



Compartment Review Presentation

Pigeon River Country Forest Management Unit

Compartment 53037

Entry Year 2018

Acreage: 1,880

County Otsego

Management Area: Pigeon River Country

Revision Date: 2016-06-26

Stand Examiner: Greg Rekowski

Legal Description:

T32N R01W Sections 13, 14, and 15

Identified Planning Goals:

Maintain the current species mix and apply appropriate management techniques to mature stands of timber that are in need of treatment.

Soil and topography:

The majority of the compartment is flat to rolling, with some steeper terrain found in Section 15.

Hardwood types in Section 13 are found primarily on Leelanau loamy sands and Morganlake-Ossineke sands. Pine and oak types in Sections 14 and 15 are found on a variety of sand types, most prevalent being Leelanau loamy sands, Morganlake-Ossineke sands, Lindquist sands, and Menominee-Bamfield sands. Lowland areas are found on Tawas-Lupton mucks or Dawson-Loxley peats.

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

This compartment is a solid block of state land.

Unique Natural Features:

There have been documented occurrences of red-shouldered hawk as well as the secretive locust in this compartment.

Archeological, Historical, and Cultural Features:

The Witness Tree is located at the west quarter corner of Section 15.

Special Management Designations or Considerations:

None identified.

Watershed and Fisheries Considerations:

The headwaters of Hardwood Creek originate in the large swamp conifer stand in Section 14.

Wildlife Habitat Considerations:

A Wildlife Division representative will be available to participate at the Open House and in the formal Compartment Review.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of coarse-textured glacial till and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift is the Devonian Antrim Shale that is quarried for cement products elsewhere in the State. An inactive gravel pit is located in Section 10 and potential is considered good. However, page 30 of the Concept of Management for the PRC, says that extraction of surface minerals will rarely be allowed. This area was previously leased for Niagaran oil and gas development and several wells, gas wells and dry holes, were drilled and are now abandoned. Additional Niagaran reefs could be found in the Compartment and the Antrim Shale is present and also has potential. The closest Antrim production is five miles to the southwest. However, the entire Compartment is in the Consent Order Area and, as provided on page 33 of the Concept of Management, no new leases will be issued in this Area.

Vehicle Access:

There is very good vehicle access throughout this compartment. Roads designated as closed to wheeled motorized traffic are still closed.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

A portion of the North spur of the Shore to Shore trail follows Road 84 through Section 14. A series of officially designated horse trail connectors have been established throughout Section 15 with an additional one located in Section 13.

Fire Protection:

Access is good in case of any fire suppression efforts. Wildfire potential is moderate to high in the pine dominated stands of Sections 14 and 15.

Additional Compartment Information:

The following reports from the Inventory are attached:

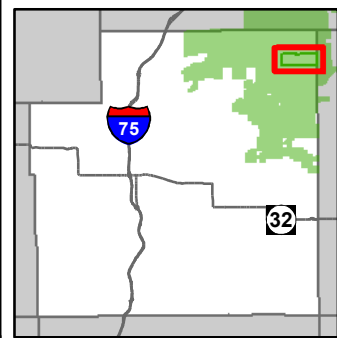
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

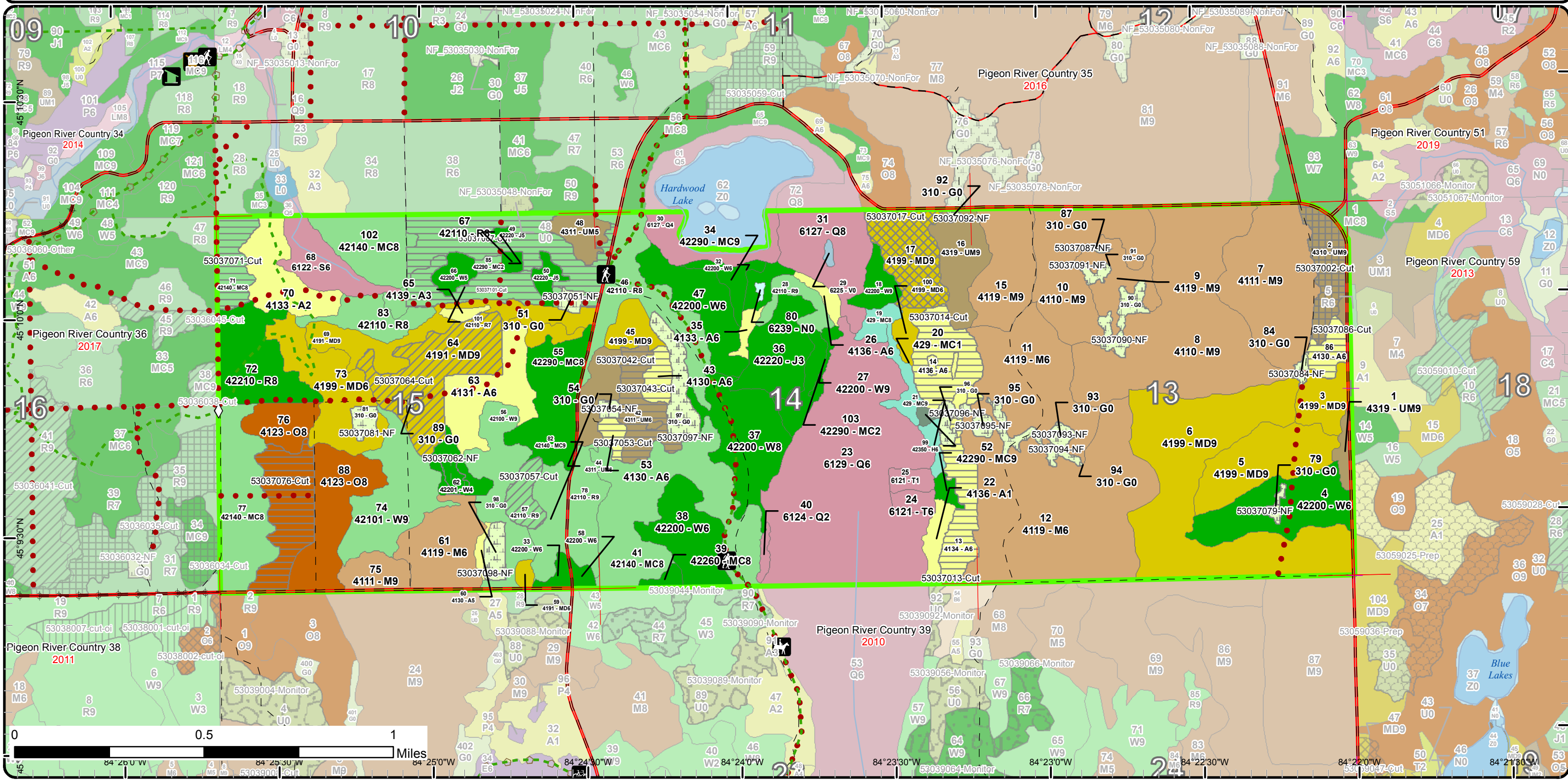
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

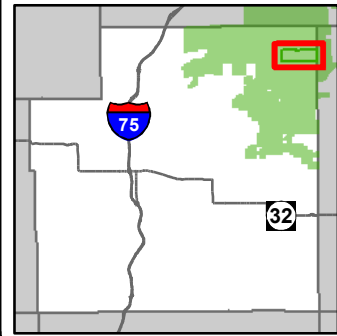
Compartment: 37
 T32N, R01W, Sec: 13, 14, 15
 County: Otsego
 Unit: Pigeon River Country
 Mgmt Area: Pigeon River Country
 YOE: 2018
 Acres: 1880 GIS Calculated
 Examiner: Greg Rekowski
 Map Revised: 2/7/2017
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Toilet
- Campground
- Bike Trails
- Hiking Trails
- Horse Trails
- Ski Trails
- - - Designated Hiking Trails
- - - Designated Bicycle Trails
- Designated Equestrian Trails
- Designated Ski Trails
- ◇ Designated Snowshoe Trails
- County Gravel Roads
- County Poor Dirt Roads
- - - Poor Dirt Roads
- Rivers
- Powerline
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Opening Maintenance
- Thinning (Crown, Low, Systematic)
- Seed Tree (w/Reserves)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes

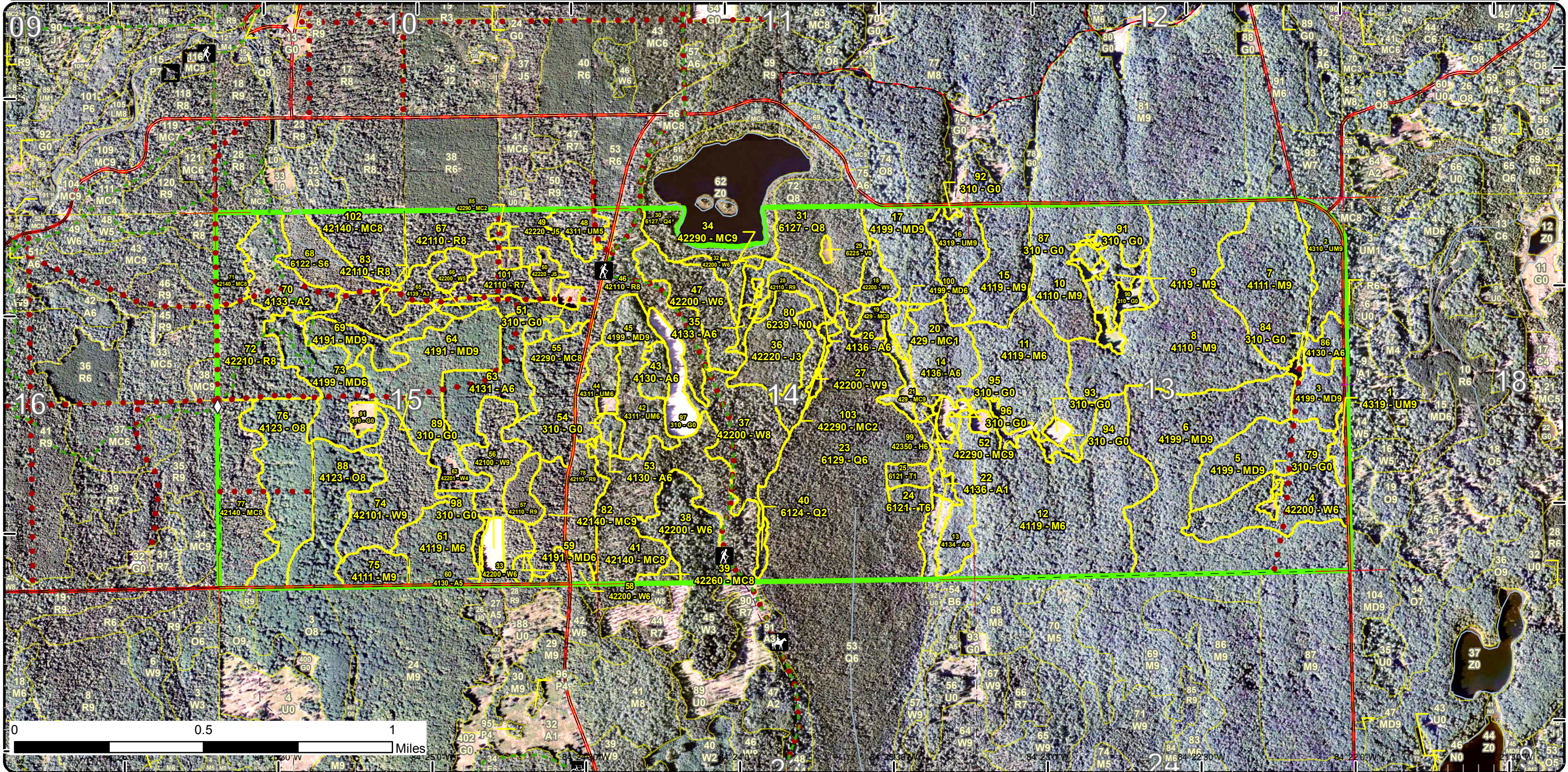


Stand Boundary Map



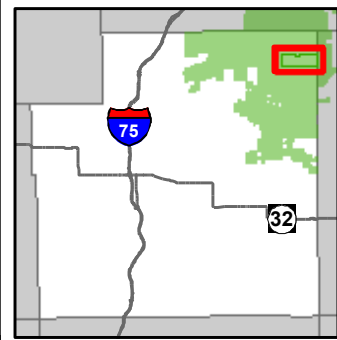
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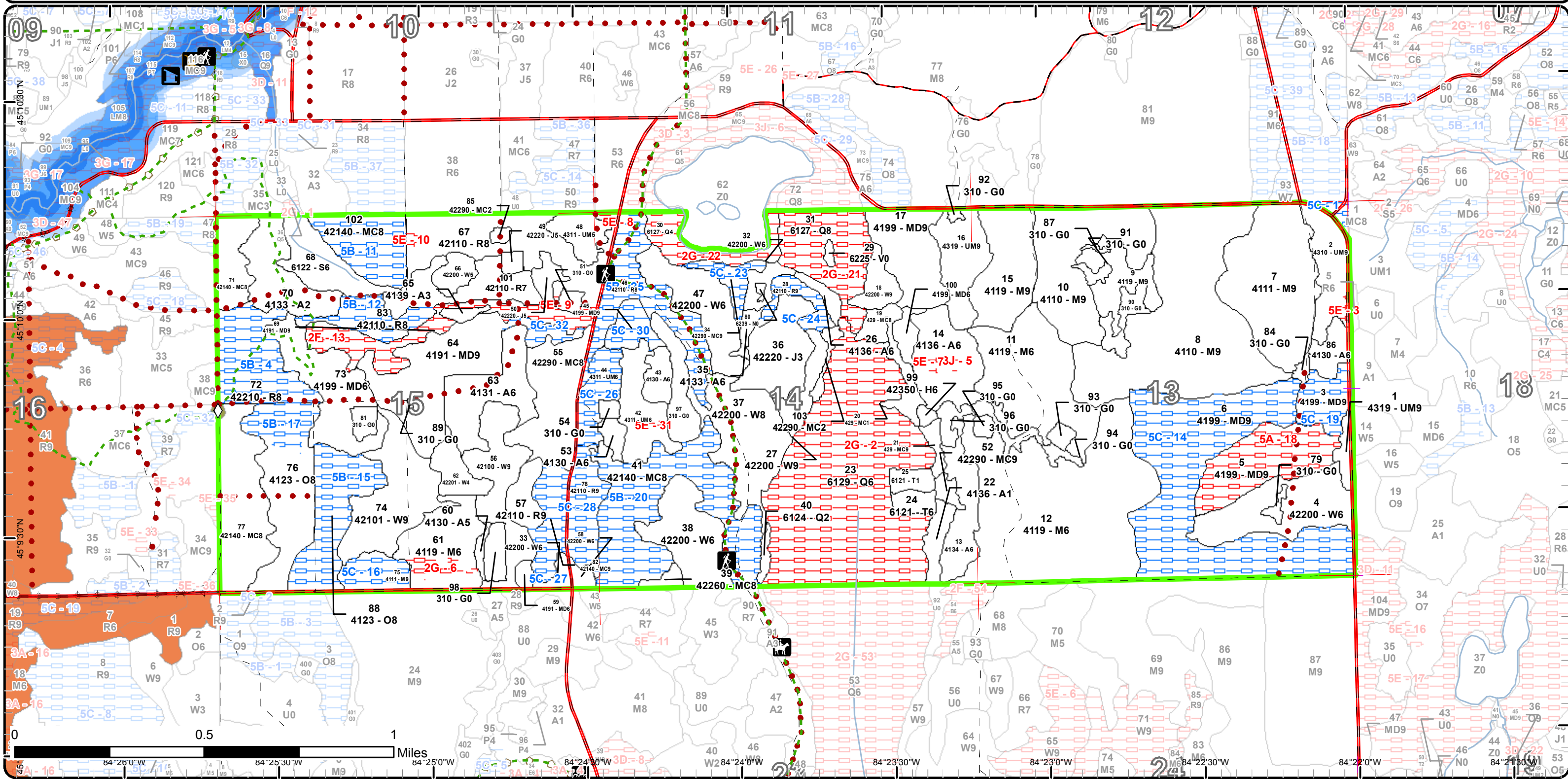


Special Conservation Areas & Site Conditions Map

Compartment: 37
 T32N, R01W, Sec. 13, 14, 15
 County: Otsego
 Unit: Pigeon River Country
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 Acres: 1880 GIS Calculated
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- Miris Corners
- Remonumented Section Corners
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- 🚻 Toilet
- 🏕️ Campground
- 🚲 Bike Trails
- 🚶 Hiking Trails
- 🐎 Horse Trails
- 🏂 Ski Trails
- Designated Equestrian Trails
- Designated Ski Trails
- 👤 Designated Snowshoe Trails
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Rivers
- ⚡ Powerline
- ▭ Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5A: Not able to obtain desirable regeneration
- 5E: Long-Term Retention
- ▭ Stand Boundaries
- ▭ Natural Rivers Vegetative Buffer
- ▭ Natural Rivers Zoning District
- ▭ Cold Water Streams
- ▭ High Priority Trout Stream Buffer
- ▭ Riparian Area
- ▭ State Forest Campground
- ▭ Other Habitat Area
- ▭ Customary Use Area



Report 1 – Total Acres by Cover Type and Age Class



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	0	7	22	35	51	8	0	0	0	0	0	0	0	0	0	0	0	123
Bog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hemlock	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Herbaceous Openland	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
Jack Pine	0	0	0	23	6	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Lowland Conifers	0	0	0	0	2	15	0	0	133	30	0	0	0	0	0	0	0	0	180
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	18
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	0	0	0	30	0	0	2	5	172	78	0	0	0	0	0	0	0	286
Natural Mixed Pines	0	0	0	1	3	0	0	0	0	12	30	0	0	0	0	0	0	0	46
Northern Hardwood	0	0	0	0	0	0	0	0	77	195	162	0	0	0	0	0	0	0	433
Oak	0	0	0	0	0	0	0	0	0	0	71	0	0	0	0	0	0	0	71
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	64	87	0	0	0	0	0	0	0	151
Red Pine	0	0	0	0	0	0	0	0	0	39	129	0	0	0	0	0	0	0	168
Tamarack	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Upland Conifers	0	0	6	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	14
Upland Mixed Forest	0	0	0	9	0	18	0	12	5	19	0	0	0	0	0	0	0	19	82
White Pine	0	0	0	26	71	12	0	0	0	43	68	0	0	0	0	0	0	0	220
Total	52	0	13	81	155	96	8	14	238	582	625	1	0	0	0	0	0	19	1882



Report 2 – Treatment Summary

Acres of Harvest

Commercial Harvest - 259
Harvests with Site Condition - 0
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	56	0	0	0	0	0	0	0	0	56
Mixed Upland Deciduous	0	25	0	0	0	41	0	0	0	66
Oak	28	0	0	0	0	0	0	0	0	28
Planted Mixed Pines	13	0	0	0	0	0	0	0	0	13
Red Pine	54	0	0	0	0	8	0	0	0	62
Upland Mixed Forest	17	0	0	17	0	0	0	0	0	34
Total	168	25	0	17	0	49	0	0	0	259

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	259	0	0	0	0	0	0	0	51	310
Next Step	0	67	67	0	0	0	277	0	0	411
Total	259	67	67	0	0	0	277	0	51	721



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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
2 53037002-Cut	16.9	4130 - Pine, Oak Mix	Sawtimber Well	86	111-140	Harvest	Seed Tree with Retention	4191 - Mixed Upland Deciduous with Conifer	Two-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription -Mark to leave 20-30 square feet per acre in red oak and pine, focus on leaving the largest trees. Leave all white oak and hemlock.

Specs:
 -Utilize whole-tree harvesting specs in snow free conditions to encourage scarification for oak and pine regeneration.
 -Protect all oak saplings.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: At least a medium-stocked stand with any mix of species being acceptable. Expect red maple, aspen, and pine to be the dominant regeneration.

Other Comment: -Retention has been excluded from the far southeast corner which has a higher concentration of white oak. Utilize an additional small retention pocket somewhere along the curve in Blue Lakes Road for visual purposes.

-A small pocket of 4-5 hemlock is mixed in with white pine at the north end. Protect these hemlock by marking to leave all the white pine that are mixed in with them.

- Add horse trail specs for horse connector trails.

Proposed Start Date: 10/01/2017

13 53037013-Cut	16.7	4134 - Aspen, Spruce/Fir	Poletimber Well	48	111-140	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clearcut all species except pine, oak, birch, and hemlock. No area retention due to the narrowness of the stand. Consider a winter-only harvest due to likelihood of browsing impacts.

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Regen: At least a medium-stocked stand dominated by aspen.

Other Comment:

Proposed Start Date: 10/01/2017

14 53037014-Cut	22.4	4136 - Aspen, Mixed Conifer	Poletimber Well	48	111-140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Cut all species except for red pine, elm, basswood, hemlock, and white oak. Leave all white pine greater than 10" DBH. Mark to leave scattered clumps of 2-5 paper birch and red oak to maintain these species in the stand (target 1-2 clumps per acre).

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Regen: At least a medium-stocked stand dominated by aspen.

Other Comment:
 - Consider a winter only harvest due to the likelihood of major browsing impacts.
 - Retention has already been excluded and represents an area dominated by paper birch. Expect the boundaries of this to shift somewhat.
 - The long narrow sliver is the wet drainage.
 -The hemlock/white pine pocket at the SE corner has been excluded.

Proposed Start Date: 10/01/2017



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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
17 53037017-Cut	24.8	4199 - Other Mixed Upland Deciduous	Sawtimber Well	82	111-140	Harvest	Single Tree Selection	4199 - Other Mixed Upland Deciduous	Uneven-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Thin down to 80 square feet per acre. Focus on removing poor-quality poletimber as well any high-risk stems from the sawlog size classes.
Specs: Exclude the hemlock pocket in the middle and the stick nest in the NE corner. Avoid marking white pine and red pine as much as possible. Create 3 large canopy gaps (diameter > 66 feet) in the west half of the stand near oak and red maple dominated areas to try and encourage oak regeneration.

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

Acceptable Regen: Canopy gaps that are filled with oak, maple, basswood, and pine will be considered a success. Canopy gaps dominated by beech and ironwood should not be considered acceptable.

Other Comment: -Old road along the west edge will provide access. No new roads or landings within the sale boundary.
 - Add oak wilt specs.

Proposed Start Date: 10/01/2017

42 53037042-Cut	17.4	4311 - Pine, Aspen Mix	Poletimber Well	42	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Cut all trees except do not cut any oak or birch of any size, or any pine over 18" DBH. Encourage whole-tree harvesting in specs to allow scarification for natural jack pine seeding.
Specs: - Leave a retention island in the area dominated by red pine and which is already excluded from the treatment boundary.
 - Utilize the G type on the west side as a landing. Do not operate any machinery in the opening on the east side.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable Regen: At least a medium-stocked stand dominated by aspen and jack pine. Any mix of additional species will be acceptable in the remainder of the regeneration.

Other Comment: Delay start date for 5 years due to the amount of small stems in the stand.

Proposed Start Date: 10/01/2022

43 53037043-Cut	6.1	4130 - Aspen	Poletimber Well	42	111-140	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Cut all trees except do not cut any oak or birch of any size, or any pine over 18" DBH. No area retention due to the small size of the stand.
Specs:

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable Regen: Any mix of species but dominated by aspen and resulting in at least a medium-stocked stand.

Other Comment: Delay treatment 5 years to allow for more growth. Group this stand with adjacent stand that is being cut.

Proposed Start Date: 10/01/2022

51 53037051-NF	2.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2017



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
53	53037053-Cut	3.5	4130 - Aspen	Poletimber Well	42	111-140	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Cut all trees except do not cut any oak or birch of any size, or any pine over 18" DBH. No area retention due to the small size of the stand.
Specs:

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable At least a medium-stocked stand dominated by aspen.
Regen:

Other Delay start date 5 years to allow for more growth. Group stand with adjacent stand to the east being cut.
Comment:

Proposed Start Date: 10/01/2022

54	53037054-NF	1.6	310 - Herbaceous Openland	Nonstocked	0	Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

57	53037057-Cut	8.0	42110 - Planted Red Pine	Sawtimber Well	90	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 down to 110-120 square feet. Focus on removing smaller stems. Maintain all oak.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Add equestrian trail specs for horse trail connectors.
Comment:

Proposed Start Date: 10/01/2017

62	53037062-NF	2.8	42201 - Natural White Pine, Mixed Deciduous	Poletimber Poor	36	1-50	NonForestMgt	Brush Cutting	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Cut all trees except for any oak. This portion of stand 62 did not regenerate well and only has a sparse canopy of poor-quality trees. Objective is to convert this to a non-forested opening.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

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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
64 53037064-Cut	41.1	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	94	111-140	Harvest	Crown Thinning	4199 - Other Mixed Upland Deciduous	Uneven-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Crown thin down to an average ba/acre of 90 square feet. Marking should focus on removing small and suppressed red oak, red maple, aspen, and pine stems from the 12 inch and under size classes. Avoid marking paper birch, sugar maple, and large pine as much as possible. Mark around some of the aspen clones to allow them to senesce naturally. Leave a few small pockets of the natural pine unmarked.
Specs: -Stay off of steep slopes on the northern edge. Expect this part of the treatment boundary to change.

Next Step
Treatments:

Acceptable
Regen:

Other -Roundwood job only.

Comment: -No cutting during oak wilt time period.

- An old firetower was located somewhere along the northern edge of the stand. Exclude this area from the harvest if found.

-Add the appropriate trail specs for the horse trail connectors as well as the new interpretive trail which will wind through the northern parts of this treatment.

Proposed Start Date: 10/01/2017

67 53037067-Cut	38.2	42110 - Planted Red Pine	Sawtimber Medium	91	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription - Clearcut all species except for any incidental red oak or paper birch. While cruising mark to leave a few of the larger natural red and white pine, no more than 1 per acre.
Specs: - Add chipping and low stump specs.
 - Trench and plant after harvest. Plant oak in the stand as well. Refer to wildlife biologist as to amount and size desired per acre.

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable Fully stocked stand of planted red pine. Expect white pine and oak to seed in as well in some places which is acceptable.
Regen:

Other Desired retention areas have already been excluded from the treatment boundaries.

Comment: Add the appropriate trail spec's for the horse trail connectors that are in the area.

Desirable natural regeneration has not been obtained in seed-tree cuts in stand 46 adjacent to the east so this stand is being prescribed for a planting post-harvest.

Proposed Start Date: 10/01/2017

71 53037071-Cut	13.3	42140 - Planted Mixed Pine	Sawtimber Medium	91	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all species except for any oak if there happens to be any.
Specs: Add whole-tree chipping and low stump spec's to help with post-harvest trenching and planting.
 Add horse trail spec's for the connector routes.

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable Well-stocked stand dominated by planted red pine. Expect white pine and oak to seed in as well which is acceptable.
Regen:

Other Desirable natural regeneration has not been obtained in adjacent seed-tree cuts so this stand is being prescribed for a planting post-harvest.

Comment:

Proposed Start Date: 10/01/2017



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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
76 53037076-Cut	27.5	4123 - Red Oak	Sawtimber Medium	93	51-80	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription - Clearcut all species except for any incidental hemlock. Mark to leave clumps of 3-5 oak trees, at a rate of 1-2 clumps per acre. Target the few scattered XL-sized oak as the leave trees.

- Specs:
- Create one retention pocket along Road 82 and north of the east-west closed road.
 - There may be a few pockets of advanced pine regeneration that can be excluded from the treatment boundary. Protect any red pine regeneration.

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Regen: At least a medium-stocked stand with at least a 50% representation of red oak. Expect red maple and white pine to be large components of the regeneration as well.

Other -Require whole-tree harvesting in snow-free months to promote additional scarification.

- Comment:
- Add oak wilt spec.
 - Add equestrian trail specs for horse trail connectors.

Proposed Start Date: 10/01/2017

79 53037079-NF	1.6	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

81 53037081-NF	3.3	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

84 53037084-NF	1.5	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017



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
86	53037086-Cut	7.2	4130 - Aspen	Poletimber Well	52	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Clearcut all species except for any white oak, birch, or hemlock. Mark to leave 1-3 of the largest red oak and pine per acre. No area retention due
Specs: to the small size of the stand.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable At least a medium-stocked stand dominated by aspen.
Regen:

Other Protect any oak saplings that may be present, most are close to Blue Lakes Road.
Comment:

Add horse trail specs for the horse trail connector.

Proposed Start Date: 10/01/2017

87	53037087-NF	0.6	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

90	53037090-NF	6.5	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

91	53037091-NF	1.8	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017



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
92	53037092-NF	0.7	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

93	53037093-NF	2.2	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

94	53037094-NF	5.3	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

95	53037095-NF	1.9	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
96	53037096-NF	3.7	310 - Herbaceous Openland	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

97	53037097-NF	11.7	310 - Herbaceous Openland	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
----	-------------	------	---------------------------	------------	--	-------------	--------------	-----------------	---------------------------	--	----------------------

Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

98	53037098-NF	5.2	310 - Herbaceous Openland	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, and/or herbicide to maintain opening. Planting of hard or soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

101	53037101-Cut	15.7	42110 - Planted Red Pine	Sawtimber Poor	91	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription - Clearcut all species except for any incidental oak. No area retention. Mark to leave a few of the very large red or white pine that may be present,

Specs: no more than 1 per acre.

- Whole tree chip and low stumps specs.

- Plant oak in the stand as well. Refer to wildlife biologist as to amount and size desired per acre.

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

Treatments:

Acceptable Fully-stocked stand of planted red pine. Expect white pine and oak to seed in as well which is acceptable.

Regen:

Other - Two areas have been excluded from the treatment boundary. These areas are nearly pure jack pine saplings and small poletimber.

Comment: - Add the appropriate trail specs for the horse trail connectors that are in the area.

Proposed Start Date: 10/01/2017

Total Treatment Acreage Proposed: 311.3

Report 4 – Site Conditions

Pigeon River Country Mgt. Unit

Compartment: 37

Greg Rekowski : Examiner

Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions							
		With Condition	Not Available		5B	5C	2F	2G	3J	5A	5E	
122	121	0	1	Aspen					0			1
1	1	0	0	Bog								
1	1	0	0	Hemlock								
50	50	0	0	Herbaceous Openland								
29	29	0	0	Jack Pine								
180	2	0	178	Lowland Conifers				178				
18	18	0	0	Lowland Spruce/Fir								
1	1	0	0	Marsh								
286	103	127	57	Mixed Upland Deciduous		127	25				32	
46	39	7	0	Natural Mixed Pines		7						
433	417	11	5	Northern Hardwood		11		5				
71	28	43	0	Oak	43							
150	50	100	0	Planted Mixed Pines	86	15						
168	66	99	2	Red Pine	75	24						2
9	9	0	0	Tamarack								
14	14	0	0	Upland Conifers								
82	68	12	2	Upland Mixed Forest		12						2
219	219	0	0	White Pine								
1,880	1,236	399	245	Total Forested Acres	204	195	25	183	0	32		4
	66%	21%	13%	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	5C: Delay treatment for age/size class diversity or exceptional site quality	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Pigeon River Country Mgt. Unit

Compartment: 37

Greg Rekowski : Examiner

Year of Entry: 2018

2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	133	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Stream runs through the middle. Primarily black spruce.							
3	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5B: Maintain for regeneration purposes	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Seasonally wet drainage which had some flowing water at time of inventory.							
6	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This part of stand 61 is a drainage with assorted vernal pools mixed in as well. There are a few other vernal pools in stand 61 that are not a part of this site condition, the 98DOQ imagery shows these well.							
7	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Pigeon River Country Mgt. Unit
Greg Rekowski : Examiner

Compartment: 37
Year of Entry: 2018

8	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Available	5B: Maintain for regeneration purposes	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Available	5B: Maintain for regeneration purposes	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	2F: Too steep	25	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	101	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
Stand recently thinned. BA is at acceptable levels. Thin in 20 years.							

Report 4 – Site Conditions

Pigeon River Country Mgt. Unit
Greg Rekowski : Examiner

Compartment: 37
Year of Entry: 2018

15	Available	5B: Maintain for regeneration purposes	31	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	5B: Maintain for regeneration purposes	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Unavailable	5A: Not able to obtain desirable regeneration	32	Unspecified	Unspecified	Unspecified	Unspecified
Comments: White pine stand directly to the south had similar composition when cut but almost all species were eliminated due to browse, oak, aspen, and birch in particular.							
19	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: BA is not to a level to thin yet.							
20	Available	5B: Maintain for regeneration purposes	63	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand recently cut.							

Report 4 – Site Conditions

Pigeon River Country Mgt. Unit

Compartment: 37

Greg Rekowski : Examiner

Year of Entry: 2018

21	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	15	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
23	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Available	5B: Maintain for regeneration purposes	31	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
26	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Pigeon River Country Mgt. Unit

Compartment: 37

Greg Rekowski : Examiner

Year of Entry: 2018

27	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand recently thinned.							
28	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	16	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand recently cut.							
30	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
31	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
32	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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
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Comments



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
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4319 - Mixed Upland Forest	Sawtimber Well	4.9	74	111-140	Some large diameter trees mixed in the stand. Trace of paper birch. Quite a few white oak seedlings. Average ba/acre from 5 plots = 120 square feet.
2	4310 - Pine, Oak Mix	Sawtimber Well	18.8	86	111-140	Nice mixed stand of pine and oak. Planting records exist for the red pine but not the white pine. Some very large oak scattered here and there. Aspen and maple were cut out in 1965. Site quality increases as you head north or west in the stand, this is where the hardwood understory picks up. White oak regeneration is present mostly in the south half of the stand, some saplings have made it past the browse line. Small clump of hemlock mixed in with white pine at the north end. Trace of paper birch. Average ba/acre from 11 plots = 129 square feet.
3	4199 - Other Mixed Upland Deciduous	Sawtimber Well	12.8	88	81-110	Two-aged stand that had all the aspen removed in 1965. Some pure clones of aspen regenerated but there is also a good amount of young hardwoods that have regenerated. Residual overstory is large diameter and is at least half of the basal area. Very nice quality oak. White ash poletimber is still hanging on but all of the sawlog trees are dead. Trace of white pine, paper birch, and hemlock. Allow the younger age class to mature and manage for hardwoods/oak.
4	42200 - Natural White Pine	Poletimber Well	32.3	37	81-110	Stand was clearcut in 1980 by Harry Moran. Everything cut except for white oak leave trees. 285 cords of aspen, 113 cords of red oak, 64 cords of paper birch, and 85 cords of mixed hardwood. Some pine cut as well. The red maple component is the only deciduous component that survived the browse. There are a few white oak saplings directly adjacent to Blue Lakes Road. The denser pockets of white pine are nice quality. A few open U type areas are still in the stand, one at the west end and one at the east end. Average ba/acre from 8 plots = 86 square feet.
5	4199 - Other Mixed Upland Deciduous	Sawtimber Well	31.7	94	111-140	This is a variable stand that sits on a hardwood transition. Hardwoods more prevalent the closer you get to the north edge. Aspen more prevalent along the south edge. A few pockets of large natural white pine. Average ba/acre from 8 plots = 132 square feet.
6	4199 - Other Mixed Upland Deciduous	Sawtimber Well	100.7	88	81-110	Stand thinned in 2010, Marble Grade Hardwoods, bought by Quality Hardwoods Inc. Quite a bit of large oak were taken out of this stand, especially in the north half which seems to have been thinned a bit harder. A lot of the smaller oak that were opened up have significant epicormic branching on the upper parts of the bole. A bit more residual damage than you would like to see in a hardwood stand. Markers did a nice job of leaving higher BA's around the hemlock. BBD on a few of the trees. EAB has wiped out most of the ash, although a few seem to be hanging on. Heavy browse pressure on all deciduous species, including the beech and ironwood. A browse line is evident at 2-3 feet. No oak stump sprouts have made it. Average ba/acre = 91 square feet.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
7	4111 - S.Maple, Hard Mast Association	Sawtimber Well	52.2	94	81-110	<p>- Overall a pretty nice hardwood stand with some very large diameters, especially on the oak. The stand slopes gently up towards the west. Oak is more dominant on the lower slope along the east half. Quality is best in the west half at the top of the slope. Dense understory of undesirable species. A few large canopy gaps were created from the previous harvest and have only filled in with ironwood. Ash formerly comprised 4% of the canopy but most are now dead with only a few that appear to be hanging on. BBD was noticed on a few beech. Trace of white oak. Small pocket of white pine and hemlock at the NE corner. Average ba/acre from 10 plots = 93 square feet.</p> <p>- Previous harvested in Hardwood Lake East sale (#53-003-99-01) bought by Michael Bruning.</p> <p>- Evidence from the previous harvest shows that desirable regeneration is not possible. Do not prescribe any regeneration cuts in this stand until a commitment is made to alleviate browsing issues. Maintain the component of large trees (>20" DBH) which are mainly oak and maple.</p>
8	4110 - Sugar Maple Association	Sawtimber Well	98.5	84	81-110	<p>Stand last cut in the Hardwood Lake Hardwood Block (53-012-99-01) timber sale, Rust Wood Products. High quality hardwoods, especially the sugar maple. A lot of crop trees in this stand. The understory is almost exclusively ash, beech, and ironwood. It tends to be taller and more dense in the north half. Not a lot of coarse woody debris, stand almost appears park-like in spots. Moderate amount of white ash (QD indicates 6%) but it has been dead a while and is past the point of salvage. Seems most prevalent in the central part of the stand. BBD was noticed on a few beech near the southern boundary. Average ba/acre (excluding ash) from 14 plots = 104 square feet. This stand should be ready for a selection harvest next entry.</p>
9	4119 - Mixed Northern Hardwoods	Sawtimber Well	14.8	85	51-80	<p>Kind of a mixed up stand situated in between the wildlife openings. The pine is concentrated mostly in the east half and the stocking is lower. Hardwoods are mostly in the west half and the stocking density increases quite a bit. Trace of hemlock, beech, and paper birch. All of the ash has EAB. Average ba/acre from 7 plots = 74 square feet.</p>
10	4110 - Sugar Maple Association	Sawtimber Well	43.2	89	81-110	<p>Stand last thinned in Hardwood Lake West (#53-004-99-01), bought by AJD. Stand was thinned in the fall of 2000 by a crew of hand fellers with an iron mule forwarder. No residual damage noticed from the previous harvest. Stand currently has 8% white ash (13" avg DBH) but it is all dead from EAB. Some BBD noticed on a few of the beech. Stocking density varies a little. Dense understory of beech and ironwood in all areas except where the BA is higher. Some nice RO saps and poles around the edges of the stand, especially near openings and closed road. Trace of elm, paper birch, and yellow birch. Average ba/acre from 9 plots = 86 sq ft (97 if the ash is included).</p>
11	4119 - Mixed Northern Hardwoods	Poletimber Well	48.9	78	81-110	<p>Stand recently thinned as part of Hardwood Lake Hardwood (#53-014-08-01) bought by Weyerhaeuser. Residual stand is pretty nice quality albeit quite variable. The south half of the stand tends to transition to smaller diameters with paper birch and red maple becoming a larger component. Quality increases quite a bit in the north half. A second age class of large, old trees is scattered throughout, mainly hemlock, red oak, and sugar maple. White ash is rare but a few are still hanging on despite EAB. BBD scattered throughout the stand, most heavy at the southeast part of the stand near the old gas well. New regeneration following the harvest is mostly beech and ironwood, with a definite browse line evident, surprising for these two species. Average ba/acre from 8 plots = 99 square feet.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	4119 - Mixed Northern Hardwoods	Poletimber Well	109.5	97	81-110	<p>-Very nice oak throughout this stand with scattered clumps of hemlock. Maple quality is not as good as the oak but still decent. The east and west edges of the stand become more of an oak-white pine-red maple-paper birch type. Topography is generally flat with the exception of the west edge which sits atop a steep slope.</p> <p>-Stand thinned as part of Marble Grade Hardwoods (#53-010-08-01) bought by Quality Hardwoods. A lot of large oak were cut out of this stand. In many places the large oak were favored for marking over poor quality and suppressed maple stems. Browse pressure on the resulting regen is high, a browse line at 2-3 feet is evident on the beech and ironwood. Oak stump sprouts have been badly browsed, didn't notice any over 1 foot tall. Markers did a good job of staying away from the hemlock pockets. Most of the hemlock appears healthy. Some hemlock seedlings were noticed here and there but are being hit hard.</p> <p>-Ash is a rare component but all of it appeared dead from EAB. Scattered beech have BBD.</p> <p>-Trace of white pine, red pine, and yellow birch. Average ba/acre from 20 plots = 95 square feet.</p>
13	4134 - Aspen, Spruce/Fir	Poletimber Well	16.7	48	111-140	<p>Nice poletimber stand with quite a bit of variation in diameters. Hardwood influence increases as you move east up the side slope. Trace of white spruce. Average ba/acre from 8 plots = 120 square feet.</p>
14	4136 - Aspen, Mixed Conifer	Poletimber Well	24.5	48	111-140	<p>Nice poletimber stand with quite a bit of diversity. Old notes indicate most hardwoods were left when the aspen was harvested in 1969, so these species are quite a bit older than the aspen itself. There are a few small pockets of nearly pure paper birch, mostly in the west half of the stand along the top of the ridgeline. A small wet drainage is present on the east side of the road that runs through the middle of the stand. Small pocket of large white pine and hemlock at the far SE corner of the stand, adjacent to the opening. Trace of basswood, white oak, and balsam poplar. Average ba/acre from 10 plots = 129 square feet.</p>
15	4119 - Mixed Northern Hardwoods	Sawtimber Well	27.6	86	81-110	<p>Stand was thinned as a part of Hardwood Lake Hardwoods (#53-014-08-01) bought by Weyerhaeuser. Marking seemed to target the largest trees and left poor quality poletimber remaining in several areas of the south half. Marking in the north half was much better. Hemlock clumps were not protected and a few have died from thinning shock. Not much beech in the stand but most of it has BBD. Black cherry, ironwood, and smaller white pine mostly along the edges near the open areas on the east side. Beech and ironwood regeneration is being browsed. Trace of elm and yellow birch. Average ba/acre from 7 plots = 103 square feet.</p>
16	4319 - Mixed Upland Forest	Sawtimber Well	19.2	96	81-110	<p>Diverse stand with multiple age classes present. The portion of the stand west of the westernmost closed road is more open and has a nice understory of sugar maple in spots. There are also some clumps of poletimber-sized aspen in this area. The remainder of the stand becomes more dense and has a mix of large white pine and hemlock along with smaller hardwoods. There is a nice representation of paper and yellow birch in this part of the stand. The balsam fir component is mostly at the far southern end. Most of the white pine are multi-stemmed from previous weevil damage. Average ba/acre from 7 plots = 109 square feet.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	4199 - Other Mixed Upland Deciduous	Sawtimber Well	24.8	82	111-140	Stand lies on a slight ridge that runs north-south through the center. West of the ridge declines in hardwood site quality and becomes more of an oak/pine/red maple type. East of the ridge transitions into nice hardwoods. There is a second age class of large, old hardwoods and hemlock mixed throughout the stand which gives the stand an uneven-aged appearance. Stick nest in large beech in the NE corner. Last thinning took place in 1992. Average ba/acre from 7 plots = 120 square feet.
18	42200 - Natural White Pine	Sawtimber Well	7.6	96	81-110	Stand harvested in 1990 as part of Salt Lick Hardwoods sale (#53-038-88-01) bought by Quality Chips Company. All jack pine, spruce, fir, and mixed hardwood was removed in addition to some orange marked red and white pine. Harvest was a whole-tree operation and it appears a lot of scarification took place as there is a nice representation of red pine regeneration within the stand. Most of this tends to be in the north half of the stand in and around the skid trails and main haul road. Remainder of the stand has nice regeneration of white pine. Average ba/acre from 4 plots = 103 square feet.
19	429 - Mixed Upland Conifers	Sawtimber Medium	4.6	80	51-80	Strange stand that is pretty much a mix of everything. Northeast corner is a nice pocket of hemlock and white pine. South half of the stand has a light overstory of larger trees with a dense understory of saplings and poletimber. Couldn't find any sale records for the stand but it must have been cut at one point years ago. Average ba/acre from 4 plots = 80 square feet.
20	429 - Mixed Upland Conifers	Sapling Poor	6.1	17	Immature	Stand was cut in 2000 as part of Corn Crib Aspen Blocks (#53-010-98-01) bought by Alan Lamberson. All species were cut, primary volume removed was aspen, red maple, paper birch, white pine, and fir/spruce. Resulting regeneration is very poorly stocked. This stand was called an A3 stand the previous cycle but elk have wiped out the aspen. Even the black cherry are being browsed. Birch and red maple regen is non-existent. Most white pine are bushy and open-grown with the exception of the far northern end which is the only place with acceptable stocking.
21	429 - Mixed Upland Conifers	Sawtimber Well	3.2	87	111-140	Stand is on a transition to the swamp to the west. Trace of paper birch as well as cedar along the western edge. Small pocket of blowdown at the north end. Some very large white pine mixed in, measured one at 40" DBH. Average ba/acre from 3 plots = 113 square feet.
22	4136 - Aspen, Mixed Conifer	Sapling Poor	6.6	17	Immature	Stand was cut in 2000 as part of Corn Crib Aspen Blocks (#53-010-98-01) bought by Alan Lamberson. All species were cut, primary volume removed was aspen, red maple, paper birch, white pine, and fir/spruce. Resulting regeneration is very poorly stocked. Elk are continuing to do a number on the aspen, many have damaged stems. Even the black cherry in this stand is being browsed. Birch and red maple regen is non-existent. Most white pine are bushy and open-grown. Thick grass and sedge layer is developing as a result of the deer and elk which is inhibiting new seedling establishment.
23	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	133.0	79	111-140	Wet swamp conifer stand with variable stocking. A few pockets of nicer quality trees but the majority of the stand is low quality. Composition tends to alternate between cedar and black spruce dominated areas. Trace of red maple, elm, and paper birch. The headwaters of Hardwood Creek take shape in the southern half of the stand. Small pocket of E type at the far northern end of the stand. Average ba/acre from 12 plots = 113 square feet.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	6121 - Tamarack	Poletimber Well	4.2	38	51-80	Stand cut in 1979 by Wildlife Division. Has regenerated quite well. Diameters are much smaller at the far SE corner for some reason. Very wet stand.
25	6121 - Tamarack	Sapling Poor	4.4	31	Immature	Stand cut in 1986 by Wildlife Division. The west 1/3rd of the stand is dog-hair thick tamarack, however the remainder of the stand is poorly-stocked.
26	4136 - Aspen, Mixed Conifer	Poletimber Well	3.3	37	51-80	Stand mostly upland but does dip down into the swamp a little. Average ba/acre from 7 plots = 80 square feet.
27	42200 - Natural White Pine	Sawtimber Well	8.8	86	81-110	All jack pine and mixed hardwoods were removed from the stand in 1989. White pine has filled in these gaps quite well, with balsam fir becoming more common in the understory as you head north. Average ba/acre from 5 plots = 82 square feet.
28	42110 - Planted Red Pine	Sawtimber Well	7.8	87	141-170	Stand thinned in 2001 as part of the Pudding Stone Camp sale (#53-004-98-01). At this point can be thinned again but there is nothing around it to group it with. White pine overstory and balsam fir understory are mostly concentrated in the SE portion of the stand. Average ba/acre from 6 plots = 142 square feet.
30	6127 - Lowland Pine	Poletimber Poor	14.8	42	1-50	Sparse stocking. White pine is in decline in most areas, many saplings are already dead. Standing water at time of inventory. Average ba/acre from 6 plots = 30 square feet.
31	6127 - Lowland Pine	Sawtimber Medium	30.4	80	51-80	Quality and size tend to vary somewhat throughout the stand, declining the most on the north and south sides of the interior bog. Wet stand with sensitive soils, no management possible. Average ba/acre from 6 plots = 68 square feet.
32	42200 - Natural White Pine	Poletimber Well	5.0	37	81-110	Nice pockets of white pine poletimber. Wet ground mixed in throughout. Small drainage exits NE end of interior wetland and drains north through this stand into the lowland stand surrounding Hardwood Lake. This drainage is about a 1-2 foot deep channel in the ground and almost appears manmade. Trace of paper birch and black spruce. Average ba/acre from 6 plots = 107 square feet.
33	42200 - Natural White Pine	Poletimber Well	3.4	48	81-110	Mix of white pine sizes in the stand. The larger trees were likely planted in the 1920's like the surrounding stands. Trace of paper birch. Average ba/acre from 4 plots = 108 square feet.
34	42290 - Natural Mixed Pine	Sawtimber Well	6.7	87	111-140	Northern edge of stand sits on a slight ridge above the adjacent swamp to the north. The red pine may have been planted in this stand but the white pine doesn't appear to be. Southern finger of stand has the highest stocking, remainder has variable stocking. Average ba/acre from 5 plots = 138 square feet.
35	4133 - Aspen, Mixed Pine	Poletimber Well	2.8	37	111-140	Some wetter ground in the middle of the stand. Aspen becomes larger at the south end. Trace of paper birch. Average ba/acre from 3 plots = 120 square feet.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	42220 - Natural Jack Pine	Sapling Well	22.9	28	Immature	Stand was harvested in 1989 leaving scattered seed trees of jack, white, and red pine. Following the harvest the stand was mechanically scarified. Overstory was removed in 2000. Scarification worked well and resulted in nice regeneration. A few lower stocked areas but these appear to be mainly where the overstory trees were removed. Some scattered areas of blowdown.
37	42200 - Natural White Pine	Sawtimber Medium	33.8	87	81-110	Stand had a species removal harvest from 1978-80, as a result the residual stocking is very variable. White pine regeneration has been excellent in most places. In areas that were opened up more heavily, the white pine regeneration is just reaching poletimber size. Stand almost appears uneven-aged due to the variety of diameters throughout. Let the understory mature some more and then manage with a goal of maintaining the uneven-aged structure. Trace of red maple, balsam fir, and bigtooth aspen poletimber. Average ba/acre from 12 plots = 102 square feet.
38	42200 - Natural White Pine	Poletimber Well	25.8	27	81-110	Stand previously harvested in the Tanager Aspene sale (#53-020-88-01), bought by AJD. All species were cut except for oak. Notes show that the previous stand had a significant amount of aspen but it has been wiped out by the elk. The sale must have been a whole-tree harvest with a lot of scarification because pine regeneration has been excellent throughout most of the stand, including a significant component of red pine. The eastern edge is the only area where stocking is a little lower. Red oak concentration is highest in the center of the stand. Rolling terrain. Average ba/acre from 7 plots = 83 square feet.
39	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	2.8	87	81-110	Two-aged stand with larger pine and a younger age class of aspen, red maple, and white pine. A portion of the stand was included in the adjacent harvest to the north and west but most it was excluded. Average ba/acre from 4 plots = 110 square feet.
40	6124 - Lowland Spruce-Fir	Sapling Medium	2.1	35	Immature	This stands look like it was cut but no records were found. Aspen is mostly along the western upland edge. Remainder of stand is quite wet.
41	42140 - Planted Mixed Pine	Sawtimber Medium	64.1	87	51-80	Stand recently cut as part of 7 And 2 Pine (#53-008-08-01), bought by Biewer, roundwood job. Treatment was a heavy shelterwood with all the red maple, aspen, and jack pine removed in addition to marked red and white pine. Residual stand is high quality and there is some larger natural pine mixed in as well. Some large gaps created in places. Regeneration is mostly white pine at this point. Lack of scarification will likely prevent red pine from regenerating here. Average ba/acre from 10 plots = 72 square feet. Manage this stand on a longer rotation and consider using fire at some point to give red pine regeneration a better chance.
42	4311 - Pine, Aspen Mix	Poletimber Well	17.8	42	51-80	Stand burned in a 1975 wildfire. Stand has regenerated well. The diameters are still small on most species except the bigtooth aspen. Some areas of only sub-merchantable stems. Average ba/acre from 6 plots = 75 square feet.
43	4130 - Aspen	Poletimber Well	6.1	42	111-140	Stand burned in a 1975 wildfire. Aspen regenerated well. There are a few clumps of larger trees in the stand, mostly at the north end. Average ba/acre from 5 plots = 124 square feet.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
44	4311 - Pine, Aspen Mix	Poletimber Well	12.3	61	81-110	Stand was formerly dominated by jack pine but most of that has now died. Previous stand examiners have left this stand alone in order for the white pine component to mature. This decision should remain in place as white pine is taking over the stand and is generally good quality. Trace of beech in the overstory. A few small clones of aspen. Pockets of larger trees adjacent to the old gas well. Average ba/acre from 9 plots = 103 square feet.
45	4199 - Other Mixed Upland Deciduous	Sawtimber Well	8.3	82	81-110	Stand lies on a ridge/knob which sits above the surrounding landscape to the north. Trace of sugar maple. Oak quality is pretty high. Average ba/acre from 6 plots = 102 square feet. Browse will be an issue if a harvest is prescribed. OPIC - FMD: 2006 BRIAN WOULD LIKE TO LEAVE THIS STAND UNCUT FOR DIVERSITY
46	42110 - Planted Red Pine	Sawtimber Medium	30.9	89	51-80	Stand recently harvested as part of 7 & 2 Pine (#53-008-08-01) bought by Biewer, cut by Nash. Prescription was to remove all maple and jack pine, as well as some marked red and white pine. Residual stocking is somewhat variable as a result. White pine is more common north of the road. The High Country Pathway runs through the northern part of the stand. New regeneration is limited at this point, red and jack pine seedlings were only observed in a few areas. Average ba/acre from 12 plots = 73 square feet.
47	42200 - Natural White Pine	Poletimber Well	24.6	37	51-80	Old stand notes indicate everything except red and white pine was removed in 1980. The stand was opened up quite a bit following that harvest and has regenerated very well to white pine. The residual stocking of larger trees tends to be variable. Some very large red and white pine mixed in, measured a few 40"+ white pine at the south end. Average ba/acre from 6 plots = 78 square feet. Thin when the younger age class matures.
48	4311 - Pine, Aspen Mix	Poletimber Medium	8.8	27	51-80	Much of the aspen in the stand appears unhealthy. Residual pine is somewhat short. Average ba/acre from 6 plots = 55 square feet.
49	42220 - Natural Jack Pine	Poletimber Medium	2.0	32	51-80	Old well pad that now has scattered clumps of jack pine. Diameters tend to vary, depending on the stocking level. Average ba/acre from 3 plots = 80 square feet.
50	42220 - Natural Jack Pine	Poletimber Medium	4.4	32	51-80	A good percentage of the jack pine in the stand are dead with broken tops. This is likely from a heavy snowstorm in the winter of 2012-13 which did similar damage to other stand. There are 3 or 4 old stump piles in the stand with black cherry and aspen growing on them. Average ba/acre from 5 plots = 52 square feet.
52	42290 - Natural Mixed Pine	Sawtimber Well	2.7	87	171-200	Densely stocked stand with the exception of the western 1/3rd which transitions down to lower ground. Average ba/acre from 3 plots = 180 square feet.
53	4130 - Aspen	Poletimber Well	3.5	42	111-140	Area burned in a wildfire in 1975 and was subsequently salvaged. Some oak stump sprouts made it past the browse. Some of the larger oak were residual left after the harvest. Average ba/acre from 4 plots = 140 square feet.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
55	42290 - Natural Mixed Pine	Sawtimber Medium	29.8	90	81-110	Stand had all aspen, mixed hardwood and jack pine removed in 1991. As a result the residual stocking is highly variable. White pine has regenerated very well and is approaching poletimber size in the larger gaps that were created. Some very large red and white pine mixed in throughout. Rolling topography with a few short, steep slopes. Average ba/acre from 7 plots = 94 square feet. Current structure resembles that of an uneven-aged stand and it should be managed to maintain this structure in the future.
56	42100 - Planted White Pine	Sawtimber Well	26.3	90	81-110	High quality white pine stand. Recently thinned as part of the 7 & 2 Pine timber sale (#53-008-08-01) bought by Biewer. The southern 2/3rds of the stand were planted but the northern 1/3 is natural pine with some very large trees present (98DOQ imagery shows this best). Good amount of larger aspen were left in the stand which will serve well as snags in the future. Trace of basswood and sugar maple. Average ba/acre from 8 plots = 104 square feet.
57	42110 - Planted Red Pine	Sawtimber Well	8.0	90	171-200	Nice red pine stand that has only been thinned once, that being back in 1991. Average ba/acre from 5 plots = 172 square feet.
58	42200 - Natural White Pine	Poletimber Well	2.6	48	111-140	Mix of white pine sizes in the stand. The larger white pine were likely planted back in the 1920's. Nice pockets of dense poletimber. Average ba/acre from 3 plots = 157 square feet.
59	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	2.1	69	111-140	Basal areas tend to be higher around the edges of the stand. A few large white pine are present next to the road. Birch used to be a large component of the stand but it is now all dead. Average ba/acre from 4 plots = 135 square feet.
60	4130 - Aspen	Poletimber Medium	1.8	36	51-80	Stand becomes much more open to the north. Drainage from the hardwood stand to the west enters this stand at the south end. There is a small vernal pool in this area as well. Average ba/acre from 4 plots = 68 square feet.
61	4119 - Mixed Northern Hardwoods	Poletimber Well	27.6	75	81-110	Pretty nice hardwood stand with a diversity of species. There is a drainage/vernal pool complex in the south half of the stand. This drainage flows down to the east, ending at the opening. A second age class of larger, older hardwoods is scattered throughout the stand. A few of the ash appear to be hanging on despite EAB. Stick nest in the SW corner near the hemlock pocket. Average ba/acre from 7 plots = 105 square feet.
62	42201 - Natural White Pine, Mixed Deciduous	Poletimber Poor	9.1	36	1-50	This stand was cut at the same time as the adjacent stand to the northeast (#63) however did not regenerate nearly as well. The central part of the stand is essentially non-forested with some scattered bushy white pine. The perimeter of the stand regenerated ok with a moderate component of oak stump sprouts. Heavy elk use. Average ba/acre from 5 plots = 42 square feet.
63	4131 - Aspen, Oak	Poletimber Well	24.6	36	81-110	Stand was cut in 1979 by Champion. Aspen, birch, oak, and pine were the primary species cut. This stand has regenerated well in most spots with the exception of birch which is now absent. Regeneration tends to alternate between pockets of aspen and oak, which is somewhat visible on the imagery. Due to the oak component, push the rotation age of this stand to at least 60 years before considering a regeneration harvest. Average ba/acre from 8 plots = 84 square feet.



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
64 4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	46.0	94	111-140	Nice mixed species stand. Oak quality is generally high, although diameters to be a bit on the smaller end for it's age. A few scattered small clones of aspen mixed in throughout. Some nice pockets of natural pine. Old firetower used to be located at the north end of the closed road which runs N-S through the stand. Trace of beech and paper birch in the overstory. For the most part this stand is flat to gently rolling, but borders steep slopes along the northern edge. Average ba/acre from 12 plots = 132 square feet.
65 4139 - Aspen, Mixed Deciduous	Sapling Well	2.1	38	51-80	Stand harvested in 1979. Occupies a relatively steep slope. Red maple becomes more dominant in the eastern portion of the stand. Trace of red oak stump regeneration.
66 42200 - Natural White Pine	Poletimber Medium	5.8	45	51-80	Stand was thinned in the late 1980's when the surrounding red pine stands had species removals. There is some scattered wet ground with leatherleaf at the ground level. Variety of sizes of white pine in the stand. Trace of red maple, paper birch, red oak, and black spruce. Average ba/acre from 4 plots = 68 square feet.
67 42110 - Planted Red Pine	Sawtimber Medium	40.8	91	111-140	Stand had a species removal in 1990 and as a result the residual stocking is highly variable. There is a small percentage of large natural red pine in the stand as well as a few very large white pine. Trace of red oak and paper birch. Average ba/acre from 11 plots = 116 square feet.
68 6122 - Black Spruce	Poletimber Well	17.8	77	141-170	This stand is the beginning of a drainage that continues to flow north until it reaches the Tubes Campground. Wet, poor-quality stand with no commercial management feasible. Pine is most prevalent in the thin strip at the SE end. There is also some upland soils along the perimeter at this end. Average ba/acre from 5 plots= 164 square feet.
69 4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	25.2	83	111-140	The majority of this stand sits along a series of steep slopes. A few of the valleys that cut up through the slope may be operable but the majority is not. Nice mix of species. Pine and oak display the best growth. Average ba/acre from 11 plots = 125 square feet.
70 4133 - Aspen, Mixed Pine	Sapling Medium	22.2	29	Immature	Stand cut in 1988 by K&R Logging as a part of the Re-run Jack Pine sale. With the exception of a few clones in the north half of the stand, the remainder of the aspen does not look very healthy. There are areas in the SE portion where many of the saplings are dead or close to death. The SW 1/3rd of the stand does not have much aspen at all and has primarily white pine and jack pine re-growth. A light residual of larger red pine and white pine are mixed in throughout. Trace of red maple and white spruce.
71 42140 - Planted Mixed Pine	Sawtimber Medium	13.3	91	81-110	Stand was last cut in 1988 by K&R Logging (Re-run Jack Pine), removing everything except red pine less than 8" in diameter. Some white pine were not cut as there are still log-sized trees of this species in the stand. Overall a poor-quality stand with variable stocking. A lot of the red pine are short and stubby and much of the smaller white pine poletimber has quite a bit of weevil damage. Trace of red maple, quaking aspen, and balsam fir. Average ba/acre from 6 plots = 88 square feet.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
72	42210 - Natural Red Pine	Sawtimber Medium	30.3	91	111-140	Stand had all species except red and white pine removed in 1979 by George Kimball. As a result, the residual overstory stocking is highly variable and clumpy in nature. White pine and red maple stump sprouts are the species that predominantly regenerated following that harvest, although a few red oak did make it. The red maple understory is more pronounced in the southern half of the stand. No planting records exist for the red pine in the stand. The smaller log-pole size red pine appears to have been planted however there is also a distinct size class of older and larger pine that is natural. Trace of paper birch. Average ba/acre from 8 plots = 139 square feet. Manage this stand on a longer rotation due to it's proximity to the Witness Tree as well as the representation of natural pine within the stand.
73	4199 - Other Mixed Upland Deciduous	Poletimber Well	30.4	39	51-80	Stand clearcut in 1978 by Champion, all species were cut including 259 cords of oak and 218 cords of birch. The stand regenerated well, oak in particular and there are some nice pockets of natural pine regeneration, most notably at the far north end. Unfortunately the birch component did not successfully regenerate and is now absent from the stand. A few small clumps of residual trees were left here and there, mostly in the north half. A few areas of lower stocking adjacent to the non-forested opening. Trace of beech and white spruce in the overstory. A lot of elk damage to the red maple stems. Average ba/acre from 11 plots = 74 square feet.
74	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	34.0	94	111-140	Stand had all aspen, birch, jack pine, and ironwood as well as some marked white pine removed in 1988 as part of the Wiggly Pine sale (#53-029-88-01). Site quality increases in the south half of the stand (south of the e-w closed road) and is where most of the hardwood and oak component is located. There is also a very nice understory of sugar maple throughout this half, free to grow in the more open areas. The north half transitions to more of a red maple, beech, ironwood understory. Overall white pine quality is only mediocre although the oak is very high quality. Goshawk sited multiple times in the south part of the stand. Average ba/acre from 8 plots = 130 square feet. Stand is a nice example of a upland mesic conifer stand. Consider thinning in ten years.
75	4111 - S.Maple, Hard Mast Association	Sawtimber Well	10.9	82	111-140	Old Stove Hardwoods, #53-021-09-01, sale completed in spring 2011. Nice oak and maple in the stand. Basal areas tend to vary a bit. Pockets of advanced regeneration are scattered throughout, some of these have quite a bit of sugar maple in them. Average ba/acre from 6 plots = 112 square feet.
76	4123 - Red Oak	Sawtimber Medium	40.0	93	51-80	All species except oak were cut out of this stand as part of Orange Bucket Mix (#53-025-88-01), bought by AJD. As a result the residual oak stocking is highly variable. The north 1/3 of the stand in particular has a low oak residual with a moderate understory of red maple, white pine, and clones of aspen. This portion of the stand should be excluded from a harvest and managed for the understory. There are a few pockets of advanced regeneration scattered throughout the remainder of the stand, most contain white pine and red maple. The majority of this stand sits on moderate west-facing slopes so the oak quality is only mediocre as compared to the adjacent oak stand to the east which is on better soils. Trace of beech, sugar maple, and hemlock. Average ba/acre from 11 plots = 76 square feet.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
77	42140 - Planted Mixed Pine	Sawtimber Medium	35.9	94	81-110	All jack pine, aspen, and hardwoods were removed in 1988 by K&R Logging. Shelterwood harvest was completed in 2008, cut by Nash. Records indicate the red and white pine were planted in this stand, however following the two harvests this no longer resembles a planted stand. There is also a representation of larger, older natural pine mixed in throughout. Advanced red maple regeneration becomes more abundant as you move north. Average ba/acre from 9 plots = 93 square feet. Manage this stand on a longer rotation due to it's proximity to the Witness Tree and the representation of natural pine within the stand.
78	42110 - Planted Red Pine	Sawtimber Well	16.2	90	111-140	Stand recently cut as part of the 7 And 2 Pine timber sale (#53-008-08-01), bought by Biewer, cut by Nash. Prescription was a heavy shelterwood with all red maple and jack pine being removed along with marked red and white pine. A few areas heavy to white pine regeneration were avoided during the harvest, mostly along the eastern edge. Residual stand is nice quality although diameters tend to be a little small. There is a small percentage of large, old natural pine mixed in throughout. Trace of white oak and paper birch. Some steep slopes adjacent to Tin Shanty Road. Average ba/acre from 6 plots = 115 square feet.
82	42140 - Planted Mixed Pine	Sawtimber Well	14.8	90	81-110	Stand recently cut as part of the 7 And 2 Pine timber sale (#53-008-08-01), bought by Biewer, cut by Nash. Prescription was a heavy shelterwood with all red maple and jack pine being removed along with marked red and white pine. A few orange-marked trees at the north end that weren't cut. Residual stand is nice quality although diameters tend to be a little small, mostly on the white pine. There is a small percentage of large, old natural pine mixed in throughout. Red maple/ironwood/witch hazel understory tends to be mostly in the north half. Average ba/acre from 6 plots = 110 square feet.
83	42110 - Planted Red Pine	Sawtimber Medium	13.8	92	81-110	Variable stocking as a result of a jack pine, red maple, and aspen species removal harvest in 1990. Residual red pine is not that great quality, tends to be small and somewhat short for its age. The north end is an exception where there are some nicer quality trees. White pine regeneration has been very good in the areas that were opened up. Most overstory white pine at the north or eastern parts of the stand. Trace of red oak. Average ba/acre from 6 plots = 107 square feet.
85	42290 - Natural Mixed Pine	Sapling Medium	1.3	27	Immature	
86	4130 - Aspen	Poletimber Well	7.7	52	81-110	A few very large red oak in the stand. Trace of white oak and paper birch. Average ba/acre from 8 plots = 100 square feet.
88	4123 - Red Oak	Sawtimber Medium	30.6	93	1-50	All species except oak were cut out of this stand as part of Orange Bucket Mix (#53-025-88-01), bought by AJD. As a result the residual oak stocking is highly variable. Sugar maple regeneration has been excellent throughout the majority of the stand. It is free to grow in most spots. There are few scattered pockets of aspen mixed in as well. Browsing impacts are only evident in the northeastern portion of the stand, this is also where most of the white pine and red maple regeneration is located. Average ba/acre from 10 plots = 75 square feet. Reserve this stand for continued mast production and to allow the sugar maple understory to continue to recruit into the overstory. - This stand was separated out from stand 76 to the west because of the better site quality and sugar maple understory.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
99	42350 - Upland Hemlock	Poletimber Well	1.3	100	201+	Nice stand of dense, healthy hemlock with some very large white pine mixed in.
100	4199 - Other Mixed Upland Deciduous	Poletimber Well	4.5	72	111-140	About half of the stand sits on a westward facing slope. Nice representation of paper birch, most appears healthy. Small clump of hemlock in NW corner. Average ba/acre from 3 plots = 115 square feet.
101	42110 - Planted Red Pine	Sawtimber Poor	19.7	91	51-80	Stand had a aspen and jack pine species removal harvest in 1990. As a result, the residual stocking is highly variable. Jack pine has seeded in quite well in several areas where the residual BA is lower. The residual pine quality is not that great as many of the trees are short and stubby. Average ba/acre from 8 plots = 54 square feet.
102	42140 - Planted Mixed Pine	Sawtimber Medium	22.3	90	81-110	Stand had a species removal harvest in 1990 removing everything but red and white pine. As a result the residual stocking is highly variable. The red pine in the stand was planted however the white pine is natural. East half of the stand is where the white pine component picks up, with some nice pockets of poletimber and small logs. Balsam fir increases in the west half and near the swamp edge. Nice cover in the stand. Maintain for now and let the white pine mature. 40" red oak along the swamp edge in the NW part of the stand. Average ba/acre from 5 plots = 84 square feet.
103	42290 - Natural Mixed Pine	Sapling Medium	2.7	37	1-50	Stand was cut at the same time as the small aspen stand to the north, however aspen did not regenerate well here. Red pine has seeded in nicely in a few spots. Mix of upland and lowland.



Stand	Cover Type	Acres	Managed Site	General Comments:
29	6225 - Bog	0.9	No	Pitcher plants growing throughout.
51	310 - Herbaceous Openland	2.1	No	Old well site that was planted with saplings. Most seem to be doing well but a few white pine are in the process of dying. Not enough canopy coverage to be forested.
54	310 - Herbaceous Openland	1.6	No	Old well site that was re-planted with pine trees. Not enough stocking to consider a forested stand. The white pine appears unhealthy with some flagging in the branches.
79	310 - Herbaceous Openland	1.6	No	Central part is heavily compacted. Adjacent to an old railroad grade, perhaps some significance? A lot of elk sign.
80	6239 - Mixed Emergent Wetland	0.6	No	Lot of water at time of inventory. Small drainage exits stand at northeast corner.
81	310 - Herbaceous Openland	3.3	Yes	Old notes indicate this was an abandoned well site.
84	310 - Herbaceous Openland	1.5	No	NATURAL OPENING --POPULAR CAMPING SPOT.
87	310 - Herbaceous Openland	0.6	Yes	Small managed opening.
89	310 - Herbaceous Openland	0.3	No	Old notes indicate this area was used as a garden for workers stationed at the old fire tower to the north. It is now a popular camping area.
90	310 - Herbaceous Openland	6.5	Yes	MANAGED WILDLIFE OPENING.
91	310 - Herbaceous Openland	1.8	Yes	MANAGED WILDLIFE OPENING.
92	310 - Herbaceous Openland	0.7	No	
93	310 - Herbaceous Openland	2.2	No	Old oil pad. Snow covered most of the pad at time of inventory but there appears to be a lot of barren ground here.
94	310 - Herbaceous Openland	5.3	No	Narrow opening that includes Road 57 and various closed roads. Not manageable except for the far northern end.
95	310 - Herbaceous Openland	1.9	No	Old oil well site. Apple noted in the species breakdown is Siberian crabapple, of which there are 3 along the eastern edge.
96	310 - Herbaceous Openland	3.7	No	Line of planted Siberian crabapple running north-south through the main part of the opening. Additional furrows are present with nothing growing in them. The northeast corner is on a side-slope, there looks to be the remnants of a lean-to here. White pine filling in the southern part.



Stand	Cover Type	Acres	Managed Site	General Comments:
97	310 - Herbaceous Openland	11.7	Yes	Managed wildlife opening. A lot of exposed sand throughout.
98	310 - Herbaceous Openland	5.2	Yes	Rita's opening.