



Compartment Review Presentation

Atlanta Forest Management Unit

Compartment 54155

Entry Year 2017

Acreage: 1,743

County Presque Isle

Management Area: Hammond Bay Lake Plain

Revision Date: 2015-08-20

Stand Examiner: John St. Pierre

Legal Description:

T36N, R2E, Sec. 7, 8, & 9.

Identified Planning Goals:

Within the Hammond Bay Lake Plain Management Area, 10-year harvest projections indicate that red pine and aspen cover types will be the primary focus for treatments (final and partial harvests). Management will strive to balance cover type age classes, produce sustainable forest products, enhance game and non-game wildlife habitat, protect areas of unique character and provide for forest-based recreational uses.

Soil and topography:

Landtype Associations (LTAs) include Kalkaska (10%), Ocqueoc (10%), Graycalm (10%), Rubicon (8%), Deer Park-Croswell-Au Gres complex (7%), Zimmerman (6%), Au Gres (5%), Croswell (4%), Mancelona loamy (4%), Klacking (3%), and Cheboygan loamy sands (3%). A host of other upland sandy soil types are present at percentages less than 3%. Lower lying areas feature Wheatley muck (6%), Aquents (5%), Roscommon muck (3%), Aquents and Histols, ponded (2%), and Brevort mucky loamy sand (2%). Remaining lowland soil types are present at percentages less than 2%.

The approximate west half of the compartment is part of a broad northwest to southeast moraine known as Black Mountain. It consists of well drained sands and loamy sands supporting jack pine, white pine, red pine red oak, aspen and occasionally hardwoods. The remainder of the compartment is an old lake bed. It supports mostly lowland conifers, aspen, but can (and does) support hardwoods.

Kotar cover types found within C155 include (at nearly equal distribution) PARVHa, PARVVb, PARVHa/PARVVb, PARVVb/AFO, AFO, PARVCo, PVCd, and unclassified lowland. Because of these cover types the fire history for the compartment is a mix of catastrophic stand replacing fires in the western third and infrequent fires in the central and eastern portions of the compartment. GLO data suggest aspen, hemlock and tamarack were found in the eastern third, northern hardwoods in the central and red pine in the western third of the compartment.

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

Compartment 155 has both state and private-land interfaces along its extremities. Privately owned property bordering C155 exists along the entire northern boundary. The south half of section 7 contains two 80-acre parcels in private holding(s). The remainder of this compartment is bordered by State owned lands.

Unique Natural Features:

No known MNFI hits or other related occurrences within this compartment.

The entirety of this compartment features a broad range of cover types. These variations appear to be the result of the differing soil series and previous fire history. Natural pine, northern hardwood, mixed pine/oak, lowland conifer/aspen, homogenous hemlock, and treed bogs are a few examples of the growing potential this compartment offers. Plantation red pine has also faired very well since being planted in areas during '29 & '63. A few stands offer unique habitat corridors across the large bog complex as well as important vertical and compositional structure. Large natural pine in access of one-hundred years of age can be found as individuals or populating entire stands.

Archeological, Historical, and Cultural Features:

No official Archeological, Historical, or Cultural Features known. A possible old homestead foundation may be located in stand 428.

Special Management Designations or Considerations:

Black Mountain Forest Recreation Area hiking & ski trails heavily populate areas of section 7. Silvicultural treatments have been formulated to minimize negative impacts on recreation.

General forest health concerns and issues are present within this compartment. Beech Bark Disease (BBD), Emerald Ash Borer (EAB), and White Trunk Rot are present and quite prolific in the cover types they affect. Many of these issues will be addressed during 2017 year of entry. Almost no non-native/invasive flora was observed during the inventory process.

Spotted Knapweed can be found along regularly traveled two-tracks and poor dirt roads but native flora remains dominant throughout compartment 155. It should be noted that inventory for this compartment was primarily conducted during the winter months with 1-2 feet of snow on the ground. These conditions weren't conducive to identifying all potential forest health issues and invasive flora present.

Watershed and Fisheries Considerations:

No special considerations exist for this compartment.

Wildlife Habitat Considerations:

The primary focus of wildlife habitat management will be to address the habitat requirements identified for the listed featured species found in this compartment. These species include ruffed grouse, black bear, and white-tailed deer. Based on the selected featured species, some of the most significant wildlife management issues in the management area are the maintenance of young forest, the retention of large, over-mature trees and snags and the maintenance and expansion of hard mast and mesic conifer components.

Mineral Resource and Development Concerns and/or Restrictions

The drier ground in sections 8 and 9 are classified as development. Most of the rest of the compartment is non-development. Surface sediments consist of lacustrine (lake) sand and gravel and coarse-textured till. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Devonian Detroit River Group. The Detroit River could be used for stone. A gravel pit is located in Section 16 and there is potential on the uplands. This area has had no drilling for oil and gas. Oil and gas producing Silurian Niagaran Reefs are located fifteen miles to the south.

Vehicle Access:

Seasonal county roads provide decent/good access into the compartment during snow off and on conditions. Several poor-dirt and two-track forest roads exist offering further access during snow off conditions. Lake Sixteen Rd is kept plowed during winter by the county. Brown Rd was plowed during the inventory process, yet I believe this was done by private to access their property north of the compartment. Further winter access is limited to snowmobile, snowshoe, legs, and ski's. Black Lake Route #994 snowmobile route doubles as a mixed traffic forest road (in the off season) and is also kept groomed during the appropriate winter months.

Survey Needs:

Surveys may be required for timber sale prep.

Recreational Facilities and Opportunities:

The Black Mountain Forest Recreation Area hike/ski trail system, in section 7, is the most notable feature in this compartment. Black Lake Route #994 snowmobile trail winds through portions of sections 7 & 8 as well. Both of these trail systems are widely used by recreationists. Snowmobiles, ORVs, dirt biking, hunting, and general meandering are extremely popular during the appropriate seasons.

Fire Protection:

This area is covered by the Onaway Field Office.

At the time of writing (5/14/15), a small wildfire occurred the previous week on private holdings north of section 8. Components of planted red pine and natural pine cover types are found within compartment 155. The natural stands of pine are undoubtedly of fire origin. Burn scar stumps are prolific throughout the compartment as well. This suggests that fire is a natural regime that has and will most likely occur again within the localized area. Fire access into the compartment is generally suitable during snow-off conditions. However, no watering points and/or bodies of water are present within the compartment.

Additional Compartment Information:

None.

The following reports from the Inventory are attached:

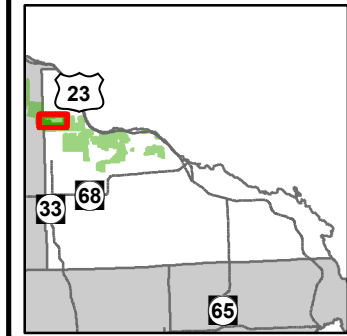
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

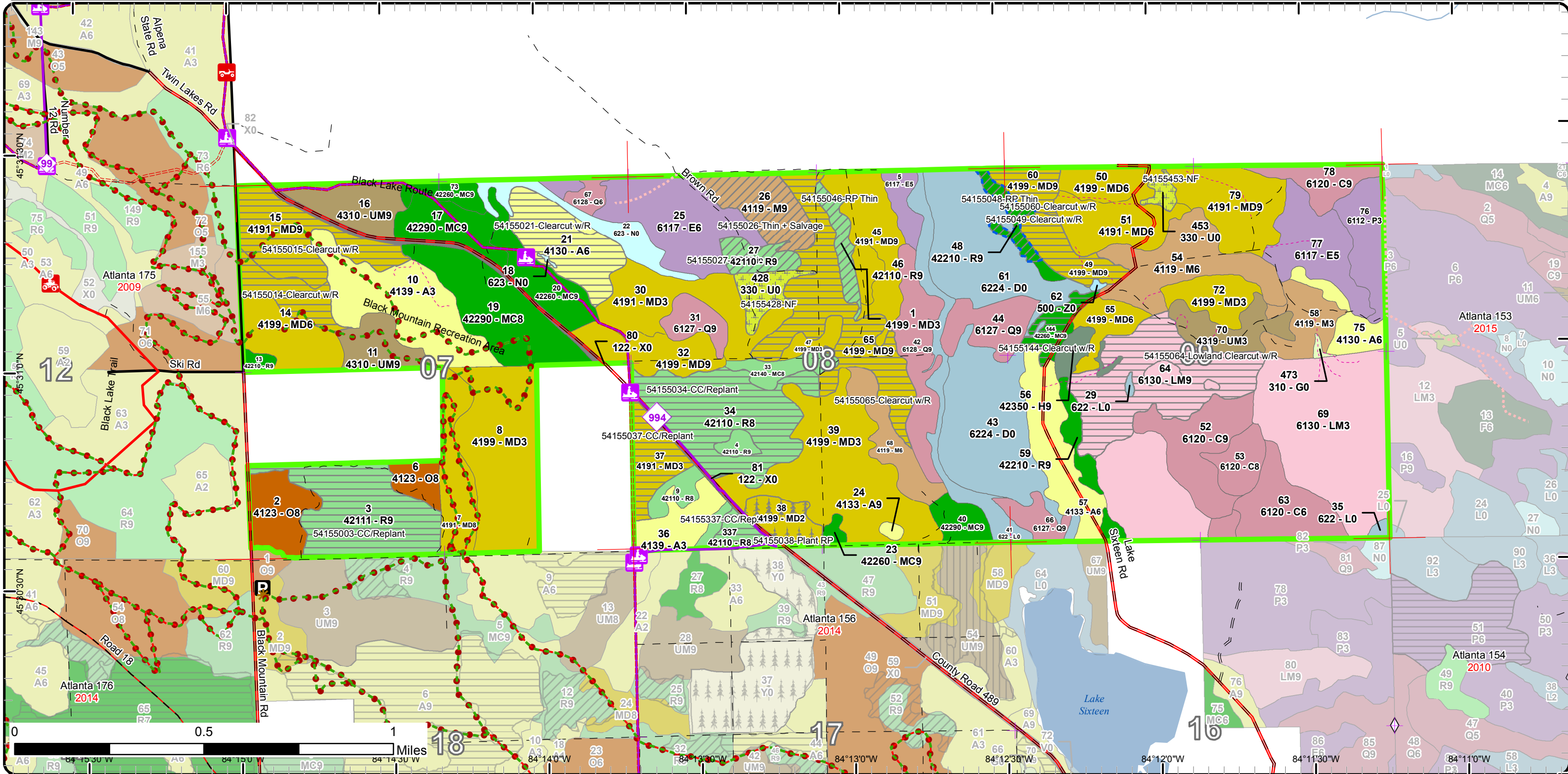
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 155
 T36N, R02E, Sec: 7 - 9
 County: Presque Isle
 Unit: Atlanta
 Mgmt Area: Hammond Bay Lake Plain
 YOE: 2017
 Acres: 1743 GIS Calculated
 Examiner: John St. Pierre
 Map Revised: 9/17/2015
 Map Phase: Post Review

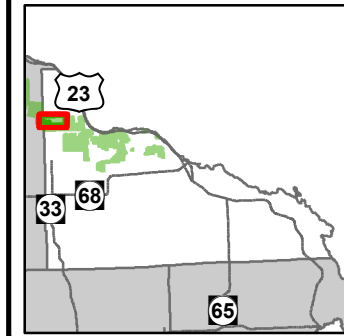


<ul style="list-style-type: none"> Remunited Section Corners Field Grade GPS Corners Miris Corners Paved Roads County Gravel Roads Gravel Roads Poor Dirt Roads County Poor Dirt Roads Trail (Non-Recreation) Closed Roads Parking Lot Trailhead ORV Trails 	<ul style="list-style-type: none"> ORV Routes Snowmobile Trails Designated Hiking Pathways Designated Bicycle Trails Designated Equestrian Trails Designated Ski Trails Designated ATV Designated ORV Routes Designated Snowmobile Trails Rivers Lakes Treatments with Site Conditions Clearcut (w/Reserves) 	<ul style="list-style-type: none"> Planting (tree species) Other Treatment - See Comments Thinning (Crown, Low, Systematic) <p>Forest Covertype</p> <ul style="list-style-type: none"> 411 - Northern Hardwood 412 - Oak Types 413 - Aspen 419 - Mixed Upland Deciduous 421 - Planted Pines 422 - Natural Pines 423 - Other Upland Conifers 430 - Upland Mixed Fores 611 - Lowland Deciduous Forest 612 - Lowland Coniferous Forest 613 - Lowland Mixed Forest 	<p>Non-Forest Covertype</p> <ul style="list-style-type: none"> 122 - Roads/Parking Lot 310 - Herbaceous Openland 330 - Low Density Trees 500 - Water 622 - Lowland Shrub 623 - Emergent Wetland
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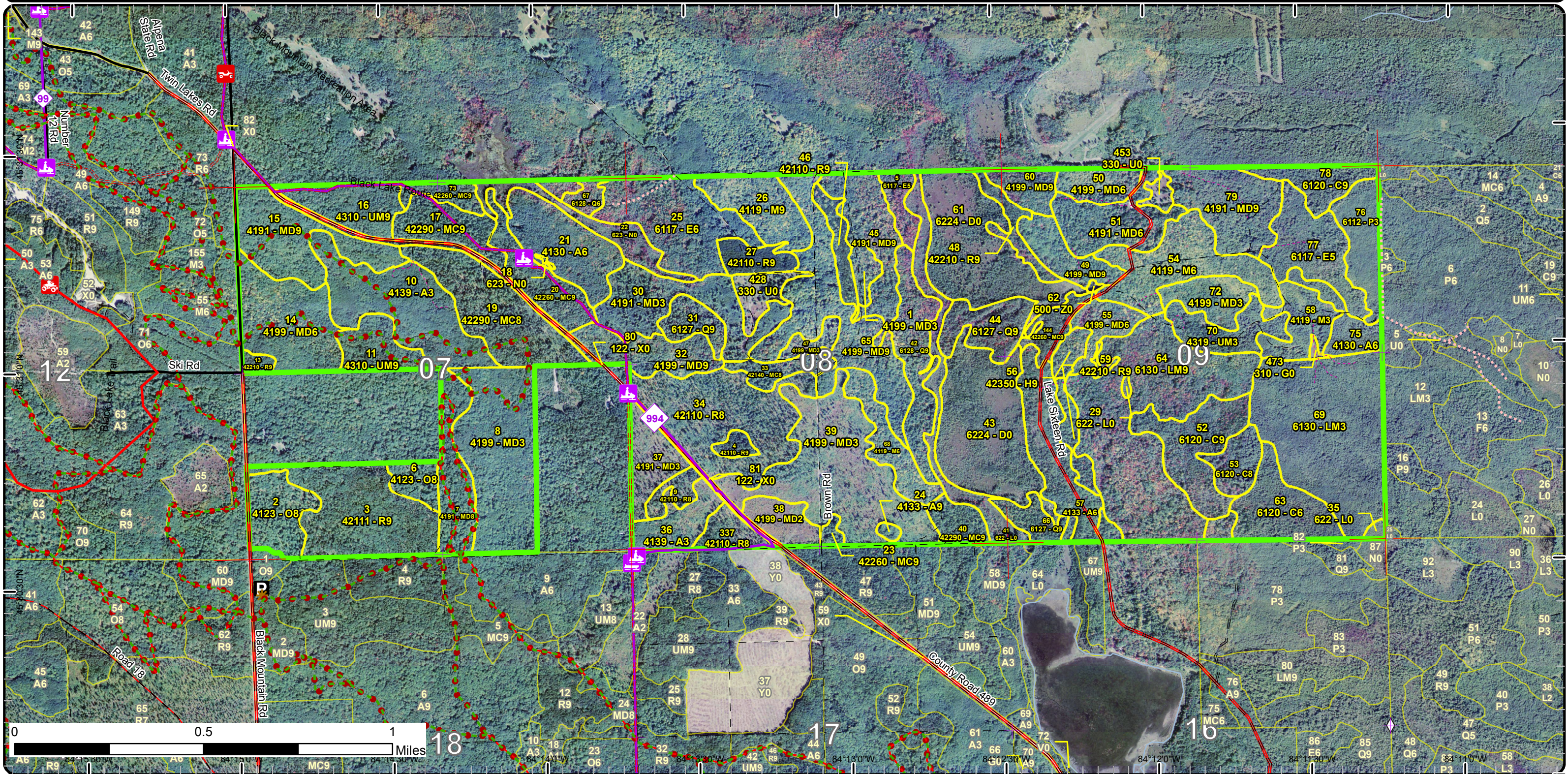


Stand Boundary Map

Compartment: 155
 T36N, R02E, Sec: 7 - 9
 County: Presque Isle
 Unit: Atlanta
 Mgmt Area: Hammond Bay Lake Plain
 YOE: 2017
 Acres: 1743 GIS Calculated
 Examiner: John St. Pierre
 Map Revised: 9/17/2015
 Map Phase: Post Review

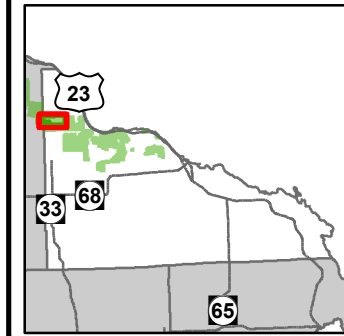


- ✚ Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- ⋯ Closed Roads
- P Parking Lot
- ★ Trailhead
- 🚲 ORV Trails
- 🚲 ORV Routes
- 🚲 Snowmobile Trails
- Designated Hiking Pathways
- Designated Bicycle Trails
- Designated Equestrian Trails
- Designated Ski Trails
- Designated ATV
- Designated ORV Routes
- Designated Snowmobile Trails Non-Forest Covertypes
- Rivers
- Stand Boundaries
- Forest Covertypes
 - 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 430 - Upland Mixed Fores
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
 - 122 - Roads/Parking Lot
 - 310 - Herbaceous Openland
 - 330 - Low Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland



Special Conservation Areas & Site Conditions Map

Compartment: 155
 T36N, R02E, Sec: 7 - 9
 County: Presque Isle
 Unit: Atlanta
 Mgmt Area: Hammond Bay Lake Plain
 YOE: 2017
 Acres: 1743 GIS Calculated
 Examiner: John St. Pierre
 Map Revised: 9/17/2015
 Map Phase: Post Review



- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- P Parking Lot
- ★ Trailhead
- 🚲 ORV Trails
- 🚲 ORV Routes
- 🚲 Snowmobile Trails
- Designated Hiking Pathways
- Designated Bicycle Trails
- Designated Equestrian Trails
- Designated Ski Trails
- Designated ATV
- Designated ORV Routes
- Designated Snowmobile Trails
- Rivers
- Stand Boundaries
- SCA Recommendation
- SCA

Site Condition

- Available w/ Constraints
- Unavailable

Available Factors W/ Constraints

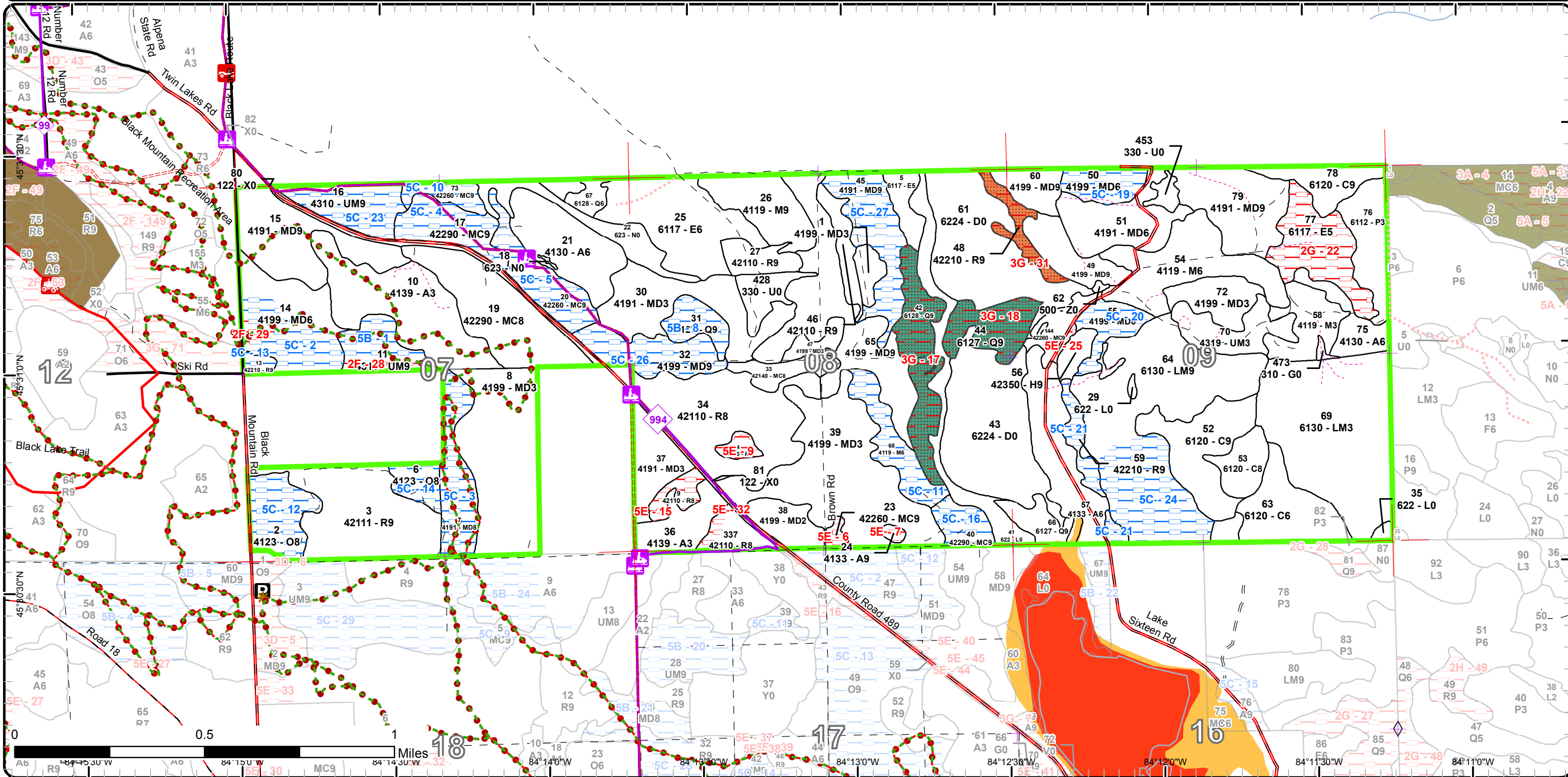
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality

Unavailable Factors

- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 3G: Other Influence zones - See comments
- 5E: Long-Term Retention

Special Conservation Areas

- Ecological Reference Areas
- Non-Dedicated Natural Areas and National Natural Landmarks
- Scramble Area
- Habitat Corridor
- Other Habitat Area



Report 1 – Total Acres by Cover Type and Age Class

Atlanta Mgt. Unit

Compartment 155 Year of Entry 2017

John St. Pierre : Examiner



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	16	0	48	0	73	0	0	2	0	0	0	0	0	0	0	0	0	139
Cedar	0	0	0	0	0	0	0	0	0	0	0	45	26	15	0	0	0	0	86
Hemlock	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Low-Density Trees	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Lowland Aspen/Balsam Poplar	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Lowland Conifers	0	0	0	0	0	0	0	10	31	27	0	0	0	0	0	0	0	0	68
Lowland Deciduous	0	0	0	0	45	0	0	8	0	0	28	0	0	0	0	0	0	0	81
Lowland Mixed Forest	0	0	0	0	83	0	0	0	0	98	0	0	0	0	0	0	0	0	181
Lowland Shrub	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Marsh	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Mixed Upland Deciduous	0	110	36	0	57	0	41	0	80	134	66	0	0	0	0	0	0	0	524
Natural Mixed Pines	0	0	0	0	0	0	0	0	74	17	0	19	0	0	0	0	0	0	110
Northern Hardwood	0	0	0	0	0	17	0	0	0	18	60	0	0	0	0	0	0	0	95
Oak	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	28
Planted Mixed Pines	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9
Red Pine	0	0	0	0	0	0	18	0	9	124	0	10	3	0	0	0	0	0	164
Treed Bog	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112
Upland Mixed Forest	0	0	0	0	0	18	0	0	0	35	0	0	0	0	0	0	0	0	53
Urban	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	183	126	56	48	185	108	59	18	205	481	154	81	29	15	0	0	0	0	1748



Report 2 – Treatment Summary

Atlanta Mgt. Unit

Compartment 155

Year of Entry: 2017

Acres of Harvest

Total Compartment Acres: 1,743

Commercial Harvest - 394
 Harvests with Site Condition - 7
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	30	0	0	0	0	0	0	0	0	30
Lowland Mixed Forest	57	0	0	0	0	0	0	0	0	57
Mixed Upland Deciduous	146	0	0	0	0	0	0	0	0	146
Natural Mixed Pines	8	0	0	0	0	0	0	0	0	8
Northern Hardwood	0	0	0	0	0	23	0	0	0	23
Red Pine	112	0	0	0	0	25	0	0	0	138
Total	353	0	0	0	0	48	0	0	0	401

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	401	0	12	0	0	0	0	13	0	426
Next Step	0	281	194	0	0	141	747	0	0	1363
Total	401	281	206	0	0	141	747	0	13	1789

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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
3 54155003-CC/Replant	49.7	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	86	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Replant to Red Pine. Use 2-inch cutting spec.

Specs:

- Require 6-inch stump height and chipping of tops
- Follow retention guidelines leaving 3-10%
- Create at least 2-retention pockets and focus near stand boundary to facilitate replanting ops. Capture representative oak and pine within both. One pocket should be extended out from the northwest panhandle.

Next Step Treatments: Monitoring, Natural Regen (Intermediate); SitePrep, Roller Chopping; Pesticide, Aerial; SitePrep, Trenching; Planting, Initial Plant

Acceptable Regen: Regen survey 1 and 3-years after initial replant. Acceptable regen is a well stocked planted red pine stand with minor components of oak.

Other Comment:

- Following clearcut and prior to replanting site prep, identify pockets of regenerating oak to exclude from chemical/mechanical treatment. These will supplement original retention.
- Consider combining Stands 3 & 337 into one sale
- Combine Stands 3 & 337 into one replant operation
- Roller Chopping and Herbicide operations are very likely prior to trench & replant Old next step comments:

Proposed Start Date: 10/1 /2016

14 54155014-Clearcut w/R	14.7	4199 - Other Mixed Upland Deciduous	Poletimber Well	87	81-110	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec.

Specs:

- Follow retention guidelines leaving 3-10%
- Create at least 1-retention pocket. Focus one pocket along/near the "Black Mountain Rec Pathway".
- Leave any combination of 2-3 oak and/or red/white pine every 1-2 acres. Leave in clumps or as open grown/wind firm single stems.
- Leave the few hemlock present
- *Whole tree skid when ground isn't frozen to promote scarification and cone dispersal (See Other Comments)

Next Step Treatments: Monitoring, Natural Regen (Intermediate); Monitoring, Natural Regen (Re-Inventory)

Acceptable Regen: Natural regen survey 3-years after harvest and during 2025 inventory cycle. Acceptable regen is any mixture of the parent stand(s), excluding heavy beech domination (unlikely in this stand).

Other Comment:

- PROTECT "Black Mountain Rec Pathway" in specs
- *Combine Stands 14 & 15 into one sale
- *Do not allow whole tree skidding across "Black Mountain Rec Path". Create 2-payment units. One north of, and one south of "Black Mountain Rec Path". Allow producer to establish one landing site in each unit.
- Include drumming log spec in proposal Old next step comments:

Proposed Start Date: 10/1 /2016



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
15	54155015-Clearcut w/R	35.6	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	85	111-140	Harvest	Clearcut with Retention	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec.

- Specs:
- Follow retention guidelines leaving 3-10%
 - Create at least 2-retention pockets. Focus one retention pocket along/near "Black Mountain Rec Pathway".
 - Leave any combination of 2-3 oak and/or red/white pine every 1-2 acres. Leave in clumps or as open grown/wind firm single stems.
 - Leave any hemlock if present
 - *Whole tree skid when ground isn't frozen to promote scarification and cone dispersal (See Other Comments)

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Natural regen survey 3-years after harvest and during 2025 inventory cycle. Acceptable regen includes any mixture of the parent stand(s). Expect stronger deciduous components (aspen) than what the parent stand(s) contained.

Other Comment: - PROTECT "Black Mountain Rec Pathway" in specs.

- *Combine Stands 14 & 15 into one sale
- *Do not allow whole tree skidding across "Black Mountain Rec Path". Create 2-payment units. One north of, and one south of "Black Mountain Rec Path". Allow producer to establish one landing site in each unit.
- One corner might be in Black Mountain Rd. Jack pine witness tree present (see OFS point). Protect witness trees in specs.
- Include drumming log spec in proposal Old next step comments:

Proposed Start Date: 10/1 /2016

21	54155021-Clearcut w/R	29.8	4130 - Aspen	Poetimber Well	45	111-140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec.

- Specs:
- Follow retention guidelines leaving 3-10%
 - Leave the few hemlock and red oak
 - Leave the few super-canopy red/white pine 18" DBH or larger
 - Exclude the small but obvious clump of hemlock along eastern boundary (treatment layer approximates this)
 - Conduct harvest during frozen winter or very dry summer months

Next StepTreatments:

Acceptable Regen: Natural regen survey during 2025 inventory cycle. Acceptable regeneration includes any combination of the parent stand.

Regen:

Other Comment: - Lower and softer ground as you move into eastern areas of this stand

Comment: - Include drumming log spec in proposal Old next step comments:

Proposed Start Date: 10/1 /2016

26	54155026-Thin + Salvage	22.8	4119 - Mixed Northern Hardwoods	Sawtimber Well	94	111-140	Harvest	Crown Thinning	4119 - Mixed Northern Hardwoods	Two-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription N.Hardwood Thin, plus Beech Salvage. Thin to 70-80 BA. Account for beech removals during BA swings.

- Specs:
- Require 6-inch stump height spec
 - Leave 1-3 beech (preferable scale free) per acre for future mast/hard snag material. Salvage remaining beech.
 - Manage for the "best tree in place" Regardless of Species
 - Create 100ft regen canopy gaps when able
 - Remove high risk trees, other than beech, when they occur in heavy salvage locations
 - Run east treatment line to ridge bottom along Std.65

Next StepTreatments:

Acceptable Regen: Natural regen survey 3-years after harvest. Beech saplings already dominate the understory. This stand is being managed for the present/future quality of overstory species. Beech saplings will be addressed when overstory reaches final harvest maturity.

Other Comment: - Include beech hauling restriction in specs

Comment: - The east/west forest road along State/PVT interface could potentially serve as the northern boundary (blue) line. This will need to be verified. Old next step comments:

Proposed Start Date: 10/1 /2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
27	54155027-RP Thin	9.3	42110 - Planted Red Pine	Sawtimber Well	55	201+	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Thin planted red pine to 120 BA.

Specs:

- Focus marking defect prone red pine and those with poor crown development first
- Do not mark/cut other species unless they impede equipment mobility
- Marking during leaf-off season is advised

Next Step

Treatments:

Acceptable

Regen:

Other - Combine Stands 27 & 46 into one sale Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

34	54155034- CC/Replant	56.3	42110 - Planted Red Pine	Sawtimber Medium	88	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Replant to Red Pine. Use 2-inch cutting spec.

Specs:

- Require 6-inch stump height and chipping of tops
- Exclude Stand 4 from this treatment. It will serve as long-term retention (5E-9).
- Roller Chopping and Herbicide operations are completely necessary prior to trench & replant

Next Step SitePrep, Roller Chopping; Pesticide, Aerial; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)

Treatments:

Acceptable Regen survey 1 and 3-years after initial replant. Acceptable regen is a well stocked planted red pine stand.

Regen:

Other - Proposed start date is 8/21/2015, the day after compartment review

Comment:

- Combine Stands 34 & 37 into one sale
- Combine Stands 34, 37, 38 into one replant operation Old next step comments:

Proposed Start Date: 8 /21/2015

37	54155037- CC/Replant	16.7	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	7	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Replant to Red Pine. Use 2-inch cutting spec.

Specs:

- Require 6-inch stump height and chipping of tops
- Exclude Stand 9 from this treatment. It will serve as long-term retention (5E-15).
- Roller Chopping and Herbicide operations are very likely prior to trench & replant

Next Step SitePrep, Roller Chopping; Pesticide, Aerial; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)

Treatments:

Acceptable Regen survey 1 and 3-years after initial replant. Acceptable regen is a well stocked planted red pine stand.

Regen:

Other - Proposed start date is 8/21/2015, the day after compartment review

Comment:

- Combine Stands 34 & 37 into one sale
- Combine Stands 34, 37, 38 into one replant operation Old next step comments:

Proposed Start Date: 8 /21/2015

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Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
38	54155038-Plant RP	11.9	4199 - Other Mixed Upland Deciduous	Sapling Medium	5	Immature	Planting	Initial Plant	4211 - Planted Red Pine	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**Prescription Initial planting of this stand back into Red Pine.Specs: - Roller Chopping and Herbicide operations are very likely prior to trench & RP replantNext Step Treatments: SitePrep, Roller Chopping; Pesticide, Aerial; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)Acceptable Regen: Regen survey at 1 and 3-years after initial replant. Acceptable regen is a well stocked planted red pine stand.Other: - Proposed start date is 8/21/2015, the day after compartment reviewComment: - Combine Stands 34, 37, 38 into one replant operation
Old next step comments:Proposed Start Date: 5 /21/2015

46	54155046-RP Thin	9.1	42110 - Planted Red Pine	Sawtimber Well	55	201+	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**Prescription Thin planted red pine to 120 BA.Specs: - Focus marking defect prone red pine and those with poor crown development first
- Do not mark/cut other species unless they impede equipment mobility
- Some areas of stand will require minimal marking
- Marking during leaf-off season is advisedNext Step Treatments:Acceptable Regen:Other: - Combine Stands 27 & 46 into one sale Old next step comments:Comment:Proposed Start Date: 10/1 /2016

48	54155048-RP Thin	7.1	42210 - Natural Red Pine	Sawtimber Well	72	141-170	Harvest	Crown Thinning	42210 - Natural Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition: Other Influence Zones**Prescription Marking Thin of large natural red pine to 120 BA.Specs: - Rx objective is to manage once for current and future "large tree" characteristics
- Retain/leave red pine with good form, healthy live crowns, and wind firm characteristics
- Harvest all jack pine, paper birch, balsam fir
- Only mark remaining species if they impede equipment mobility
- Conduct harvest during frozen winter or very dry summer monthsNext Step Treatments:Acceptable Regen:Other: - Treat Stand 48 concurrent with Stds.49 & 60Comment: - Found PVT corner on west portion of Std.60's north line. Green marked ~boundary line trees/plus wire along this stands PVT/State interface.
- Southern exclusion from thin appears to wet/sensitive for equipment
- Conduct thin and then retain as an "Other Habitat SCA" for the foreseeable future
Old next step comments:Proposed Start Date: 10/1 /2016



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
49	54155049-Clearcut w/R	15.2	4199 - Other Mixed Upland Deciduous	Sawtimber Well	86	111-140	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec. Require 6-inch stump height spec.

- Specs:
- Follow retention guidelines leaving 3-10%
 - Leave the few hemlock and pine species present (most already in clumps of 2-3)
 - Leave 2-3 mast producing red oak every 2-3 acres. Leave in clumps or as open grown/wind firm single stems.

Next Step
Treatments:

Acceptable Regen: Natural regen survey 3-years after harvest to monitor beech saplings. Acceptable regen is any mixture of the parent stand, excluding heavy beech domination (unlikely in this stand).

Other Comment: - Combine Stands 49 & 60 into one sale

- Treat Stand 48 concurrent with Stds.49 & 60

- Southern boundary near bog might be sensitive to harvesting equipment Old next step comments:

Proposed Start Date: 10/1 /2016

60	54155060-Clearcut w/R	10.3	4199 - Other Mixed Upland Deciduous	Sawtimber Well	81	111-140	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec.

- Specs:
- Follow retention guidelines leaving 3-10%
 - Exclude the small cedar clumps/low areas along north line (see OFS points) . These could serve as retention if extended out to capture other representative species.
 - Leave the very few hemlock and pine species present
 - Conduct harvest during frozen winter of very dry summer months

Next Step
Treatments:

Acceptable Regen: Natural regen survey 3-years after harvest. Acceptable regen is any mixture of the parent stand, excluding heavy beech domination (very unlikely in this stand).

Other Comment: - Combine Stands 49 & 60 into one sale

- Treat Stand 48 concurrent with Stds.49 & 60

- Include drumming log spec in proposal

- PVT corner found on western portion of north line. Green marked ~boundary line trees/plus wire along PVT/State interface in Std.48. Old next step comments:

Proposed Start Date: 10/1 /2016

64	54155064-Lowland Clearcut w/R	57.0	6130 - Fir, Aspen, Maple	Sawtimber Well	81	81-110	Harvest	Clearcut with Retention	613 - Lowland Mixed Forest	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec.

- Specs:
- Following retention guidelines leaving 7-10%
 - Create at least 3-retention pockets of larger size (~1ac+). Try to capture natural red pine just north of Std.56 (see OFS point), and a clump or two of cedar (multiply OFS points provided). OFS point "Good Reten Local" offers all of the above.
 - Leave the few hemlock present
 - Leave the few legacy pine present (26" DBH or greater)
 - Feel free to grab a little aspen from Std.69
 - Conduct harvest during frozen winter months. Areas ~may be operable during VERY dry summer months.
 - Consider making this sale a 4-year contract

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Regen: Natural regen survey at 5-years and/or during 2025 inventory cycle. Dependent upon harvest completion. Acceptable regen is any mixture of the parent stand.

Other Comment: - Include drumming log spec in proposal

- Obvious non-operable, too wet, and non-merchantable locations have already been excluded from treatment boundary. However, similar locations may still exist.

Old next step comments:

Proposed Start Date: 10/1 /2016



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
65	54155065-Clearcut w/R	53.5	4199 - Other Mixed Upland Deciduous	Sawtimber Well	92	111-140	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec. Require 6-inch stump height and chipping of tops.

Specs:

- Follow retention guidelines leaving 3-10%
- Create at least 3-retention pockets. Capture mast producing oak, some of the few pine/hemlock present, and other well represented species within retention.
- Place retention near stand boundary to facilitate possible replanting ops
- Run west treatment line at ridge bottom along Std.26
- Whole tree skid (no seasonal restrictions)

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Natural Regen (Intermediate); Planting, Interplant

Treatments:

Acceptable Regen: Natural regen survey 1 and 3-years after harvest to monitor beech/ironwood saplings. Acceptable regen is any mixture of the parent stand, excluding heavy beech/iron domination (quite possible in this stand).

Other - Include beech hauling restriction in specs

Comment: - The east/west forest road along State/PVT interface could potentially serve as the northern boundary (blue) line. This will need to be verified. - See "Next Step Rx" comments in MIFI regarding oak planting and possible RP replant operations. Old next step comments:

Proposed Start Date: 10/1 /2016

144	54155144-Clearcut w/R	8.2	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	82	111-140	Harvest	Clearcut with Retention	42260 - Natural Pine, Mixed Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Use 2-inch cutting spec.

Specs:

- *See "Other Comments" regarding retention
- Whole tree skid during VERY DRY summer months to promote scarification and cone dispersal. Do not allow producer to whole tree skid across Lake Sixteen Rd.
- Leave any combination of 2-3 oak and/or red/white pine every 2-3 acres. Leave in clumps or as open grown/wind firm single stems.
- Leave the few hemlock present

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Natural regen survey 5-years after harvest. Acceptable regen includes any mixture of natural pine and deciduous species. Expect stronger deciduous components (aspen) than what the parent stand contained.

Other - *Long-Term Retention (5C-25) will already be in place. This is a 1-acre boundary exclusion east of Lake Sixteen Rd.

Comment: - Western boundary along bog might be sensitive to harvesting equipment. Remainder of stand may pose operational difficulties as well. Old next step comments:

Proposed Start Date: 10/1 /2016

337	54155337-CC/Replant	6.2	42110 - Planted Red Pine	Sawtimber Medium	88	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut with Retention. Replant to Red Pine. Use 2-inch cutting spec.

Specs:

- Require 6-inch stump height and chipping of tops
- Exclude western portion from treatment. It will serve as long-term retention (5E-32).
- Roller Chopping and Herbicide operations are very likely prior to trench & replant

Next Step SitePrep, Roller Chopping; Pesticide, Aerial; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr)

Treatments:

Acceptable Regen: Regen survey 1 and 3-years after initial replant. Acceptable regen is a well stocked planted red pine stand.

Regen:

Other - Consider combining Stands 3 & 337 into one sale

Comment: - Combine Stands 3 & 337 into one replant operation Old next step comments:

Proposed Start Date: 10/1 /2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
428	54155428-NF	9.5	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	330 - Low- Density Trees		Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription maintain open character using mechanical methods or fire as funding allows.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

453	54155453-NF	3.4	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	320 - Upland Shrub		Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription maintain open character using mechanical methods or fire as funding allows.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
Acreage Proposed: 426.2**

Report 5 – Site Conditions

Atlanta Mgt. Unit
John St. Pierre : Examiner

Compartment: 155
Year of Entry: 2017

Availability for Management

Total Acres	Acres Available	Acres Avail With Condition	Acres Not Available
1,743	1,329	307	106
	76%	18%	6%

Dominant Site Conditions

	Total Acres	Acres Available	Acres Avail With Condition	Acres Not Available	Dominant Site Condition	Dominant Site Conditions					
						5B	5C	2F	2G	3G	5E
138	137	0	2		Aspen						2
86	86	0	0		Cedar				0		
7	7	0	0		Hemlock						
1	1	0	0		Herbaceous Openland						
13	13	0	0		Low-Density Trees						
20	20	0	0		Lowland Aspen/Balsam Poplar						
68	13	10	45		Lowland Conifers	10				45	
81	53	0	28		Lowland Deciduous				28		
180	143	37	0		Lowland Mixed Forest		37				
26	26	0	0		Lowland Shrub						
17	17	0	0		Marsh						
523	405	115	2		Mixed Upland Deciduous		115	2			
109	50	56	4		Natural Mixed Pines		56				4
95	77	18	0		Northern Hardwood		18				
28	0	28	0		Oak		28				
9	9	0	0		Planted Mixed Pines						
164	130	13	21		Red Pine		13			9	12
112	112	0	0		Treed Bog						
53	18	31	5		Upland Mixed Forest	11	20	5			
13	13	0	0		Urban						
1	1	0	0		Water						
1,743	1,329	307	106		Total Forested Acres	21	286	7	28	54	17
	76%	18%	6%		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
1	Available	5B: Maintain for regeneration purposes	11	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
Comments:							
Southern portion of stand features steep slopes (35-45%). Might be operable except for the area occupied by site condition 2F-28. Black Mountain Rec Path through stand is heavily used by public as well.							

Report 5 – Site Conditions

Atlanta Mgt. Unit
John St. Pierre : Examiner

Compartment: 155
Year of Entry: 2017

2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Also: A ridge line with steep slopes (35-45%) travels ~east/west through ~center of stand. Might be operable except for the area occupied by site condition 2F-29.							
3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: Also: Black Mountain ski/hiking trail travels through this stand. Steep slopes exist along northern tip and eastern boundary as well (35-45%).							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: Large log and with some legacy tree sized red and white pine dominated stand. Red oak and hemlock present as well.							
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Atlanta Mgt. Unit
John St. Pierre : Examiner

Compartment: 155
Year of Entry: 2017

8	Available	5B: Maintain for regeneration purposes	10	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
Comments: Sensitive soils and contains difficult to regenerate species. Some of which are managing to regenerate at this time. Stand is still a bit on the young side but is putting on decent growth given proximity to water table.							
9	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Pole size stand with large component of saps converting to poles. Allow the smaller component of beech to fall out and self-thin stand.							
12	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wait at least two-entries before harvesting oak with the possibly merchantable aspen/red maple at that time.							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	3	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Atlanta Mgt. Unit
John St. Pierre : Examiner

Compartment: 155
Year of Entry: 2017

14	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wait at least two-entries before considering a treatment. Should allow aspen/red maple to achieve some merchantability.							
15	Unavailable	5E: Long-Term Retention	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Long-term retention for final harvest and replanting activities that are supposed to take place in Stands 38, 337, 37, and 34.							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: Small acreage stand and difficult to regen species. Current species composition will hold for longer than I have left on this planet. Consider treating with Stand 68 during next entry.							
17	Unavailable	3G: Other Influence zones - See comments	27	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: This stand and stand 44 are acting as a wildlife sanctuary and corridor across the large bog complex. Also, this stand is primarily composed of younger hemlock (75-85yrs old) that is managing to regenerate in areas. Barred owl and grouse were both observed during stand inventory. Other terrestrial wildlife were heavily foraging below the scattered red oak present in this stand as well. Propose making this stand and Std.44 a "wildlife/corridor" SCA.							
18	Unavailable	3G: Other Influence zones - See comments	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Similar to Std.42, this stand is serving as a wildlife sanctuary and corridor across the large bog complex. Is also found atop sensitive soils and contains difficult to regenerate species. Would like to propose this as a "wildlife/corridor" SCA.							
19	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

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20	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment due to surrounding management activities.							
21	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	28	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: Majority of this stand appears too wet and operationally difficult to treat. Western/southern portions ~could be managed when Std.75 is treated in the future. Some excellent yellow birch sap/pole regen observed in the northern 1/2 to 1/3 of this stand as well.							
23	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Assess regen results in Std.15, and Std.14 to a lesser extent, before treating this stand. Whole tree skidding was used (Hopefully) in both stands (14/15) to promote natural pine production. A similar Rx could be used for Std.16 if results were encouraging.							
24	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	37	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Assess harvest and regeneration results within the northern portion of this stand before proposing/conducting any further treatment(s) in the southern portion.							
25	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This 1-acre long term retention portion of Std.144 is east of Lake Sixteen Rd, which is maintained by Cheboygan County. Whole tree skidding is in the Rx specs for the treatment west of the road. This action (whole tree skid) isn't allowed across County owned roads.							

Report 5 – Site Conditions

Atlanta Mgt. Unit
John St. Pierre : Examiner

Compartment: 155
Year of Entry: 2017

26	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Consider treating during 2027 YOE. A lot of management activity occurring south of this stand during 2017 YOE.							
27	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Originally prescribed. Removed the Rx in an attempt to closer match aspen final harvest target acres for Hammond Lake Bay Plain M.A. for 2017 YOE. This stand will hold for 10-years. Removed Rx can be found in "Draft Treatment Notes".							
28	Unavailable	2F: Too steep	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Steep slopes (40-45%).							
29	Unavailable	2F: Too steep	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Steepest slopes of the prominent ridgeline traveling through Stands 11 & 14 (40-45%). Appears to difficult for equipment and could easily result in resource damage. Remaining ridgeline/steep slopes might be operable (have a longer rise over run but still ~35-45%).							
31	Unavailable	3G: Other Influence zones - See comments	9	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments: Current Rx objective is to manage once for current and future natural "large tree" characteristics (red pine). Conduct thin and then capture as an "Other Habitat SCA" to maintain a small but unique representation of natural red pine on the landscape.							
32	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Long-term retention for final harvest and replanting activities that are supposed to take place in Stands 38, 337, 37, and 34.							



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
	Habitat Areas or Corridors	Other Habitat Area	Proposed SCA	9
Comments				
Small stand of large natural red pine 70-120+ years old. An increasingly rare feature within this MA. Thin and then hold as an "Other Habitat Area SCA". Approved on 8/20/15 at Comp Review.				
	Habitat Areas or Corridors	Habitat Corridor	Proposed SCA	27
Comments				
This stand (42) and stand 44 are acting as a wildlife sanctuary and corridor across the large bog complex. Also, this stand is primarily composed of younger hemlock (75-85yrs) that is regenerating in areas. Habitat SCA approved on 8/20/15 at Comp Rev.				
	Habitat Areas or Corridors	Habitat Corridor	Proposed SCA	18
Comments				
This stand (44) and stand 42 are acting as a wildlife sanctuary and corridor across the large bog complex. Also, this stand is primarily composed of difficult to regenerate lowland conifer species. Habitat SCA approved on 8/20/15 at Comp Review.				

**Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS**

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

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

Conservation Area	Type	Description
SCA	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
HCVA	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4199 - Other Mixed Upland Deciduous	Sapling Well	5.5	7	1-50	Area affected by blow down possibly ~7yrs ago based upon BTA age. May of been during the '07-08 tornado or some other wind event. Downed log size trees still present. Now a broad mix of sapling size species present before and/or establishing shortly the event. Some pole/log and log/pole size species still remain in overstory.
2	4123 - Red Oak	Sawtimber Medium	20.3	88	51-80	This stand was part of "Extra Blue" timber sale cut in '98. Rx was to leave all oak and cut the rest (some pole/log and log/pole pine remains, and a few pole RM). This stand could very easily be called a O7/O8 or MD2/MD3 stand. Aspen and RM are primarily the future for this stand. Sapling stocking can vary a bit and I'd estimate a future canopy closure of 50-75% after competition is said and done between sap understorey and RO remaining in overstorey. No RO regen and some scattered pockets of sapling pine production.
3	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	49.7	86	111-140	This stand (3) was previously two separate stands. Stand 3 was coded as an R6 and was basically the west 1/2 of current shape. Stand 5 was an R9 and basically the east 1/2 of current shape. Std.5 was part of "VF30" timber harvest in '98 where all orange/yellow marked RP was cut. Both stands were part of "155 Red Pine" timber harvest in '10. Rx was cut all orange marked RP and cut all RM, JP, and aspen. The entire 80 this stand resides in was planted to RP in '31 (with 2yr old RP). Portions of that planting obviously failed. Today, the west 1/2 (what was Std.3) has greater RP diameter variability (some smaller DBH's than found in east 1/2). Sapling presence (BTA clones, RM sprouts) is greater in west 1/2 as well. The east 1/2 (what was Std.5) holds pretty steady with RP between 14-16" DBH. Nearly absent understorey in east 1/2. Red oak log/xlog is everywhere. Not the highest quality but has lots of character and quite large on average.
4	42110 - Planted Red Pine	Sawtimber Well	3.6	86	141-170	A pocket of log RP that escaped 2008 salvage. Yellow marked RP (and un-marked) within. Deciduous removal more than likely occurred during the '98-01 timeframe. OPIC - FMD: SCA Black Mountain Forest Recreation Area. This stand was cut in 2008 to salvage timber from a tornado. A variance was issued on 11/30/2007 to accomplish this salvage. All undamaged oak and pine trees were left. Mixed regeneration of aspen, oak and pine is acceptable.
5	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Medium	7.9	68	81-110	Somewhat of a lowland version of Std.45 featuring more conifer (fir, cedar, ~hemlock). Becomes wetter, diameters decrease, and canopy closure reduces as you move east. Becomes somewhat more "lowland shrubby" as you move east as well. A lot of blow down and tip-ups present.
6	4123 - Red Oak	Sawtimber Medium	8.2	86	51-80	Like Std.2, this stand was part of "Extra Blue" timber sale cut in '98. All red oak was left, the rest was cut. Some sap/pole red/white pine present. BTA and RM saps strong (75-100% closure) in areas and less dense (50-75% closure) in others. The lower closure % occurs mainly below areas with high BA of RO in overstorey. Very little RO regen as there as there are no stumps to sprout from. The stand will probably develop into an MD5, then MD8 overtime if the RO left isn't taken into account.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
7	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	22.7	86	51-80	<p>The 80 this stand is in used to be privately owned. Not really sure what to call this stand. Beginning in the southern 1/2, it's fairly obvious that log RO and some pine remain in the overstory while below is a ~35 year old sap/pole understory of mixed deciduous and pine. More log/xlog RP begins to pop-up in the center and northern 1/2, especially along with overstory RO.</p> <p>Some large pole/small log BTA/RM can also be found in northern 1/2-1/3 of stand. Given the prevalent sap/pole understory, I'd fathom a BTA/RM + some WP/JP removal occurred about 35yrs ago. RO and RP were left and areas heavier to log/xlog RP (the north 1/2-1/3) were more or less avoided. I'll say log is still dominant but canopy closure is on the high side of 50-75%. It is 75-100% in areas. Black Mountain pathway snakes through stand. Steep slopes in northern tip and portions along the eastern boundary.</p>
8	4199 - Other Mixed Upland Deciduous	Sapling Well	57.5	35	1-50	<p>The 80 this stand is in was privately owned in the not so distant past. As such, not cut record was located. A very upland mixed stand featuring many sap and many pole sizes depending upon location and species. The stand is getting very close to being nearly uniform pole size but think it's a little to soon to label it that. BTA and RO seem to be mostly pole size. Maple, beech, pine are nearly pole. Saw a lot of RO stump sprouts that have recruited. My RO, 20%, 5", p/s/l canopy listing above includes 5% log/xlog RO that MIFI wouldn't allow me to place in the list. Quite a few individual and clumps of log/xlog RO, WP, RP leave trees. Especially on steeper slopes along western boundary.</p> <p>Definitely a structurally (vertically) diverse stand with these present. Log versions of all other remaining species were observed but at reduced frequency. Basically walked right down center (north to south) of stand and may of missed a heavier log sized pocket or two. Imagery shows possible conifer log clumps in the NE and SE corners.</p>
9	42110 - Planted Red Pine	Sawtimber Medium	6.3	86	51-80	<p>BA and density is just a bit higher than surrounding stands that were treated/salvaged. Pockets of WP/RP advanced regen within. Deciduous sprouting present but not overly prolific.</p> <p>OPIC - FMD: This stand was cut in 2008 to salvage timber from a tornado. A variance was issued on 11/30/2007 to accomplish this salvage. All undamaged oak and pine trees were left. Mixed regeneration of aspen, oak and pine is acceptable.</p>
10	4139 - Aspen, Mixed Deciduous	Sapling Well	47.9	26	1-50	<p>Aspen is the winning specie at this point in the race. Clumps/pockets of RP/WP observed. Scattered RO mixed in. Undulating and rolling terrain throughout. RO and RM percentages might be higher than what I have listed. If this stand was similar to Std.15 before harvest (cruise figures below suggests this stand had more BTA), than I would've hoped to see more RO regen.</p> <p>Harvest began '87 and finished up in '90. Cruise figures: BTA: 761cds RO: 345cds/45mbf PB: 88cds MxdPine: 87cds MxdHWD: 74cds RP: 45mbf WP: 11mbf</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	4310 - Pine, Oak Mix	Sawtimber Well	15.5	81	111-140	<p>One of the few "undisturbed by man" stands (within the last ~80yrs anyway) I've viewed in awhile. Fire went through as burned stumps abound and a few charred snags present. Pine/aspens are mainly log size. Red oak is large pole/small log. Oak is scrubby to marginal quality. Good WP sap understory and deciduous saps are in check. Likely because no removal harvests have taken place. Steep slopes (upslope) south of the Black Mountain trail that runs through this stand.</p> <p>OPIC - FMD: Lots of Burned WP stumps. Manage for WP.</p>
13	42210 - Natural Red Pine	Sawtimber Well	2.8	113	171-200	<p>An outlier pocket (even though it used to be everywhere) of red pine. The RP I aged was just as the OIPC comment states "badly suppressed". The core I took was from an RP that might of been a two-stemmer. As a result, my age might be a little off (it's old RP either way). BTA along northern boundary. A mix of RO, BTA, and pine near the southern boundary. Center of stand is RP with a few WP/RO mixed in.</p> <p>OPIC - FMD: STAND HAS ALWAYS BEEN BADLY SUPPRESSED.</p>
14	4199 - Other Mixed Upland Deciduous	Poletimber Well	38.3	87	81-110	<p>A bit of size and age variation within this stand depending upon where you venture. Very pole size in areas and very log size in other areas. BTA varies from very log in western areas to clumps of pole/log as you move east. Similar scenario with RO, more log in west moving into pole/log in east. Mostly pole sized species along and atop the prominent ridge in south. Very good looking red oak and sugar maple poles along/atop the prominent ridge. Dominant age of 86 years might be a bit excessive, but variation of sizes made pinpointing a clear stand age difficult. Present are a few larger RP, WP, and RO that must of served as leave trees when last harvested. Appears that hemlock was left as well. Quite a bit of pole/sap/and some log beech (with scale) present. Mostly in clumps yet scattered throughout as well. Most sap species present are on the cusp of converting to pole size. The main ridge in south is steep (~40-45 degrees) but gradual. A few other steep ridges just north of the south "Black Lake Rec Trail" appeared inoperable due to slope.</p>
15	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	35.6	85	111-140	<p>Primarily dominated by marginal to scrubby RO of small log/large pole size. Western and southern areas are atop a slight ridgeline/higher elevation and feature the "scrubbier" version of RO. WP and RP are common in overstory as are pockets of/and scattered BTA. 1929, 100 TPA of WP planted in general area. WP saps are giving it a go in the understory as well as RP to a lesser extent. RM aren't overwhelming the understory and RO saps are present. Southeast "blob/pan-handle" has more canopy WP/RP representation and is of larger size. Old burnt stumps abound.</p>
16	4310 - Pine, Oak Mix	Sawtimber Well	19.8	86	111-140	<p>Compositionally similar to Std.15 to the west. RO, WP, and RP are the dominant canopy species. Most deciduous species are of poorer form and marginal in quality. The exception being a handful of better quality, log-sized RO scattered about. Pine species are well suited (some WP planted here in '29) to the site and appeared healthy and of good form. Prolific WP saps in understory. A prominent patch (~2ac) of RP/WP located in center/SE of stand. This can be seen quite well on imagery. Pockets of BTA present as well as scattered individuals of BTA and RM. Old burnt stumps present.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42290 - Natural Mixed Pine	Sawtimber Well	18.7	100	141-170	A very impressive large/and legacy RP and WP stand. A planting record from '29 specifies some WP planted in quarter/quarter that captures some of the stands western portions. The majority of pine present is 100 or more years old, so I labeled it as a natural stand. Pine averages nearly 100ft tall. Measured a WP at 104ft. Scattered RO log trees and clumps of hemlock present. A shelterwood harvest completed here in '87. Rx was cut marked RP, WP, RO and remove all the rest. Natural and vegetative RM sap/some poles are prolific in understory. One prominent hemlock/WP pocket along snowmobile trail (OFS point marks the location).
19	42290 - Natural Mixed Pine	Sawtimber Medium	41.7	78	81-110	Unit 2 of "155 Red Pine" cut in ~'10. Thin/cut marked pine and harvest all RM, BTA, and JP. Did not find a planting record so stating this in a natural pine stand. North 1/2 (more or less) has a more desirable understory mix of WP/RO saps and some RM to a lesser extent. South 1/2 has areas with prolific RM/BTA sap production (where gaps in pine overstory can be seen on imagery). This was spurred on by deciduous removal when thin + removal took place in '10. Might of been part of tornado salvage? But I think not. OPIC - FMD: Remove jack pine and aspen, red maple, plus red pine where needed for equipment movement. Sale cut 2010 on 54-033-07-01; FTP's C54-870 (burn) C54-871 (plant rp) if applicable.
20	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	20.1	71	141-170	A pine/aspen mixed stand. WP and RP were more or less of the same size class yet WP aged about ~10yrs older. Aspen appears offsite, old, and of poor form. Pine is where it belongs. Some undulating/slight ridgeline terrain. Aspen is found in pockets as well as being scattered throughout. The same holds true for pine. Understory isn't overrun with deciduous (which is nice). Small chunk in northeast area was part thin + removal harvests that took place in Std.17. Some dense BTA/RM sap/poles there. OPIC - FMD: Consists of amalgamated clumps of smaller white pine, sawtimber red pine and nesting cavity aspen. PARvHa/PARvVb
21	4130 - Aspen	Poletimber Well	30.6	45	111-140	Aspen and RM dominated stand. Large log/and xlog WP scattered about. Clumps of log/pole hemlock are present as well. One larger hemlock clump on far east boundary (see OFS point). Aspen diameters are a more log/pole in western ~1/2. Aspen DBH's begin to decrease as you move east (onto lower ground). Pit and "moundy" within stand. Appeared primarily upland with some lower locations.
23	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	2.4	76	141-170	Possible boundary exclusion and/or retention when Std.39 was set-up for harvest. Wolfy versions of large WP, RP, and aspen tend to dominate. Some pole sized pine nestled within.
24	4133 - Aspen, Mixed Pine	Sawtimber Well	1.5	75	141-170	Appears to be another retention pocket when Std.39 was set-up for harvest. May of been retained for its relatively high percentage of pine and red oak. Age of 75yrs was taken from an RP as I didn't trust the "coring soundness" of the aspen present.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	44.8	37	81-110	<p>A mix of just about every species, size class, and age. Aspen is primarily log/pole size but saps are present. Remainder of the higher percentage species (RM, BF) are sap/pole or pole/sap depending upon location. Current composition and structure is probably the result of a treatments that apparently took place here in '72 & '78. It's my opinion that the stand is obviously merchantable in some areas and obviously non-merchantable in other areas. Pit and "moundy" throughout. Appeared primarily lowland until reaching the eastern ~1/3 of the stand. A ~5ac chunk of A6/M3 split from Std.26 was added to this stand and extends a few chains on either side of Brown Rd.</p> <p>OPIC - FMD: A slow growing mix of P,E, Q, and L. A few patches larger trees on higher (PARVCo) land. Site index is for extreme east end of stand.</p>
26	4119 - Mixed Northern Hardwoods	Sawtimber Well	22.8	94	111-140	<p>This stand sits atop a ridge composed of mainly Klacking sand. The soil type is allowing the growth of somewhat better than usual NHD species for this particular region. A mix of multi and single stem SM/beech tends to dominate. The eastern boundary along the ridge line features more BTA, although the type is common throughout. Beech scale is just about everywhere. Beech saps more than dominate the sub-canopy.</p>
27	42110 - Planted Red Pine	Sawtimber Well	9.3	55	201+	<p>Red pine planted in spring of '63. RP was 3yrs old when planted. Their growth rate is impressive (to me anyway). Red pine appeared healthy with good live crown still remaining. Row thinned in '98 (as was Std.46) and small log (~10" DBH) is average with examples +- 2" DBH. Merchantable height is between 6-8 sticks depending upon the tree. NHD saps in the understory are patchy and not really consistent throughout. Overstory deciduous species listed in canopy table occur mainly along the perimeter.</p> <p>OPIC - FMD: THINNED 1998, SALE 32-97</p>
30	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	35.9	14	1-50	<p>Unit 1 of "Klister Blue" timber harvest cut in '00-01. Rx was to leave all WP and cut the rest. Residual BA is well above 50 is areas. Some scattered pole/log sizes of canopy species listed above remain (these escaped the processor). Pole sizes from vegetative growth are beginning to pop-up as well. Lower/wetter areas as near lowland shrub Std.22. A completely mixed stand at the sap level with variable mixing ratios depending upon where you're standing. Very well could be lowland w/upland. Hard to determine the day I was visiting. OPIC - FMD: cut, 2001.</p>
31	6127 - Lowland Pine	Sawtimber Well	10.3	60	111-140	<p>Mixed conifer stand with white pine being most prevalent. RP and Blk Spruce are common associates. Given the younger age of WP that was cored, growth seems to be aided b proximity to the water table. Two (or one because they're quite close) small hemlock pockets present (see OFS point). Scattered hemlock throughout as well and was regenerating in areas. A couple sub-acre areas of lowland shrub present.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4199 - Other Mixed Upland Deciduous	Sawtimber Well	21.7	74	111-140	Another NHD dominated stand (with aspen/oak/pine) that's M6 in areas and more M9 in others. Aspen, pine, basswood, red oak, and the small component of hemlock are very much log size. SM and RM vary between pole/sap and log depending upon location. West of snowmobile trail is more pole/sap SM/RM with the aforementioned log size species. Center of stand (north of E/W forest rd) begins to offer more log size SM/RM. East portion (north of E/W forest rd) has a mix of log/pole NHD and appears to be lower ground (BAM observed) and timber quality degrades. South of E/W forest rd features more mixing of pine/aspen/RO and lower quality NHD of pole/sap/log size. A pine pocket is located in center/south portion of stand. This pocket can be seen on imagery and an OFS point marks the location.
33	42140 - Planted Mixed Pine	Sawtimber Medium	9.2	75	51-80	Portions of this stand probably part of '29 RP/WP planting. Couldn't located the particular sale, but I believe this stand was part of a larger removal sale that occurred in '89. Appears that sale left some log/pole WP/RP and removed all the rest. Now present is a fairly aggressive vegetatively regenerating sap understory with a prominent "residual" pine overstory. There's a small ~1.5ac pocket east of Brown Rd that I've lumped into this stand. This doesn't appear to of been part of '89 removal harvest. This is where the log/pole sized BTA, JP, RO mainly occur.
34	42110 - Planted Red Pine	Sawtimber Medium	56.3	88	51-80	<p>"Quick" Stand History:</p> <p>1) A 50ac RP,WP,RO thin + species removal in '89. 2) About ~20ac of stand had a species removal harvest in '98-01 timeframe that left all pine. Sap layer is now ~15yrs advanced in an area just east of Co.Rd489. 3) About ~51ac underwent another species removal while leaving yellow marked pine (~a RP shelterwood + species removal) in '08-10 timeframe. 4) I think a tornado salvage occurred sometime in '08-10 timeframe as well that took out damaged pine.</p> <p>RP planted in '29 (RP was 2yrs old when planted). Current composition now features an overstory of mainly large log/xlog planted RP and some WP of the same general size. BA swings ranged between 40-100 residual with an average BA of 55 sq/ft. An very dense sapling layer extends throughout most of this stand. Species dominance within the sap layer varies upon location. RM and NHD associates own some areas (center portions) while aspen clones claim other areas (western/eastern areas). RO saps fairing well in spots and observed some RO stump-sprouts off of large DBH stumps (which doesn't always happen). This stand could be considered sapling or log dominated depending upon the who's eyes are looking at it. I felt the remaining RP overstory was to extensive to allow the stand to be labeled as "sap dominant".</p> <p>OPIC - Reduce to 30 BA, retaining species diversity other than red maple.</p> <p>On November 30, 2007, the following variance was granted: Parts of stands 34 and 37 were leveled by a recent tornado. Previous prescriptions of shelterwood were changed to clearcut. All undamaged oak and pine trees will be left uncut. All down and damaged trees will be salvaged.</p> <p>Sale cut 2010 on 54-033-07-01; FTP's C54-870 (burn) C54-871 (plant rp) if applicable.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4139 - Aspen, Mixed Deciduous	Sapling Well	15.8	7	1-50	<p>East 1/2 was part of '08 salvage and the west 1/2 (~7ac) was clearcut in "98-01 timeframe. The aspen (and other species) in west 1/2 is sapling and pole size. East 1/2 is still sapling size. In both is a broad is a somewhat broad mix of species. A few scattered pole/log and log/pole size WP/RP throughout.</p> <p>OPIC - FMD: SCA Black Mountain Forest Recreation Area. This stand was cut in 2008 to salvage timber from a tornado. A variance was issued on 11/30/2007 to accomplish this salvage. All undamaged oak and pine trees were left. Mixed regeneration of aspen, oak and pine is acceptable.</p>
37	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	16.7	7	1-50	<p>"Brief Stand History"</p> <p>1) ~7ac of the northern triangle had a removal harvest in "98-01 timeframe, left pine and cut the rest.</p> <p>2) This stand, and Std.9/337 had had an RP seed tree + species removal in 08'-10 timeframe.</p> <p>3) May of been part of '10 salvage after tornado.</p> <p>4) FTP C54-870: burn to remove competition and regenerate RP never occurred here. APPEARS RP WAS THE MO FOLLOWING LAST TREATMENT. IF THIS IS THE CASE, I FAIL THE REGEN CHECK.</p> <p>So, based upon the above history, this stand now has an average BA of 14 sq.ft of log RP (and some WP) in the overstory. And a mix of ~5-15 year old saps in the understory. WP saps (probably there before treatments) are present. Some RP and JP saps can be found throughout as well. Aspen clones only start to increase as you move into northern/narrowing portion of stand. Aspen density isn't overly thick and walking through clones isn't a chore. Southern/larger portion of stand has a less densely stocked sap layer (50-75%). I chose to call this a sapling dominated stand and it's on the high side of 50-75 canopy closure (higher in north, lower in some southern areas).</p>
38	4199 - Other Mixed Upland Deciduous	Sapling Medium	11.9	5	Immature	<p>Fifty percent forested (medium to high stocking) and fifty percent non-forested. If you're looking at this stand from County Road 489, the regen looks acceptable (mainly RM sprouts). Once 40-50 yards into the stand (off of Co.Rd 489), the regen more or less abruptly quits. Aspen clones begin to pick up as you reach the east and northern boundaries near Std.39. This was a planted RP final harvest back in 2010. It was supposed to be burned and then replanted (see FTP notes below), these never took place. I recommend this stand receive a "fail" with regard to acceptable regen (both deciduous and especially conifer).</p> <p>OPIC - FMD: Previously species thinned. Excellent red maple regeneration.</p> <p>Sale cut 2010 on 54-033-07-01; FTP's C54-870 (burn) C54-871 (plant rp) if applicable.</p>



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
39	4199 - Other Mixed Upland Deciduous	Sapling Well	70.2	6	1-50	As the OPIC note states below, this was part of "Extra Blue" timber sale that sold but was never cut. The stand was finally cut in 2009 (I don't know much else). Two-aged overall because all WP was left. WP residual BA's are dense in areas and lighter is others. Some RP log/poles remain throughout as well. Aspen and other deciduous saps seem to be doing fine. RO saps browsed. OPIC - FMD: This stand was previously sold, but not cut. Manage as a mixed stand of predominantly white pine and aspen. PRE-SALE: Use GPS to adjust lines as needed. Mark red pine to half-height spacing, as appropriate. POST-SALE: Regard as a combination WP release and aspen regeneration. Else, accept as pocket of U or A. Alt. Covertype: Any combination of white pine, aspen, red pine, oak, or northern hardwoods. Managing for both white pine and aspen.---- clearcut completed 12/2009----54-015-07-01
40	42290 - Natural Mixed Pine	Sawtimber Well	9.6	77	111-140	Natural mixed pine stand with RP being the more dominant specie. Xlog examples of RP, WP, RO observed. Some legacy WP present near eastern boundary (near Std.41). I did view a few stump sprouting RM of sap/pole size. Ownership cards suggest some kind of pine thinning in ~79. Burned stumps present. Understory species composition does have some desirable characteristics. Darrick Coy accidentally ran red line along this stands eastern boundary while setting up Std.54 (to the south). He later browned out the first ~100 or so feet. OPIC - FMD: Year of origin is correct for RP overstory. Midstory of JP, RP, and WP. W3 is 20' tall. Manage for mixed pine with scattered RP big trees. PARVHa.
42	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	27.2	80	171-200	Conifer dominated stand with variable species dominance depending upon location. Hemlock is dominant north of E/W walkable trail and pockets pop-up in southern 1/3 of stand. In-between is a mix of WP, RP, Hemlock and various decid species (mainly RM). Majority of hemlock is still small log/lrg pole sized and aged younger than I expected (74 & 85yrs). Good hemlock sap production north of E/W trail. Sapling layer is variable from low to medium density depending on where you are. A few scattered pockets and individual examples of legacy WP/RP present. Flushed grouse and a barred owl, and deer beds/browse observed. OPIC - FMD: HEMLOCK REGEN ON W SIDE OF STAND. NUMEROUS 36-40" W PINE.
44	6127 - Lowland Pine	Sawtimber Well	17.9	72	111-140	Primarily a log/pole sized conifer mix. Some areas more prone to pole sizes. RP has a strong presence along the perimeter of stand (mainly north perimeter). Unsure of how soft ground is outside of winter. Lowland species (leatherleaf, tamarack, spruce, mountain holly) indicate it might be quite soft. Very obvious it is serving as a wildlife corridor to traverse the large surrounding bog complex. Grouse, hare/rabbit, deer, and other unidentifiable tracts observed throughout. OPIC - FMD: Travel corridor across bog.
45	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	26.8	76	111-140	Primarily upland until venturing into eastern areas near Std.5. Conifer component increase as you move east as well. NHD component increase as you move south. A small clump or two of log hemlock present that are accompanied by some regenerating saps within a ~chain of parent tree(s). OFS point marks one hemlock clump.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
46	42110 - Planted Red Pine	Sawtimber Well	9.1	55	201+	Narrow vein of red pine planted in spring of '63. Pine was 3yrs old when planted. Third row thinned in '98. Response to row thin was good yet the growth rate of these pine on hardwood soil has been very impressive. As such, pine quickly filled the gaps from the '98 thin. RP average ~10" DBH plus or minus 2". BA swings and recent growth rates suggest conducting a crown thin. BA's swings averaged above 200, but some areas were in lesser need of marking. Northern hardwood saps dense in areas, and light in others. Scattered NHD log trees present (imagery shows these). OPIC - FMD: THIRD ROW THINNING, DONE 1998, SALE 32-97
47	4199 - Other Mixed Upland Deciduous	Sapling Well	5.3	7	1-50	Appears to be another location affected by wind throw. Possibly from the '07-08 tornado that passed through this compartment. Tip-up stumps still present. Looks like firewooders salvaged the site. A light overstory of log/pole and pole/log species still present. Red oak saps are heavily browsed. A possible indicator as to what an adjacent final harvest in Std.65 might look like.
48	42210 - Natural Red Pine	Sawtimber Well	8.6	72	141-170	A narrow band of natural red pine sandwiched between the bog and Stds.49/60. Pine and oak are quite large and tall. Two RP ages taken, 72 & 124yrs old. Must have easy access to the water table. Only ~2+ chains wide for the most part. Western boundary is a little difficult to clearly define. Portions of the bog are being reclaimed by conifer which butts up to the western boundary of this stand. Ownership cards suggest RP here was thinned in '64.
49	4199 - Other Mixed Upland Deciduous	Sawtimber Well	15.2	86	111-140	A bit different size and species composition when compared to Std.54. More aspen and RO present and NHD species are an inch (DBH) or two larger on average. Still many poles throughout. It seems that this stand is a bit more on the log size (with help from larger RO/BTA) than Std.54. Possibly because it's closer to adjacent bog water table?
50	4199 - Other Mixed Upland Deciduous	Poletimber Well	11.5	99	81-110	Primarily pole size with scattered logs of many of the canopy species listed above. Sugar maple is quite old given its ~6-8" DBH average. I witnessed this in ATL C172 north of here last year. Observed a fair amount of sap RO in the understory. Unsure if they'll recruit, but younger RO poles were present as well.
51	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	26.5	55	81-110	BTA tips the scale as being the more dominant overstory specie. This stand is a hogde podge mix of aspen, NHD, and pine. According to ownership cards, 12ac of this quarter-quarter was planted to 600 TPA of white pine in '61. Aspen is log/pole or pole/log depending upon location and competition it faced for growing space. I leaned toward this stand being more pole size and on the lower end of 75-100% canopy closure. Scattered xlog BTA, WP, and RP observed. Sapling layer is quite dense in most areas with a strong presence of SM, RM, RO, and BF/Beech in area. Eastern areas pick up log JP/mixed species formally part of Std.453. It also picks up a ~1ac clump of log RP.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
52	6120 - Lowland Cedar	Sawtimber Well	30.9	105	171-200	This stand was split out of Std.64. Difficult to delineate with a high degree of accuracy. The portion that makes up this stand (52) is more or less solid cedar. Pockets of cedar extend outside of this stands boundaries. Some areas have almost no understory, while others have a dense BF, Ash sapling understory. Some wind throw in areas but not the extent as found in Std.53. Deciduous/other conifer mixing in areas that aren't completely dominated by cedar. Of a slightly larger size than the cedar found in Std.63.
53	6120 - Lowland Cedar	Sawtimber Medium	14.8	120	111-140	Pronounced cedar blow down stand. Clumps of cedar remain while blow down gaps are being aggressively reclaimed by deciduous species (RM, Ash). A very "big tree/old growthy" in appearance stand. Most overstory species are large log or xlog (and legacy) in size. Canopy closer is on the low end of 50-75% in areas, and closer to 75+% in others.
54	4119 - Mixed Northern Hardwoods	Poletimber Well	37.7	92	81-110	Pole/Log in areas and Log/Pole in others. The majority appears to be larger pole transitioning to small log. RO, BW, Beech, Hemlock, and some RM make up obvious log sizes. Sugar maple is still pole/sap for most part. RO and some BW are of better quality and could yield some sawlogs. The remaining species are mediocre quality at best once entered into sawlog sizes. Some poles look promising but time doesn't/didn't seem to improve older siblings form/quality. Scattered xlog/log hemlock present. Decent SM advanced regen as well. More RM in SE tail. SM more prevalent as you move into central/western portion of stand. More RO in central/western areas as well.
55	4199 - Other Mixed Upland Deciduous	Poletimber Well	11.4	81	81-110	A pole sized stand for the most part with areas (like the southern tail) that feature more log sizes. Small pole/large sap sized RO of good form was quite prevalent throughout. Scattered log/xlog examples as well. Aspen presence is spotty. Beech (with scale) does have a presence. Fir saps thick in areas and light in others. A couple of low/tag alder populated pockets present. RM age may misrepresent stand age a bit. It seems a little younger and NHD species do seem to take much longer to recruit on these soils than the other species present.
56	42350 - Upland Hemlock	Sawtimber Well	6.6	102	141-170	Hemlock dominated stand with a variety of other conifer/deciduous species mixed in. Appears mainly upland with a few "soft" locations. Wildlife was using heavily for thermal cover and feeding below mast producing large red oak. OPIC - FMD: SOME HEMLOCK SEEDLINGS PRESENT ON EDGE OF STAND
57	4133 - Aspen, Mixed Pine	Poletimber Well	30.6	45	51-80	Heavily mixed stand of nearly all the species listed in canopy. Dominance of species depends upon location. Pole is the most common size with lots of saps still present. Log sizes exist, especially pine and red oak. These appear to of been leave trees when last treated. Western boundary is low/soft as it borders the bog. Ownership cards suggest that treatments took place in the general area in "70 & '74.
58	4119 - Mixed Northern Hardwoods	Sapling Well	17.0	40	1-50	Basically the reverse of Std.75. Mainly/mostly dominated by sap/some pole sugar/red maple with distinct aspen pole/log pockets within. OPIC stated cut in '76 as did ownership cards. Northern hardwood species are primarily from stump-sprout origin. This stand is nearing uniform pole size (NHD species anyway, remaining species are pole or larger).



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	42210 - Natural Red Pine	Sawtimber Well	9.8	105	81-110	A unique natural "bigger tree" RP and WP dominated stand. Large RO present as well. BA's and density isn't that high but pine and RO diameters are large and easier to pick up from quite a distance. Small diameter RM, PB, Cedar, and BF present. Somewhat two-aged in appearance but primarily even-aged. Wildlife using heavily for thermal cover as well as feeding below the larger mast producing red oak.
60	4199 - Other Mixed Upland Deciduous	Sawtimber Well	10.3	81	111-140	A general mixing of RM, SM, and QA along with lowland conifer species (BF, NWC, hemlock). A few dead ash and elm present. Appears mostly upland until reaching northern portions of stand. A small cedar w/hemlock clump present in north/northeast (OFS point marks location). Balsam understory relents as you move south. The few WP are super-canopy/legacy size. A few red oak and red pine located along northern portion of west line near Std.48.
63	6120 - Lowland Cedar	Poletimber Well	26.2	110	111-140	Overstory NWC of pole/log and log/pole is the most dominant specie. A pronounced sap/pole understory of ash (dead/dying, EAB), BF, and a host of other species at lower density. Cedar can vary from clumpy, scattered, and dominant/homogenous depending upon location. Western boundary near C8 blow down Std.53 picks up some larger log sized cedar. No cedar regen observed. On verge of being primarily a log size stand.
64	6130 - Fir, Aspen, Maple	Sawtimber Well	97.6	81	81-110	Lowland (w/some upland) stand that features complete variability in size classes, ages, and species dominance. Log sizes seem to be the more common class. Western boundary has quite a bit of log/xlog conifer and deciduous as do NW portions of stand. Clumps of cedar (some a few acres in size) are scattered throughout. Pockets of low/tag alder dominated areas where observed. Merchantability of species can vary depending upon location. OPIC - FMD: OI Stand Year Origin was 1923
65	4199 - Other Mixed Upland Deciduous	Sawtimber Well	53.6	92	111-140	A combination of klacking and graycalm sandy soil within this stand. Red oak and BTA are prevalent within (compared to Std.26). Sugar maple and beech quality isn't quite what it is in Std.26. This reason (lower quality) and differing species composition is why I split this out of what originally part of Std.26. Still a heavy beech understory with quite a bit of ironwood, depending upon where you are. More SM and RP saps than Std.26, but still not a significant amount present. Some scattered WP/RP and a few hemlock as you near Std.42.
66	6127 - Lowland Pine	Sawtimber Well	8.4	70	81-110	A mixed conifer "somewhat of an island" stand. Being used heavily as a corridor (the day I was visiting). Connects somewhat to Std.57. Was difficult to tell if that "bridge" location is/was wet, soft, or passable (quite a bit of snow present at the time). Bog and lowland shrub more or less surrounds this stand. Soils would at least be sensitive to harvesting equipment.
67	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	4.7	73	141-170	Small hemlock pocket nestled within Std.25. Mainly pole/sap size with log thrown in. Pit and mound with sapling sized hemlock (<3ft and <1"dbh) seeding in atop mounds. Good hem sap production present that's made it above browse line. Perimeter (where canopy is less dense) offers a lot of these saps. QA is mostly standing dead and being utilized as snag material. Scattered WP, RP, RO, and NWC present in overstory.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
68	4119 - Mixed Northern Hardwoods	Poletimber Well	17.5	88	111-140	Graycalm sand dominates within stand. I had a difficult time deciding to call this stand pole size instead of log. Pole size sugar maple abounds throughout as well as pole beech/red maple to a lesser extent. Small log SM/RM/BE present. Larger log sized species present include RO, BTA, and some beech. A lot of sugar maple is currently large sap converting to small pole. Quality of most species is somewhat better than Std.65. Fewer BTA than Std.65 as well. Like Std.65 this stand was split out of what was originally part of Std.26. Beech saps dominate below the SM sap/pole, pole/sap layer. Few SM saps 1" DBH or less.
69	6130 - Fir, Aspen, Maple	Sapling Well	82.7	37	1-50	Lowland conifer, QA, and RM mix. Previous OPIC note states year of origin is '78. Balsam fir ages matched up quite nicely with the O.I. statement. Ownership cards also state a '78 clearcut harvest. Fir is primarily still larger sap size as is RM. QA is a bit larger yet still mainly saps with poles emerging. Scattered QA poles throughout, especially in areas with less canopy closure. Old skid trails still present and quite obvious on imagery. A good "poke your eye out" stand. More openings/wetter areas as you move into southern portion of stand. NW 1/4 (especially) and northern 1/2 of stand has more pole sized aspen than remainder of stand.
70	4319 - Mixed Upland Forest	Sapling Well	17.6	44	51-80	Sap/pole size fir, pine, deciduous mix with sapling appearing to be more common/dominant. Ownership cards state a treatment took place within the general area in '72. This stand may of also been treated with Stds.58,69,75 in the past? Areas with more NHD saps than fir/conifer are present. Some deciduous and conifer log sizes observed and portions of the stand are transitioning to pole size.
72	4199 - Other Mixed Upland Deciduous	Sapling Well	14.4	52	1-50	Very similar to M3 Std.58 but with clumps of xlog/log hemlock that were left following clearcut harvest in the past. A lot of ironwood saps present. Seemingly more IW saps than SM saps. Hemlock is at least 110+ years old. A minimum of ~10BA of hemlock present and very large so you can pick them up from a distance when conducting a swing. Observed beds under each hemlock clump I walked past/through. Observed one very prominent BTA pole/log clone pocket located along center-south boundary line.
73	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	7.4	80	111-140	A mix of pine, aspen, and some red oak. West portion may have some '29 planted WP, based upon ownership cards. Dense RM sap understory. Not sure if it's the result of the '87 shelterwood + removal harvest that occurred in Std.17. Aspen is getting old and turning into good cavity trees/soft snag material. Pine form is good for the most part (some wolfy WP's present). Undulation and a couple of rolling ridge lines along the east end of the stand (near low Std.22). OPIC - FMD: Burned WP stumps. PARVHa. W2M1.
75	4130 - Aspen	Poletimber Well	11.9	40	111-140	Mostly aspen dominated but NHD species (SM, RM) are everywhere. Aspen is mainly pole/log and NHD is mainly sap/pole. OPIC comment stated year of origin as '76. Ownership cards suggest a harvest in '76 as well. Betting this stand and Std.58 were treated at the same time. Slivers in the east and southeast of this stand appear low. ~1-2 acres south of Std.76 are of log/pole size and escaped harvest when Std.76 was cut in ~'01. White trunk rot forming on aspen.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
76	6112 - Lowland Aspen	Sapling Well	19.8	14	Immature	Might be upland w/low. Difficult to determine with ~2ft of snow cover. Aspen is regenerating well. OPIC - FMD: cut 2001
77	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Medium	28.3	95	81-110	Conifer pockets of log/pole size (primarily cedar mixed w/deciduous) dotted throughout. In between are pole/sap and sap/pole areas of mainly regenerating deciduous atop and with blow downs/tip-ups. Yellow birch advanced regen of sap/pole size is quite impressive in the northern ~1/2 to 1/3 of stand. Three OFS points created that designate regen pockets I observed, there might be more. YB is primarily found atop tip-ups in wetter/mucky area (I'm guessing as 2ft of snow present). Other YB regen throughout but best in the north (sorry for the excitement, don't often see this). The stand as a whole looks very difficult to work in and only scattered pockets with volume. See OPIC comment below. OPIC - FMD: A mix of wetter, sparser P-type plus clumps of cedar and younger P-type. This is the part of stand 76 that did not get cut.
78	6120 - Lowland Cedar	Sawtimber Well	13.8	107	171-200	Cedar stand with minor components of other conifer and deciduous. Some larger log (not yet xlog) NWC observed. Blow down common with BF, RM saps filling those gaps. Scattered legacy and xlog WP observed. Deer browse heavy in areas. Private along north line was strip cut (~20+ years ago). Cedar stumps everywhere but no NWC regen observed. A mix of BF, RM, BAM, and other species regenerating in cut strips. Blue paint, brush line, and flagging still present along PVT/State interface. Found what I believe was a witness tree with carved letters on it (now a stump). Took an OFS point of this stump.
79	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	31.9	72	81-110	Areas that are log/pole and other areas pole/log. More or less in transition from pole to log. Hard to tell how wet it is outside of winter. The stand does seem to move from more upland in western locations to some lower ground as you move East/NE. Lowland type species correspond with this movement as well. Thick BF pole/sap throughout. RM seemed most dominant with pockets heavier to BTA/QA. A few scattered xlog red oak observed and some RO advanced regen. Trail in west is walkable only (blowdown across). Trail veering into east area of stand might be drivable. Tip-ups and blowdowns common. Small cedar pocket in NE corner. OPIC - FMD: P-type component being replaced by low hardwoods and conifer.
144	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	9.3	82	111-140	JP, RP, and BTA each kind of have their own areas of dominance depending upon where you go. JP likes the northern 1/2, RP like the south, and BTA exists in pockets and as scattered examples throughout. West line borders low/bog portions of Stds.61/43. JP is dying out in most areas. Decent pine/oak advanced regen in understory.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
337	42110 - Planted Red Pine	Sawtimber Medium	8.8	88	51-80	<p>RP present was planted in 1929 (RP was 2yrs old). Part of '08-10 RP shelterwood/seed tree + JP/WP/deciduous removal named "155 Red Pine". Possibly part of twister salvage during the same timeframe. Was supposed to be burned following treatment(s). A burn never happened. Red pine seems to be the management objective. If so, this stand failed the regen check.</p> <p>Although composed of the same RP as Std.34 (and other adjacent stands) the understory deciduous flush, post '08-10 harvest, isn't nearly as dense as it is in Std.34. There are still areas heavy with deciduous regen but I'd still call the overstory RP the dominant specie. The western ~2-3 acres weren't thinned as much as remainder of the stand and return higher RP BA swing values. Yellow marked (RP leave trees) and unmarked RP still found in this area, unlike remainder of stand.</p>



Stand	Cover Type	Acres	Managed Site	General Comments:
18	623 - Emergent Wetland	0.3	No	Aspen and hardwood along perimeter.
22	623 - Emergent Wetland	16.3	No	Appears that some water may flow through eastern "vein" and standing water may seasonally populate the western "fingers". QA, RM, BF, Hemlock, WP, and Blk Spruce populate edges and some interior locations.
29	622 - Lowland Shrub	0.7	No	
35	622 - Lowland Shrub	1.5	No	Only briefly saw the edge of this lowland shrub stand while inventorying Std.69.
41	622 - Lowland Shrub	23.4	No	Lowland shrub corridor with some conifer and deciduous species present. Sap (and few pole and log) sizes of WP, Blk Spruce, PB, Tamarack, BF, and RM present on edges and some interior locations.
43	6224 - Treed Bog	58.3	No	Very similar to tree bog Std.61 to the north. More JP present than Std.61. Less tamarack as well.
61	6224 - Treed Bog	53.3	No	Bog complex being reclaimed by conifer species of sap/pole and pole/sap size. Some scattered log sizes of nearly all the species listed above are present. Southern 1/2 is quite heavily reclaimed. Northern 1/2 is more open. If time had permitted, some areas could be delineated and would roughly typed out to MC3 and MC6 stands. Interestingly enough, a burn to increase blueberry production took place somewhere in the northern 1/2 during '68.
62	500 - Water	0.6	No	Ice present during inventory on 3/9/15. Open water when viewed on 4/24/15. Unsure if water remains year round.
80	122 - Road/Parking Lot	8.9	No	Town Hall Rd and/or County Rd. 489.
81	122 - Road/Parking Lot	3.9	No	Town Hall Rd. and/or County Rd. 489.
428	330 - Low-Density Trees	9.5	No	A mix of grass/sedge dominated areas with tree specie reclamation areas. All size classes (sap/pole/log) of the following tree species can be found within: JP, WP, RP, RM, BW, SM, BTA/QA, Cherry, RO, Apple. GPS what I think is the foundation OPIC commented about? Rx'ed burn mentioned for this opening but fairly certain that never took place. OPIC - FMD: Old foundation near center of field. Use a fifty foot buffer--protected by foam line--around any evidence of old farmstead. Foam line may be tied to existing two-track.
453	330 - Low-Density Trees	3.4	No	Do not believe any opening maintenance has occurred here in quite some time, if ever. OPIC - FMD: reclaim and maintain original opening by burning.
473	310 - Herbaceous Openland	0.9	No	Believe this was used a landing site when stands 58, 69, and 75 were treated in the mid to late 70's. Lots of grass and a few scattered seedlings.