Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61058
Entry Year 2021
Acreage: 2,161
County Grand Traverse
Management Area: Manistee River Valley

Revision Date: 2019-06-11

Stand Examiner: Patrick Cotant

Legal Description:

Sections 30-31, T25N-R9W and sections 26 & 35-36, T25N-R10W, Grand Traverse County

Identified Planning Goals:

Habitat/Vegetative-intensive timber RMU Unit 122. This compartment is generally represented by three LTA (land type associations) subsections.

The westernmost part of the compartment is represented by LTA 2-2-2-1. This section in pre-settlement times hosted forests dominated by northern hardwood forests dominated by beech and sugar maple. The physical features are generally coarse textured end moraines with deep well drained loamy sands. Much of this LTA currently hosts crop fields and pine plantations. Kotar type is ParVVb/AFO. Some good quality hardwood stands are present in this part of the compartment and these stands should be managed long term toward uneven aged northern hardwoods.

The mid-section of this compartment is on LTA 5-2-1-1. This is a loamy sand –sandy loam. Clay lenses or banding results in higher nutrient or moisture levels. 47% of this LTA supported forests of red pine mixed with white pine, jack pine or oak in pre-settlement times. Oak/pine barrens were also found on 25% of this LTA. High quality pine plantations are currently found in this part of the compartment. These were some of the early plantations established on the Fife Lake State Forest. Some of these stands have been thinned several times. Some opportunities exist to harvest these stand and re-establish new pine plantations. The new stands will likely have a much more diverse mix of pine, oaks, maples and aspen due to the amounts of advanced natural regeneration present in parts of these stands. Large aspen stands established in the 1970's are also in this part of the compartment and an effort should be made to start regenerating part of this acreage.

The eastern portion of this compartment transitions on to LTA 5.1.1.1 which describes sites on deep excessively drained sandy soils. These sites were dominated by fire dependant species-jack pine, red pine and white pine and oaks. Pine barrens were common on the more fire prone sites. The east side of this compartment contains high quality remnant pine barrens in both the southeast and northeast corners. Treatments in these areas should be done so as to enhance and maintain the barrens characteristics.

Soil and topography:

Rubicon and Roscommon sands with Lupton muck and Rifle peat. Topography is flat to gently rolling.

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

Agricultural and residential to the north and west. Mostly state ownership to the south and east.

Unique Natural Features:

Multiple springs and seeps form tributaries eventually joining to create the headwaters of Sands Creek.

Archeological, Historical, and Cultural Features:

None known.

Special Management Designations or Considerations:

High quality oak/pine barrens in southeast of compartment. Recommend as a Biological Stewardship Area-oak/pine barrens. Quality red pine can be grown in compartment and some red pine stands remain from early plantations on the Fife Lake State Forest.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

This compartment offers diversity in that it incorporates portions of three different land type associations, several riparian corridors, and a variety of wetlands. The west end supports some mature quality northern hardwoods. Care should be

taken to maintain age and tree species diversity within the hardwoods, and treatments should retain a component of mature mast producing trees and protect/create snags, den, cavity, and downed trees. On the dry outwash plain, aspen stands should be maintained to promote age class diversity and should include components of oak, pine, or fir as appropriate to the site. The abundant pine forest should be managed for mixed tree species, including components of aspen, oak, or maple, as well as within-stand structure such as coarse woody debris and snags. Some pine stands can be moved toward uneven-aged, mixed species conditions. A portion of the oak-pine region exhibits characteristics of Oak/Pine Barrens once found on this fire-driven landscape. Management here should include thinning of pine and oak stands to basal areas appropriate of barrens communities, and prescribed burning to set back woody encroachment, increase herbaceous species diversity, promote berry production, and recycle nutrients. Overall, stand management should conform as much as possible to the predominant northeast/southwest topography. Swamp conifers should be maintained for breeding bird habitat and winter cover for deer, hares, bobcat, etc. Most openings should be maintained on the fire prone outwash plain found within the majority of the compartment. Wildlife species typically found in these habitats include aquatic species such as beaver, otter, mallard, wood duck, Canada goose, and great blue heron; oak-pine forest associates such as scarlet tanager, hog-nosed snake, and gray squirrel; northern hardwood associates such as black throated blue warbler and white-breasted nuthatch; aspen-fir forest associates such as ruffed grouse and red-backed vole; and conifer swamp associates such as white-tailed deer and winter wren.

This compartment and its underlying glacial landforms are part of the Manistee River Valley Management Area (MA) of the Regional State Forest Management Plan. Featured wildlife species for this MA include bear, golden-winged warbler, pileated woodpecker, ruffed grouse, snowshoe hare, and deer.

Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel production is located more than six miles away, but there may be some sand potential within the compartment. The compartment is located south of the Guelph (Niagaran) reef trend and Antrim Shale gas play and north of the Central Basin production. The nearest oil & gas production, past or present, is located more than two miles away. There is no active mineral leasing within the compartment. Oil & gas potential is considered low at this time. There is no known metallic mineral potential in this part of the state. The state does not own all the mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

Access via county roads and forest roads/trails. Some forest roads/trails have bad spots that should be improved as possible. Resource damage reports completed for road issues.

Survey Needs:

None known at this time.

Recreational Facilities and Opportunities:

Connector for MCCCT Trail runs through the compartment.

Fire Protection:

DNR fire protection is from the Traverse City Field Office, but because of the distance from the TC Office, Manton DNR also typically responds with units. Sections 30 and 31 of T25N R9W, and the east half of section 36 T25N R10W are located in Zone 6. Fuel types in these sections have the potential for catastrophic fires. The remaining sections are not located within Zone 6. VFD Fire protection is from Battalion 6 (Fife Lake) Grand Traverse Rural Fire Department. Urban interface is not an issue in this compartment. Access is acceptable.

Additional Compartment Information:

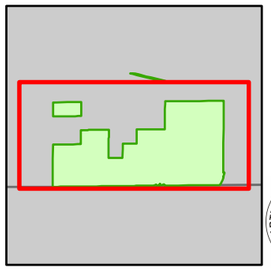
The following reports from the Inventory are attached:

- **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**

Stand Boundary Map



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T25N-R09W Sec. 30,31
County: Grand Traverse
Unit: Traverse City
Mgmt Area: Manistee River Valley
YOE: 2021
Acres: 2,161 GIS Calculated
Examiner: Patrick Cotant
Map Revised: 11/7/2019
Map Phase: Post Review

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- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
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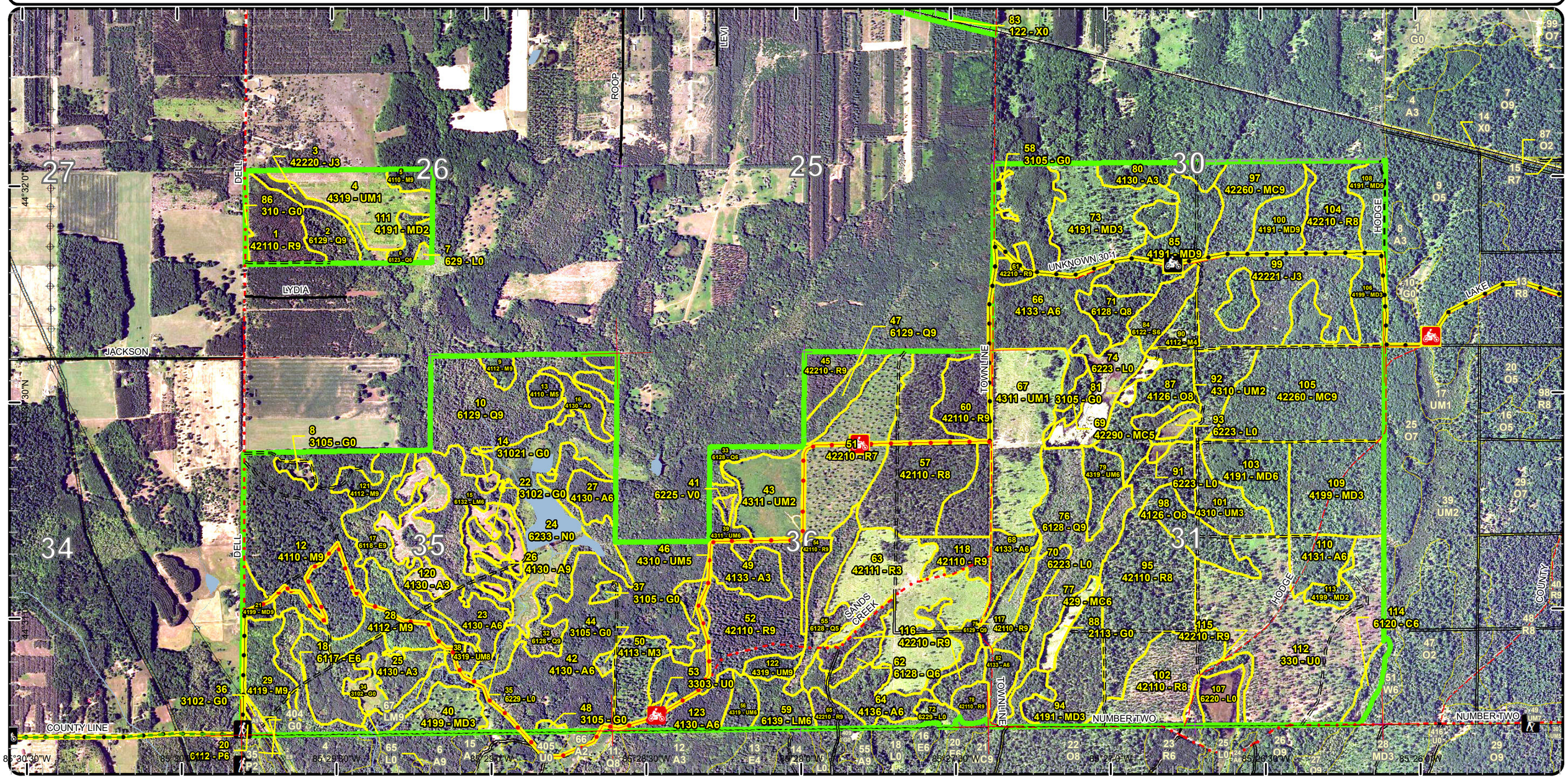
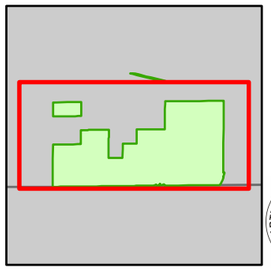


Special Conservation Areas & Site Conditions Map



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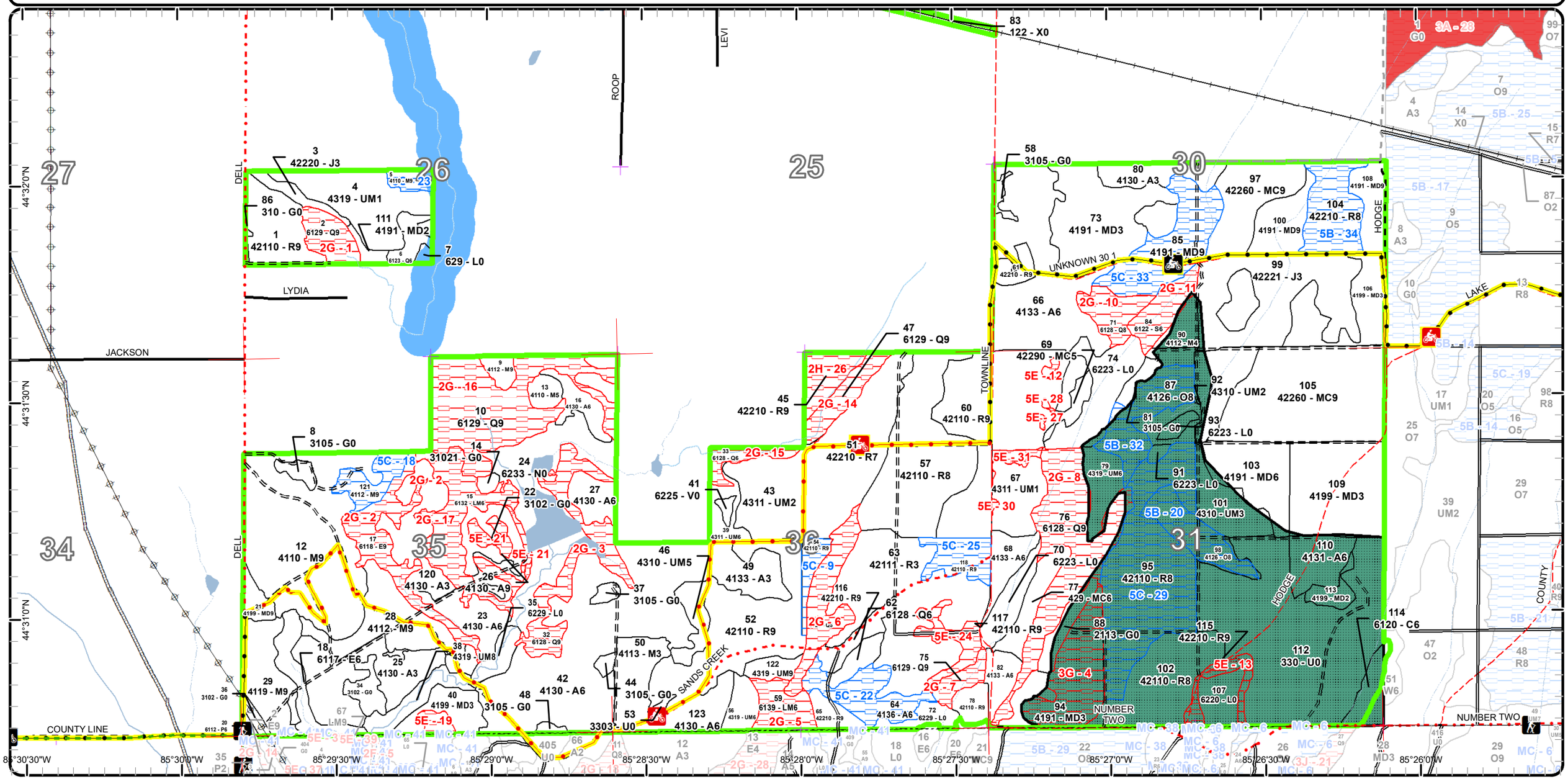
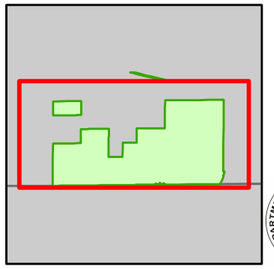
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3G: Other Influence zones - See comments
- 5E: Long-Term Retention
- Stand Boundaries
- SCA

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



Cover Type & Treatments Map



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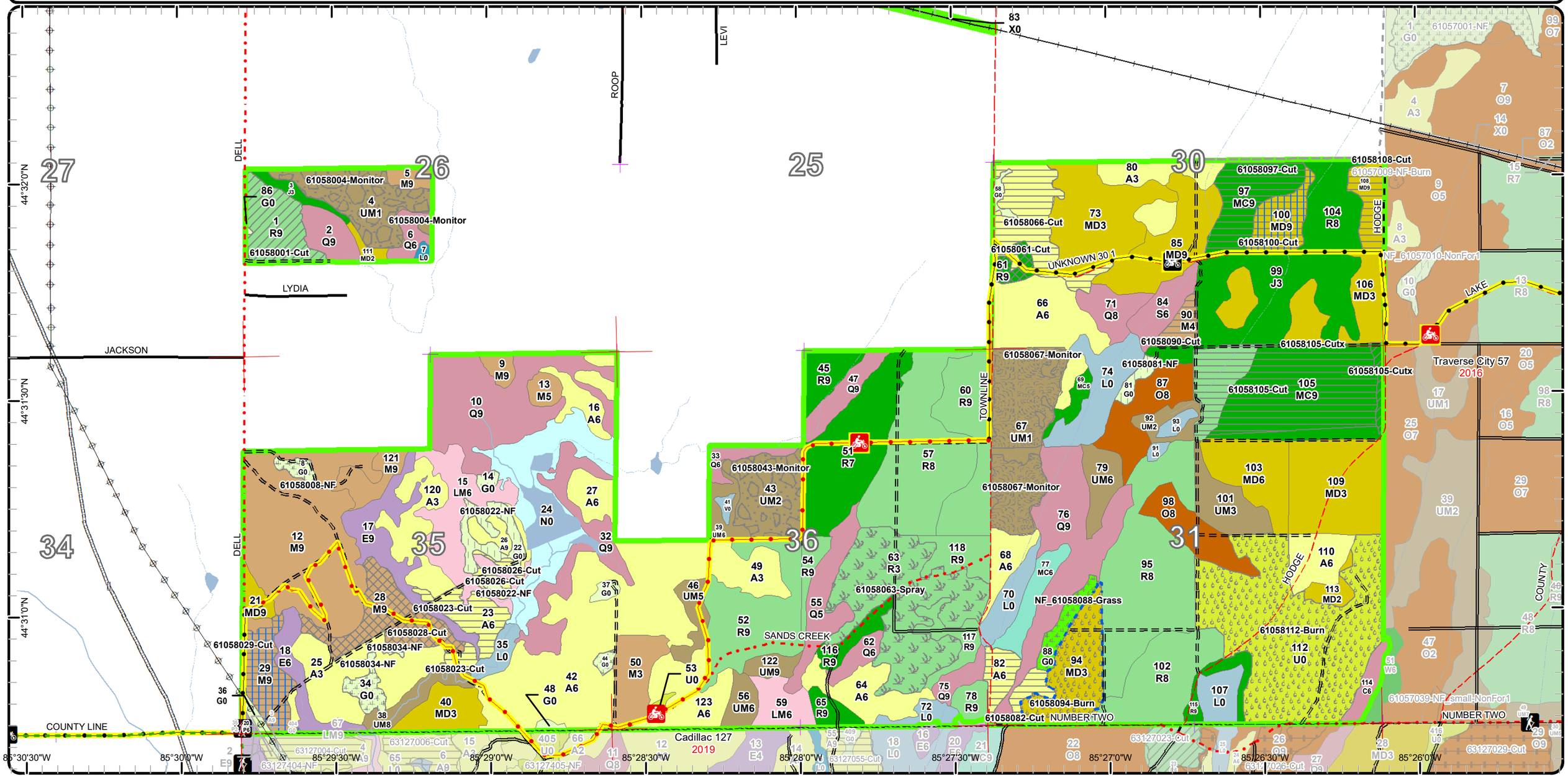

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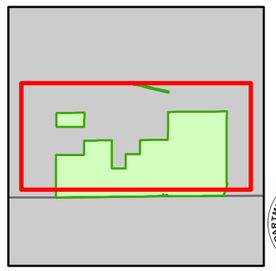

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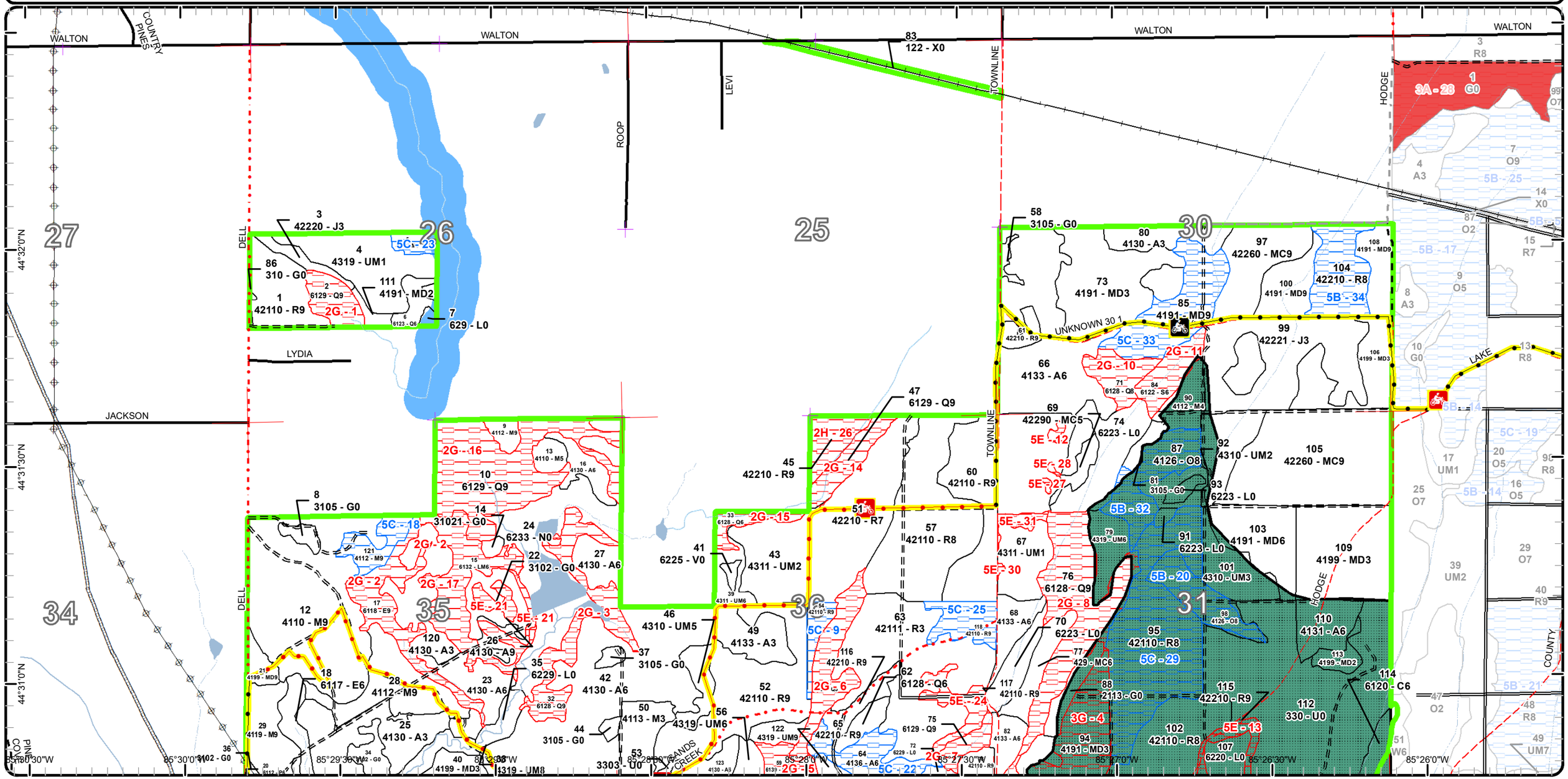

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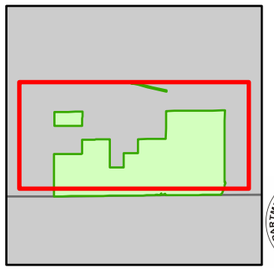

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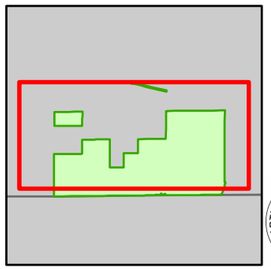

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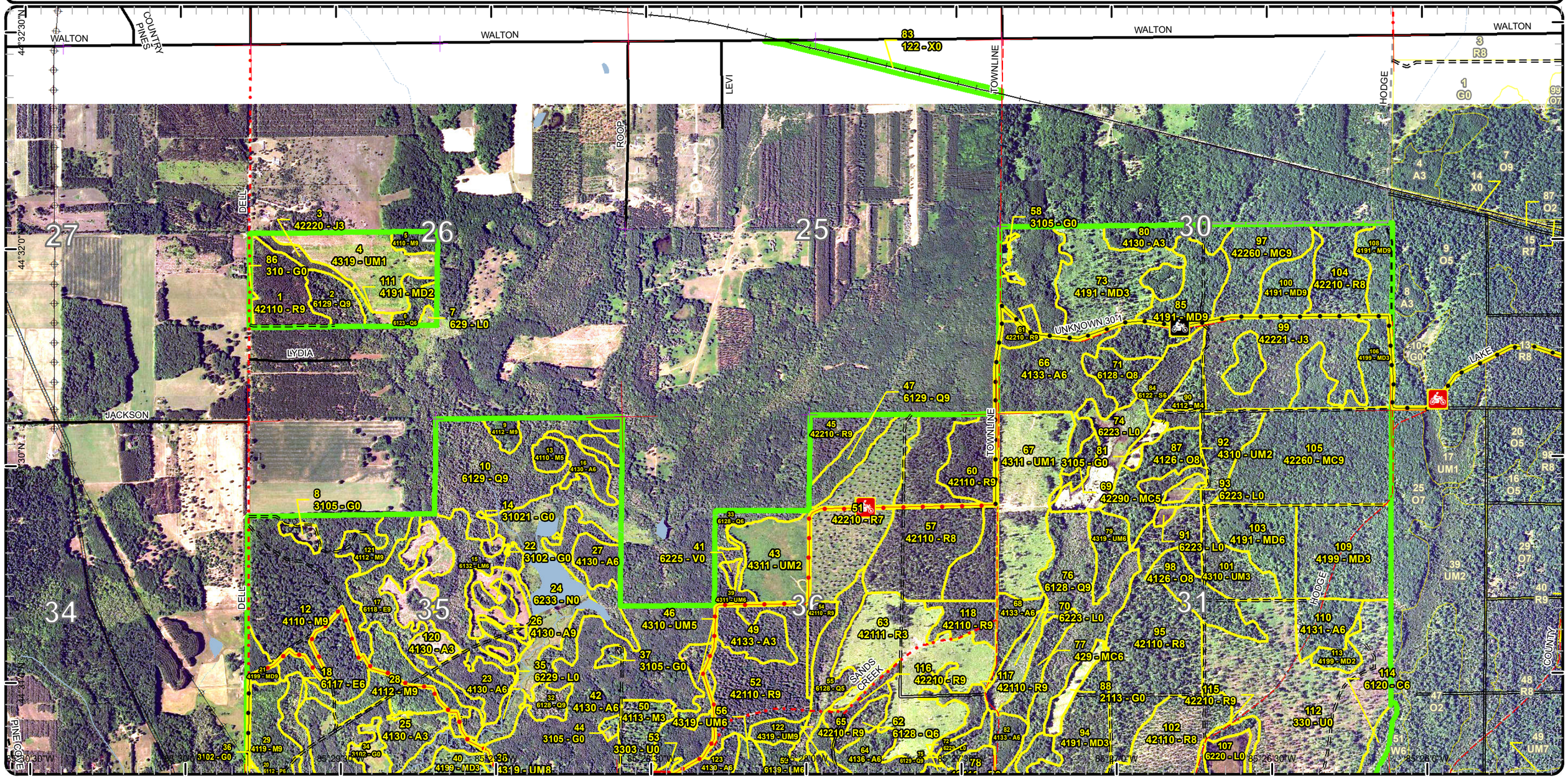

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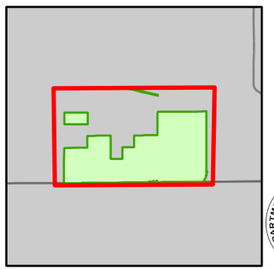

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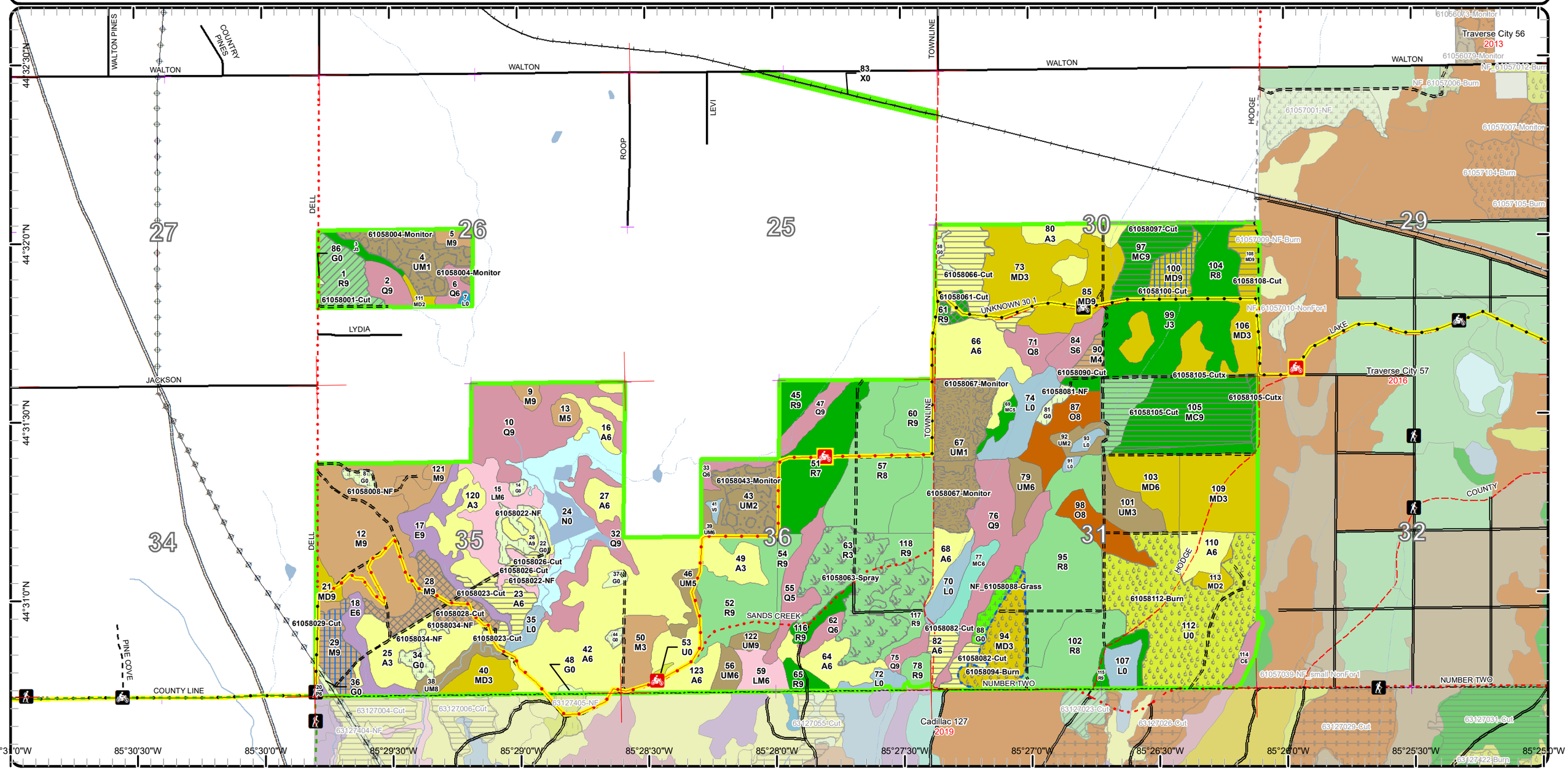

Report 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit **Compartment 58** **Year of Entry 2021**

Patrick Cotant : Examiner

Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	21	33	31	120	126	9	18	0	0	0	0	0	0	0	0	0	9	**367**
Bog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	**7**
Cropland	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Herbaceous Openland	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**36**
Jack Pine	0	0	0	4	53	0	0	0	0	0	0	0	0	0	0	0	0	0	**57**
Low-Density Trees	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**109**
Lowland Aspen/Balsam Poplar	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Lowland Conifers	0	0	0	0	0	6	0	0	6	19	6	57	26	26	0	0	0	53	**199**
Lowland Deciduous	0	0	0	0	0	0	0	0	12	21	0	0	0	0	0	0	0	0	**33**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	**41**
Lowland Shrub	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**57**
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	**11**
Marsh	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**46**
Mixed Upland Deciduous	0	56	0	46	57	24	0	5	0	0	25	30	0	0	0	0	0	0	**241**
Natural Mixed Pines	0	0	0	0	0	0	0	4	0	89	0	0	0	0	0	0	0	0	**93**
Northern Hardwood	0	16	0	0	0	11	0	0	0	4	139	0	0	0	0	0	0	0	**169**
Oak	0	0	0	0	0	0	0	0	0	0	21	0	17	0	0	0	0	0	**38**
Red Pine	0	64	0	0	0	0	0	125	63	163	0	0	0	0	0	0	0	46	**460**
Upland Conifers	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
Upland Mixed Forest	0	103	0	8	35	11	0	10	5	0	0	0	0	0	0	0	0	0	**171**
Urban	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Total	**263**	**260**	**33**	**89**	**277**	**178**	**9**	**162**	**86**	**348**	**191**	**87**	**50**	**26**	**0**	**0**	**0**	**108**	**2161**

Report 2 – Treatment Summary

Traverse City Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 58

Total Compartment Acres: 2,161

Commercial Harvest - 258

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	61	0	0	0	0	0	0	0	0	**61**
Mixed Upland Deciduous	11	0	0	14	0	0	0	0	0	**25**
Natural Mixed Pines	94	0	0	0	0	3	0	0	0	**97**
Northern Hardwood	6	26	0	18	0	0	0	0	0	**50**
Red Pine	0	5	0	0	0	20	0	0	0	**25**
Total	**172**	**31**	**0**	**32**	**0**	**24**	**0**	**0**	**0**	**258**

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	258	0	0	0	135	64	96	0	34	**588**
Next Step	0	70	112	0	108	70	429	0	34	**822**
Total	**258**	**70**	**112**	**0**	**243**	**134**	**525**	**0**	**68**	**1410**

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut

Approved Treatments:

1	**61058001-Cut**	20.1	42110 - Planted Red Pine	Sawtimber Well	68	111-140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	No

Prescription Specs: Thin stand, removing approximately 1/3 of overall volume while also cutting pocket of decline/mortality in NW portion of stand along Dell Rd. Focus removal on suppressed, forked or otherwise poorly formed trees,

Next Step Treatments:

Acceptable Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

4	**61058004-Monitor**	29.6	4319 - Mixed Upland Forest	Sapling Poor	4	Immature	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	No

Prescription Specs: Check seedling success and effects of herbicide,

Next Step Treatments:

Acceptable Regen: fully stocked red pine

Other Comment: Percent to Treat = 100%

Site Condition

Proposed Start Date: 10/1 /2018

8	**61058008-NF**	3.1	3105 - Mixed Upland Herbaceous	Nonstocked		Unspecified	NonForestMgt	Fruit Tree/Shrub Planting	3204 - Mast Producing Shrub		No

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.

Next Step Treatments:

Acceptable Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
14	61058014-NF	1.6	31021 - Cool Season Grass	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	3204 - Mast Producing Shrub		No

Prescription Specs: This opening is a traditional wildlife planting. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it. Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Next Step Treatments:

Acceptable Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
22	61058022-NF	11.1	3102 - Grass	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	3105 - Mixed Upland Herbaceous		No

Prescription Specs: This opening is a traditional wildlife planting. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it. Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Next Step Treatments:

Acceptable Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
23	61058023-Cut	15.5	4130 - Aspen	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No

Prescription Specs: Final harvest stand, avoid excessively wet areas and apply appropriate buffer along creek that runs through adjacent stand 17 to the west. Stand boundary should be sufficient for buffer, consult fisheries prior to compartment review to make sure. Along southeastern stand boundary keep cut on top of slope using larger conifers as treatment edge. Include grouse habitat specs.

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

Acceptable Regen: Aspen, black cherry, red maple, balsam fir and scattered mixed hardwoods.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
26	61058026-Cut	3.7	4130 - Aspen	Sawtimber Well	55		Harvest	Clearcut	413 - Aspen	Even-Aged	No

Prescription Specs: Final harvest to regenerate small pocket of aspen while treating stand 23 to the west. Treatment to focus on more upland portions of multi-part stand, leaving wet areas for long term retention and habitat. Include grouse habitat specs.

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

Acceptable Regen: Aspen with black cherry and red maple.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
28	61058028-Cut	25.7	4112 - Maple, Beech, Cherry Association	Sawtimber Well	95		Harvest	Single Tree Selection	411 - Northern Hardwood	Even-Aged	No

Prescription Specs: Thin stand by removing poorly formed and defected trees with a basal area target of 50-80 sq ft/ac. Create some scattered canopy gaps throughout stand along with some pockets of more aggressive thinning where quality is mediocre in an attempt to regenerate desirable species

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

Acceptable Regen: Sugar maple, red maple, beech, ironwood, black cherry and aspen.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
29	61058029-Cut	18.0	4119 - Mixed Northern Hardwoods	Sawtimber Well	91	111-140	Harvest	Seed Tree with Retention	4116 - Mixed N. Hardwood - Aspen	Two-Aged	No

Prescription Specs: Treat stand by removing all aspen and beech along with majority of red maple - retain good quality sugar and red maple along with some black cherry for seed source. Do not cut hemlock - keep density slightly higher near hemlock pockets in order to maintain some shade on these trees.

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

Acceptable Regen: Expect aspen, red maple, black cherry, beech and sugar maple regeneration throughout stand.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
34	61058034-NF	6.6	3102 - Grass	Nonstocked			NonForestMgt	Fruit Tree/Shrub Planting	3204 - Mast Producing Shrub		No

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.

Next Step Treatments:

Acceptable Regen:

Other Comment: Could periodically top dress and mow to stimulate and maintain existing grass cover. Be sure to get soil sample(s). Ground could be very wet!

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
43	61058043-Monitor	24.5	4311 - Pine, Aspen Mix	Sapling Medium	5	Immature	Monitoring	Artificial Regen(1yr)	4211 - Planted Red Pine	Even-Aged	No

Prescription Specs: Check regen success after re-plant 2018.

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

Acceptable Regen: Red Pine

Other Comment: Percent to Treat = 100%

Site Condition

Proposed Start Date: 10/2 /2019

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
44	61058044-NF	1.6	3105 - Mixed Upland Herbaceous	Nonstocked		Unspecified	NonForestMgt	Fruit Tree/Shrub Planting	3204 - Mast Producing Shrub		No

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.

Next Step Treatments:

Acceptable Regen:

Other Comment: This site has been used as a deer camp.

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
61	61058061-Cut	4.9	42210 - Natural Red Pine	Sawtimber Well	79	81-110	Harvest	Group Selection	4311 - Pine, Aspen Mix	Even-Aged	No

Prescription Specs: Remove approximately 50% of red pine volume along with all other species in an attempt to regenerate aspen and oak species while providing a long term retention area along trail and shorter rotation species

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

Acceptable Regen: Aspen, oak and red pine along with scattered white pine.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
63	61058063-Spray	64.4	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	4	Immature	Pesticide	ERROR	4211 - Planted Red Pine	Even-Aged	No

Prescription Specs:

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

Acceptable Regen: plantation spacing red pine.

Other Comment: Percent to Treat = 100%

Site Condition

Proposed Start Date: 10/1 /2019

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
66	**61058066-Cut**	28.5	4133 - Aspen, Mixed Pine	Poletimber Well	44	111-140	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	No

Prescription Specs: Final harvest aspen, retain scattered conifers and white oak throughout stand. Apply trail protection specs to address rec trails traversing treatment area. Include grouse habitat specs.

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

Acceptable Regen: Aspen, red maple, scattered red and white pine and red and white oak.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
67	**61058067-Monitor**	41.8	4311 - Pine, Aspen Mix	Sapling Poor	4	Immature	Monitoring	Herbicide Use	42110 - Planted Red Pine	Even-Aged	No

Prescription Specs:

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

Acceptable Regen: red pine, jack pine, white pine, red maple, oak, aspen balsam fir.

Other Comment: Percent to Treat = 100%

Site Condition

Proposed Start Date: 5 /1 /2019

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
81	**61058081-NF**	3.5	3105 - Mixed Upland Herbaceous	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	3105 - Mixed Upland Herbaceous		No

Prescription Specs: This opening is a traditional wildlife planting. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it. Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Next Step Treatments:

Acceptable Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
82	**61058082-Cut**	13.4	4133 - Aspen, Mixed Pine	Poletimber Well	45	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	No

Prescription Specs: Final harvest aspen and red maple, retain majority of larger conifer component most notably near Townline and County Line roads. Avoid sensitive soils adjacent to drainage running between multi part stand. Include grouse habitat specs.

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

Acceptable Regen: Aspen species, red maple, red and white pine and scattered oak and balsam fir.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
90	61058090-Cut	6.1	4112 - Maple, Beech, Cherry Association	Poletimber Poor	40	1-50	Harvest	Clearcut	3204 - Mast Producing Shrub		No

Prescription Specs: Remove overstory and attempt to revert to more open stand by commercial harvest and subsequent mechanical brush hog work. Could retain a larger white oak or two and possibly a couple open grown jack pine for diversity and vertical structure. Could connect with stand 81, however narrow strip of stand 99 is providing good cover for wildlife moving E/W.

Next Step Treatments: NonForestMgt, Brush Cutting

Acceptable Regen: Some regeneration of oak and jack pine is expected but harvest coupled with Rx burn will hopefully result in minimal regen in order to maintain open nature of stand.

Other Comment: Please retain oak, some cherry, mature pine, and mast producing shrubs like juneberry. WLD will maintain in future with Rx burn or mechanically to maintain upland brush community.

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
94	61058094-Burn	27.5	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	31	1-50	Burn	Opening	31022 - Warm Season Grass		No

Prescription Specs: Will likely need to selectively remove some woody encroachment (or possibly do a small fire wood sale) to maintain upland brush/grassland community. The main treatment of this stand will be to burn it periodically in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.

Next Step Treatments: NonForestMgt, Herbaceous/Crop/Grass Planting

Acceptable Regen:

Other Comment: Maintain as needed with mowing, native shrub planting, seeding of native grasses/forbs or Forest Certification approved forage, fertilizing, burning, or removal of woody encroachment.

Site Condition Other Influence Zones

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
97	61058097-Cut	23.7	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	87	111-140	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No

Prescription Specs: Final harvest stand retaining a couple islands throughout along with scattered trees throughout stand, no more than ~10-20 sq ft/ac. Determine regen stocking post harvest to see if an opportunity for supplemental red pine planting would be a viable option.

Next Step Treatments: Monitoring, Natural Regen (Intermediate)

Acceptable Regen: aspen, oak species, jack pine, white pine, red pine and red maple.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
100	61058100-Cut	13.5	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	90	81-110	Harvest	Seed Tree with Retention	4122 - Oak, Pine	Even-Aged	No

Prescription Specs: Harvest stand removing majority of canopy, retaining scattered (white) oak and mixed pine for regeneration and mast. Protect existing regeneration as it is quite advanced in many areas of stand. Where aspen clones and individuals are present, minimize retention in order to maximize size of aspen clone regeneration. Leave a small island of larger oak/pine for mast and vertical structure, will also help to account for aesthetics in area where multiple treatments are occurring. Determine whether or not including oak wilt protection spec is necessary when sale is set up.

Next Step Treatments: Monitoring, Natural Regen (Intermediate)

Acceptable Regen: Oak species, red maple, aspen, white pine, red pine and scattered cherry.

Other Comment: Following harvest and regen monitoring, consider planting red pine in areas where regeneration is unsuccessful or remaining stand is more open in order to maintain its presence in stand composition.

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
105	61058105-Cut	70.0	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	89	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No

Prescription Specs: Final harvest portions of stand 95 and 105 and replant entire area to red pine at plantation spacing. Apply chipping specs and require chipping to make sure a clean site is achieved considering the amount of deciduous regen present in areas of treatment. Treatment at southern end is delineated along old RR grade, this area should be excluded.

Next Step Treatments: Pesticide, Aerial - Site Prep; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); SitePrep, Trenching

Acceptable Regen: Red pine at plantation spacing, scattered oak species and red maple.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
105	61058105-Cutx	3.4	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	89	81-110	Harvest	Crown Thinning	429 - Mixed Upland Conifers	Even-Aged	No

Prescription Specs: Remove approximately 50-60% of canopy, retaining white pine, white oak and red pine along with valuable wildlife habitat trees.

Next Step Treatments:

Acceptable Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
108	61058108-Cut	11.4	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	90	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No

Prescription Specs: Final harvest stand retaining a couple small islands along with some scattered trees between islands, specifically larger white pine and white oak. Remove red oak and aspen within any retention islands.

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

Acceptable Regen: Aspen, oak species, red and white pine and red maple.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
112	61058112-Burn	107.9	330 - Low-Density Trees	Nonstocked	0	Unspecified	Burn	Opening	4310 - Pine, Oak Mix	Even-Aged	No

Prescription Specs: Maintain as needed with mowing, seeding of native grasses and forbs, planting native mast bearing shrubs or trees, burning, or removal of woody encroachment.

Next Step Treatments: Burn, Opening

Acceptable Regen: Flora associated with barrens

Other Comment: Percent to Treat = 100%
Burn on a rotational basis. The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, planting native mast bearing shrubs or trees, burning, or removal of woody encroachment.

Site Condition

Proposed Start Date: 11/5 /2019

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
88	NF_61058088-Grass	6.9	2113 - Forage Crops	Nonstocked			NonForestMgt	Other - Specify	3105 - Mixed Upland Herbaceous		No

Prescription Specs: This opening is a traditional wildlife planting. Disk in existing vegetation, plant to annual rye for several years and then convert to native herbaceous or possibly pasture mix (i.e. clover/alfalfa).

Next Step Treatments:

Acceptable Regen:

Other Comment: This area will most likely be part of a Barrens restoration project and therefore the planting should focus on native species. Old next step comments: Maintenance as needed (burn/mow/fert).

Site Condition

Proposed Start Date: 10/1 /2020

Total Treatment Acreage Proposed: 588

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 58

Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	*Acres Avail With Condition*	Acres Not Available		Dominant Site Conditions *5B*	*5C*	2G	2H	3G	5E
366	343	***18***	6	**Aspen**		***18***			0	6
1	1	***0***	0	**Bog**						
7	7	***0***	0	**Cedar**						
7	7	***0***	0	**Cropland**					0	
36	36	***0***	0	**Herbaceous Openland**						
58	58	***0***	0	**Jack Pine**						
109	109	***0***	0	**Low-Density Trees**	***0***					
1	1	***0***	0	**Lowland Aspen/Balsam Poplar**						
197	11	***0***	186	**Lowland Conifers**		***0***	186			0
33	12	***0***	21	**Lowland Deciduous**			21			
41	0	***0***	41	**Lowland Mixed Forest**			41			
57	57	***0***	0	**Lowland Shrub**						
11	0	***0***	11	**Lowland Spruce/Fir**			11			
46	46	***0***	0	**Marsh**						
241	181	***30***	31	**Mixed Upland Deciduous**		***30***			28	3
93	93	***0***	0	**Natural Mixed Pines**						0
170	156	***14***	0	**Northern Hardwood**		***14***				
37	1	***36***	0	**Oak**	***36***					
460	330	***104***	27	**Red Pine**	***21***	***82***	0	10	0	16
10	10	***0***	0	**Upland Conifers**						
171	167	***0***	5	**Upland Mixed Forest**		***0***				5
7	7	***0***	0	**Urban**						
2,161	1,633	***201***	327	Total Forested Acres	***57***	***143***	259	10	28	29
	76%	***9%***	15%	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**	**2G: Too wet (sensitive soils, does not include access issues)**	10	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Lowland stand with springs and seeps eventually forming a small creek in the southern portion of the stand which flows into Sands Creek proper a 1/4 mile to the SE.

2	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	21	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Lowland stand containing springs and seeps which eventually form a small creek in central portion of the stand that flows southeasterly and joins Sands Creek just outside the southern stand boundary.

3	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	26	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Majority lowland stand containing spring and seeps and also two small creeks that flow westerly and join Sands Creek proper just west of the stand boundary.

4	**Unavailable**	**3G: Other Influence zones - See comments**	28	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

Heart of barrens area. Consider running a fire through this if possible, of identify as SCA

5	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	11	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

Wet stand, possibly treatable in the driest of years or the coldest of winters with significant preparation. Not recommended at this time, reevaluate next YOE.

6	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	19	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Lowland stand, small creek forms and flows under Sands Creek rd, deteriorates from there but should be protected for water quality purposes.

7	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	6	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Stand is majority lowland, has small creek flowing through center that forms to the north in stand 70.

8	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	46	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Stand is wet throughout, small drainage, looks perennial but may be drier in the latter part of dry summers. Regardless, stand is wet with sensitive soils and should be protected for water quality purposes.

9	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	6	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

same age as stand to nw. pretty clear underneath at this time so could cut and plant.

10	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	11	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Stand is wet with seeps and springs, small creek forms within stand boundary.

11	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	11	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

Generally wet stand with some seeps and springs, eventually emptying to the south to form creek within stand 74 which flows in a southerly direction.

12	**Unavailable**	**5E: Long-Term Retention**	1	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

13	**Unavailable**	**5E: Long-Term Retention**	7	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

Long term retention from surrounding stands that were treated, also left to serve as a buffer around the sensitive fen/bog within stand 70.

14	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	11	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Wet stand, small creek flows through stand that eventually joins Sands Creek to the west.

15	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	6	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Generally wet stand, small creek flows through stand in a westerly direction, stand, including slightly more upland portions provide buffer to creek while addressing water quality issues.

16	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	53	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Stand is wet with multiple seeps and springs forming small tributaries flowing in both a southerly and easterly direction eventually joining the upper reaches of Sands Creek.

17	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	29	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:

Wet stand with standing water in places. Creek flows through center of stand in a southerly direction eventually joining Sands Creek at the southern edge of adjacent stand 24.

18	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	9	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
19	**Unavailable**	**5E: Long-Term Retention**	3	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
20	**Available**	**5B: Maintain for regeneration purposes**	16	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
21	**Unavailable**	**5E: Long-Term Retention**	6	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
	Comments: Portions of stand are wet and inoperable.						
22	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	18	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
23	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	4	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

24	**Unavailable**	**5E: Long-Term Retention**	9	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
25	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	11	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
26	**Unavailable**	**2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)**	10	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
27	**Unavailable**	**5E: Long-Term Retention**	0	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
28	**Unavailable**	**5E: Long-Term Retention**	0	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
29	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	66	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
30	**Unavailable**	**5E: Long-Term Retention**	0	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

31	**Unavailable**	**5E: Long-Term Retention**	3	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
32	**Available**	**5B: Maintain for regeneration purposes**	21	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
33	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	30	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
34	**Available**	**5B: Maintain for regeneration purposes**	21	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

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

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
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	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.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
1	42110 - Planted Red Pine	Sawtimber Well	20.1	68	111-140	N/A	good quality red pine stand, trace black cherry in mid canopy. beech and cherry regen is evenly distributed throughout understory, medium density. red pine regen concentrated to southern area of stand, trace scotch pine regen in south from adjacent scotch pine on PVT. small pocket of decline in northern part of stand along dell rd. ba hovers around 130-140 with some variability.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	100	Log/Pole	10	68

Sub-Canopy Species	Density	Avg. Height	Size
Beech	Low	< 5 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling
Red Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
2	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	10.1	127	141-170	N/A	small lowland stand dominated by cedar. quite a bit of blowdown in spots. small spring with creek originating in stand. center part of stand has less cedar, more birch, tamarack and scattered larger white pine.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	15	Log/Pole	10	
Black Spruce	10	Log/Pole	10	
Northern White Cedar	40	Log/Pole	10	127

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	< 5 feet	Sapling
Northern White Cedar	Low	< 5 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
3	42220 - Natural Jack Pine	Sapling Well	4.4	29	Immature	N/A	Steep hillside left from last harvest and planting. dominated by jack pine with some oaks, balsam fir and white pine present.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	80	Sapling	4	29
Black Cherry	10	Sapling	2	
Red Maple	10	Sapling	3	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	5 - 10 feet	Sapling
Red Oak	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
4	4319 - Mixed Upland Forest	Sapling Poor	30.1	4	Immature	N/A	This was an old rp/jp strip plantation. Jp was harvested prior to rp and these strips were regeneration to jp. After the rp strips were harvested, the whole site was roller chopped to reduce slash and eliminate jp saplings in old jp strips. Chopped and trenched in 2013. Planted to rp spring 2015. 2016 regen check showe 589 TPA plated rp and 260 tpa cherry with heavy blackberry. Sprayed herbicide 2017 and will supplement plant to bring rp stocking up spring 2018. Re-plant completed spring 2018. Sprayed fall 2018 to control woody competition. Second planting had 1/2-2/3 survival. Check in 2019.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	25	Sapling	1	4
Red Maple	10	Sapling	1	4
Jack Pine	25	Sapling	1	4
Black Cherry	25	Sapling	1	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
5	4110 - Sugar Maple Association	Sawtimber Well	4.2	95	111-140	N/A	fair quality sugar maple stand, trace oak on southern edge, trace hemlock in understory. ba around 110-120. vernal pond in center of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	93	Log/Pole	12	95

Sub-Canopy Species	Density	Avg. Height	Size
Ironwood	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
6	6123 - Lowland Fir	Poletimber Well	5.6	46	1-50	N/A	lowland stand with upland, aspen was removed and is regenerating well in understory of light canopy, dominated by balsam fir. standing water in spots, seeps/springs present in center of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	20	Pole	6	
Northern Pin Oak	10	Pole	6	
Balsam Fir	50	Pole	7	46
Northern White Cedar	10	Pole	8	
Black Cherry	10	Pole	6	

Sub-Canopy Species	Density	Avg. Height	Size
Bigtooth Aspen	High	10 - 20 feet	Sapling
Black Cherry	Low	10 - 20 feet	Sapling
Red Maple	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
7	629 - Mixed non-forested wetland	Nonstocked	1.2			No	MK 4/27/09- Near Private. Beaver flooding, no recent beaver activity. Scat Willow shrubs. A few RP seeds. Lots of old logs and beaver chews.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
8	3105 - Mixed Upland Herbaceous	Nonstocked	3.1		Unspecified	No	MK 4/27/09- Previous wildlife herbaceous planting. Scat pockets of R. Maple and grass spp.
9	4112 - Maple, Beech, Cherry Association	Sawtimber Well	3.9	85	51-80	N/A	upland stand of mediocre quality hardwoods, dominated by red maple.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	75	Log	12	85
Black Cherry	10	Log/Pole	11	
Sugar Maple	10	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling
Northern White Cedar	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
10	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	52.6	111	81-110	N/A	Lowland conifer stand with numerous seeps and springs forming a few small trickles flowing eastward to Sands Creek - heavy soils with areas of standing water throughout the year. Northwestern lobe of stand has some slightly more open areas with tag alder present.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	6	Log/Pole	12	
Balsam Fir	25	Log/Pole	11	
Black Spruce	15	Log/Pole	11	
Northern White Cedar	30	Log/Pole	12	111
Tamarack	7	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling
Black Spruce	Low	10 - 20 feet	Sapling
Northern White Cedar	Low	10 - 20 feet	Sapling
Tamarack	Low	5 - 10 feet	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
12	4110 - Sugar Maple Association	Sawtimber Well	80.4	96	81-110	N/A	Overstory seems to be responding well to recent harvest, minimal mortality/decline and not excessive epicormic branching. Regen stocking/species composition remains to be seen to an extent, some red and sugar maple stump sprouts present, fair amount of sugar maple seedlings at ground level, whether or not these seedlings advance will be determined in the next several years. 2015TS# 081-11. Marked sale. Targeted over sized maple and poor formed trees. Stocking is low in areas and some large canopy gaps were formed. Part of stand north of the road has higher residual stocking as it has more small log/pole product mix. A little Hemlock scattered around. Some blow down around MCCT trail was added to sale. Very good site. Monitor regeneration success.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	63	Log/Pole	11	96
Red Maple	7	Log	12	
Basswood	12	Log	12	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
Beech	Low	< 5 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling
Ironwood	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
13	4110 - Sugar Maple Association	Poletimber Medium	4.5	44	1-50	N/A	stand of regenersting cherry with fir and aspen present as well. trace pin oak as well. stand is entirely upland, surrounded by lowland. must have been accessed from pvt to the north.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	10	Pole	7	
Black Cherry	85	Pole	5	44

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
14	31021 - Cool Season Grass	Nonstocked	1.6		Unspecified	Managed Opening	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
15	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	29.2	80	81-110	N/A	Lowland mix with seeps and springs feeding into the upper reaches of Sands Creek. Some more open areas and remnant old beaver dams with standing water and pockets of tag alder in southern most reaches of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	21	Pole/Log	8	
Quaking Aspen	15	Log/Pole	12	
Balsam Fir	25	Pole/Sapling	6	80
Northern White Cedar	22	Pole/Log	9	80

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	< 5 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Pole
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
16	4130 - Aspen	Poletimber Well	12.2	44	51-80	N/A	aspen poles in the 5-8" range growing well, scattered cherry present along with balsam fir throughout understory in medium density.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	75	Pole/Sapling	6	44
Bigtooth Aspen	8	Pole	7	44
Balsam Fir	10	Pole	7	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
17	6118 - Lowland Deciduous with Cedar	Sawtimber Well	21.2	85		N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	28	Log/Pole	12	85
Bigtooth Aspen	25	Log/Pole	12	
Balsam Fir	13	Pole/Log	8	
Northern White Cedar	25	Log/Pole	10	85

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
18	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	12.0	71	51-80	N/A	originally part of stand 29 but this stand constitutes a creek drainage with lowland/saturated soils and multiple seeps originating in stand forming creek. Variable species composition with conifers dominant in northern portions of stand while deciduous red maple and aspen are more common in southern reaches of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	10	Log/Pole	10	
Red Maple	35	Log/Pole	10	71
Bigtooth Aspen	16	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
Sugar Maple	Low	10 - 20 feet	Sapling
Beech	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
20	6112 - Lowland Aspen	Poletimber Well	1.2	39	51-80	N/A	Small stand originally part of stand 29 to the north - lowland with aspen, cedar, hemlock and fir dominant.

Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	55	Pole/Log	8	39
Balsam Fir	25	Pole/Sapling	7	
Northern White Cedar	10	Pole	7	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
Sugar Maple	Low	10 - 20 feet	Sapling
Beech	Medium	10 - 20 feet	Sapling
Hemlock	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
21	4199 - Other Mixed Upland Deciduous	Sawtimber Well	5.1	60	81-110	N/A	Stand of black locust with scattered sugar maple and black cherry. sugar maple regen present in fair numbers as well.

Canopy Species	% Cover	Size Class	DBH	Age
Black Locust	90	Log/Pole	10	60

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
22	3102 - Grass	Nonstocked	11.1		Unspecified	Managed Opening	Block access to this stand by installing gate across roadway. Gate should be located at tube that passes under road in stand 17. This blockage and gate were previously approved at last inventory cycle in 2009.
23	4130 - Aspen	Poletimber Well	15.6	48	81-110	N/A	fair quality aspen with cherry and red maple present as well. balsam fir understory comes and goes, most dense along creek that flows along east edge of stand. some wet areas within stand. consider final harvesting stand, retain appropriate buffer along creek along with excessively wet areas of stand for retention.
24	6233 - Wet Meadow	Nonstocked	46.3			No	Consider placing nest boxes.
25	4130 - Aspen	Sapling Well	32.7	16	Immature	N/A	Regenerating aspen stand - small amount of lowland throughout stand which contains some cedar, red maple and declining black ash. Harvested under sale # 11-01.
26	4130 - Aspen	Sawtimber Well	9.4	55		N/A	multi part aspen stand surrounding maintained opening complex, aspen is variable in terms of size and quality with some density variability as well. Aged stand as 54, there seems to be potentially some multiple age classes from past management on openings and maybe some small scale timber management that created a couple younger age classes. Pockets of lowland/high water table in areas of stands, surrounded by Q/P-types. These aspen stands maintain opening delineation, work with WLD to see if they'd like any of this aspen commercially cut.
27	4130 - Aspen	Poletimber Well	8.8	60	81-110	N/A	unsure of access. aspen is decent quality with some water table influence adjacent to lowland. balsam fir understory is dense in places, moreso along lowland area.
28	4112 - Maple, Beech, Cherry Association	Sawtimber Well	25.8	95		N/A	Hardwood stand with sugar maple dominant, other northern hardwood deciduous species evenly distributed throughout. Trace hemlock. Consider treating by thinning, creating canopy gaps in places to try and regenerate sugar maple where appropriate. Avoid any excessively wet areas during sale set up - reduce BA to 50-80 sq ft/ac.

23

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	12	Pole/Sapling	7	
Quaking Aspen	40	Pole/Log	8	48
Bigtooth Aspen	34	Pole/Log	8	48
Balsam Fir	10	Pole/Sapling	7	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Sapling

25

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	1	
Bigtooth Aspen	80	Sapling	1	16

26

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Log/Pole	10	
Quaking Aspen	62	Log/Pole	10	55
Bigtooth Aspen	20	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling
Autumn Olive	Medium	5 - 10 feet	Tall Shrub

27

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	95	Pole/Log/Sap	8	60

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	10 - 20 feet	Sapling

28

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	65	Log/Pole	10	95
Red Maple	10	Pole/Log	8	95
Bigtooth Aspen	7	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Low	10 - 20 feet	Sapling
Red Maple	Medium	< 5 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling
Ironwood	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
29	4119 - Mixed Northern Hardwoods	Sawtimber Well	19.6	91	111-140	N/A	fair quality hardwood stand with significant, large sized big tooth aspen component. variable hardwoods in terms of size and species composition, northern portion more dominated by sugar maple poles, other areas of stand larger hardwood species are more common. hemlock is present throughout with a more concentrated pocket of larger individuals. some large wp present as well. consider treating stand aggressively removing all aspen and beech and majority of red maple, retain scattered seed tree sugar and red maple along with slightly higher density hardwoods near hemlocks to maintain shade component. MO is to regenerate aspen in pockets and hopefully get sugar maple regen as well. conifer retention will help to maintain thermal cover. wet areas just north of old grade along with vernal pond in northern tip of stand will need to be avoided if harvest takes place. old WLD-stand falls within a moraine landscape best managed toward contiguous n. hardwood. Allow to succeed toward n. hardwood -very diverse at present. remove aspen in future entry.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	55	Log/Pole	11	91
Red Maple	15	Log/Pole	10	
Bigtooth Aspen	14	Log/Pole	11	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling
Sugar Maple	Low	10 - 20 feet	Sapling
Beech	Medium	10 - 20 feet	Sapling
Hemlock	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
32	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	25.6	111	111-140	N/A	Lowland stand with multiple seeps and creeks within stand boundary draining to the west and joining Sands Creek. Very wet, mucky soils throughout, potentially could harvest some of the edges when adjacent stand 42 is treated.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Pole/Log	8	
Balsam Fir	20	Log/Pole	12	
Northern White Cedar	47	Log/Pole	11	111

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
33	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	6.1	90	81-110	N/A	Lowland stand with small upland areas near stand edges. Cedar, hemlock, fir dominant along with scattered aspen, red maple and trace tamarack. Creek flows through northern portion of stand, old railroad grade parallels creek running in an E/W direction through stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Pole/Log	9	
Balsam Fir	15	Pole/Log	8	
Northern White Cedar	35	Log/Pole	10	90

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
34	3102 - Grass	Nonstocked	6.6			No	MK 4/27/09- Access to stand is quite wet and rutted. May also need to restrict access to help with ORV damage. 8 apple trees, light amount of scat aspen regen throughout perimeter to N. has fair amount of aspen encroachment. Scat Hawthorne seeds.
35	6229 - Mixed lowland shrub	Nonstocked	5.7			No	
36	3102 - Grass	Nonstocked	2.1			No	MK 4/27/09- Power/pipelline
37	3105 - Mixed Upland Herbaceous	Nonstocked	2.0		Unspecified	No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
38	4319 - Mixed Upland Forest	Sawtimber Medium	9.7	65	1-50	N/A	Majority upland stand with Sands Creek running through center of it. Stand 35 adjacent to the NE is more lowland and a larger flatter area, break with this stand is where beaver dams have historically occurred because of the nature of the topo. Stand 38 has higher/slightly steeper banks and is therefore considered mainly upland, with the creek being too small/narrow to delineate as it's own stand. Great wildlife stand, numerous snags present, a great deal of wildlife activity in this general area.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Log	12	
Bigtooth Aspen	40	Log	12	65
Balsam Fir	10	Log/Pole	10	
Northern White Cedar	10	Pole	8	
White Pine	15	Pole	8	
Hemlock	10	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	5 - 10 feet	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub
Red Maple	Low	5 - 10 feet	Sapling

banks along sands creek with aspen, balsam, cedar, wp

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
39	4311 - Pine, Aspen Mix	Poletimber Well	6.8	34	81-110	N/A	Mixed upland stand slowly transitioning to lowland as you move north through the stand. Stand 41 is a bog slightly lower than the bulk of stand 39 aside from the southern part of the stand that has a bit more topo. Aspen is concentrated in southern part of stand with red pine scattered - lower BA red pine is more dominant around stand 41.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Sapling	6	
Bigtooth Aspen	45	Pole/Sap/Log	8	34
Red Pine	40	Log	12	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
40	4199 - Other Mixed Upland Deciduous	Sapling Well	14.2	6	1-50	N/A	Regeneration of aspen and red maple doing well, retention areas concentrated around wet areas.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	50	Sapling	1	6
Quaking Aspen	10	Sapling	1	
Bigtooth Aspen	25	Sapling	1	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
41	6225 - Bog	Nonstocked	1.4			No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
42	4130 - Aspen	Poletimber Well	107.4	32	1-50	N/A	Variable aspen stand in terms of size and stocking, transitioned from sap to pole since last yoe. Still areas of sapling sized trees in pockets and scattered throughout. some scattered n pin oak throughout, fir, white pine and oak saplings in understory. Red pine scattered throughout as well. High water table influence along western edge of stand adjacent to q-type. Some standing water/vernal pond areas and increased balsam fir in understory as stand slopes to lowland area. Some slightly more open areas are present throughout stand as well - not true open areas but slight reduction in stocking in these areas compared to bulk of the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	57	Pole/Sapling	6	32
Bigtooth Aspen	20	Pole/Sapling	5	
Northern Pin Oak	8	Log	14	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling
Red Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
43	4311 - Pine, Aspen Mix	Sapling Medium	24.5	5	Immature	N/A	2018: Checked I 10/2018. Some aspen and other woody competition survived. Regen survey showed high mortality and living trees with browned up needles. Recommend inter-plant 2019. Re-planting completed spring 2019. Harvested 2012. TS# 091-11. TCR 2/2013Thinned in 91 sale and 01 sale. Could cut and plant red pine. Some rm balsam and aspen but not too bad. May need herbicide or some spots planted around. Regen survey in 2016 showed 578tpa red pine and 896 tpa aspen. Herbicide 9/2017 to control aspen.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	40	Sapling	1	5
Bigtooth Aspen	20	Sapling	1	7
Red Maple	20	Sapling	1	5
Black Cherry	10	Sapling	1	5
White Pine	10	Sapling	1	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
44	3105 - Mixed Upland Herbaceous	Nonstocked	1.6		Unspecified	No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
45	42210 - Natural Red Pine	Sawtimber Well	10.4	69	81-110	N/A	Upland/lowland stand dominated by red and jack pine. Hunt club and creek block access. Stand has a bog in the north central portion and some standing water in hummocky portions of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole	8	
Quaking Aspen	8	Log	10	
Red Pine	69	Log	12	69
Jack Pine	10	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
46	4310 - Pine, Oak Mix	Poletimber Medium	8.1	25	1-50	N/A	mixed stand with variable species composition, dominated mainly by jack pine small poles and areas of larger saplings. oak is patchy, mediocre quality.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Log/Pole/Sap	10	
Red Oak	15	Pole/Sap/Log	8	
Jack Pine	40	Pole/Sapling	5	25
Red Pine	10	Pole	5	
Quaking Aspen	10	Sapling/Pole	4	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
Northern Pin Oak	Low	5 - 10 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
47	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	10.2	120	Unspecified	N/A	Generally lowland with creek flowing through center of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	10	Log	10	
Northern White Cedar	43	Log	10	120
Hemlock	30	Log	14	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Sapling
Hemlock	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
48	3105 - Mixed Upland Herbaceous	Nonstocked	1.2			No	MK 4/27/09- Part of open extend into southern compact. Deer camp in opening, 2 large rubs in Northern end

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
49	4133 - Aspen, Mixed Pine	Sapling Well	14.1	26	1-50	N/A	aspen sapling stand with white oak, balsam fir and white pine scattered throughout as well. red pine log sized trees scattered throughout stand as residual from harvest -10-20ba

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	50	Sapling	3	26
Bigtooth Aspen	20	Sapling	3	26
Red Pine	20	Log	14	73

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
Jack Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
50	4113 - R.Maple, Conifer	Sapling Well	16.0	6	1-50	N/A	mixed stand with scattered overstory red pine, mixed regeneration throughout. regen is relatively dense with some stocking variability.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	70	Sapling/Pole	2	6
Balsam Fir	10	Sapling	3	
Red Pine	15	Log	14	89

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
Beech	Low	< 5 feet	Sapling
Bigtooth Aspen	Low	10 - 20 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Sapling
Black Cherry	Medium	10 - 20 feet	Sapling
White Oak	Low	5 - 10 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
51	42210 - Natural Red Pine	Sawtimber Poor	45.5	69	1-50	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	90	Log	12	69

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
Bigtooth Aspen	Low	10 - 20 feet	Sapling
Balsam Fir	Low	10 - 20 feet	Sapling
Red Pine	High	< 5 feet	Seeding
Jack Pine	Medium	< 5 feet	Sapling
White Oak	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
52	42110 - Planted Red Pine	Sawtimber Well	39.6	73	81-110	N/A	red pine with relatively uniform density, good quality aspen regen in understory. balsam fir, oak and red maple regen as well along with some pockets of jack pine. should separate stand in south along road, higher density white pine along with oak and aspen. Consider allowing aspen to advance to merchantable size then final harvest and replant portions or determine what aspen stocking ends up being and convert.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	100	Log	14	73

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	>20 feet	Sapling
Beech	Low	5 - 10 feet	Sapling
Bigtooth Aspen	Medium	>20 feet	Sapling
Jack Pine	Low	5 - 10 feet	Sapling
Black Cherry	Medium	5 - 10 feet	Sapling
White Oak	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
53	3303 - Mixed Low Density Trees	Nonstocked	1.1		Unspecified	No	MK 4/27/09- Mixed up herbaceous. Opening closing in. J. Pine Cherry Grass Spp Bracken Sedge SJW POV Aspen R Maple

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
54	42110 - Planted Red Pine	Sawtimber Well	5.5	73	111-140	N/A	Originally part of stand 51, was retained when Stand 51 was treated with regeneration harvest. Red pine growing well, higher density than most of the surrounding stands, small acreage.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	92	Log	13	73

Sub-Canopy Species	Density	Avg. Height	Size
White Oak	Low	5 - 10 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
55	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	18.6	81	51-80	N/A	lowland with creek in stand flowing south. significant mortality throughout stand as ash is dying off and stand is periodically flooded - leading to variability in canopy closure with some relatively open areas, mainly concentrated in center portions of stand. small patches of phragmites in stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Pole/Log	8	
Quaking Aspen	10	Log/Pole	10	
Balsam Fir	24	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling
Tag Alder	Medium	5 - 10 feet	Tall Shrub
White Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
56	4319 - Mixed Upland Forest	Poletimber Well	6.8	33	1-50	N/A	mixed stand, cut when aspen to the west was harvested. major conifer component of wp, fir, hemlock and trace red pine. some areas very wet with standing water in spots. white pine is large dbh and tall, hemlock and cedar are intermediate canopy class along with majority of aspen and red maple poles/saps. aspen and red maple are barely pole sized overall with small poles and bigger saplings throughout.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	Pole/Sapling	5	33
White Pine	20	Log	16	99
Red Maple	15	Sapling/Pole	3	
Hemlock	10	Pole/Sapling	6	
Balsam Fir	10	Sapling/Pole	4	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	< 5 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling
Hemlock	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
57	42110 - Planted Red Pine	Sawtimber Medium	55.5	69	51-80	N/A	50-80 ba of red pine, white oak and trace pin oak left after harvest. consider trating all or part of stand by removing overstory, expect damage to advanced regen.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	92	Log	12	69
White Oak	8	Log	12	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
Bigtooth Aspen	Medium	10 - 20 feet	Sapling
White Pine	Medium	5 - 10 feet	Sapling
Jack Pine	Low	< 5 feet	Sapling
Black Cherry	Low	10 - 20 feet	Sapling
White Oak	Low	5 - 10 feet	Sapling
Witch Hazel	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
58	3105 - Mixed Upland Herbaceous	Nonstocked	2.0			No	MK 5/4/09- Access has been blockedby private party. Large log placed in 2 track off Townline Rd. Small opening. Scattered trash, tires, furniture. Near private to the North. Some aspen encroachment.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
59	6139 - Mixed Lowland Forest	Poletimber Well	11.4	85	51-80	N/A	lowland for the most part, mixture of species with some open pockets resulting from blowdown most likely. some extensive areas of very dense hemlock. 1999 WLD-Aspen-fir Hummocky, high water table, transition type-orange ribbon fungus.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	25	Log/Pole	10	85
Quaking Aspen	11	Log	12	
Balsam Fir	15	Log/Pole	10	85
Northern White Cedar	10	Log/Pole	10	
Hemlock	25	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	5 - 10 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
60	42110 - Planted Red Pine	Sawtimber Well	32.8	69	81-110	N/A	red pine stand with some variability in stocking, in areas of lower ba and more open canopy oaks saplings are dense along with some aspen and red maple.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	100	Log	12	69

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
Bigtooth Aspen	Low	10 - 20 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling
Black Cherry	Low	10 - 20 feet	Sapling
White Oak	Medium	10 - 20 feet	Sapling
Northern Pin Oak	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
61	42210 - Natural Red Pine	Sawtimber Well	4.9	79	81-110	N/A	Small red pine stand with aspen and red maple growing in understory. Snowmobile trail runs through stand, if treating, retain ~1/2 or less of red pine canopy and remove all other species in an attempt to regenerate. Will provide some aesthetic break up if adjacent stand is final harvested.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	6	Pole/Log	9	
Bigtooth Aspen	16	Pole	6	46
Red Pine	76	Log/Pole	12	79

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
62	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	5.6	71	81-110	N/A	SMALL FEEDER STREAMS TO SANDS CREEK ORIGINATE IN THIS STAND

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Pole/Log	8	
Balsam Fir	35	Pole/Log	8	
Northern White Cedar	40	Pole	8	71

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
63	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	64.4	4	Immature	N/A	Regen survey completed on 10/7/2019, stand needs to be release sprayed to give red pine FTG status. At the time of the 3 year regen survey it will need to be determined whether stand meets minimum stocking requirements, if not it we will need to determine if a supplemental planting is feasible. Approximately 24 acres of stand was replanted in 2019 under proposal C61-598. TS# 103-11. 2018 # yr regen check. Good stocking of red pine seedlings due to mix of planted pine and natural red pine regen. Woody competition is affecting FTG ratio. Herbicide to release pine in 2019. Skidder application required. Harvest winter 2014-15. Retained all oak and red pine 6" or less and white and red pine 20"dbh or over. There are a few large older red and white pine that were retained. Tops chipped to allow trenching and re-planting to red pine. Trenched 2016. FTP C61-595 Planted 2016. Regen check 2017: 721tpa rp 1004 non target tpa-rm, aspen, cherry.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	75	Sapling	1	4
Bigtooth Aspen	15	Sapling	1	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
64	4136 - Aspen, Mixed Conifer	Poletimber Well	17.8	62	81-110	N/A	Mixed stand on upland ground for the most part with some lowland areas and areas of higher water table, especially in the eastern part of the stand near the L and P-type stands - more balsam fir and trace cedar show up in the understory and along the edge of stand here. Aspen is variable in terms of size and quality as well as some differences in stand stocking in places. White pine is evenly distributed with more concentrated in the northern finger along stannd 62. Could consider treating stand but will have some green up issues along southern border of stand 63. Aspen should hold, could wait until next YOE.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Log/Pole	11	
Quaking Aspen	26	Pole/Log	8	62
Bigtooth Aspen	20	Pole/Log	9	
Balsam Fir	16	Pole/Sapling	6	
White Pine	10	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	< 5 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site
65	42210 - Natural Red Pine	Sawtimber Well	5.8	69	81-110	N/A

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	27	Log/Pole	12	
Red Pine	61	Log/XLog	14	69

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	< 5 feet	Sapling
Balsam Fir	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
66	4133 - Aspen, Mixed Pine	Poletimber Well	62.1	44	111-140	N/A	Aspen stand with other deciduous species present along with a moderate conifer component. Oaks scattered throughout, generally larger than aspen. Aspen size and stocking is variable throughout with stand averaging pole sized but sapling and log sized pockets present throughout as well. Consider cutting all or part of stand leaving retention pockets along eastern edge and retaining conifer component. Treat stand 61 concurrently, removing all aspen from that stand as well. jack pine component should be designated for removal as well.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	25	Pole/Sapling	7	
Bigtooth Aspen	40	Pole	8	44
White Pine	6	Pole	6	
Red Pine	11	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
Red Pine	Low	5 - 10 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
67	4311 - Pine, Aspen Mix	Sapling Poor	48.0	4	Immature	N/A	Trenched 2015. Planted red pine 2016.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	40	Sapling	1	4
Bigtooth Aspen	30	Sapling	1	6
Red Maple	10	Sapling	1	6
Black Cherry	15	Sapling	1	6

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
68	4133 - Aspen, Mixed Pine	Poletimber Well	9.2	45	1-50	N/A	mixed stand with aspen dominant, jack pine more prevalent in northern areas of stand. paper birch and larger red and white common along towline rd. white pine saps throughout understory in low to medium density.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	Pole/Sapling	6	45
Bigtooth Aspen	15	Pole/Sapling	6	
White Pine	11	Pole/Sap/Log	8	
Jack Pine	10	Pole/Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	< 5 feet	Sapling
Northern Pin Oak	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
69	42290 - Natural Mixed Pine	Poletimber Medium	4.4	65	51-80	N/A	Lowly stocked, mixed stand of pine and some scattered oak throughout. Pockets of regen present in more open areas of stand. Results from some aspen removal by beavers in adjacent flooding.

Canopy Species	% Cover	Size Class	DBH	Age
Northern Pin Oak	11	Log/Pole	12	
Balsam Fir	25	Pole	6	
White Pine	40	Pole/Log	9	65
Red Pine	24	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Quaking Aspen	Low	< 5 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
Red Pine	Low	5 - 10 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
70	6223 - Inundated Shrub Swamp	Nonstocked	10.1			No	
71	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Medium	10.9	100	51-80	N/A	majority lowland stand with pockets of alder where canopy is more open, some hummocky drier ground with larger red and white pine present. lots of wildlife use, standing water in many places.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Log	8	
Bigtooth Aspen	10	Log	13	
Northern Pin Oak	12	Pole/Log	8	
Balsam Fir	12	Pole	8	
Northern White Cedar	6	Pole/Log	8	100
White Pine	23	Log/Pole/XLog	15	100

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	5 - 10 feet	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub
Red Maple	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
72	6229 - Mixed lowland shrub	Nonstocked	5.8			No	
73	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	39.0	6	1-50	N/A	Aspen stand with overstory oak and pine scattered throughout. Aspen and red maple saplings dominant in the 5-15' range with overstory oak and pine featured in canopy as well. Overall, regeneration was successful with some small pockets lighter where heavy browse occurred on red maple where that species was dominant. TS# 093-11. Aspen final harvest with retention.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Sapling	1	
Red Oak	15	Log	14	99
White Oak	10	Log	12	
White Pine	15	Log	12	99
Red Pine	10	Log	12	99

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	< 5 feet	Sapling
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
74	6223 - Inundated Shrub Swamp	Nonstocked	21.1			No	
75	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	5.7	120	51-80	N/A	Lowland mix with small perennial creek flowing through stand. includes small areas of upland slopes leading to stand. need to adjust boundaries slightly.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	20	Pole	8	
Northern White Cedar	35	Log	12	120

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
76	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	45.9	100	81-110	N/A	lowland stand with some stocking variability, tag alder in more open areas, standing water in most of stand with scattered small areas of high ground.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	30	Log/Pole	12	100
Balsam Fir	10	Pole/Log	8	90
Northern White Cedar	45	Pole/Log	8	100

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
77	429 - Mixed Upland Conifers	Poletimber Well	10.5	39	1-50	N/A	mixed stand with lots of variability in terms of stocking, density and species composition. areas of mixed saplings, larger pole/log red pine, dense white pine and some more open areas. northen part of stand is heavier to fir as elevation drops slightly while still remaining upland. need to adjust stand lines.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	20	Pole	6	
White Pine	40	Pole/Sapling	7	39
Red Pine	10	Pole/Log	8	
Jack Pine	8	Sapling/Pole	4	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
78	42110 - Planted Red Pine	Sawtimber Well	5.6	71	81-110	N/A	red pine stand with oaks, some white pine near perimeter. understory of aks, balsam fir and white pine, trace helock.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	90	Log	13	71

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
White Oak	Low	10 - 20 feet	Sapling
White Pine	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
79	4319 - Mixed Upland Forest	Poletimber Well	10.6	45	1-50	N/A	Scattered big oaks and red pine with mixed conifer and deciduous regeneration filling in, mix of smaller poles and larger saplings.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Sapling	7	45
White Oak	19	Log/XLog	16	115
Bigtooth Aspen	11	Pole/Sapling	8	45
Balsam Fir	20	Pole	8	45
Jack Pine	20	Pole/Sapling	7	45
Black Cherry	10	Pole/Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
White Oak	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
80	4130 - Aspen	Sapling Well	16.7	27		N/A	Patchy regen in places, specifically in northern portion of multipart stand. Aspen and other species are beginning to reach pole size with some trees in the 5-6" range but overall stand is still sapling sized/A3. WAS O/I STAND 77. SPLIT IN TO IFMAP STANDS 62 AND 70. WAS A2 CUT UNDER CONTRACT 003-91

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Sapling/Pole	4	27
Quaking Aspen	20	Sapling	3	27
Bigtooth Aspen	42	Sapling/Pole	4	27
Black Cherry	10	Sapling	2	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
81	3105 - Mixed Upland Herbaceous	Nonstocked	3.5		Unspecified	No	MK 5/6/09- Nice stand next to z-type mixed hardwoods Few scat oaks, RP, volunteer seedling scattered. Old DNR rye plantingBracken Grass Spp, SKW, SJW, cladonia, LBS, Pov.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
82	4133 - Aspen, Mixed Pine	Poletimber Well	13.4	45	81-110	N/A	nice aspen stand with scattered white pine, oak and red pine present. aspen is growing well with some variability in spots. paper birch and red maple present as well in relatively low numbers. slope along east edge should be operable if treatment is desirable. area on east side of drainage has trace larger oak left from cut of stand to the east. slightly lower elevation with some high water table influence east of drainage as well.

Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	65	Pole	8	45
White Pine	15	Log	12	95
Red Pine	10	Log	12	95

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	5 - 10 feet	Sapling
White Pine	Medium	5 - 10 feet	Sapling
Witch Hazel	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
83	122 - Road/Parking Lot	Nonstocked	7.3			No	Railroad grade.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
84	6122 - Black Spruce	Poletimber Well	11.4	89	81-110	N/A	lowland, standing water in spots, small seeps and the beginnings of a creek at south end of stand. spruce, fir tamarack and cedar dominate, trace birch and red maple, oak saps present along transition edges.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	10	Pole	7	
Black Spruce	70	Pole	7	89
Northern White Cedar	6	Log	11	89
Tamarack	6	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	Tall Shrub
Balsam Fir	Medium	5 - 10 feet	Sapling
Black Spruce	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
85	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	29.6	102	111-140	N/A	oak stand with red pine, white pine and red maple present throughout along with scattered small aspen clones. white pime understory is thick in spots, medium density overall. oak is generally healthy, decline occurring mainly in pin and red. aspen is declining as well, should be removed. scattered jack pine in southern area of stand, somewhat of a transition zone to stand 71, fir is present here as well along with a higher concentration of canopy red maple. consider treating all of stand aggresively, consider rx burn to promote an oak barrens which seems to be somewht naturally occurring especially in western areas of stand. consult with wld on this stand to see how desirable a burn would be considering treatments that will be prescribed to the east.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole	8	
Red Oak	30	Log	14	102
White Oak	23	Log/Pole/XLog	14	
Bigtooth Aspen	10	Log/Pole	11	
White Pine	10	Log	12	
Red Pine	10	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
White Pine	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
86	310 - Herbaceous Openland	Nonstocked	1.0	0		No	Opening along road ROW, some seedlings present, also includes what looks like an old homestead area in central part of stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
87	4126 - White, Black, N. Pin Oak	Sawtimber Medium	20.6	95	1-50	N/A	somewhat open stand with large white and n pin oak throughout. understory is filling in with red maple and scattered oak saps, along with scattered small area aspen clones. some fir, white and jack pine present. could consider burning to set back regen, maybe remove a bit more of the overstorybprior to burn and mow some of the regen at that time, then burn? consult with wld, adjcent to managed opening. see old comment - Has very nice savannah look Could consider burning to maintain? It was cut in last 10-20 years but the old savannah trees were left. A burn soon may be able to maintain this stand of maybe it would need a follow up burn another yeat. Not enough commercial to sell at this time.

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	10	Log	14	95
White Oak	80	Log	14	95
Northern Pin Oak	10	Log	14	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
Jack Pine	Medium	5 - 10 feet	Sapling
Black Cherry	Low	10 - 20 feet	Sapling
White Oak	High	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
88	2113 - Forage Crops	Nonstocked	6.9			Managed Opening	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
90	4112 - Maple, Beech, Cherry Association	Poletimber Poor	6.1	40	1-50	N/A	low quality, low stocked deciduous mix of variable size with scattered jack and white pine. consider cutting with one of the stands to the north and maybe burning to maintain more open nature of portions of the stand. WLD-Concur with FRD. Previous prescription was brush cutting to maintain stand as open with scattered trees. Lots of blueberries.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	84	Pole/Sapling	6	40

Sub-Canopy Species	Density	Avg. Height	Size
Northern Pin Oak	Low	5 - 10 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
91	6223 - Inundated Shrub Swamp	Nonstocked	1.3			No	
92	4310 - Pine, Oak Mix	Sapling Medium	6.3	30	Immature	N/A	mixed regenerating stand dominated by jack pine.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Sapling	4	
Red Oak	10	Sapling	3	
Jack Pine	50	Sapling	4	30
Black Cherry	10	Sapling	3	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
93	6223 - Inundated Shrub Swamp	Nonstocked	2.6			No	Stand swapped from Non-Forested to Forested. Stand swapped from Forested to Non-Forested.
94	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	27.6	31	1-50	N/A	Regenerating stand, filling in with a slightly more open nature in southern end of stand. Diverse mixture of species represented throughout. Quite a bit of size variability but remains sapling sized overall with some pole sized jack pine and other species.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	2	
Red Oak	10	Sapling	2	
White Oak	10	Sapling	2	
Bigtooth Aspen	15	Sapling	3	31
Northern Pin Oak	10	Sapling	2	
White Pine	10	Sapling	2	
Jack Pine	20	Sapling/Pole	3	31

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
95	42110 - Planted Red Pine	Sawtimber Medium	81.9	83	51-80	N/A	red pine overstory with oak acattered around. jack pine regen is dense in places as is oak. need to decide what to do with overstory, either this yoe or next.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	88	Log	12	83

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling
Jack Pine	Low	< 5 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling
White Oak	Medium	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
97	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	23.7	87	111-140	N/A	Mixed stand of pine and oak, similar to adjacent stand 100 but with a higher concentration of red pine and including a component of jack pine. Aspen is in clumps with some individual trees scattered throughout stand. Jack pine needs to go, is declining - aspen is also beginning to fall out of stand. Oaks are large and old age, fair quality overall with some decline. Recommend treatment to regenerate stand in conjunction with stand 100. Could seed tree this area or harvest and leave islands then determine regeneration success and do supplemental planting if necessary.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Pole	8	
Red Oak	10	Log	14	
Bigtooth Aspen	10	Log	12	
White Pine	8	Log	12	
Red Pine	37	Log	12	87
Jack Pine	15	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
White Oak	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
98	4126 - White, Black, N. Pin Oak	Sawtimber Medium	16.6	110	1-50	N/A	oak pine stand, thinned in 1989. filling in well with advanced oak and scattered pine regen. need to consider next steps, remove overstory and allow regn to advance? leave until regen is advanced enough that operations will do less damage?

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	39	Log	14	
White Oak	41	Log	14	110
Red Pine	20	Log	11	

Sub-Canopy Species	Density	Avg. Height	Size
Jack Pine	Low	5 - 10 feet	Sapling
Black Cherry	Medium	5 - 10 feet	Sapling
Bigtooth Aspen	Low	5 - 10 feet	Sapling
White Oak	High	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
99	42221 - Natural Jack Pine, Mixed Deciduous	Sapling Well	53.2	31	Immature	N/A	dense regen of jack pine, oak, red mape, aspen and scattered red and white pine. transitioning from sapling to pole.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	2	
Jack Pine	61	Sapling	3	31

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
100	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	13.5	90	81-110	N/A	mixed stand of oak and pine with aspen and red maple present throughout. decent white pine and oak regen throughout, consider final harvest leaving a small island of larger oak and pine for mast and structure, protect existing regen as best as possible and evaluate fegen stocking post harvest. if there is space consider interplanting red pine to maintain its place in the species composition, natural regen of rp is unlikely based on results of surrounding cuts.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Log	8	
Red Oak	33	Log	14	90
White Oak	20	Log/Pole	10	90
Bigtooth Aspen	12	Log/Pole	11	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	5 - 10 feet	Sapling
White Pine	Medium	5 - 10 feet	Sapling
White Oak	Medium	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
101	4310 - Pine, Oak Mix	Sapling Well	15.5	31		N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	2	
White Oak	10	Sapling	2	
Jack Pine	51	Sapling	3	31
Black Cherry	10	Sapling	2	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
102	42110 - Planted Red Pine	Sawtimber Medium	33.1	85	1-50	N/A	oak advancing nicely, pretty well formed with moderste density throughout. white oak looks to be dominant with n pin oak making up remainder along with red maple, balsam fir, white pine and jack pine.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	100	Log	13	85

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
White Oak	High	10 - 20 feet	Sapling
Northern Pin Oak	Medium	10 - 20 feet	Sapling
Jack Pine	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
103	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	23.5	45	1-50	N/A	mixed stand of oak and red maple with aspen clones, red maple clumps advancing slowly. trace white pine and balsam fir in understory. scattered large red/pin oak retained during last harvest. barely pole sized.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	30	Pole/Sapling	5	45
Red Oak	12	Pole/Sapling	6	45
Bigtooth Aspen	22	Pole/Sapling	5	
White Pine	7	Sapling	4	
Jack Pine	10	Sapling	3	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	< 5 feet	Sapling
Hazelnut (Beaked)	Medium	10 - 20 feet	Tall Shrub
White Oak	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
104	42210 - Natural Red Pine	Sawtimber Medium	21.3	87	1-50	N/A	oak and pine left when stand was cut in 2001, regen of oak, red maple, aspen and pine doing well. overstory is in good shape, regen is advanced enough at this point that overstory removal would significantly set back existing regen.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	92	Log/Pole	11	87

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	10 - 20 feet	Sapling
Bigtooth Aspen	Low	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling
Jack Pine	Medium	< 5 feet	Sapling
Red Oak	Medium	5 - 10 feet	Sapling
White Oak	Low	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
105	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	65.1	89	81-110	N/A	mixed stand of pine and oak with red maple and aspen present. red pine, white pine, white oak and northern pin are dominant, jack pine scattered throughout. old railroad grade along southern stand edge. consider treating stand by final harvesting, aside from a couple small islands along hodge rd, along with some scattered white oak and red/white pine between. remainder of stand should be planted to red pine. existing understory/regen is not high throughout but stand will need to be sprayed to control stump sprouting resulting from harvest. some pockets of younger regen present, for the most part these small areas are merchantable.

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	10	Log	14	89
White Oak	15	Log/Pole	12	
White Pine	15	Pole/Log/Sap	6	
Red Pine	45	Log	12	89

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
Black Cherry	Low	5 - 10 feet	Sapling
Witch Hazel	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
106	4199 - Other Mixed Upland Deciduous	Sapling Well	28.9	31	1-50	N/A	dense regen throughout with scattered overstory oak and pine.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Sapling	2	
Red Oak	10	Sapling	2	
White Oak	6	Sapling	2	
Bigtooth Aspen	39	Sapling	2	31
Northern Pin Oak	10	Sapling	2	
Jack Pine	6	Sapling	2	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
107	6220 - Alder/willow	Nonstocked	9.4			No	MK 5/6/09- Similar with stands 82, 84 but these 2 have more water. Old RR grade separates stands 82-84. Old JP snags

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
108	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	11.4	90	81-110	N/A	mixed stand of oak, aspen and pine. aspen component is significant enough throughout stand that ample regeneration is expected. consider final harvesting stand, retaing a couple small islands concentrated around more pine dominated areas. also retain scattered trees between islands, specifically larger white and red pine. red oak and aspen should be removed from retention islands.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Log	8	
Red Oak	30	Log	13	90
White Oak	10	Log	13	90
Bigtooth Aspen	25	Log	11	
White Pine	10	Log	12	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
109	4199 - Other Mixed Upland Deciduous	Sapling Well	40.6	29	1-50	N/A	mix of oak, red maple, aspen and pine regen with overstory white oak and red pine scattered throughout. species composition is variable with pockets of pine regen along with aspen clone regen.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	3	
Red Oak	20	Sapling/Pole/Log	4	29
White Oak	25	Sapling/Pole/Log	4	29
Bigtooth Aspen	10	Sapling	3	
Northern Pin Oak	10	Sapling	2	29
Jack Pine	10	Sapling	2	
Black Cherry	7	Sapling	2	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
110	4131 - Aspen, Oak	Poletimber Well	13.6	45	1-50	N/A	small stand of aspen poles with scattered larger white oak and scattered red and jack pine. understory white oak regen is evenly distributed throughout in medium density.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Pole/Sapling	5	
Red Oak	13	Log/XLog	16	120
White Oak	12	Log/XLog	16	120
Bigtooth Aspen	50	Pole/Sapling	5	45
Jack Pine	10	Sapling/Pole	4	

Sub-Canopy Species	Density	Avg. Height	Size
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
White Oak	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
111	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	2.5	4	Immature	N/A	portion of stand 4 previously, was not planted and is on slight slope to adjacent lowland areas. Conifers along with scattered sapling and pole size cherry and oaks are present, southern portion of stand dominated by bigtooth aspen regen from harvest of stand 4.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	15	Pole/Sapling	5	
Red Maple	10	Sapling	1	4
Jack Pine	10	Sapling	2	
Black Cherry	20	Pole/Sapling	5	

112	330 - Low-Density Trees	Nonstocked	107.9	0	Unspecified	Managed Opening	Stand was burned in 2016 and is scheduled again for 2019. May need to divide into smaller burn units. MK 11/5/19 - Burn for second time in spring of 2019.

Sub-Canopy Species	Density	Avg. Height	Size
Red Oak	Low	>20 feet	Log
White Oak	Low	>20 feet	Log
Red Pine	Low	>20 feet	Log
White Pine	Low	>20 feet	Log

113	4199 - Other Mixed Upland Deciduous	Sapling Medium	4.9	26	1-50	N/A	1999FMD. BA IS LOW AND THERE ARE MANY CANOPY GAPS THAT HAVE NOT FILLED IN. LOOK AT 1N 2009 FOR ANOTHER SELECTION.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	50	Sapling	2	26
Red Oak	15	XLog/Log	14	120
White Oak	21	Log/XLog	18	120
Jack Pine	10	Sapling	4	

Sub-Canopy Species	Density	Avg. Height	Size
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub

114	6120 - Lowland Cedar	Poletimber Well	6.6	110	51-80	N/A	Small drainage with some springs forming small creek which is ponded up by road at south end of stand. Creek flows on south side of rd.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole	8	
Balsam Fir	15	Pole	8	
Northern White Cedar	70	Log/Pole	12	110

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	Low	< 5 feet	Sapling

115	42210 - Natural Red Pine	Sawtimber Well	7.2	85	111-140	N/A	Small area surrounding bog/fen, retained when stand 112 was cut and has a long term retention site condition on it for this reason. Separated from original stand for simplicity because stand 112 will now have a rotating burn prescription on it.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	100	Log	13	85

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling
White Oak	Medium	5 - 10 feet	Sapling

116	42210 - Natural Red Pine	Sawtimber Well	7.0	71	81-110	N/A	area of original stand to the north that was retained, mix of red pine, white with aspen, red maple, n pin oak and balsam fir present as well. stand occupies slope down to lowland areas where seeps originate to sands creek. stand is upland, could do a heavy thin on red and white pine, removing deciduous species for the most part and allowing to grow old/large.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	80	Log/Pole	12	71

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
117	42110 - Planted Red Pine	Sawtimber Well	9.1	89	81-110	N/A	Area of original stand 63 retained, now has a long term retention site condition on it and was separated for simplicity sake since stand 63 now has a planting/regeneration prescription on it.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	93	Log	12	89

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
Bigtooth Aspen	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	< 5 feet	Sapling
White Oak	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
118	42110 - Planted Red Pine	Sawtimber Well	10.9	89	81-110	N/A	red pine stand with white in pockets. understory is relatively dense with aspen, white pine and red maple thoughout along with some pockets of oak. ideally a removal of overstory would take place in this stand but theres a risk of ruining or heavily damaging advanced deciduous understory.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	8	Log/Pole	12	
Red Pine	90	Log	12	89

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
Bigtooth Aspen	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	< 5 feet	Sapling
White Oak	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
120	4130 - Aspen	Sapling Well	20.6	4	Immature	N/A	A3 stand with red maple present as well. Some balsam fir scattered throughout along with trace white pine in spots. TS# 082-11. harvested 8/2015. Cut all merchantable Some low spots could be retention

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	12	Sapling	1	4
Quaking Aspen	40	Sapling	1	4
Bigtooth Aspen	34	Sapling	1	4
Balsam Fir	10	Sapling	1	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
121	4112 - Maple, Beech, Cherry Association	Sawtimber Well	9.3	96	111-140	N/A	variable stand, species composition dependent on water table influence throughout stand. northern lobe heavier to sugar maple, central and more western portions have more red maple and aspen of variable sizes. hemlock in understory concentrated along eastern edge closer to etype, as is fir in understory. because of small stand size, wet nature of parts of stand, wait until adjacent hardwood is treated again for treatment.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	40	Log/Pole	10	96
Red Maple	33	Pole/Log/Sap	8	
Bigtooth Aspen	10	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	10 - 20 feet	Sapling
Beech	Low	< 5 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling
Ironwood	Low	5 - 10 feet	Sapling
Balsam Fir	Low	10 - 20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
122	4319 - Mixed Upland Forest	Sawtimber Well	4.9	75	81-110	N/A	Small pine/aspen stand with white pine dominant, red maple and aspen make up bulk of remainder of canopy. Red pine present as well. Southern edge and eastern edge of stand drop gradually to lowland ground with dense hemlock grove marking transition to q-type.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	25	Log/Pole	11	
Bigtooth Aspen	20	Pole	8	
White Pine	35	Log/Pole	11	75
Red Pine	10	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	< 5 feet	Sapling
Balsam Fir	Medium	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
123	4130 - Aspen	Poletimber Well	12.7	32	1-50	N/A	Aspen stand, originally part of stand 42 but was split because this stand area is significantly more wet and has a much higher component of balsam fir in the understory. Aspen overall is pole sized, albeit small poles with pockets of saplings and sapling sized trees scattered throughout. Standing water in many areas of stand, ruts still evident in many areas of stand from previous harvest. Red pine is concentrated along road on northern edge of stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	12	Pole/Sapling	5	
Quaking Aspen	57	Pole/Sapling	5	32
Bigtooth Aspen	20	Pole/Sapling	5	
Red Pine	8	Log	12	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling
Red Pine	Low	< 5 feet	Sapling