	Six acres of the stand's highest ground were thinned in 2010 (#011-05), cutting all A-RM-PB and marked RP-WP. All hemlock & NWC were left. The stand's driest ground and best cover is what can be seen roadside. Moving W & S from there, the cover transitions to more and smaller WP, along with JP, RP, tamarack, NWC & black spruce, over sheep laurel and some leatherleaf. The RP is giving indications of high water table stress. The residual hemlock within the harvest area is not showing signs of post-logging decadence. RP SI 52. See M.C.s & MNFI layer for concerns.
67	6120 - Lowland Cedar	Medium Density Log	8.1	126	51-80	Stand has a band of dense NWC cover with marginal E/Q cover on either side. Ash on the east side above the ilex thicket has died out. The stand's west edge is dry enough to see the occasional oak pole. Those portions of the stand dip into the 25-50% canopy range. RM is largely cull, with heartrot and breakage common. Pockets of root-tip in the NWC. RM age is from the previous inventory.
71	42290 - Natural Mixed Pine	High Density Log	12.6	113	141-170	Was put on proposal in 1985 but went unsold. Large RP & WP on intermediate, bordering on lowland, ground cut with seasonal drainage corridors (unmapped, OFS points only) that flow into the adjacent stream to the east. Associates include very overmature BTA, and RM, PB, NWC & hemlock. Groundcover with sheep laurel and traces of leatherleaf. The stand's north end picks up part of the adjacent 2011 harvest (#029-07) that had the heaviest saw residual. Windthrow occurring at that end. RP SI 63. See M.C.s
72	4131 - Aspen, Oak	Medium Density	46.6	5		Was cut in 2008 (#062-05), 4" & up except white oak, WP & NWC. A-O-RM regen with scattered mature residual oak and a perimeter of uncut oak along the swamp edge. There is also large sapling/small pole residual oak & RM. Traces of WP & NWC. Browse on the regen is heaviest along the swamp edge, preferentially on the RM & oak. Across most of the stand, the regen is making it above the browse line, with the BTA well above.
73	6112 - Lowland Aspen	High Density Log	51.2	50	81-110	Aspen-red maple-lowland conifer stand with 2+ age classes across the deciduous species due to variable cutting history. Portions of the stand had merch & up removal of the A-RM-PB between 1962 & 1966, including some marked RP & WP (#061-65). There are pole-dominated areas where the cutting was cleaner, but the cover is log overall (30%+ canopy cover in log-sized stems). The hemlock, cedar, and super-canopy WP were left, representing the oldest components now. There's a ridge of upland ground where the two-track runs, but the stand is lowland overall. The wettest ground is a swale through the stand's north-center where the balsam poplar and dead ash are. The hemlock & NWC are concentrated in pockets along the stand's W & S edges. Did not visit stand's small poly west of the Pine River. The hemlock regen is mostly along the river terrace. A drainage crosses the stand's N end. See M.C.s
74	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	21.4	53	81-110	JP was planted in1960 around residual oak. That oak has very poor form, with wide, low-forking crowns. Mature aspen rims the plantation, left when the surrounding aspen stand was cut. The JP is breaking up, quickest around the oak. RM regen is concentrated around the oak openings. Some of the oak inclusions have nice small pole oak below. Serviceberry reaching into the canopy.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
75	4130 - Aspen	High Density Pole	84.0	26	1-50	Was cut 2" & up by 1987 (#021-86 & #023-86). Upland aspen stand with extensive lowland interface. Bordered by long wetland swales and encompassing small bog, treed bog and lowland brush stands. The dense aspen clones are separated by lower-density pockets of oak regen. The QA is concentrated along the lowland edges and is not as far into the pole class as the BTA.
76	4130 - Aspen	High Density Pole	35.6	40	111-140	Was cut in 1973 (#013-72A), merch & up on the A-RM-PB-O except for a few oak marked to leave, and RP & WP saw marked to cut. Nice aspen stand on a long shallow ridge bordered by lowlands on both sides. The stump-origin oak has generally very good form & vigor, with some in the saw class already at age 40. The SW finger that trails down onto the marsh was excluded from the harvest and has overmature JP with some RP & QA saw. There is also a narrow strip of mature aspen along the stand's north edge that was not cut in 1973. See M.C.'s
77	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Pole	15.1	67	1-50	Marginal E-type growing over diverse L3 on a drainage swale. Primarily pole-sap RM with lesser amounts of WP, tamarack & QA. Occasional saw-sized pioneer stems. The stand grades into the adjacent slightly drier stands on all sides.
80	4131 - Aspen, Oak	High Density Log	29.8	48	111-140	Aspen stand with significant oak and RM components. The stand was cut in 1965 (#029-65), removing merch aspen, and JP 10" & up on the stump. Aspen from the cut is large pole to small log in size, and there are some overmature breaking up residual stems. The oak is generally small log sized, with some large poles and a few xlog WL trees. The RM is generally poor-quality multi-stem clumps. Overmature JP rims the bog along the south edge. NWC rims the L3 on the north edge. Upland overall, but including the lower transition ground down to the L3. Small mixed oak saw (12" DBH) cored was 64 years old.
81	4126 - White, Black, N. Pin Oak	Low Density Log	8.0	94	1-50	Was cut in 1996 (#058-95), merch & up on the A-RM-BF-pine, leaving all oak. That species-removal harvest left a variable distribution of mature oak ranging in size from spindly small saw to xlog wildlife trees. Epicormic branching common. The overstory cover is densest roadside, and thins out significantly to the N & W. The understory has varying cover in aspen & WP (locally high amounts of each), along with oak, RM & balsam fir. Scattered WP saw. A few super-canopy RP near the stream corridor. BRO SI 65
82	4131 - Aspen, Oak	High Density Sapling	13.8	17		Was cut in 1996 (#058-95), merch & up except NWC & hemlock. Aspen regen with oak filling in between clones. Merch & up spec left occasional poles across all species, but the stand is still sapling overall. The stand's west poly includes an uncut buffer of mature oak left along the swamp edge.
83	42120 - Planted Jack Pine	High Density Pole	8.2	53	81-110	JP planted in 1960 around light residual. Occasional WP pole mixed in. Was within the1996 harvest (#058-95) where all merch stems were cut except pine. The swaths of large sapling aspen & oak that have reached the canopy are from that cut. Subcanopy oak has also become established within the plantation. Crook and persistent dead limbs are common in the JP. Slash is starting to build as the JP breaks up. Planted JP SI 45.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
86	6127 - Lowland Pine	Low Density Pole	3.8	40	51-80	One step up from being a treed bog. Widely-scattered saw-sized pioneers seeded in the majority small pole/large sapling cover of WP, tamarack, RP & JP. Additonal subcanopy regen is recruiting. Growing on leatherleaf & sheep laurel. Aside from the pioneers, the stand is relatively young. WP SI 55
87	4131 - Aspen, Oak	High Density Sapling	23.4	17		Was cut in 1996 (#058-95), merch & up except the pine. Nice aspen & oak regen with some WP saps, and traces of WP, RP & JP saw. The stand's SE has small patches of the 1960's planted JP. The stand's NW peninsula drops down onto lower ground and has more WP, BF & PB.
88	6120 - Lowland Cedar	High Density Pole	22.8	131	81-110	Cedar stand with cover varying drastically with depth to water table. The wettest ground in the south-center is barely forested; the NWC is small and top-dying there. Spindly ash long gone. On the shallow transition ground to the uplands, there is 75-100% cover in healthy NWC with supercanopy WP and log-sized RM, PB and the occasional oak. Alot of root-tip in the narrow north panhandle. A chain-wide strip was cut along the stand's south edge (OFS point) in 1971 (#033-70). It was supposed to be one of many, but the logger turned the contract back after cutting only one strip. That strip has converted to balsam fir & tag alder with scattered beat-up cedar residual from the cut.
89	6127 - Lowland Pine	Low Density Pole	19.7	68	51-80	Not much above treed bog status. Primarily pole pine & tamarack over leatherleaf/sheep laurel groundcover. JP dropping out. WP tolerating conditions the best. RP with wet feet issues. Tamarack & WP subcanopy continuing to recruit. Occasional NWC, hemlock & xlog WP. Narrow cresent wrapping around the stand's NE edge is the last to fill in; has mostly tamarack saplings over leatherleaf. WP SI 38. See M.C.s
90	4131 - Aspen, Oak	High Density Log	22.2	54	111-140	A-RM-O stand on intermediate ground, with 3+ age classes due to variable disturbance history. Four acres east of stand 86 were burned & set up for salvage in 1972 (#021-72), with cutting wrapped up by 1974. The salvage was spec'd to remove merchantable A-O-JP-RM, but the logger left scattered merch stems of all species due to charring concerns. That patch now has small pole A-RM-O. The surrounding large pole/small saw aspen age points to a circa 1960 harvest, but could not locate the cut record. The third major age class is around 80 years old from the saw-sized RM and likely includes a good portion of the oak. On top of those deciduous age bands is a minor, even older class of hemlock, WP, RP & NWC. Two small drainages cross through the stand (south one unmapped, OFS point only). The stand is upland overall but includes low ground rimming the drainages, stream corridor, and stand 86.
91	4311 - Pine, Aspen Mix	High Density Log	37.4	117	111-140	Was cut in 1973 (#013-72A), merch & up on the A-RM-PB-O except for some oak marked to leave and RP-WP marked to cut. The stand has a two-aged, two-layered canopy made up of pine saw residual above the deciduous pole regen from the cut. The WP & RP saw diameters are largest in the south end and gradually decrease going north, but they still average xlog overall. The stand has patches of PArVCo ground at the south end and running up through the middle. The trace of cedar is on that ground and around the wetland stand 85. The cut left scattered log-sized oak, RM & paper birch amongst the pole-sapling A-RM-O regen from the cut. That regen's development was slowed by the amount of residual pine. There is a narrow strip of mature aspen along the stand's north edge that was not cut in 1973. See M.C.'s. RP SI 57

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
96	4199 - Other Mixed Upland Deciduous	Low Density Sapling	11.0	5	1-50	Was cut in 2008 (#063-05), 4" & up except white oak, WP, NWC & green-marked trees. High stumps were spec'd for wildlife structure. The marked residual saw is concentrated in the stand's S end, and is mostly WO & WP. There is dense BTA regen in the stand's N end, shifting to sparser RM-O-WP in the S 3/4's. Some browse, mostly on the RM. Oak & WP seedlings have potential to recruit. Previous inventory age was on the oak. See M.C.s
97	4125 - Black, N. Pin Oak	Medium Density	14.7	29		Was cut by 1984 (#058-82A), merch oak and a trace of RM. The oak regen includes large sapling/small pole stump sprouts from the cut and smaller-diameter single-stem saplings. Not enough has moved into the pole class to call the stand pole overall. Subcanopy oak continue to recruit. Stand also has scattered brushy JP, aspen poles/saplings and the occasional overmature BTA. Cover includes an uncut strip of mature oak bordering the swamp. See M.C.s
99	6120 - Lowland Cedar	High Density Pole	96.4	123	111-140	Long, narrow lowland cedar swale, bordered by uplands on both sides. Drainage is somewhat impeded toward the west end (RR grade); cedar cover/health is sparser there where the ground is flooded and the ash gone. The rest of the stand reflects the typical profile: good growth/health on the slightly drier transition ground, and smaller, less vigours cedar on the lowest ground. Root-tip, top-dieback occuring there. Super-canopy WP, & RM, PB saw rim the upland edges, especially in the stand's S half. Stream crosses into that end from the golf course. That better-drained area has larger-diam cedar & a pocket of hemlock & WP. Pocket of cedar mortality by road. Two acres were cut near stand 82 by 1978 (#33-76), merch & up except marked NWC (OFS point). The cut appears to have released existing large sap NWC without starting a new age class. 3-5" diam NWC cored were 68, 70, & 124 yrs. NWC SI 27
100	6127 - Lowland Pine	Medium Density Log	12.2	106	81-110	Was thinned in 2010 (#011-05), cutting all A-RM-PB and marked RP-WP, except for the far west edge that was sparse to start with. All hemlock & NWC were left. Naturally-established wet-mesic conifer stand. The conditions that allowed for the RP establishment appear to have gotten wetter. The stand has a narrow band of drier ground roadside, but it is intermediate to low overall, with a relatively high water table. Sheep laurel and some leatherleaf in the groundcover. A second canopy layer below the large residual pine is occupied by hemlock & NWC. Subcanopy has pockets of hemlock, WP & RM regen. Hemlock not showing signs of post-logging decadence. RP SI 57. See M.C.s
103	4130 - Aspen	High Density Pole	18.3	40	111-140	Was cut in 1973 (#013-72A), merch & up on the A-RM-PB-O except for a handful of oak marked to leave, and RP-WP marked to cut. Same sale as the adjacent stand 91, but with far less pine residual. Vigorous BTA & NRO regenerated from the cut. Scattered WP & RP, with a concentration of pine at the old landing. Handful of xlog NRO residual. NRO stump sprouts from the cut generally have good form and vigor, pushing the small saw class. Some of the aspen has edged into the saw class also, but the stand is pole overall. See M.C.s

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
104	4130 - Aspen	High Density Pole	30.0	39	81-110	Most of the stand was burned and set up for salvage in 1972 (#021-72), with cutting wrapped up by 1974. The salvage was spec'd to remove merchantable A-O-JP-RM, but the logger left scattered merch stems of all species due to charring concerns. Majority cover is regen from the cut around 40 years old, with that scattered saw residual and patches of the 1960's planted JP that was pre-commercial at time of harvest. Cover is mostly aspen poles, but also nice oak poles/large saplings. The stand's far S edge has a band of very poor-quality open-grown xlog oak, cull RM and overmature aspen. There's a patch of super-canopy WP on lower ground along the stream floodplain; most of the PB is there too. A trace of NWC occurs on the sideslope down to the floodplain.
105	42120 - Planted Jack Pine	Medium Density Pole	5.2	53	51-80	Within an area that burned and was set up for salvage in 1972 (#021-72), with cutting wrapped up by 1974. The salvage was spec'd to remove merchantable A-O-JP-RM. The JP was planted in 1960 and was precommercial at time of harvest. Stand has a patchy mix of over- and under-stocked JP cover including the planted stock and a younger class that regenerated post-fire/salvage. Marginal, limby JP with pockets of mortality. See M.C.s
106	42120 - Planted Jack Pine	High Density Pole	12.9	53	81-110	JP planted in 1960, along with a half-dozen rows of RP by the RR grade at the east end. The JP was planted at relatively tight spacing and weaves around residual open-grown oak. Planted JP is starting to weed out. Oak is filling in below the JP and in openings. There is a rim of overmature JP and some large RP along the bog edge. Planted RP SI 64.
108	4199 - Other Mixed Upland Deciduous	High Density Log	28.4	90	81-110	Narrow stand bordered by the swamp and young upland stands that were cut in the last two YOE's. Has varying cover in oak and RM with an aspen component. The north end starts with poor-quality northern pin oak and patches of the 1960 planted JP. Moving south, the oak quality improves to northern red, and small patches of aspen are encountered. RM also increases moving south, as a pole-sapling component under the oak, and also in large cull saw where the ground grades down to the swamp. See M.C.s
109	4310 - Pine, Oak Mix	High Density Sapling	62.1	29	1-50	Was cut by 1984 (#058-82A), merch & up on the oak and a trace of RM. The featured canopy is oak & JP regen from the cut, with patchy older residual. The oak regen includes large sapling/small pole stump sprouts and smaller-diameter single-stem saplings. Scattered above the majority sapling canopy are remnant patches of the 1960 planted JP, overmature JP saw, and pole/log aspen. This stand will likely transition into the pole-overall category by next YOE. A couple acres in the stand's W end burned in the late 1990's, visible on the 1998 photos.
110	42220 - Natural Jack Pine	High Density Sapling	16.2	26	1-50	Was cut by 1984 (#058-82A), merch oak and a trace of RM. The stand regenerated to fairly dense cover in large sapling/small pole JP, with sub-acre patches of aspen along the east side and oak saplings mixing in on the west side. Occasional overmature JP, mostly on the perimeter. The young JP cover has the appearance of being broadcast seeded, but found no FTP record. Not enough of that JP has transitioned into the pole class to call the stand pole overall, but it is close. The oak age was set to the harvest; the aspen likely dates similar.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
111	4191 - Mixed Upland Deciduous with Conifer	Medium Density	67.9	5		Was cut by 2008 (#063-05), 4" & up except leaving all WO, WP, NWC & green-marked trees. A strip along the stand's south edge east of Poor Farm Road was removed from the harvest area at the golf course's request and by permission of the contract holder. That strip of mature oak is an inclusion (OFS point) within this stand. The golf course was given permission under FTP C72-588 to transplant pine along the south edge of the stand west of Poor Farm Road (OFS point). They moved mostly WP with their truck-mounted tree spade. Regen comments: Stand is regenerating well. Has some aspen (very patchy) mixed in, but is dominated by oak with RM & WP. See M.C.s
112	4130 - Aspen	High Density Pole	20.1	27	51-80	Was cut 2" & up in 1986 (#020-86). Nice aspen poles with a small amount of oak. Stand has a sub-acre wetland along the the east side (OFS point) and a narrow uncut buffer of mature A-RM-O along the stream floodplain. The stand's poly west of the stream was not part of the 1986 harvest. That uncut portion was not inventoried, but seen while recording survey corners. The ground there is upland, with mature BTA, RM and a few large WP & RP.
115	4131 - Aspen, Oak	High Density Sapling	9.1	17		Was cut merch & up in 1996 (#058-95). Vigorous BTA & oak regen with scattered WP & BF. the conifer cover increases on the west edge.
116	4131 - Aspen, Oak	Medium Density	19.0	17		Was cut merch & up in 1996 (#058-95). Patches of dense aspen regen are separated by lower-stocked oak sapling cover. Oak regen 3-5' tall continues to fill in. The JP regen is concentrated along the bog stand 125. The stand's NE poly is a patch cut. Part of it burned in the late 1990's, visible on the 1998 imagery. The burnt area is sparser, with more oak than aspen.
117	6112 - Lowland Aspen	Low Density Pole	8.9	43	1-50	Marginal aspen stand with remnant & colonizing patches. Some high ground along the two-track, but lowland overall. Includes two sub-acre wetlands. The north wetland has narrow-leaved cattail. Trace of autumn olive in the stand's south end. The cover is pole overall but with older & younger components across all species. Set stand age to average pole, but there is a wide range of ages.
118	4126 - White, Black, N. Pin Oak	Medium Density	21.0	7	1-50	Was cut merch & up in 2006 (#047-05). The canopy is two-layered: sapling regen from the cut with large sapling/small pole oak and pole/saw WP residual scattered above it. An uncut buffer rimming the bog stand 113 has pole-sized aspen. The aspen regen is mostly in the north end. The rest of the stand has patches of dense oak regen with sparser seedling oak in between. That <3' component looks to have good potential to recruit. See M.C.s
119	4131 - Aspen, Oak	High Density Sapling	41.4	5		Was cut in 2008 (#064-05), merch & up except leaving all WO & NWC. The stand had upland oak & aspen cover, with the exception of a 1-3 chain wide strip of mature JP on the SE edge. JP & black spruce are seedling in on the intermediate ground there. The tail end of a lowland brush swale (OFS point) extends into this stand's east-center edge, from the adjacent private. Regen comments: Stand is regenerating in patches. Aspen is spotty. Oak is scattered throughout stand. Most is 5-8' tall. Some areas of oak have been browsed. Some large oak left from sale. See M.C.s

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
120	4191 - Mixed Upland Deciduous with Conifer	Medium Density	43.2	26		Was cut 2" & up by 1987 (#023-86). Regen is prodominantly oak, with patches of A, JP & WP. Upland overall, but with good access to the water table. Wraps around treed bog and lowland brush stands. Cover varies from 25-50% to 75-100%. The aspen & WP components average pole-sized, but not enough of the oak has transitioned into the pole class to call the stand pole overall. The oak includes large sapling/small pole stump sprouts and smaller-diameter single stem saplings. Parts of the stand have almost 100% oak cover.
121	6120 - Lowland Cedar	Medium Density Log	3.8	140	111-140	Floodplain stand with stream flowing through it. Includes steep sideslope up to the high ground. Cedar with hemlock, small amounts of PB, RM. The BTA, RP & oak occur on the terrace top. Inclusion of marsh/lowland brush. Slash from cedar root-tipping. Sign trespass.
123	4126 - White, Black, N. Pin Oak	High Density Sapling	27.3	26	1-50	Was set up under contract #016-86, spec'd to be cut 2" & up. The contract was closed incomplete due to violations. Before the contract was terminated, the fuelwood contractor had cut most of the merchantable oak, a portion of the aspen, and almost none of the JP. The resulting stand is a mosaic of oak & aspen regen with residual JP, the odd log-sized aspen, and mature cull oak. Regen from the cut is the featured canopy. The dense oak sapling cover is not transitioned enough into the pole class to call the stand pole overall. The residual JP includes patches of the 1960 plantings and scattered overmature saw. See M.C.s
124	4123 - Red Oak	High Density Log	4.7	92	81-110	Narrow stand of mature oak with WP, between the gravel pit and the cedar swamp. Nice, large-crowned mast producers. The WP ranges from super-canopy stature to sapling-sized. Small amounts of pole-sized RM, A, PB, oak, & JP. Trace of NWC. Upland overall but grading down to the swamp.
128	42120 - Planted Jack Pine	High Density Pole	11.0	53	81-110	JP planted in 1960, in natural openings and weaving around open-grown oak. The stand's west couple acres were unplanted; the overmature JP, some large WP & RP are there. The far west edge trails down onto the bog and has smaller naturally-established JP. The stand's east poly picks up the more intact portion of the plantation that was left in a 1980's oak harvest area. The planted JP is poor-quality, with crook & persistent dead limbs. Oak is filling in below the planted JP, and WP is filling in on the unplanted west end. Planted JP SI 45.
131	4130 - Aspen	High Density Pole	20.8	40	81-110	Was cut in 1973 (#09-73), merch & up on the A-RM-O-PB. Vigorous aspen-oak stand on a shallow ridge, bordered by lowlands. The NRO stump sprouts have a good proportion in the small saw class -- nice quality too. Some of the aspen has edged into the saw class, but the stand is pole overall. Balsam fir and a trace of tamarack on the swamp edges. An illegal ORV trail loops through this stand. See M.C.s
133	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	31.0	56	51-80	Marginal E type; predominantly RM & PB poles (with some larger cull saw) and tamarack. PArVCo at the driest, supporting the occasional oak, but with lower ground inclusions. The stand has sub-acre pockets of dense NWC pole cover. Swath of windthrow up the stand's middle. Second age is from the previous inventory on cedar. Canopy closure drifts on either side of the 50-75% category. Thick L3 below the RM, PB & tamarack. Former ash swale in the stand's NE is sparse now, with mostly tamarack remaining.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
134	6139 - Mixed Lowland Forest	Medium Density Pole	45.4	65	51-80	Marginal E/Q stand, sparsest where the ash dropped out. Cover is mostly small-pole PB-BF-RM and pole-log tamarack & NWC. The densest patches of NWC cover occur in the stand's west side. Serious windthrow pocket in the NW. QA on transition ground to the uplands. A string of slightly higher ground islands runs up through the stand's middle. That PArVCo ground supports better growth & health across all species, & even some oak. Slash accumulation is from balsam fir, PB, NWC & ash break up. An illegal wide quad path starts at the stand's south end, runs the string of dry islands, then cuts west out to the uplands. A wide shooting lane & deer baiting are associated with the quad path's south end. Difficult to tell with the snow, but there may also be a maintained food plot further north on the quad path. Aside from the quad path clearing, the only recorded harvesting was less than 10 cords of cedar posts in 1976 (#018-76). Previous inventory age on the cedar was 113. See M.C.s
137	4130 - Aspen	Medium Density	9.3	6		Was cut in 2007 (#062-05), 4" & up except WO, WP & NWC. Aspen with some oak sprouts. Not as much browse as expected considering swamp proximity -- light overall. Residual white oak & some WP scattered across the stand, along with an uncut buffer of mature oak & aspen left along the swamp edge.
138	4121 - Oak, Aspen	High Density Sapling	18.7	5	1-50	Was cut in 2008 (#064-05), merch & up except WO & green-marked trees (mixed oak, WP & RP), to a stated residual of 20 sq. ft. The stand has two uncut inclusions: a sub-acre patch of oak-aspen that fell outside the harvest boundary's NE edge, and a strip of mature JP-O-BTA along the bog stand 135 that was removed from the harvest contract at the request of the golf course and with permission of the contract holder. Second age is from the previous inventory. There's a large aspen clone in the stand's middle. The harvest left mature oak residual scattered across the stand.
139	4199 - Other Mixed Upland Deciduous	High Density Log	4.4	67	111-140	Small upland stand bordered by the golf course to the east and the cedar swamp to the west. Further cut off by a stream that flows through the swamp to Kings Corner Rd. A mix of oak, aspen, RM & WP with immature to overmature components across all species. Only cored the median oak saw; did not age the pole or xlog components in this small stand. Previous inventory age on the oak was 64. See M.C.s
140	4123 - Red Oak	High Density Log	5.5	84	111-140	Was cut in 1973 (#09-73)., merch A-RM-PB and a few oak. In the rest of the harvest to the north, most of the oak was cut along with the aspen (stand 131). There is some oak, aspen & RM regen from the cut, but most of the cover is residual. That mature oak residual is largely NRO and largely stump-origin. Even though there are 2 to 4 per stump clump, those sawlog stems have good form, little sweep and run 16"+ DBH. Used previous inventory age on the oak. Yard trespass at south end, west of two-track (OFS point). See M.C.s
144	4130 - Aspen	High Density Sapling	14.4	27	1-50	Was cut 2" & up in 1986 (#017-86). A-O-JP stand not transitioned far enough into the pole class to call pole overall. Some of the BTA clones are there already, and some of the oak stump sprouts too, but the rest is borderline.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
145	42220 - Natural Jack Pine	High Density Sapling	24.2	27		Was cut 2" & up in 1986 (#017-86). FTP was then submitted to plant or seed JP, but recon found natural regen to be filling in well. The stand has large sapling/small pole JP on ground with good access to the water table. Not enough has transitioned into the pole class to call the stand pole overall. The cover is a little sparser on the drier ground up the middle, with some oak mixing in. The JP is colonizing the lowland brush stand along the east edge.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	3205 - Mixed Upland Shrub	1.5	No	Low	Shallow valley opening with rubus, sweetfern, black cherry and encroaching aspen, oak, WP.
9	3105 - Mixed Upland Herbaceous	1.2	No	Low	Small opening with slash, rubus, sweetfern; used twice as a landing for adjacent harvests.
17	3205 - Mixed Upland Shrub	1.6	No	Low	Upland opening that has been slowly filling in with staghorn sumac and paper birch. Maintained grassy opening on the adjacent private appears to have been extended into this stand (OFS point). Illegal quad path from the adjacent private loops through the stand. See locked OFS for concerns.
21	6220 - Alder/willow	15.4	No	Low	Tag alder, salix, spiraea with scattered paper birch.
23	6220 - Alder/willow	56.1	No	Low	Tag alder, salix, spiraea, red-osier dogwood, ilex, with widely-scattered RM, PB, balsam fir.
24	6220 - Alder/willow	2.4	No	Low	Tag alder with some ilex, over flooded marsh.
29	6220 - Alder/willow	9.3	No	Low	Stream corridor. Salix & tag alder, with spiraea, leatherleaf and marsh cover. There is a sub-acre inclusion of dry ground in the stand's NW corner.
30	6220 - Alder/willow	6.5	No	Low	Tag alder with red-osier dogwood and scattered cedar clumps.
34	6220 - Alder/willow	51.5	No	Low	Tag alder & salix, with red-osier dogwood, spiraea, ilex, and widely-scattered RM, balsam fir, PB, NWC.
36	6220 - Alder/willow	7.6	No	Low	Tall tag alder with scattered overmature QA, & occasional PB, RM & elm. Since the spindly ash died out, cover doesn't make the forested benchmark. Overmature QA top-dying.
42	6220 - Alder/willow	27.4	No	Low	Forest of flood-killed NWC snags over tag alder & salix, with ilex, spiraea. Sparse balsam fir & NWC saplings. The stand's far NE has tag alder on a former black ash swale. Drainage impeded by a two-track built up across the swamp's south-center and NW edges (OFS points). See M.C.'s
44	50 - Water	2.4	No	Low	Water ponded behind the old RR grade.
45	6220 - Alder/willow	11.8	No	Low	Tag alder with red-osier dogwood, occasional paper birch.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
46	6233 - Wet Meadow	24.5	No	Low	Floodplain marsh, narrow stream flows through and backs up against the RR grade where beaver-dammed. Rimmed with tag alder. Traces of typha. Inclusion: sub-acre island of WP by the RR grade.
48	50 - Water	5.2	No	Low	Ponded water where stream backs up against the RR grade. Beaver dam there lacking recent maintenance, allowing steady outflow.
49	6224 - Treed Bog	111.2	Natural Regen	Lowland Conifers	Most of the stand was cut by 2011 (#029-07) 6" & up except leaving all WP, and the RP >20" DBH. JP was the primary species removed. Ten acres of treed bog in the stand's west side were not within the harvest, but now match the harvested area's profile: leatherleaf, sheep laurel & vaccinium groundcover, with <25% canopy in residual pole-log-sap WP. The harvest left a spine of denser WP & RP saw on the east edge's slightly higher ground. Extensive windthrow in the residual pine. RP was barely tolerating the shallow water table to start with. The harvest may have swamped the stand just enough to tip that species over the edge; most of the residual RP are dead. Regen: WP, JP, black spruce & RP are seeding in. See M.C.'s
52	6233 - Wet Meadow	4.6	No	Low	Floodplain marsh with tag alder perimeter. Narrow stream flows through. See M.C.s
55	6229 - Mixed lowland shrub	2.1	No	Low	Searched for survey corner within stand but don't remember what species I flailed through. Tall stuff, L3.
56	6220 - Alder/willow	30.1	No	Low	Floodplain with narrow stream flowing through. Tall tag alder over marsh, with patches of open marsh. See M.C.s
58	3302 - Low Density Conifer Trees	6.8	No	Low	Grassy opening filling in with WP, JP, black cherry & oak. Plywood deer blind in SE (OFS point). Small amount of autumn olive and common juniper. See locked OFS for concerns.
59	6225 - Bog	1.2	No	Low	Leatherleaf bog rimmed with ilex, colonizing paper birch & WP.
62	11 - Low Intensity Urban	7.8	Yes	Low	Barlow Road. County gravel.
63	6220 - Alder/willow	13.9	No	Low	Salix with some tag alder. Marsh inclusion at the north end.
64	6220 - Alder/willow	16.5	No	Low	Salix with tag alder, and patchy typha coverage that increases toward the RR grade.
68	6220 - Alder/willow	7.9	No	Low	Was an E-type but loss of the blash ash knocked the tree cover below the forested benchmark. Flooded tag alder/marsh swale with less than 25% cover in PB, RM, NWC sapling/poles.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
69	6229 - Mixed lowland shrub	4.1	No	Low	Narrow swale of lowland brush. Mountain holly, tag alder, ilex, aronia, wild raisin, and colonizing quaking aspen.
70	6230 - Cattail	7.6	No	Low	Cattail marsh with perimeter tag alder, willow and sparse Q/E. NWC snags.
78	6224 - Treed Bog	6.4	No	Low	Leatherleaf, labrador tea, sheep laurel bog being colonized by WP & spruce saplings and rimmed with WP & black spruce poles.
79	6220 - Alder/willow	9.8	No	Low	Salix with some tag alder, ilex, over leatherleaf.
84	6225 - Bog	5.2	No	Low	Leatherleaf bog rimmed with aronia. Marsh inclusion in the south half.
85	6222 - Shrub-Carr	1.3	No	Low	Ilex with colonizing RM, and rimmed with cedar.
92	50 - Water	1.3	No	Low	Pine River. See M.C.s
93	6225 - Bog	2.1	No	Low	Leatherleaf bog being colonized by JP, WP.
94	6225 - Bog	6.0	No	Low	Leatherleaf bog with JP on the margins.
95	6220 - Alder/willow	3.6	No	Low	Willow & red-osier dogwood over marsh.
98	6233 - Wet Meadow	7.4	No	Low	Floodplain marsh, rimmed with tag alder. Narrow stream flows through. See M.C.s
101	6225 - Bog	6.0	No	Low	Leatherleaf bog with some colonizing JP.
102	6233 - Wet Meadow	18.0	No	Low	Marsh with patches of leatherleaf, salix & JP islands.
107	6224 - Treed Bog	2.4	No	Low	Leatherleaf & mountain holly with JP, WP, balsam fir, RP colonizing.
113	6225 - Bog	5.4	No	Low	Leatherleaf bog.
114	6224 - Treed Bog	2.9	No	Low	Leatherleaf with mountain holly and colonizing JP, RP.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
122	6222 - Shrub-Carr	3.6	No	Low	Forest of spindly ash snags above ilex with tag alder and some salix. Sub-acre inclusion of dense cedar pole cover in the stand's NW. RDR's: abandoned slab/pallet path across north end, and more recent quad path across south end with dirt from the adjacent uplands pushed down into the wetland to build up the path (OFS points). See M.C.s
125	6225 - Bog	1.7	No	Low	Two wetlands connected to meet minimum stand mapping rules. North wetland is a leatherleaf bog being colonized by JP. South wetland has some leatherleaf but is mainly marsh.
126	6229 - Mixed lowland shrub	2.5	No	Low	North end with leatherleaf & JP is treed bog where the two-track crosses through, but overall is mixed lowland shrub with leatherleaf, spiraea, salix, St. John's-wort (Kalm's?).
127	6229 - Mixed lowland shrub	3.7	No	Low	Has some leatherleaf, but also spiraea, St. John's-wort (Kalm's?), salix, tag alder, marsh and colonizing JP & aspen.
129	6222 - Shrub-Carr	1.5	No	Low	Ilex with some tag alder, sparse paper birch & tamarack.
130	710 - Sand, Soil	45.7	No	Low	Former Kings Corner gravel pit. Shallowly-excavated area with remnant and colonizing patches of oak, pine, aspen. See M.C.s
132	6222 - Shrub-Carr	1.5	No	Low	Salix, ilex, tag alder with dead ash and scattered paper birch.
135	6229 - Mixed lowland shrub	6.5	No	Low	Leatherleaf, spiraea, salix, ilex, aronia, St. John's-wort (Kalm's?), rimmed with mature JP.
136	6220 - Alder/willow	12.5	No	Low	Salix, tag alder with ilex. Sub-acre forested inclusion (probably cedar) in the stand's SE corner.
141	6222 - Shrub-Carr	3.9	No	Low	Low swale with ilex & some tag alder. Forest of spindly ash snags. Stand's far east edge picks up a narrow strip of the uplands where the survey corner is.
142	6220 - Alder/willow	2.2	No	Low	Salix, tag alder with ilex, spindly dead ash. Trespass/RDR: Wide shooting lane, quad path cut through south end of stand, bait pile.
143	6224 - Treed Bog	1.7	No	Low	Leatherleaf with some mountain holly, aronia, tag alder, being colonized by JP, WP, tamarack, black spruce & paper birch.
146	11 - Low Intensity Urban	2.4	No	Low	County road corridor. King's Corner Road.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
147	6229 - Mixed lowland shrub	10.4	No	Low	Salix, tag alder, aronia, ilex, leatherleaf, with JP colonizing from the west and small patches of tamarack, black spruce and RM poles up the middle. Old pieces of vinyl siding tacked on snags/trees up through the middle.