



# Compartment Review Presentation

Atlanta Forest Management Unit

Compartment 54029

Entry Year 2019

Acreage: 1,493

County Montmorency

Management Area: Rattlesnake Hills

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**Revision Date:** 2017-05-24

**Stand Examiner:** Dale Parris

**Legal Description:**

T31N R01E Section 10 NE4, NW4, SW4; Section 15 E2NW, E2SW, W2SE; Section 14 E2NE, SE4; Section 13 NE4, NW4, N2SW, SWSW, N2SE, SESE

**Identified Planning Goals:**

Multi-Resource management within Compartment 29 is guided by the Rattlesnake Hills Management Area (RHMA) Plan. All timber harvests have been prescribed following the direction indicated by the RHMA Plan and Timber Analysis. In all cases the unique characteristics of the individual stand was taken into consideration when writing the prescription. The timber analysis completed on the RHMA indicated that the harvesting of aspen, red pine, and mixed upland deciduous cover types be of focus for the purpose of balancing the age classes of these cover types across the Management Area (MA). The analysis also showed that thinning and single tree selection cuts in hardwoods is needed. Wildlife, recreation, aesthetics, adjacent stands, and the larger landscape were considered in all management decisions.

**Soil and topography:**

The western half of Compartment 29 has rolling hills to the north and mostly flat terrain to the south. The eastern half of Compartment 29 is flat with lowland conifer swamps at both the west and east ends.

The northern third of the west portion of the compartment has soils consisting of Millersburg loamy sand (well drained), Grayclam sand (somewhat excessively drained), and Mancelona sand (somewhat excessively drained) in relatively equal portions. The central third of the west portion of Compartment 29 is Klackling sand (well drained) and the southern third is the well to excessively well drained Millersburg-Klackling-Grayclam complex.

The eastern portion of Compartment 29 is mostly excessively drained Grayling sand with very poorly drained Tawas-Lupton mucks at the west and east ends.

The western half of Compartment 29 is mostly aspen and oak with scattered natural and planted pine dominated stands. The eastern half of the compartment is mostly planted red pine, with multiple scattered aspen stands. Lowland conifer stands are present at the east and west ends.

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

The western portion of Compartment 29 is bordered by more state land at the north end and it is mostly bordered by private vacation and hunting property to the south.

The eastern portion of Compartment 29 is bordered by state land with the exception of the western border and a central portion of the southern border. The adjacent private land to the west is mostly year round residences while the adjacent private land to the south is recreational property.

**Unique Natural Features:**

Approximately 120 acres at the north end of the western portion of the compartment was harvested in 1992. One portion of this harvest came back to grass and white pine. The white pine was the only species in this stand that was not killed by elk browse. Another portion of the harvest was planted to red pine and red oak due to failed regeneration. The oak mostly failed to regenerate, but the red pine stand is fully stocked. The rest of the harvest came back to mixed pine with most of the deciduous trees, mostly aspen, being destroyed by elk browse.

Two hundred acres was harvested in the north-central portion of the western half of Compartment 29 in 2012. An 11 acre stand of this harvest along the western boundary has failed to regenerate as a result of elk browse. The north 20 acres of this harvest is in danger of failing where elk have snapped off the tops of two-thirds of the regenerating aspen.

The general location of the elk damaged regeneration indicates that portions of harvests regenerating away from roads and human activity are in the highest danger of failure due to damage inflicted by elk.

### **Archeological, Historical, and Cultural Features:**

The State Historic Preservation Office (SHPO) did not have any hits within Compartment 29. For further information, contact the SHPO.

Approximately half of the eastern portion of Compartment 29 was planted to a combination of red pine and jack pine in 1937 and 1938. About half of that has been harvested and replanted to red pine stands and one jack pine stand.

### **Special Management Designations or Considerations:**

There is Eastern Massasauga Managed Land in the eastern half of Section 13 of T31N R01E that includes the lowland and surrounding areas. There is an oak management area in the north half of Section 10 of T31N R01E.

### **Watershed and Fisheries Considerations:**

### **Wildlife Habitat Considerations:**

This compartment is an excellent opportunity to manage for wildlife. It is part of a multiple compartment, large scale block of public land providing contiguous wildlife pathways that are necessary for many of our large game animals such as elk and black bear. Habitat components of heavy aspen, hardwood, and oak provide food and cover for multiple species at a variety of age classes. We are working to maintain mast producing trees as well as keep a good age rotation of aspen in this compartment as well as adjacent compartments. Species which benefit from our management include elk, white-tailed deer, black bear, ruffed grouse, woodcock, and many other game and non-game species.

### **Mineral Resource and Development Concerns and/or Restrictions**

Sections 10 & 13-15, T31N R1E, Montmorency County

There is no metallic mineral potential in this part of the state. Sand/gravel pits are not located in the area, but there is potential on the upland areas. The compartment has been developed for Antrim Shale gas, and all of the state-owned mineral rights are currently leased and held by production.

### **Vehicle Access:**

The eastern half of Compartment 29 is readily accessible via forest roads, County Road 622 (southwest and central), Rouse Road (to the southeast), and Shingle Mill Road (to the west).

The western half of the compartment is accessible by County Road 622 (to the south), Elk View Trail (through the center south to north), and Growler Club Road (to the north).

### **Survey Needs:**

There will likely be surveys needed for timber sale prep in Section 10 (northeast), Section 13 (southeast and central), Section 14 (central), and Section 15 (southeast). All of which are located in T31N R01E.

### **Recreational Facilities and Opportunities:**

There are opportunities for the hunting of rabbit, grouse, whitetail deer, bear, and elk within Compartment 29. All hunting regulations should be followed as set forth by the Michigan DNR. This area is also good for the viewing of elk in all seasons. The High County Pathway offers hiking all year round and cross country skiing in the winter.

### **Fire Protection:**

Fire response to the compartment will be covered by the Atlanta DNR office as well as the Tri-Township Fire Department.

### **Additional Compartment Information:**

Much of the east half of Compartment 29 is either newly planted red pine or red pine that was planted approx. 80 years ago. The jack pine that were planted with the 80 year old red pine have since been removed. The planted red pine stands are doing well; both young and old alike. Cedar swamps/lowland conifer can be found at the east and west extremes of this eastern half.

Natural red pine stands can be found in the southern portion of the western half and in the southwest portion of the eastern half of Compartment 29.

Much of the central portion of the western half was clear-cut in 2012. Elk browsing damage has killed a considerable amount of the aspen regen in this clear-cut area to the east and to the north. Historically, larger harvests have seen better regeneration success due to the high amount of regeneration being more than the elk can damage during the regeneration of a single cut. Therefore, it is suggested that all clear-cuts in this compartment be large so that the regeneration can overcome browse damage from elk.

**The following reports from the Inventory are attached:**

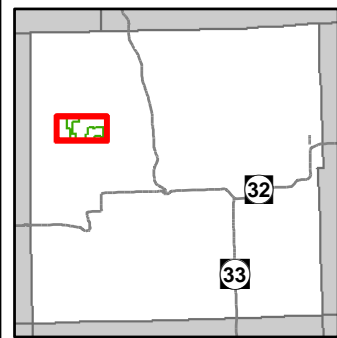
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

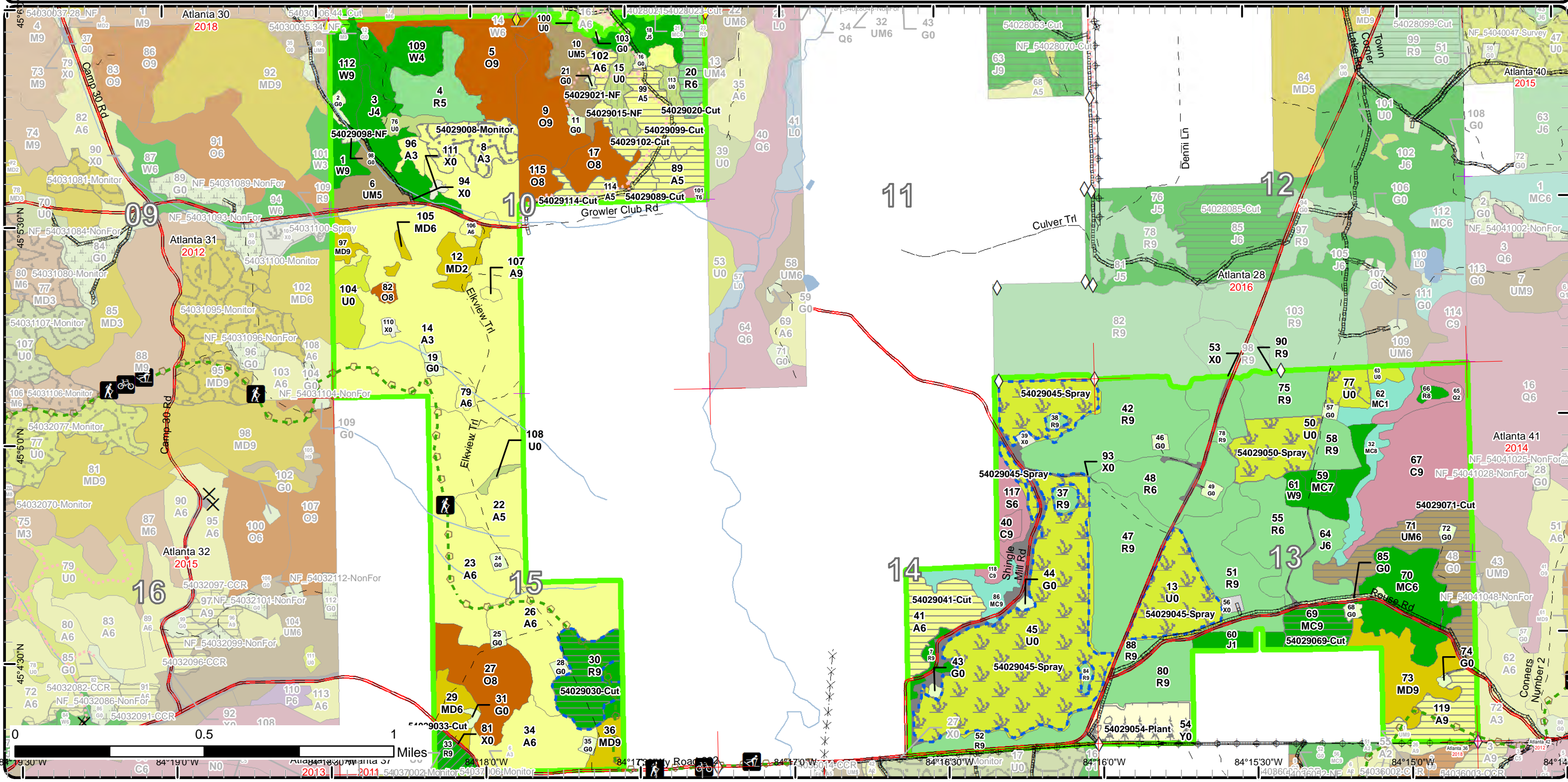
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 29  
 T31N, R01E, Sec: 10, 13-15  
 County: Montmorency  
 Unit: Atlanta  
 Mgmt Area: Rattlesnake Hills  
 YOE: 2019  
 Acres: 1493.1 GIS Calculated  
 Examiner: Dale Parris  
 Map Revised: 10/3/2017  
 Map Phase: Post-Review



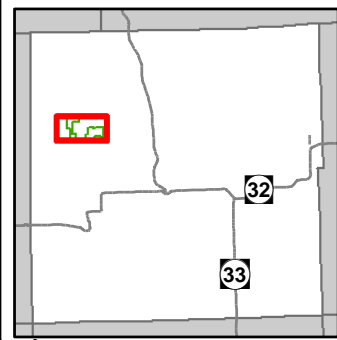
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
- Gate
- Bike Trails
- Hiking Trails
- Ski Trails
- - - Designated Hiking Trails
- - - Designated Bicycle Trails
- - - Designated Ski Trails
- Designated Snowshoe Trails
- County Gravel Roads
- - - County Poor Dirt Roads
- - - Poor Dirt Roads
- - - Closed
- - - Abandoned Railroads
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary
- Treatments with Site Conditions
- Planting (tree species)
- Clearcut (w/Reserves)
- Pesticide
- Thinning (Crown, Low, Systematic)
- Regeneration Survey
- Opening Maintenance
- 330 - Low Density Trees
- 710 - Sand/Soil
- 790 - Other Bare/Sparsely Vegetated
- Lakes
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub



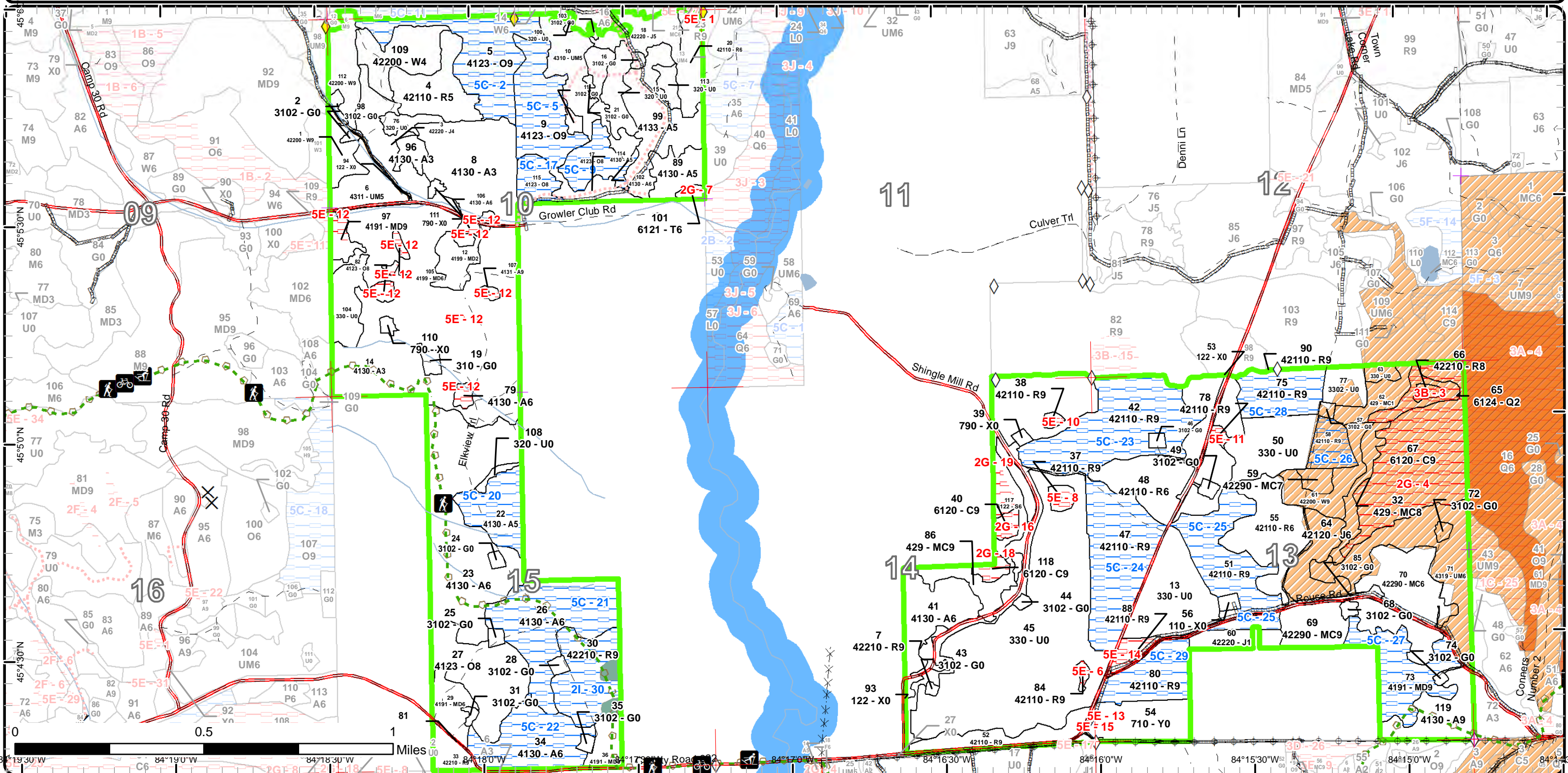


# Special Conservation Areas & Site Conditions Map

Compartment: 29  
 T31N, R01E, Sec: 10, 13-15  
 County: Montmorency  
 Unit: Atlanta  
 Mgmt Area: Rattlesnake Hills  
 YOE: 2019  
 Acres: 1493.1 GIS Calculated  
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- Miris Corners
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- Gate
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- 👤 Hiking Trails
- 🎿 Ski Trails
- Designated Hiking Trails
- - Designated Bicycle Trails
- - Designated Ski Trails
- Designated Snowshoe Trails
- County Gravel Roads
- - County Poor Dirt Roads
- - Poor Dirt Roads
- - - - Closed
- - - - Abandoned Railroads
- Streams
- Lakes and Rivers All
- - - - Pipeline
- ⊕ Powerline
- Compartment Boundary
- Available w/ Constraints
- - Unavailable
- 2I: Survey needed
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 5E: Long-Term Retention
- Stand Boundaries
- Eastern Massasauga Managed Land
- Cold Water Streams
- High Priority Trout Stream Buffer
- Vernal Pool
- Other Habitat Area



# Report 1 – Total Acres by Cover Type and Age Class

Atlanta Mgt. Unit  
Dale Parris : Examiner

Compartment 29    Year of Entry 2019



## 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	165	0	4	51	171	17	0	0	0	0	0	0	0	0	0	0	0	408
Bare/Sparsely Vegetated	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Cedar	0	0	0	0	0	0	0	0	0	0	0	6	51	0	0	0	0	0	57
Herbaceous Openland	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Jack Pine	0	0	7	32	12	0	0	0	0	0	0	0	0	0	0	0	0	0	51
Low-Density Trees	209	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	209
Lowland Conifers	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Lowland Spruce/Fir	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Mixed Upland Deciduous	0	8	0	0	0	2	9	0	7	0	28	0	0	0	0	0	0	0	54
Natural Mixed Pines	0	0	0	0	3	31	12	0	0	0	0	0	0	0	0	0	0	0	46
Oak	0	0	0	0	0	0	0	0	0	0	109	0	0	0	0	0	0	0	109
Red Pine	0	0	19	66	0	0	11	0	132	88	0	0	0	0	0	0	0	0	316
Sand, Soil	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Tamarack	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Upland Conifers	0	0	0	8	0	9	0	0	8	0	0	0	0	0	0	0	0	0	25
Upland Mixed Forest	0	0	0	0	15	0	46	0	0	0	0	0	0	0	0	0	0	0	61
Upland Shrub	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Urban	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
White Pine	0	0	0	17	0	19	0	0	13	0	0	0	0	0	0	0	0	0	48
<b>Total</b>	<b>303</b>	<b>173</b>	<b>26</b>	<b>134</b>	<b>83</b>	<b>241</b>	<b>95</b>	<b>0</b>	<b>160</b>	<b>88</b>	<b>137</b>	<b>6</b>	<b>51</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1496</b>



## Report 2 – Treatment Summary

Atlanta Mgt. Unit

Year of Entry: 2019

Acres of Harvest

Compartment 29

Total Compartment Acres: 1,493

Commercial Harvest - 147  
 Harvests with Site Condition - 21  
 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	95	0	0	0	0	0	0	0	0	95
Natural Mixed Pines	12	0	0	0	0	0	0	0	0	12
Red Pine	21	0	0	0	6	0	0	0	0	27
Upland Mixed Forest	35	0	0	0	0	0	0	0	0	35
<b>Total</b>	<b>163</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>169</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	169	0	15	0	0	181	18	0	13	397
Next Step	0	77	43	0	10	199	275	0	0	603
<b>Total</b>	<b>169</b>	<b>77</b>	<b>58</b>	<b>0</b>	<b>10</b>	<b>380</b>	<b>293</b>	<b>0</b>	<b>13</b>	<b>1000</b>





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
8	54029008-Monitor	18.2	4130 - Aspen	Sapling Well	5	Immature	Monitoring	Natural Regen (Intermediate)	413 - Aspen	Even-Aged	Field Boundary

**Habitat Cut: No****Site Condition:**

Prescription The regeneration in this portion of the stand is elk damaged. Therefore, a follow-up intermediate regeneration survey has been added.

Specs:Next Step

Treatments:

Acceptable aspen with mixed deciduous

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/01/2019

15	54029015-NF	8.5	320 - Upland Shrub	Nonstocked			NonForestMgt	Herbaceous/Crop /Grass Planting	3102 - Grass		Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Opening will be maintained on an ongoing rotational basis to produce wildlife forage through burning, mowing, planting, or other agriculture practices

Specs:Next Step

Treatments:

AcceptableRegen:OtherComment:

Proposed Start Date: 10/01/2018

99	54029020-Cut	9.6	4133 - Aspen, Mixed Pine	Poletimber Medium	36	Unspec ified	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clearcut, leave retention along east edge to limit ORV access. cut all trees 2" DBH and larger, chip tops, leave stumps low to facilitate planting operations.

Specs:

Next Step Burn, Slash; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Pesticide, Aerial; Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable well stocked stand of planted red pine

Regen:

Other Out of Year of Entry. Cut with stands to the north in compartment 28 Old next step comments: Trench and plant red pine, use any site prep

Comment: and/or release follow up treatments necessary to ensure adequate regeneration. 1st and 3rd year regen surveys following the planting.

Proposed Start Date: 10/01/2015

21	54029021-NF	0.7	3102 - Grass	Nonstocked	0	Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	3102 - Grass		Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Opening will be maintained on an ongoing rotational basis to produce wildlife forage through burning, mowing, planting, or other agriculture practices

Specs:Next Step

Treatments:

AcceptableRegen:OtherComment:

Proposed Start Date: 10/01/2018



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
30	54029030-Cut	21.4	42210 - Natural Red Pine	Sawtimber Well	89	141- 170	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No Site Condition: Survey Needed**

Prescription Clear-cut with retention. Leave 3-10% retention around the two vernal pools. The retention around the vernal ponds is likely to result in retention over 10% to meet BMP's. Replant to red pine.

Next Step SitePrep, Roller Chopping; Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);  
Treatments: Monitoring, Artificial Regen(3yr)

Acceptable Regen: Acceptable regeneration is a fully stocked stand of red pine with minor components of other native species.

Other Comment: If other vernal pools are found, retention should be left around these also. The current retention should give the vernal ponds a 100 foot buffer. Work with the Parks and Rec. Division to potentially reroute the HCP along the western edge of the harvested stand.

Proposed Start Date: 10/01/2018

33	54029033-Cut	5.8	42210 - Natural Red Pine	Sawtimber Well	87	171- 200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No Site Condition:**

Prescription Thin the red pine to 120 BA or thin removing 1/3 of the stand, which ever comes first. Harvest all species besides oak (red maple, sugar maple, aspen, balsam fir, etc.) The few white pine within the red pine are to be thinned with the red pine. Retention is not needed due to the small size of the stand.

Next Step  
Treatments:

Acceptable Regen: This is not a regeneration harvest.

Other Comment:

Proposed Start Date: 10/01/2018

41	54029041-Cut	19.7	4130 - Aspen	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No Site Condition:**

Prescription Clear-cut with retention. Retain 3-10% of the stand in one or more pockets focused around healthy mast producing oak trees.

Specs: Include standard grouse log spec.

Do not cut any pine and protect pine regeneration to maintain some stand diversity.

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

Acceptable Regen: Acceptable regeneration is a medium to well stocked stand of aspen, fir, red maple, and pine. The regeneration of this stand is highly dependent upon the amount of elk browse damage.

Other Comment:

Proposed Start Date: 10/01/2018

45	54029045- Spray	155.4	330 - Low-Density Trees	Nonstocked		Unspec ified	Pesticide	Skidder/Mechanic al	42110 - Planted Red Pine	Even-Aged	Field Boundary
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**Habitat Cut: No Site Condition: Long-Term Retention**

Prescription Release herbicide to set back competition.

Specs:

Next Step Pesticide, Skidder/Mechanical  
Treatments:

Acceptable Regen: Fully stocked Red Pine.

Other Comment: Percent to Treat = 100%

Proposed Start Date: 04/20/2018



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
50	54029050- Spray	20.4	330 - Low-Density Trees	Nonstocked			Pesticide	Skidder/Mechanic al	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
<b>Habitat Cut: No</b>			<b>Site Condition:</b>								
<u>Prescription</u> Herbicide to set back the woody vegetation competing with the planted red pine. Follow-up with a third-year regeneration survey for the replanted stock.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable Regen:</u> Acceptable regeneration is a fully stocked stand of red pine.											
<u>Other Comment:</u> Trenched :12/15/2012 Planted: 5/16/2013, 917 RP/ac Alpha 2-0 Stock Replanted: 5/14/2014 926 RP/ac Year 1 Survey: 570 RP, 650 Comp Year 3 Survey (7/7/2017) After Replant: 352 RP, 442 Competition											
<u>Proposed Start Date:</u> 10/01/2018											

54	54029054- Plant	15.1	710 - Sand, Soil	Nonstocked		Unspec ified	Planting	Replant	4212 - Planted Jack Pine	Even-Aged	Field Boundary
<b>Habitat Cut: No</b>			<b>Site Condition:</b>								
<u>Prescription</u> Replant jack pine amongst the already planted jack pine.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable Regen:</u> Fully stocked jack pine.											
<u>Other Comment:</u>											
<u>Proposed Start Date:</u> 04/01/2018											
69	54029069-Cut	12.2	42290 - Natural Mixed Pine	Sawtimber Well	57	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
<b>Habitat Cut: No</b>			<b>Site Condition:</b>								
<u>Prescription</u> Clear-cut with retention.											
<u>Specs:</u> Retain 3-10% of the stand in multiple pockets around the trace red oak.  Also place retention with the purpose of enhancing visual aesthetics from County Road 622.  To facilitate natural regeneration of this stand require full tree skidding and a snow off harvest.  Plan B: If acceptable regeneration is not achieved plant this stand to red pine with an oak component.											
<u>Next Step</u> Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);											
<u>Treatments:</u> Monitoring, Artificial Regen(3yr); Monitoring, Natural Regen (Intermediate)											
<u>Acceptable Regen:</u> Acceptable regeneration is a medium to well stocked stand of jack pine, red pine, white pine, red maple, and aspen.											
<u>Other Comment:</u> Plan B Acceptable Regen; A fully stocked stand of red pine with an oak component.											
<u>Proposed Start Date:</u> 10/01/2018											



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
71	54029071-Cut	34.8	4319 - Mixed Upland Forest	Poletimber Well	53	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

**Habitat Cut: No****Site Condition:**

Prescription Clear-cut with retention. Retain 3-10% of the stand in one of more pockets. Protect all legacy pine. Protect pine regeneration to promote future stand diversity. Include spec for protecting the eastern massasuaga and its habitat. Include standard grouse log spec.

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

Acceptable Regen: Acceptable regeneration is a medium to well stocked stand of aspen, balsam fir, red maple, spruce, and pine.

Other Comment:

Proposed Start Date: 10/01/2018

77	54029077- Spray	5.6	3302 - Low Density Conifer Trees	Nonstocked			Pesticide	Skidder/Mechanic al	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Herbicide to set back the woody vegetation competing with the planted red pine. Follow-up with a third-year regeneration survey for the replanted stock.

Next Step Monitoring, Artificial Regen(3yr)  
Treatments:

Acceptable Regen: Acceptable regeneration is a fully stocked stand of red pine.

Other Comment: Trenched :12/15/2012  
Planted: 5/16/2013, 917 RP/ac Alpha 2-0 Stock  
Replanted: 5/14/2014 926 RP/ac  
Year 1 Survey: 570 RP, 650 Comp  
Year 3 Survey (7/7/2017) After Replant: 352 RP, 442 Competition

Proposed Start Date: 10/01/2018

89	54029089-Cut	9.7	4130 - Aspen	Poletimber Medium	36	1-50	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clear-cut with retention. Retain 3-10% of the stand in one or more pockets placed around diversity pockets and the trace oak. Retention must be stand representative. Include standard grouse log spec.

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

Acceptable Regen: Acceptable regeneration is a low to medium stocked stand of aspen, red maple, spruce, and pine. The success of the regeneration of this stand is largely going to depend on elk browse.

Other Comment:

Proposed Start Date: 10/01/2018

98	54029098-NF	0.8	3102 - Grass	Nonstocked			NonForestMgt	Herbaceous/Crop /Grass Planting	3102 - Grass		Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Opening will be maintained on an ongoing rotational basis to produce wildlife forage through burning, mowing, planting, or other agriculture practices

Next Step Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2018



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
99	54029099-Cut	24.1	4133 - Aspen, Mixed Pine	Poletimber Medium	36	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

**Habitat Cut: No****Site Condition:**

Prescription Clear-cut with retention. Retain 3-10% of the stand in one or more pockets. Include standard grouse log spec.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Acceptable regeneration is a low to medium stocked stand of aspen, pine, and red maple. The success of the regeneration of this stand is largely going to depend on elk browse.

Other Comment: The scotch pine in the middle of the stand should all be removed during the harvest.

Proposed Start Date: 10/01/2018

Proposed Start Date: 10/01/2018

102	54029102-Cut	7.9	4130 - Aspen	Poletimber Well	36	51-80	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clear-cut. Retention is not necessary due to the small size of the stand and retention is not desirable due to the narrowness of the stand.

Specs: Include standard grouse log spec.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Acceptable regeneration is a low to medium stocked stand of aspen, red maple, and white pine.

Other Comment:

Proposed Start Date: 10/01/2018

Proposed Start Date: 10/01/2018

113	54029113-NF	3.3	320 - Upland Shrub	Nonstocked	Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	330 - Low-Density Trees			Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Opening will be maintained on an ongoing rotational basis to produce wildlife forage through burning, mowing, planting, or other agriculture practices

Specs:

Next Step

Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2018

Proposed Start Date: 10/01/2018

114	54029114-Cut	6.6	4130 - Aspen	Poletimber Medium	36	51-80	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clear-cut. Retention is not necessary due to the small size of the stand. Include standard grouse log spec.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Acceptable regeneration is a low to medium stocked stand of aspen and red maple. The regeneration of the stand will depend highly on the amount of elk browse damage.

Other Comment:

Proposed Start Date: 10/01/2018

Proposed Start Date: 10/01/2018



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
119	54029119-Cut	17.0	4130 - Aspen	Sawtimber Well	58	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

**Habitat Cut: No****Site Condition:**

Prescription Clear-out with retention.

Specs:

Retain 3-10% of the stand in one or more pockets focused around oak that regenerated with the aspen.

Retain all remnant red pine, and white pine.

Protect the trace pine advanced regeneration to promote future stand diversity.

Include standard grouse log spec.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Acceptable regeneration is a well to medium stocked stand of aspen, pine, red maple, and oak.

Other

Comment: Verify the HCP location. Work with the Parks and Rec. Division to potentially reroute the HCP along the southern edge of the harvested stand if necessary.

Proposed Start Date: 10/01/2018

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**Total Treatment  
Acreage Proposed: 396.8**

## Report 4 – Site Conditions

Atlanta Mgt. Unit  
Dale Parris : Examiner

Compartment: 29  
Year of Entry: 2019

### Availability for Management

Total Acres	Acres Available	Acres Avail		Acres Not Available	Dominant Site Conditions	Dominant Site Conditions						
		With Condition				2I	5C	2G	3B	5E		
407	321	<b>81</b>		6	Aspen		<b>81</b>					6
3	3	<b>0</b>		0	Bare/Sparsely Vegetated							
56	0	<b>0</b>		56	Cedar			56				
23	23	<b>0</b>		0	Herbaceous Openland							
50	50	<b>0</b>		0	Jack Pine							
209	197	<b>0</b>		11	Low-Density Trees							11
7	0	<b>0</b>		7	Lowland Conifers						7	
9	5	<b>0</b>		4	Lowland Spruce/Fir			4				
54	27	<b>24</b>		3	Mixed Upland Deciduous		<b>24</b>					3
47	47	<b>0</b>		0	Natural Mixed Pines							
109	28	<b>78</b>		2	Oak		<b>78</b>					2
314	121	<b>182</b>		12	Red Pine	<b>21</b>	<b>160</b>			2		11
18	18	<b>0</b>		0	Sand, Soil							0
2	0	<b>0</b>		2	Tamarack			2				
25	25	<b>0</b>		0	Upland Conifers							
61	61	<b>0</b>		0	Upland Mixed Forest							
18	18	<b>0</b>		0	Upland Shrub							
33	33	<b>0</b>		0	Urban							0
49	48	<b>0</b>		0	White Pine		<b>0</b>					
1,493	1,025	<b>365</b>		103	Total Forested Acres	<b>21</b>	<b>344</b>	62	9			33
	69%	<b>24%</b>		7%	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	Unavailable	5E: Long-Term Retention	0	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

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Dale Parris : Examiner

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2	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	33	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This stand was has been treated like a special oak management area, with hands off management, to preserve oak in the area.							
3	<b>Unavailable</b>	<b>3B: Threatened, endangered, and special concern species</b>	9	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This stand area is documented in the NHD as being habitat for the massasauga rattlesnake.							
4	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	51	3B: Threatened, endangered, and special concern species	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This stand area is documented in the NHD as being habitat for the massasauga rattlesnake.							
5	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	26	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This stand was has been treated like a special oak management area, with hands off management, to preserve oak in the area.							
6	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Timber Sale No.: 54-016-09-01; Sale Name: Triple R Pine							
7	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	2	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							



## Report 4 – Site Conditions

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8	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	3	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Timber Sale No.: 54-016-09-01; Sale Name: Triple R Pine							
9	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	12	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
10	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Timber Sale No.: 54-016-09-01; Sale Name: Triple R Pine							
11	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Timber Sale No.: 54-016-09-01; Sale Name: Triple R Pine							
12	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	11	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention for Timber Sale No.: 54-036-09-01; Sale Name: Elk Growl.							
13	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	0	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013.							
14	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	5	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Timber Sale No.: 54-016-09-01; Sale Name: Triple R Pine. Clear Cut west 1/2 of stand to start some regen work along Co Rd 622. Leave SW Point by intersection of Rouse and 622 for visual/retention. Replant to Red Pine for longer rotation age. Treat stand 52 at same time.							

## Report 4 – Site Conditions

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Dale Parris : Examiner

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Year of Entry: 2019

15	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	0	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This is long term retention from Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013.							
16	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	3	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
17	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	8	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
18	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	3	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
19	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
20	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	16	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

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Compartment: 29  
Year of Entry: 2019

21	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	39	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
22	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	26	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
23	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	46	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
24	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	38	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
25	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	32	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Atlanta Mgt. Unit  
Dale Parris : Examiner

Compartment: 29  
Year of Entry: 2019

26	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	8	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
27	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	24	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
28	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	18	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
29	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	18	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
30	<b>Available</b>	<b>2I: Survey needed</b>	21	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> A property line survey will likely be needed.							

Mgt. Unit

Compartment: #Type!

Year of Entry:



### Report 5 – 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
<b>Comments</b>				



## Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
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	42200 - Natural White Pine	Sawtimber Well	6.6	42	51-80	
3	42220 - Natural Jack Pine	Poletimber Poor	17.6	26	1-50	In 1991 this stand was clear-cut as part of Sale Number: 54-037-89-01; Sale Name: Growler West Block.  The area has had severe elk browse damage. Many pockets of U-types are present. Much of the black cherry and pole timber in this stand has been damaged by elk. The aspen in this stand are less dominate in the overstory due to past elk damage.
4	42110 - Planted Red Pine	Poletimber Medium	19.0	18	Immature	This stand was planted to red pine in 1999 at 1,010 red pine/acre. This stand had red oak planted within the planted red pine in 2001 as agreed upon at compartment review. Red oak acorns were planted at a rate of 972/acre in furrows that were 7.5 feet apart with acorns spaced at 6 feet apart within these furrows. The red pine planting was successful but the oak did not see much return. This stand was planted because the original aspen regen was destroyed by the elk. The red pine look to hare been planted too close together.
5	4123 - Red Oak	Sawtimber Well	33.0	90	111-140	If the ash was not dead/fallen it would make up about 15% of the overstory. The ash is falling out of the canopy. The ash is past the salvage stage. The beach is just starting to show signs of Beech Bark Disease. BA Measurements: (130,80, 90, 190, 190, 130, 120, 80,130, 90, 130) The white pine advanced regen is high in the NE corner of the stand. The oak are stressed due to high densities and need to be opened up.
6	4311 - Pine, Aspen Mix	Poletimber Medium	11.0	56	51-80	The white pine are scattered and in pockets. The white pine are shorter, bushy, limby, and of poor quality. The aspen tend to be in clone pockets.
7	42210 - Natural Red Pine	Sawtimber Well	3.6	80	81-110	Planting records show this stand to be 80 years old but coring a 15 inch red pine gave an age of 58. This stand acts as a good visual barrier for adjacent harvests and should be left in place for the time being.
8	4130 - Aspen	Sapling Well	36.1	5	Immature	The harvest on this stand was completed on 6/29/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01. Better than 50% of the stand has had the tops broken off by elk in the northern 60% of the stand. Many of the saplings have had bark stripped off by the teeth of elk. The residual oak appear to be doing well.
9	4123 - Red Oak	Sawtimber Well	25.7	91	111-140	Areas with higher BAs tend to be on slopes or harder to reach hilltops. BA Measurements: (120, 130, 90, 80, 170, 90) The white pine in the understory are focused at the north end of the stand. Where sugar maple looks to be present in the understory it is so heavily browsed it is hard to identify. The red maple in the understory are focused at the south end.
10	4310 - Pine, Oak Mix	Poletimber Medium	15.0	36	51-80	This stand was thinned at some point. Check the harvest records. The white pine is more dense in the canopy at the north end.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	4199 - Other Mixed Upland Deciduous	Sapling Medium	8.3	5	1-50	The harvest on this stand was completed on 4/25/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01. The treatment on this stand called for the retaining 20-30 BA of residual oak, red pine, and white pine. The residual BA after the harvest was 25. This is an interesting stand in that it is surrounded by an aspen clear-cut. The oak stump sprouts in this stand have reached about 6-8 feet in height. The elk don't appear to be bothering the oak regen much, and the oak regen has made it past deer browse height.
14	4130 - Aspen	Sapling Well	128.6	5	Immature	The High Country Pathway runs through stand. The harvest on this stand was completed on 5/3/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01. The Montmorency Conservation Club planted wildlife shrubs in tubes and cages in the open areas along both sides of Elk View Road. There are areas where much of the aspen sapling tops are broken off by elk. Much of the aspen regen has had its bark stripped of by the teeth of the elk to the point where a large amount will die or be of poor quality.
17	4123 - Red Oak	Sawtimber Medium	11.9	94	51-80	The oak in this stand are a couple years older than the oak to the west. The oak in the eastern half are open grown with large diameters and crowns. The openness in the understory makes this stand somewhat unique to this area.
18	42220 - Natural Jack Pine	Poletimber Medium	11.8	36	1-50	The jack pine and white pine are short, open grown, bushy trees.
20	42110 - Planted Red Pine	Poletimber Well	10.6	51	171-200	BA Measurements: (140,190, 160, 200, 250, 180, 210)
22	4130 - Aspen	Poletimber Medium	16.4	49	51-80	There is a lot of elk browse in this stand on mostly the red maple. The aspen is medium to low quality and it looks like it is at the point where it might start declining.
23	4130 - Aspen	Poletimber Well	65.6	46	81-110	In the area west of the forest trail in the NENW and SENW quarter-quarters of section 15, all residual aspen, maple, paper birch, and oak over 2 inches DBH, except for merchantable oak retained in the previous harvest, were removed per 1974 wildlife FTP W5-810.  Scattered White Pine Regen. Mature Red Pine can be seen in the aerial imagery canopy species in two small pockets. There has historically been heavy elk use in this stand. The High Country Pathway runs through this stand. In the southern 1/3 of the stand the thick witch hazel/red maple understory of the north gives way to a more open understory of black cherry and white pine. There are a couple small pockets along the western edge of the stand with extra large residual red oak.
26	4130 - Aspen	Poletimber Well	39.1	48	81-110	This stand has younger aspen with mature pine and oak scattered through-out. This stand was harvested leaving pockets of mature pine, and scattered mature pine and oak. The pine was not dominate enough in the canopy to make it a two-aged stand. The High Country Pathway runs through this stand.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	4123 - Red Oak	Sawtimber Medium	28.3	97	81-110	A selection harvest was closed out on this stand on 11/1/2011. The residual BA was 78. Sale # 54-029-09-01 "Elk View Oak". The stand not regenerating well due to over browsing by deer and elk. All regeneration present is chewed back to about a foot tall and therefore it is hard to determine species. Most looks to be oak and some looks to be sugar maple.
29	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	9.2	53	51-80	This stand is quite variable throughout. The southern end has a higher density of red pine and white pine. The northeast portion of the stand has a higher density of sugar maple; although sugar maple can be found in lesser amounts throughout the stand. This northeast portion still has a significant amount of aspen, but the soil here wants to grow sugar maple. In the future it might be a good idea to manage the NE portion of this stand with the oak dominated hardwoods stand to the north.
30	42210 - Natural Red Pine	Sawtimber Well	24.4	89	141-170	The High Country Pathway goes through this stand. There is a nice, but patchy, understory of white pine. There are two vernal ponds in this stand. These red pine put on good diameter for the first 70 years, but since then the increase in yearly diameter growth has been minimal. A record of this stand being planted was not in the card catalog so this is most likely naturally regenerated red pine.
32	429 - Mixed Upland Conifers	Sawtimber Medium	7.9	70	81-110	This stand is a transition zone from upland to lowland. The southern half of the stand has a run-off going through the length the length of it. The black spruce is mostly in the NE low ground area.
33	42210 - Natural Red Pine	Sawtimber Well	5.8	87	171-200	According to the harvest records all marked red pine and white pine as well as all merchantable aspen, red maple, and paper birch were harvested from 8 acres of the SW corner of this quarter-quarter in 1977. There is a half acre pocket of aspen, oak, and sugar maple along east edge of the stand. BA Measurements (220, 140, 200, 210, 150). A record of this stand being planted was not in the card catalog so this is most likely naturally regenerated red pine.
34	4130 - Aspen	Poletimber Well	25.5	48	51-80	This stand can be held until the 2029 YOE. There is a pocket of pole to sapling sized sugar maple at the west end. Residual white pine, red pine, and oak where retained at a low density last harvest. Red oak regenerated with aspen in the west side of the stand. There is a 1.6 acre area to the north end of the stand that does have some openness to it but it is better merged with this stand since it has the same mix of species.
36	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	6.8	72	51-80	This stand has pockets of low ground that holds water in the spring after snow melt and during periods of heavy rain. The High Country Pathway goes through this stand. Hold and treat with the stand to west. A good number of legacy white pine are present and should be protected. Due to past disturbance, the age of canopy trees are highly variable. The age given for this stand is a good middle ground.
37	42110 - Planted Red Pine	Sawtimber Well	2.7	79	81-110	This stand is long term retention from Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013. BA Measurements: (140, 110, 160, 130)



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
38	42110 - Planted Red Pine	Sawtimber Well	1.2	79	81-110	This stand is long term retention from Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013.
40	6120 - Lowland Cedar	Sawtimber Well	2.7	108	201+	In 1978 the 18 acres in the E1/2 of the NE1/4 of Section 14 west of the road was cleared of all jack pine, balsam fir, black spruce, aspen, paper birch, and red maple. The cedar were rotten/hollow in the center so the age from the previous inventory was used.
41	4130 - Aspen	Poletimber Well	19.7	48	81-110	This is a borderline log stand. The aspen quality is degrading with time.
42	42110 - Planted Red Pine	Sawtimber Well	46.0	79	111-140	Red pine and jack pine were planted in this stand at 800 trees per acre in 1938. In approximately 2000 this stand had all aspen, jack pine, and red maple removed. BA Measurements: (150, 110, 150, 140, 130)
47	42110 - Planted Red Pine	Sawtimber Well	38.4	80	111-140	Red pine and jack pine were planted in this stand at 800 trees per acre in 1937. The southern half of the stand was planted a year later in 1938. All jack pine with at least one merchantable stick was harvested within Section 13 SWNW in 1984. All jack pine, mixed softwood, and aspen with a merchantable stick (except red pine) was harvested from NESW Section 13 in 1990. Stand was thinned in Aug 2010. Sale Name: Three Marker Pine; Sale Number: 54-018-09-01. The post harvest average residual BA was 100 square feet per acre. BA Measurements: (120, 160, 80, 130, 80)
48	42110 - Planted Red Pine	Poletimber Well	40.7	25	1-50	This stand was harvested in 1991 as part of Sale Name: CC Slingerland Pine; Sale No.: 54-032-89-01. This stand was planted to red pine in 1992 at a density of 960 trees per acre.
51	42110 - Planted Red Pine	Sawtimber Well	32.1	79	81-110	Red pine and jack pine were planted in this stand at 800 trees per acre in 1938. The northern half of the stand was planted a year later in 1938. In 2002 all aspen, red maple, and jack pine with a merchantable stick were harvested. This 2002 species removal called for all cherry, red pine, balsam fir, and white pine to be protected. BA Measurements: (160, 220, 80, 90, 130, 130)
52	42110 - Planted Red Pine	Sawtimber Well	12.4	80	81-110	This stand was retained for aesthetics management along County Road 622. The plan is to harvest this stand after the planted red pine to the north has grown. Red pine and jack pine were planted in this stand at 800 trees per acre in 1937.
55	42110 - Planted Red Pine	Poletimber Well	25.2	25	1-50	This stand was planted to red pine in 1992. The red pine are doing well.
58	42110 - Planted Red Pine	Sawtimber Well	8.2	79	111-140	In 2002 all aspen, red maple, and jack pine with a merchantable stick were harvested. This 2002 species removal called for all cherry, red pine, balsam fir, and white pine to be protected but there are none present in the current stand. There are some legacy red pine present. BA Measurements: (170, 90, 90, 110, 50)



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	42290 - Natural Mixed Pine	Sawtimber Poor	3.3	36	1-50	This stand was an upland shrub type and is now filling in with pine. Scattered mature pine that vary widely in size are present. It was surprising to see that the jack pine were as young as they are with the larger diameter, but this is the result of being fast growing open grown trees.
60	42220 - Natural Jack Pine	Sapling Poor	6.8	14	Immature	
61	42200 - Natural White Pine	Sawtimber Well	12.7	70	51-80	There are many legacy red pine and white pine throughout the stand.
62	429 - Mixed Upland Conifers	Sapling Poor	8.4	27	1-50	This stand was clear-cut except for select red pine in 1990.
64	42120 - Planted Jack Pine	Poletimber Well	13.8	25	1-50	This stand was planted to jack pine in 1992. The jack pine are doing well. Dense white pine seeded in the northern fifth of the stand. White pine are scattered in the rest of the stand.
65	6124 - Lowland Spruce-Fir	Sapling Medium	6.8	27	1-50	This stand was clear-cut except for select red pine in 1990. Good Snake Habitat
66	42210 - Natural Red Pine	Sawtimber Medium	1.7	88	141-170	This nice stand of natural red pine was retained in 1990 in a harvest that surrounded it.
67	6120 - Lowland Cedar	Sawtimber Well	50.6	111	171-200	A remonumented survey corner was found at the NE corner of the stand. There is not much windthrow in this stand.
69	42290 - Natural Mixed Pine	Sawtimber Well	12.2	57	51-80	
70	42290 - Natural Mixed Pine	Poletimber Well	31.4	43	81-110	Legacy white pine and red pine are scattered in good number throughout the stand, but mostly on the north side of CR622. An 9 inch DBH jack pine aged at 38 + 5 = 43. There is a one acre pocket of red pine in the SE corner of the stand.
71	4319 - Mixed Upland Forest	Poletimber Well	34.8	53	51-80	The stand age taken from a 9 inch DBH aspen is the average for this stand. The age of this stand is variable, but this stand will be managed as an even aged stand. This stand has scattered legacy red pine and white pine.
73	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	24.0	94	81-110	Last time this stand was harvested, about 53 years ago, much oak and some pine was retained. White pine and oak pushing legacy status are present. The aspen and red maple are somewhat suppressed due to the presence of oak and pine that were retained.
75	42110 - Planted Red Pine	Sawtimber Well	17.6	79	81-110	Red pine and jack pine were planted in this stand at 800 trees per acre in 1938. This stand was thinned in Aug/Sept of 2010. Sale Name: Three Marker Pine; Timber Sale No.: 54-018-09-01. Ave Residual Ba was 95. BA Measurements: (100, 50, 40, 100, 120)



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
78	42110 - Planted Red Pine	Sawtimber Well	1.2	79	141-170	This stand is long term retention from Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013. Red pine and jack pine were planted in this stand at 800 trees per acre in 1938.
79	4130 - Aspen	Poletimber Well	1.9	48	51-80	This stand is long term retention from a harvest that was completed on 5/3/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01.
80	42110 - Planted Red Pine	Sawtimber Well	17.9	79	111-140	Red pine and jack pine were planted in this stand at 800 trees per acre in 1938. All merchantable jack pine (14 cords per acre average) was harvested from this stand in 1990. BA Measurements: (130, 140, 150, 160, 120) This stand is doing well. The red pine have 20 - 30% live crown on average.
82	4123 - Red Oak	Sawtimber Medium	1.8	90	51-80	This stand is retention from a harvest that was completed on 5/3/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01.
84	42110 - Planted Red Pine	Sawtimber Well	1.1	80	81-110	This stand is long term retention from Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013. Red pine and jack pine were planted in this stand at 800 trees per acre in 1937.
86	429 - Mixed Upland Conifers	Sawtimber Well	9.1	44	81-110	Scattered legacy white pine are present.
88	42110 - Planted Red Pine	Sawtimber Well	4.7	79	111-140	In 2002 all aspen, red maple, and jack pine with a merchantable stick were harvested. This 2002 species removal called for all cherry, red pine, balsam fir, and white pine to be protected. BA Measurements: (150, 80, 150, 140). The red pine are doing well. Some open spots exist due to previous species removal.
89	4130 - Aspen	Poletimber Medium	9.7	36	1-50	This stand sees some elk use. There are some open grass/shrub areas mixed in to the east. Remnant red maple and the occasional oak are the large crowns seen in the aerial imagery in the east half of the stand. The aspen in the Valley in the west half of the stand is smaller pole timber and mostly quaking aspen of poor quality.
90	42110 - Planted Red Pine	Sawtimber Well	0.0	79	81-110	Red pine and jack pine were planted in this stand at 800 trees per acre in 1938. This stand was thinned in Aug/Sept of 2010. Sale Name: Three Marker Pine; Timber Sale No.: 54-018-09-01. Ave Residual Ba was 95. BA Measurements: (100, 50, 40, 100, 120)
96	4130 - Aspen	Sapling Well	3.5	25	1-50	In 1991 this stand was clear-cut as part of Sale Number: 54-037-89-01; Sale Name: Growler West Block.
97	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	4.2	90	81-110	This stand is retention from a harvest that was completed on 5/3/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
99	4133 - Aspen, Mixed Pine	Poletimber Medium	26.5	36	Unspecified	This stand sees a good amount of elk use. There are some small U-types mixed in. This is fast growing aspen. The quaking aspen is of poor quality and the bigtooth aspen is good quality. There is a 3 acre pocket of oak savannah at the very north end of the stand.
101	6121 - Tamarack	Poletimber Well	1.6	36	1-50	This stand is too wet to harvest. A 7 inch DBH tamarack aged at 28 + 8 = 36.
102	4130 - Aspen	Poletimber Well	7.9	36	51-80	
105	4199 - Other Mixed Upland Deciduous	Poletimber Well	1.7	46	51-80	This stand is retention from a harvest that was completed on 5/3/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01.
106	4130 - Aspen	Poletimber Well	2.0	48	81-110	The aspen on the north side of Growler club road are older and log sized.
107	4131 - Aspen, Oak	Sawtimber Well	1.1	48	51-80	This stand is retention from a harvest that was completed on 5/3/2012. Sale Name: Elk Growl; Sale No. 54-036-16-01. The age of the trees was estimated based on the age of trees in surrounding stands.
109	42200 - Natural White Pine	Poletimber Poor	17.4	26	1-50	This stand was harvested in 1991 as part of Sale No. 54-037-89-01; Sale Name: Growler West Block. It is literally hard to find anything besides white pine in the canopy. The elk destroyed all other regeneration. The forest floor is covered by a mat of grasses and bracken fern covers a large amount of the grass in the summer. Scattered aspen are trying to grow past elk browse level but keep getting eaten back. The white pine are open grown and of poor form; maxing out at about 30 feet tall. With all that being said, this is a unique stand and is visually aesthetically pleasing.
112	42200 - Natural White Pine	Sawtimber Well	11.9	42	51-80	This stand could have been combined with the white pine stand to the south.
114	4130 - Aspen	Poletimber Medium	6.6	36	51-80	A pocket dominate to oak is present on a hilltop in the southeast portion of the stand.
115	4123 - Red Oak	Sawtimber Medium	7.9	90	1-50	The basal area is highly variable. Pockets of shrub are present.
117	6122 - Black Spruce	Poletimber Well	9.0	49	51-80	The eastern edge of the stand is somewhat higher ground. There is a small cedar pocket in the northern most portion of the stand that is along the edge of the private land.
118	6120 - Lowland Cedar	Sawtimber Well	2.8	108	171-200	The cedar were hollow/rotten in the center so the age from the previous inventory was used.
119	4130 - Aspen	Sawtimber Well	17.0	58	81-110	



Stand	Cover Type	Acres	Managed Site	General Comments:
2	3102 - Grass	1.8	No	This is an oil well pad.
11	3102 - Grass	1.5	No	This is an oil well pad.
13	330 - Low-Density Trees	27.5		This stand was clear-cut as part of Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013; Trenched 6/4/2014; Planted 4/14/2015; Initial Stocking of 914 Red Pine per acre of PRT 5664 1-0; Year 1 Survey 6/17/2016: 924 RP/ac; 1,128 Competition/ac; This stand is having a variance done for the use of herbicide to set back the undesirable woody vegetation competing with the planted red pine. There is very sparse black cherry and jack pine competition in this stand. What is seen on the ground does not match up with the competition mentioned in the regen survey. The survey better reflects what is seen on the ground in Stand 45 across County Road 622. The planted red pine look to be doing well and are averaging 6 to 10 inches in height.
15	320 - Upland Shrub	8.5	No	
16	3102 - Grass	0.9	No	
19	310 - Herbaceous Openland	2.1	No	
21	3102 - Grass	0.7	No	
24	3102 - Grass	1.0	No	The are a few autumn olive on the southern edge.
25	3102 - Grass	1.2	No	oil well pad.
28	3102 - Grass	1.3	No	Red pine are seeding in on the northern edge. The are also a few autumn olive on the northern edge.
31	3102 - Grass	0.8	No	This wool be a nice wildlife opening to maintain.
35	3102 - Grass	1.1	No	
39	790 - Other Bare/Sparsely Vegetate	0.9	No	This is an oil well pad.
43	3102 - Grass	0.7	No	This is an oil well pad.
44	3102 - Grass	0.8	No	This is an oil well pad.



Stand	Cover Type	Acres	Managed Site	General Comments:
45	330 - Low-Density Trees	140.2		This stand was clear-cut as part of Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013; Trenched 6/4/2014; Planted 4/14/2015; Initial Stocking of 914 Red Pine per acre of PRT 5664 1-0; Year 1 Survey 6/17/2016: 924 RP/ac; 1,128 Competition/ac; This stand is having a variance done for the use of herbicide to set back the undesirable woodyvegetation competing with the planted red pine. Black cherry competition is dense and about 6 - 8 feet tall. The planted red pine are 6 - 10 inches tall. The planted red pine are doing well.
46	3102 - Grass	1.1	No	This is an oil well pad.
49	3102 - Grass	1.3	No	This is an oil well pad.
50	330 - Low-Density Trees	20.4		This stand was clear-cut as part of Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013. The planted red pine are mostly 1 to 2 feet tall. They look to be 3 to 4 years of age. The red cherry competition is heavy in about 60% of the stand.
53	122 - Road/Parking Lot	12.2	No	
54	710 - Sand, Soil	18.1		This stand was clear-cut as part of Sale Number: 54-016-09-01; Sale Name: Triple R Pine; Harvested 2012-2013. A small 0.28 acre portion of this stand south of the power line is not on the map due to incorrect compartment boundary. Trenched 6/11/2014; Planted 4/24/2015; Year 1 Survey: 713 JP/ac and 753 Competitors/ac; The planted jack pine are doing well. There is a light amount of scattered competition from black cherry and red pine.
56	110 - Low Intensity Urban	1.4	No	This is an oil well pad with 2 small pole barns and 2 small sheds for housing their equipment. There is a large cylindrical oil container standing on end with an oil spill mat around it. The ground is mostly coverer by moss and grass.
57	3102 - Grass	1.0	No	This is an oil well pad.
63	330 - Low-Density Trees	2.4	No	There are scattered pole/sapling sized jack pine, quaking aspen, and scrub black cherry.
68	3102 - Grass	1.1	No	This is an oil well pad.
72	3102 - Grass	1.2	No	
74	3102 - Grass	0.6	No	
76	320 - Upland Shrub	3.6	No	In 1991 the west half of this stand was clear-cut as part of Sale Number: 54-037-89-01; Sale Name: Growler West Block. It failed to regenerate due to elk damage. Open grass pockets exist to the west end.



Stand	Cover Type	Acres	Managed Site	General Comments:
77	3302 - Low Density Conifer Trees	7.4		On average the planted red pine are 1-2 ft. tall and look to be doing well. Black Cherry 5-10 ft. tall is present over about 40% of the stand. Scattered pole/log white pine, red pine, and jack pine were retained at the last harvest.
81	122 - Road/Parking Lot	0.5	No	This is County Road 622.
83	330 - Low-Density Trees	0.0	No	This stand does not exist and needs to be deleted.
85	3102 - Grass	1.8	No	
93	122 - Road/Parking Lot	15.8	No	
94	122 - Road/Parking Lot	3.1	No	
98	3102 - Grass	0.8	No	
100	320 - Upland Shrub	0.6	No	This is a portion of an earlier timber sale that failed to regenerate due to elk over browsing. It has been taken over by black cherry shrub trees. There are a few scattered bushy white pine.
103	3102 - Grass	0.5	No	
104	330 - Low-Density Trees	11.1	No	The regeneration failed in this stand due to elk damage. There are a few scattered oak that look like they might make it. The stand has areas dominated by raspberry. Remnant trees retained during the last harvest are mostly log/Xlog sized hemlock. A few scattered log sized oak and a scattering of pole/sapling red maple are present.
108	320 - Upland Shrub	1.5	No	This is a grassy opening with black cherry shrub trees.
110	790 - Other Bare/Sparsely Vegetate	1.1	No	This is a landing for a timber sale that did not regenerate. There is still a significant amount of debris and wood chips on the site.
111	790 - Other Bare/Sparsely Vegetate	0.9	No	This is an old timber sale landing. Scattered jack pine are starting to seed in. Slash and wood chips still cover about half of the stand.
113	320 - Upland Shrub	3.3	No	This stand is mostly shrub black cherry.