Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32211
Entry Year 2021
Acreage: 544
County Marquette
Management Area: Peshekee Highlands

Revision Date: 2019-07-25

Stand Examiner: Jason Caron

Legal Description:

T48N R29W, Sections 26 & 36

Identified Planning Goals:

Management goals range from maintaining timber production and wildlife habitat to protecting water quality. Timber types under active management will continue to be managed on an even-aged basis.

Soil and topography:

The majority of this compartment is flat with the exception being in the northern portion of section 26. Soil composition ranges from Minocqua muck to Peshekee and Keewaydin-Michigamme Rock outcrop complex. Drainages are composed of Minocqua muck, Greenwood-Dawson soils and the Minocqua-Channing complex. The upland soils in the outwash plain are Pence fine sandy loam and Farquar gravelly sandy loam. The remainder of the upland is either Peshekee or Keewaydin-Michigamme rock outcrop complex.

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

Ownership in this vicinity is fairly fragmented. Historically land has been held by timber companies with scattered State parcels and some private individual holdings. Recently timber companies have begun to divest their holdings which has led to an increase in the number of private individual parcels. Development is minimal with the majority of it being in camps. The towns of Champion and Humboldt reside to the south and west of this compartment. Land use is primarily timber production and recreation.

Unique Natural Features:

Rock outcrops exist throughout the northern portion of section 26. This area has very rugged and mountainous terrain.

Archeological, Historical, and Cultural Features:

Old abandoned railroad grades and mine pits do exist within this compartment. The mine pits have been filled in and part of an old railroad grade is currently used as snowmobile trail #8.

Special Management Designations or Considerations:

No special managment designations exist for this compartment.

Watershed and Fisheries Considerations:

The southeastern section of this compartment contains Second River which serves as a tributary to the Middle Branch of the Escanaba River. Second River is designated a Type 1 trout stream less than 50’ width. A 300’ buffer is recommended for Second River in riparian areas susceptible to Aspen regeneration. For areas not susceptible to Aspen regeneration, 100’ plus 5’ per 1% increase in slope; buffers are recommended to protect these areas in accordance with Best Management Practices.

Wildlife Habitat Considerations:

Compartment 211 is found within the Peshekee Highlands Management Area; on a Bedrock Controlled Ground Moraine in east central Baraga and northwestern Marquette County. The dominant Natural Communities are mesic northern forest, poor conifer swamps, and boreal forests. This management area receives significant snowfall and does not offer wintering habitat for deer. As a result, many tree species that do not reliably recruit across the Ecoregion are found in numerous age classes across this management area. Additionally, three of the largest tracts of mature forest in the Great Lakes (e.g. McCormick Tract, Craig’s Lake Wilderness State Park, and the Huron Mountain Club) occur within or adjacent to this management area, the best example of a dry mesic northern forest (Rocking Chair Lakes) in the state and two of the top eight examples of Mesic Northern Forest statewide occur here. The current condition and spatial arrangement of these areas provide some of the best opportunities within the WUP, state, and Great Lakes for area sensitive wildlife requiring large tracts of mature forest, mesic conifer or corridors between such areas. Wildlife management issues in this management area are: habitat fragmentation; course woody debris; retain or develop large living and dead standing trees (for cavities); mesic conifer; mature forest; within-stand diversity; early successional forest (hardwood browse adjacent to closed canopy lowland conifer swamps); and course woody debris.

The following have been identified as featured species for the Peshekee Highlands Management area: American marten, blackburnian warbler, gray jay, moose, northern goshawk, and pileated woodpecker.

Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pit is located four miles to the southeast. There appears to be at least some sand potential within the compartment. Abandoned iron mines are in the vicinity. While potential for additional iron ore mining in this area is considered low, there may be potential for other metallic minerals. A fault zone appears to run through the compartment, and there were some mineral test wells drilled in 1980 just southeast of the compartment. There is no history of mineral leasing within the compartment. There is no known potential for economic hydrocarbon production in the UP.

Vehicle Access:

Access to the majority of this compartment is good. County road AAD and trail #8 are the primary roads to this compartment. Secondary roads such as the Burma Truck Trail exist which provide access into the northern portion of this compartment.

Survey Needs:

No survey needs exist at this time.

Recreational Facilities and Opportunities:

No recreational facilities currently exist. Recreational opportunities consist of fishing, hunting & gathering, trapping, snowmobile & ORV riding.

Fire Protection:

This compartment occurs within an outwash plain running east-west that is predominately spruce-fir, jack pine, and planted red pine. Quality roads exist providing good access for fire protection. Sufficient water sources are also available. The northern tier of this compartment is very inaccessible for mechanized fire protection. Hand tools would be the primary method used to fight a fire within this rugged terrain.

Additional Compartment Information:

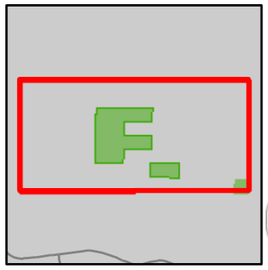
The following reports from the Inventory are attached:

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

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

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

Cover Type & Treatments Map



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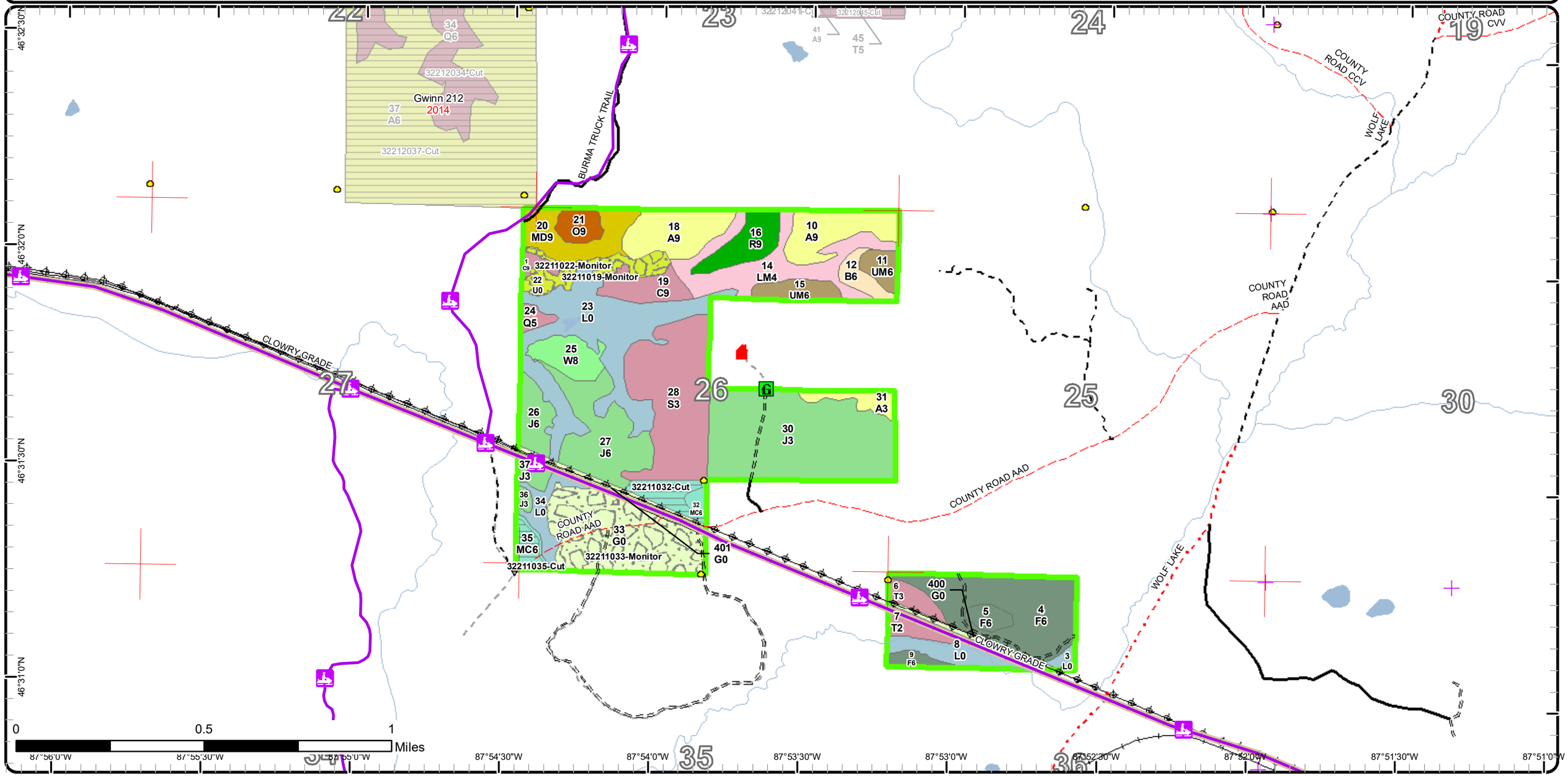
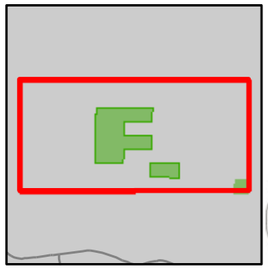
Compartment: 211
T48N, R29W, Sec: 26, 36
County: Marquette
Unit: Gwinn
Mgmt Area: Peshekee Highlands
YOE: 2021
Acres: 544 GIS Calculated
Examiner: Jason Caron
Map Revised: 8/14/2019
Map Phase: Web Post

- Miris Corners
- Remonumented Section Corners
- Survey Grade Corners
- Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Active Railroads
- Snowmobile Trails
- Designated Snowmobile Trails
- Designated RailTrail
- Cabin
- Gate
- Structures
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Powerline
- Compartment Boundary
- Clearcut (w/Reserves)
- Regeneration Survey
- 412 - Oak Types
- 413 - Aspen
- 414 - Other Upland Deciduous
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 424 - Pine (OI)
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- Lakes



Stand Boundary Map



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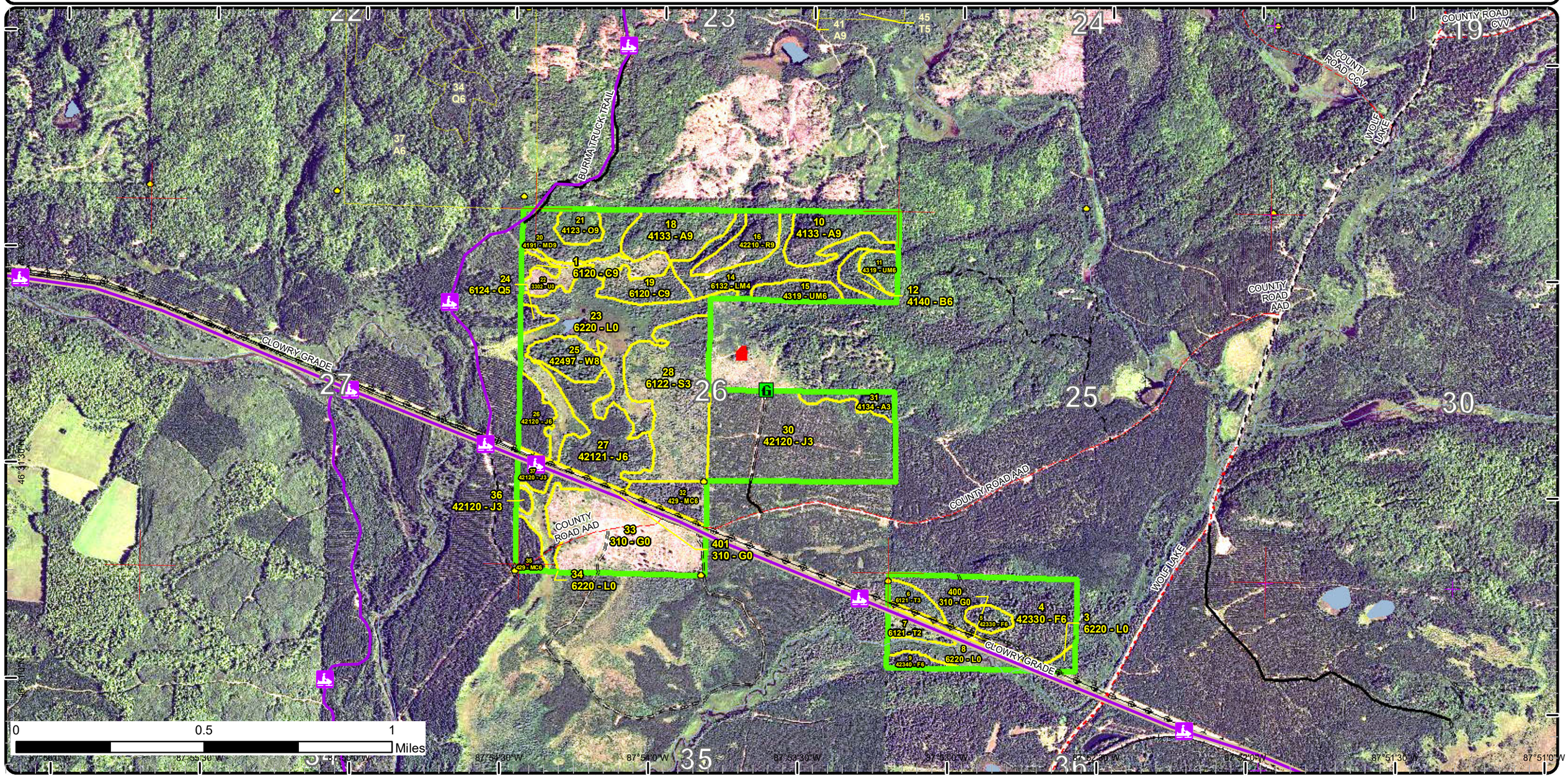
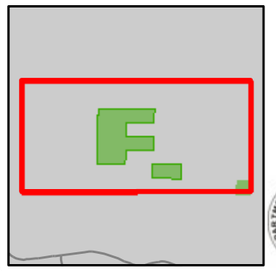


Special Conservation Areas & Site Conditions Map



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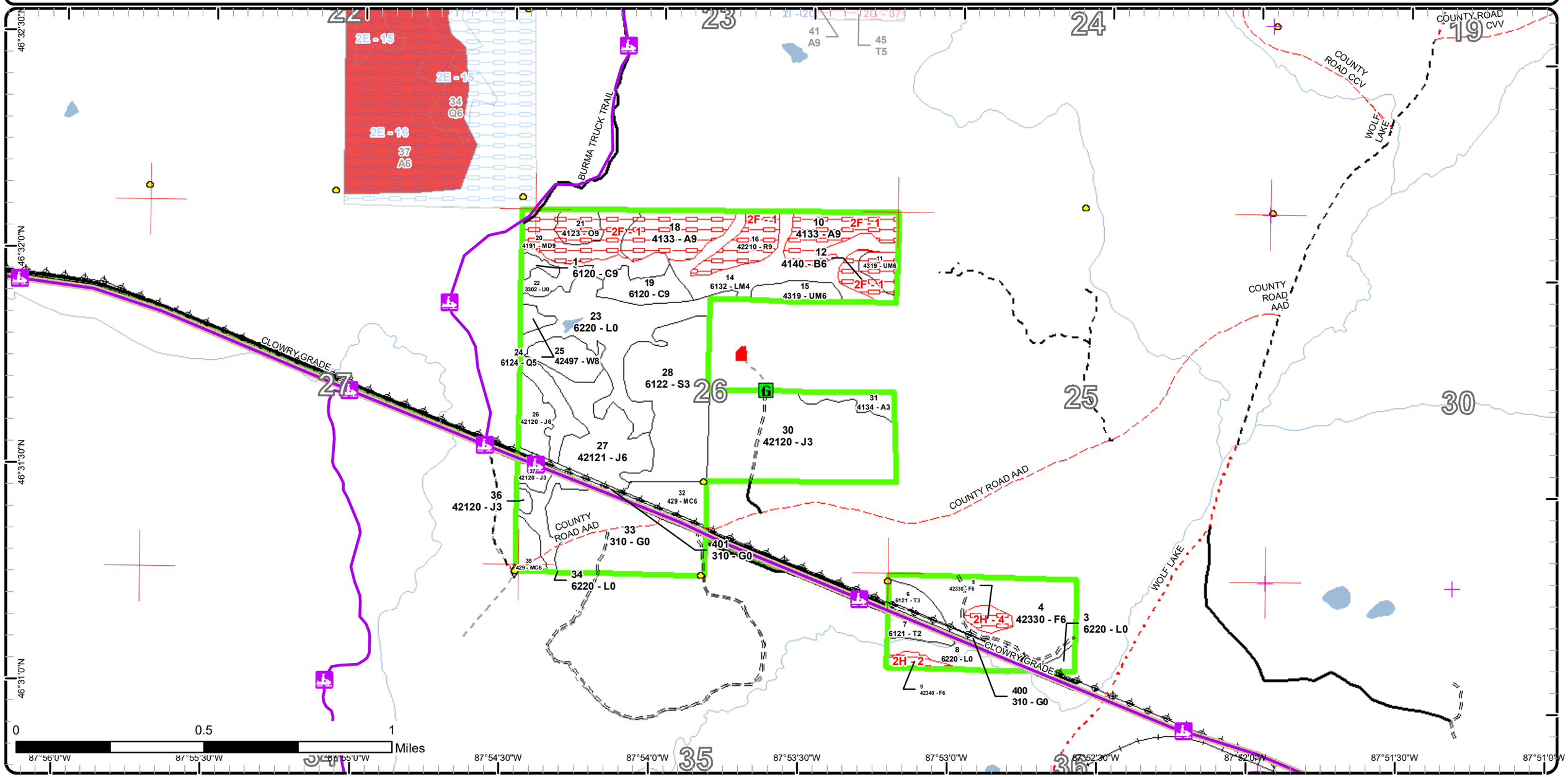
- Lakes and Rivers All
- Powerline
- Compartment Boundary
- Unavailable
  - 2F: Too steep
  - 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- Stand Boundaries
- SCA
- Ecological Reference Areas
- Cold Water Streams
- Rail-Trail Corridor



Report 1 – Total Acres by Cover Type and Age Class

Gwinn Mgt. Unit **Compartment 211 Year of Entry 2021**

Jason Caron : 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	0	6	0	0	0	0	0	0	38	0	0	0	0	0	0	0	0	**44**
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	**13**
Herbaceous Openland	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**59**
Jack Pine	0	0	70	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**114**
Low-Density Trees	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**13**
Lowland Conifers	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	**3**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	**30**
Lowland Shrub	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**78**
Lowland Spruce/Fir	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**49**
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	**17**
Oak	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	**6**
Paper Birch	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	**6**
Red Pine	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	**12**
Tamarack	0	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**11**
Upland Conifers	0	0	0	0	0	0	6	10	0	0	0	0	0	0	0	0	0	0	**16**
Upland Mixed Forest	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	**13**
Upland Spruce/Fir	0	0	0	46	0	0	0	0	0	4	0	0	0	0	0	0	0	0	**50**
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	**11**
Total	**150**	**0**	**131**	**95**	**0**	**0**	**6**	**23**	**0**	**51**	**0**	**17**	**25**	**0**	**0**	**0**	**0**	**47**	**545**

Report 2 – Treatment Summary

Gwinn Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 211

Total Compartment Acres: 544

Commercial Harvest - 12

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
Upland Conifers	13	0	0	0	0	0	0	0	0	**13**
Total	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	13	0	0	0	0	0	61	0	0	**73**
Next Step	0	13	13	0	0	13	115	0	0	**152**
Total	**13**	**13**	**13**	**0**	**0**	**13**	**175**	**0**	**0**	**225**

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
22	32211019-Monitor	6.6	3302 - Low Density Conifer Trees	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Re-Inventory)	6129 - Mixed Coniferous Lowland Forest	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: Monitor to see if natural regeneration has met objectives.

Next Step Treatments:

Acceptable Regen: tamarack, cedar, spruce, birch, pine, fir and aspen.

Other Comment: Percent to Treat = 100%

Proposed Start Date: 10/1 /2029

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
22	32211022-Monitor	6.1	3302 - Low Density Conifer Trees	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Re-Inventory)	6129 - Mixed Coniferous Lowland Forest	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: Perform a regeneration survey to make sure stand has regenerated successfully.

Next Step Treatments: Monitoring, Natural Regen (Intermediate)

Acceptable Regen: cedar, spruce, tamarack, balsam, birch and aspen.

Other Comment: Percent to Treat = 100%

Proposed Start Date: 10/1 /2029

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
32	32211032-Cut	7.8	429 - Mixed Upland Conifers	Poletimber Well	62	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal

Habitat Cut: No **Site Condition:**

Prescription Specs: Clearcut with retention. The east edge of the stand will be buffered to protect the wetland type. This will serve as retention. Do not harvest under-represented species such as oak, white pine, and red pine, if they exist within the stand.

Wildlife Comment: Add a no chipping spec to this sale – American marten

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

Acceptable Regen: Jack pine

Other Comment:

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	Approval Status
33	32211033-Monitor	48.0	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(3yr)	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: regen count

Next Step Treatments: Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(1yr)

Acceptable Regen: Jack Pine.

Other Comment: 32-855

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	Approval Status
35	32211035-Cut	4.7	429 - Mixed Upland Conifers	Poletimber Well	54	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal

Habitat Cut: No **Site Condition:**

Prescription Specs: Clearcut with retention. The east edge of the stand will be buffered to protect the wetland type. This will serve as retention. Do not harvest under-represented species such as oak, white pine, and red pine, if they exist within the stand.

Wildlife Comment: Add a no chipping spec to this sale – American marten

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

Acceptable Regen: Jack Pine.

Other Comment:

Proposed Start Date: 10/1 /2020

Total Treatment Acreage Proposed: 73.2

Report 4 – Site Conditions

Gwinn Mgt. Unit

Jason Caron : Examiner

Compartment: 211

Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	*Acres Avail With Condition*	Acres Not Available		Dominant Site Conditions 2F	2H
44	6	*0*	38	**Aspen**	38	
13	13	*0*	0	**Cedar**		
59	59	*0*	0	**Herbaceous Openland**		
114	114	*0*	0	**Jack Pine**		
13	13	*0*	0	**Low-Density Trees**		
3	3	*0*	0	**Lowland Conifers**		
30	30	*0*	0	**Lowland Mixed Forest**		
78	78	*0*	0	**Lowland Shrub**		
49	49	*0*	0	**Lowland Spruce/Fir**		
17	0	*0*	17	**Mixed Upland Deciduous**	17	
6	0	*0*	6	**Oak**	6	
6	0	*0*	6	**Paper Birch**	6	
12	0	*0*	12	**Red Pine**	12	
11	11	*0*	0	**Tamarack**		
16	16	*0*	0	**Upland Conifers**		
13	7	*0*	6	**Upland Mixed Forest**	6	
49	42	*0*	8	**Upland Spruce/Fir**		8
11	11	*0*	0	**White Pine**		
544	452		92	Total Forested Acres	84	8
	83%		17%	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**	**2F: Too steep**	84	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

2	**Unavailable**	**2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)**	4	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

4	**Unavailable**	**2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)**	4	Unspecified	Unspecified	Unspecified	Unspecified

Comments:
Rock outcrop.

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 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.
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 1

6120 - Lowland Cedar | Sawtimber Well | 2.5 Acres | 110 Stand Age | 81-110 BA Range | N/A Managed Site

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	100	Log/Pole	10	110

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling

General Comments: Stand of dense cedar. Balsam fir exists within the understory. Stand was excluded from the adjacent harvest.

Stand 3

6220 - Alder/willow | Nonstocked | 2.1 Acres | Unspecified BA Range | No Managed Site

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Black Spruce	Low	Variable	Sapling

General Comments: Stand of tag alder. Patches of fir and spruce exist but overall the stand is non-forested.

Stand 4

42330 - Upland Fir | Poletimber Well | 41.5 Acres | 26 Stand Age | Immature BA Range | N/A Managed Site

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	68	Pole/Sapling	5	26
Quaking Aspen	10	Sapling	4	

Canopy Species	Density	Avg. Height	Size
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
Balsam Fir	High	Variable	Sapling

General Comments: Stand was harvested in 1993. TS #12-91. Stand consists of heavy fir with aspen inclusions. Stand of mature red pine exists on a rock knob within the Northeast corner, but too small to make it's own stand. Large diameter white pine scattered throughout the stand. Fir is in poor condition due to the budworm infestation. Very llittle to no merchantability within the stand. Would be a good stand to salvage if it was more mature and larger diameter.

Stand 5

42330 - Upland Fir | Poletimber Well | 4.4 Acres | 26 Stand Age | Immature BA Range | N/A Managed Site

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	75	Pole/Sapling	5	26
Paper Birch	10	Log/Pole	10	
White Pine	10	XLog/Log	22	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling

General Comments: Stand consists of a rock knob. Small areas of it were cut with the adjacent stand. Most of the paper birch has fallen out of the stand due to age. Fir is in poor condition given the budworm infestation. Old mining test holes exist around the permiter of this stand (base of this stand).

Stand 6

6121 - Tamarack | Sapling Well | 5.3 Acres | 26 Stand Age | Immature BA Range | N/A Managed Site

Canopy Species	% Cover	Size Class	DBH	Age
Tamarack	90	Sapling/Pole	4	26
Black Spruce	10	Sapling/Pole	4	

Canopy Species	Density	Avg. Height	Size
Black Spruce	Medium	Variable	Sapling
Tamarack	High	Variable	Sapling
Tag Alder	Medium	5 - 10 feet	Tall Shrub

General Comments: Stand was harvested in 1993, permit # 12-91. Stand currently consists of dense tamarack. DBH varies throughout the stand.

Stand 7

6121 - Tamarack | Sapling Medium | 6.2 Acres | 14 Stand Age | Immature BA Range | N/A Managed Site

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	30	Sapling	1	
Tamarack	50	Sapling	1	14
Balsam Fir	20	Sapling	1	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling

General Comments: Stand was harvested in 2004: TS# 222-01-01. Stand is filling in with a mix of spruce, fir and tamarack. As the stand matures it will become fully stocked.

Stand 8

6220 - Alder/willow | Nonstocked | 12.3 Acres | Unspecified BA Range | No Managed Site

General Comments: Riparian corridor and stream.

Stand 9

42340 - Upland Spruce/Fir | Poletimber Well | 3.5 Acres | 87 Stand Age | 51-80 BA Range | N/A Managed Site

General Comments: There is no legal access to this stand, or any roads nearby. It is being limited factored due to the lack of foreseeable access and due to the small amount of timber available. A legal survey would also be needed.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
10	4133 - Aspen, Mixed Pine	Sawtimber Well	18.1	87	111-140	N/A	Stand of mixed deciduous and conifer. Quaking aspen is old and is falling out of the stand due to age. Fir understory is in very poor condition due to the budworm infestation. Scattered red oak and pine exists throughout the stand. I cored a red pine that was 114 years and a white pine at 105 years. A small patch of red pine exists within the stand on the west side, too small to make it it's own stand.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	XLog/Log	18	87
Red Pine	15	XLog/Log	20	114
Bigtooth Aspen	25	Pole	10	
Paper Birch	10	Pole	9	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling
Red Maple	Medium	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
11	4319 - Mixed Upland Forest	Poletimber Well	5.5	62	81-110	N/A	Did not make it to this stand during the 2021 YOE inventory. When looking south over the ravine from stand 10 there appeared to be a mix of red maple, sugar maple, and yellow birch.
12	4140 - Other Upland Deciduous	Poletimber Well	5.8	62	51-80	N/A	Stand of younger paper birch mixed with red maple and conifer. Stand is growing on a slope in rocky soils.

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	71	Pole	8	62
White Spruce	10	Pole	8	
Red Maple	10	Pole	8	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
14	6132 - Mixed Lowland Forest with Cedar	Poletimber Poor	29.9	40	1-50	N/A	Lowland swales that lay in between the granite outcrops. Intermittent streams exist in all of these areas and flow down to the south. Tree species varies depending on where you stand. Balsam fir is in poor condition due to the budworm infestation.

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	20	Log/Pole	15	
Balsam Fir	35	Sapling	4	40
Black Ash	15	Pole/Sapling	7	

Canopy Species	Density	Avg. Height	Size
Tag Alder	High	5 - 10 feet	Tall Shrub
Balsam Fir	High	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
15	4319 - Mixed Upland Forest	Poletimber Well	7.4	62	81-110	N/A	Stand consists of high ground on west side but then slopes down to low ground on the east side. Beautiful super canopy white and red pine exist along the southern edge of the stand. Most of the stand is growing on a slope. Balsam fir is in tough condition due to the budworm infestation.

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	33	Pole	8	62
Red Maple	15	Pole/Log	8	
Balsam Fir	20	Pole	8	
Red Pine	10	XLog/Log	20	
White Pine	10	XLog/Log	20	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling
Red Maple	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
16	42210 - Natural Red Pine	Sawtimber Well	12.2	111	81-110	N/A	Stand of natural red pine that is growing amongst rocky outcrops. Fir understory is in tough shape due to the current budworm infestation. Small pockets of aspen exist throughout the stand. Stand is very unique in how dense and uniform the red pine is growing in this stand. Eventually, the stand will grow into Type 2 old growth status and would be considered a dry mesic conifer elemental occurrence under the current work instructions.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	86	Log	16	111
Bigtooth Aspen	10	Pole	9	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling
Red Pine	Low	Variable	Sapling
Red Maple	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
18	4133 - Aspen, Mixed Pine	Sawtimber Well	19.4	87	81-110	N/A	Stand of mixed deciduous and conifer. Quaking aspen is old and is falling out of the stand due to age. Fir understory is in very poor condition due to the budworm infestation.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	Log	15	87
Bigtooth Aspen	25	Log/Pole	10	
Red Pine	15	XLog/Log	20	
Paper Birch	10	Pole	9	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling
Red Maple	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
19	6120 - Lowland Cedar	Sawtimber Well	10.7	110	81-110	N/A	Stand of lowland cedar with tamarack scattered throughout. Stand acts as a riparian area to the nearby wetland area (stand 23).

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	80	Log/Pole	10	110
Tamarack	20	Pole/Log	8	

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

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
20	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	16.7	109	81-110	N/A	Rugged stand, very difficult access. Portion's of stand are granite outcropping in the form of cliff's. Stand consists of a mix of white pine and red pine clumps, red oak pockets, along with pockets of red maple and big tooth aspen. Decent oak regeneration exists within some portions of the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	30	Log	16	109
Red Oak	20	Log	14	
White Pine	10	XLog/Log	18	
Red Pine	10	Log/XLog	17	
Red Maple	20	Pole	8	

Canopy Species	Density	Avg. Height	Size
Sugar Maple	Low	Variable	Sapling
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
Balsam Fir	Low	Variable	Sapling
Red Oak	Low	Variable	Sapling
Red Maple	Medium	>20 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
21	4123 - Red Oak	Sawtimber Well	6.4	87	81-110	N/A	Small stand of red oak which is growing on top of a rock knob. Oak is poor quality due to the shallow soils that exist.

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	96	Log	14	87

Canopy Species	Density	Avg. Height	Size
Red Oak	Medium	Variable	Sapling
Balsam Fir	Medium	Variable	Sapling
Ironwood	Low	Variable	Sapling
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
White Pine	Low	Variable	Sapling
Red Maple	Low	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
22	3302 - Low Density Conifer Trees	Nonstocked	12.6	0	Unspecified	612 - Lowland Coniferous Forest	Stand was harvested in the winter of '14-'15. TS# 101-11. Scattered cedar exists within the stand. A fair amount of snow during inventory and it is hard to tell how dense the black spruce regeneration is within the stand. I can see some black spruce sticking out of the snow. The eastern half of the stand contains more tag alder. Red maple saplings here and there but they are heavily browsed by moose. A few pockets of cattails exist as well.

Canopy Species	Density	Avg. Height	Size
Black Spruce	Low	< 5 feet	Sapling
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Red Maple	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
23	6220 - Alder/willow	Nonstocked	54.5		Unspecified	No	Tag alder sloughs and drainages throughout.
24	6124 - Lowland Spruce-Fir	Poletimber Medium	2.9	87	1-50	N/A	Did not make it to this stand for the 2021 YOE inventory.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
25	42497 - White Pine (OI)	Sawtimber Medium	10.6	182	1-50	N/A	OPIC - FMD: Cut in 1991, TS #31-10-91-01, Jim Carey Logging, pine were left. Red and white pine stand with a mixed understory of fir, aspen, and red and white pine.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	85	XLog/Log	20	100
Red Pine	15	XLog/Log	20	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
Red Maple	Medium	Variable	Sapling
White Pine	Medium	Variable	Sapling

26	42120 - Planted Jack Pine	Poletimber Well	9.6	25	Immature	N/A	Stand was harvested in 1991 - 92. TS #10-91. Stand was planted in May of 1994. Stand is fully stocked. Jack pine is healthy and has good form.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	100	Pole/Sapling	6	25

Canopy Species	Density	Avg. Height	Size
Black Cherry	Medium	< 5 feet	Sapling

27	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Well	29.2	25	Immature	N/A	Stand harvested in 1991, TS #10-91. Planted in May of 1994. Several wet areas within stand that are coming back to aspen and willow brush as well as spruce-fir and some tamarack. Jack pine has poorer form.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	70	Pole/Sapling	6	25
Quaking Aspen	20	Pole/Sapling	6	
Black Spruce	10	Pole/Sapling	5	

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

28	6122 - Black Spruce	Sapling Well	48.6	14	Immature	N/A	Stand was harvested in 2004, TS #222-01-01. Stand consists of a fully stocked black spruce stand with a mix of jack pine throughout. The stand still contains open pockets but overall it looks good. Small pockets of merchantable black spruce were left during the harvest and still exist.

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	90	Sapling	2	14
Jack Pine	10	Sapling	3	

Canopy Species	Density	Avg. Height	Size
Black Spruce	Medium	Variable	Sapling

30	42120 - Planted Jack Pine	Sapling Well	70.2	15	Immature	N/A	Harvested in 2000-2001 by Holli Forest Products, TS #124-00-02. Trenched and seeded under FTP #C31-449, begun in November 2003 and completed in August 2004. 2019 - Fully stocked stand of healthy jack pine. Scattered pockets of quaking aspen exist within the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	98	Sapling/Pole	4	15

Canopy Species	Density	Avg. Height	Size
Jack Pine	Low	Variable	Sapling

31	4134 - Aspen, Spruce/Fir	Sapling Well	6.4	18	Immature	N/A	Stand cut in 2001, TS #124-00-02. Part of this stand is mature timber that was inaccessible due to the granite outcroppings.

32	429 - Mixed Upland Conifers	Poletimber Well	9.9	62	51-80	N/A	OPIC - FMD: Stand is a mix of black spruce and jack pine. Trees are still of small diameter, averaging 6 inches. Has previously been cut, 1950's/1960's, where merchantable jack pine was cut. Some larger trees exist and will hold another 10 years. A limiting factor of 4C was used due to the overall small diamter of the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	50	Log/Pole	11	62
Black Spruce	50	Pole	9	

Canopy Species	Density	Avg. Height	Size
Black Spruce	High	Variable	Sapling
Black Cherry	Medium	Variable	Sapling

33	310 - Herbaceous Openland	Nonstocked	48.0	0	Unspecified	4212 - Planted Jack Pine	Stand was cut in the winter of '14-'15. Scattered black spruce exist within the stand. Stand will be trenched and seeded to JP. FTP# 32-855 Site trenched in 2017 see FTP for cost data. Site planted in the spring of 2018. Site passed first year check.

34	6220 - Alder/willow	Nonstocked	8.8		Unspecified	No	Lowland area that contains tag alder.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
35	429 - Mixed Upland Conifers	Poletimber Well	5.7	54	81-110	N/A	Stand contains a mix of jack pine and spruce. Stand is mature and ready to harvest.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	50	Pole	9	54
Black Spruce	50	Pole	9	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
36	42120 - Planted Jack Pine	Sapling Well	1.4	25	Immature	N/A	Stand was harvested in 1991-92, permit #10-91. Planted in May, 1994.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	100	Pole/Sapling	6	25

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
37	42120 - Planted Jack Pine	Sapling Well	3.9	25	Immature	N/A	Stand harvested in 1991-92 under permit #10-91. Planted in May 1994.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	100	Pole/Sapling	6	25

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
400	310 - Herbaceous Openland	Nonstocked	4.4		Unspecified	No	Powerline ROW.
401	310 - Herbaceous Openland	Nonstocked	7.0		Unspecified	No	Powerline ROW