



Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 52145

Entry Year 2018

Acreage: 1,827

County Cheboygan

Management Area: Chandler Hills

Revision Date: 2016-05-12

Stand Examiner: Tricia St. Pierre

Legal Description:

T33N R03W Sections 6, 7, and 18.

Identified Planning Goals:

To provide for the protection, integrated management, and responsible use of a healthy, productive, and undiminished forest resource base for the social, recreational, environmental, and economic benefit to the State of Michigan.

Soil and topography:

Topography is fairly variable within this Compartment, including undulating, sometimes steep, moraines and gradually sloping to flat outwash plains. The north end is an Ice Contact Outwash sand and gravel plain, largely dominated by Kalkaska Sand and Blue Lake Loamy Sand, with lesser amounts of Mancelona Sand, Cheboygan Loamy Sand, and other various soil types. This transitions to Glacial Outwash in the center third of the Compartment, wherein Marl Creek originates, and is again dominated by Blue Lake Loamy Sand and Kalkaska Sand, but also contains more unique soil types, including Au Gres sand, Grousehaven muck, Nadeau Loamy Sand, East Lake Sand, Kinross Mucky Sand, Crowell Sand, and Wheatley Loamy Sand. The lower third of this Compartment steeply rises to an End Moraine of coarse textured till, largely dominated by Emmet Sandy Loam and Blue Lake Loamy Sand with lesser amounts of Cheboygan Loamy Sand, Kalkaska Sand, Leelanau Loamy Sand, and Mancelona Sand. The variability of soil types offers some variability in habitat types, as well. The majority of the Compartment is classified as AFO/AFOCa with lesser amounts of the high end AFOCa, yet variability in soils produce PARVHa, PARVVb/AFO, PARVVb, and PARVCo Kotar habitat types.

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

This compartment is met on nearly all sides by other State Forest Land, the exceptions being the northeast quarter abutting divided private ownership and a private 40-acre block out of State land in the same section, but in the southeast corner. This being the case, there is little development or pressure in and around the area. Land use is entirely driven by forestry practices and recreation, though there is a proposed well pad in the northwest corner of the Compartment. Otherwise, dirtbike trails, hiking trails, and snowmobile trails are the popular recreational activities, though the area does seem to receive a lot of pressure from upland game hunters.

Unique Natural Features:

This compartment falls within Land Type Associations (LTAs) 1121 and 3321 of sub-section VII.2.3. LTA 1121 is characterized by steep, broken moraine ridges and well drained loamy sand and occurs in the southern half of the Compartment. There is potential for Red-Shouldered Hawk (*Buteo lineatus*), Northern Goshawk (*Accipiter gentilis*), Wood Turtle (*Glyptemys insculpta*), Blanding's Turtle (*Emydoidea blandingii*), Eastern Massasauga (*Sistrurus catenatus*), and the Common Loon (*Gavia immer*).

Archeological, Historical, and Cultural Features:

There are no identified Archeological, Historical, or Cultural Features within this compartment, however there is potential for old railroad grades and other archaeological sites. The nearest site is outside of this compartment in Section 19, so there are no immediate concerns.

Special Management Designations or Considerations:

Natural succession and conversions will be allowed to happen adjacent to Marl Creek and Marl Creek Flooding to deter beaver activity. Beech Bark Disease (BBD), Emerald Ash Borer (EAB), and Dutch Elm Disease have and are likely to continue to impact the composition and health of the hardwood stands within this Compartment. Future hardwood management should try to mitigate the proliferation of beech regeneration and should be considerate of the future of these stands. The potential threat of Annosum Root Rot (*Heterobasidion annosum*) and the White Pine Fungus Scale (*Matsucoccus macrocicatrices*) should also be considered across the landscape when making management decisions.

Watershed and Fisheries Considerations:

Fisheries Concerns: This compartment contains a portion of Marl Creek, a designated trout stream in the Sturgeon River

watershed. Prescribed management activities are appropriate for the protection of this stream.

Wildlife Habitat Considerations:

Treatments in this compartment will encourage aspen re-growth benefiting deer, grouse, wild turkey and woodcock. Openings are prescribed to be maintained and supplemented with hard and soft mast plantings benefiting deer, grouse, wild turkey, and woodcock.

Mineral Resource and Development Concerns and/or Restrictions

Sections 6, 7, & 18, T33N R3W, Cheboygan County

Surface sediments consist of an end moraine of coarse-textured till, ice-contact and glacial outwash sand and gravel, and postglacial alluvium. The glacial drift thickness varies between 400 and 800 feet. The Devonian Antrim Shale and Traverse Group subcrop below the glacial drift. Both units are quarried elsewhere in the state. There are apparent sand/gravel pits located to the north (sections 29 & 32, T34N R3W). There appears to be good sand and gravel potential within the compartment. State land in the area was recently leased as part of the Collingwood Shale play. To date, there has been limited production from the Collingwood (a plugged well exists two miles to the southeast in Section 21) and it is still an unproven play. Interest in the formation has waned and most leases in the area have expired; however, some leases to the south of the compartment have yet to expire. Active leasing and production associated with the Antrim Shale is located approximately two miles to the south. The Antrim Shale is thinning and there may not be any gas potential in this area.

Vehicle Access:

Vehicular access is decent, though the south half of the Compartment is difficult to access without coming in from the south, depending on the vehicle. There are many logging roads that can provide interior access, though again, terrain is somewhat rugged and might not be passable by all types or sizes of vehicles.

Survey Needs:

There are no pressing survey needs at this time, though corners surrounding the Private 40-acre parcel could not be verified and would be helpful for delineating the north boundary of a prescribed harvest.

Recreational Facilities and Opportunities:

This compartment contains many trails for motorized vehicles. A segment of Snowmobile Trail #765 runs through this compartment, as does a segment of the Tomahawk Trail C Loop. There are no designated hiking or horseback riding trails, though there has been evidence for both uses throughout the compartment. Marl Creek flooding provides a good opportunity for birding and wildlife viewing. The compartment also receives significant deer hunting pressure.

Fire Protection:

This Compartment is largely dominated by deciduous cover types with less risk of violent fire activity, though there are a number of upland herbaceous and mixed pine stands that could burn rather easily. Access is decent throughout this Compartment making fire suppression activities relatively easy. Marl Creek is the nearest water source, though the best access to the stream is to the east of the Compartment.

Additional Compartment Information:

The following reports from the Inventory are attached:

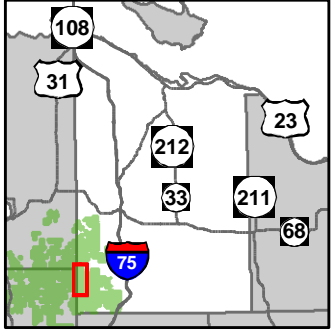
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

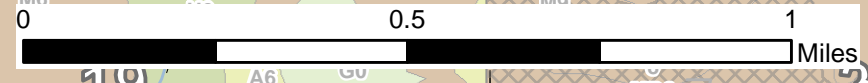
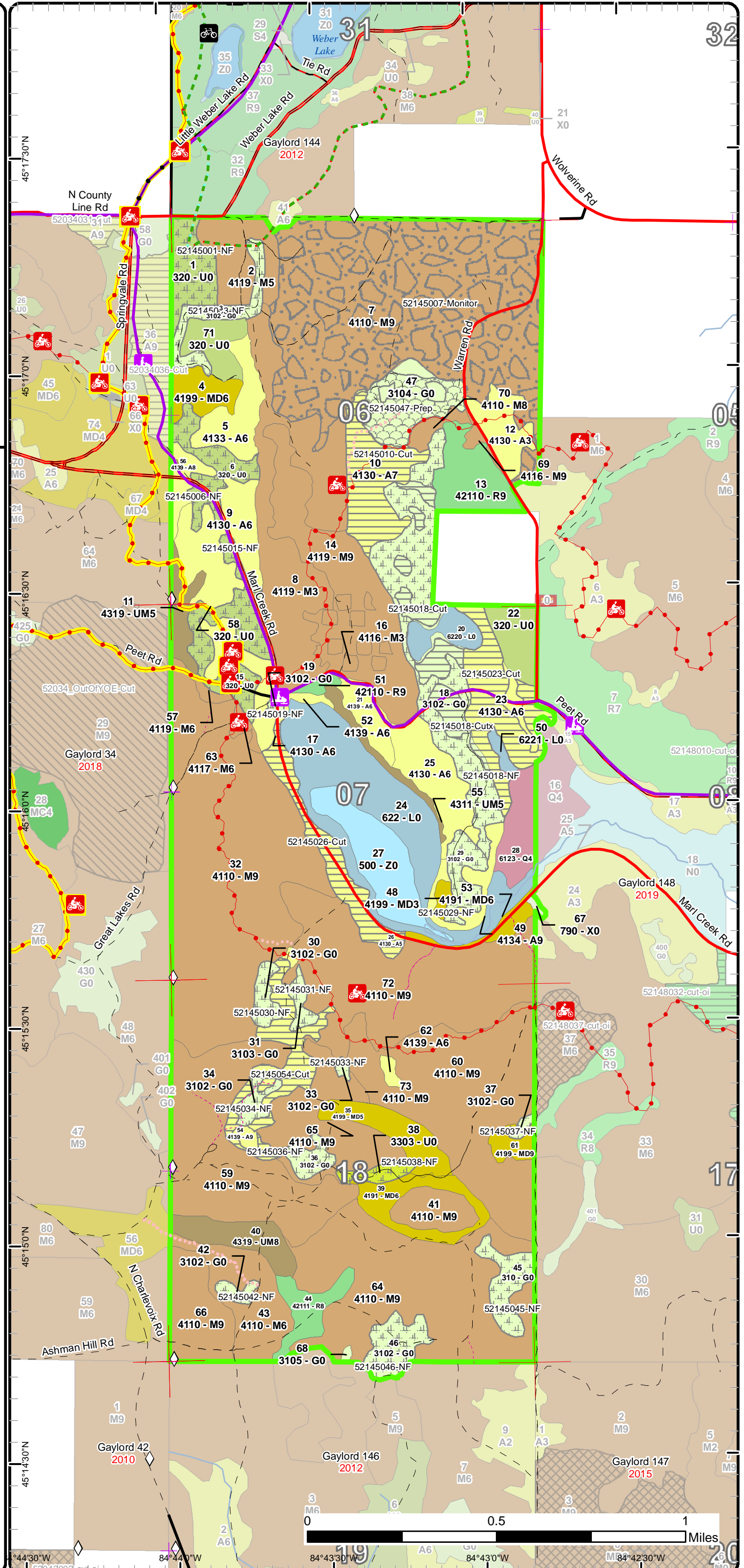
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 145
 T33N R03W Sec. 6-7, 18
 County: Cheboygan
 Unit: Gaylord
 Mgmt Area: Chandler Hills
 YOE: 2018
 Acres: 1830 GIS Calculated
 Examiner: Tricia St. Pierre
 Map Revised: 8/29/2016
 Map Phase: Post-Review



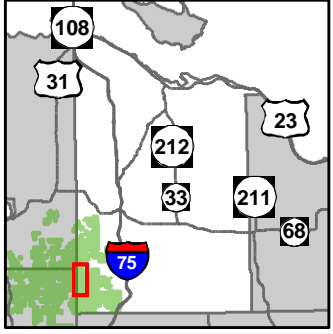
- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- 🚲 Bike Trails
- 🏍️ Motorcycle Trails (DNR License)
- 🏍️ MCCCT Trails
- 🚲 Snowmobile Trails
- Designated Hiking Trails
- Designated Bicycle Trails
- Designated Ski Trails
- ORV License
- ORV License & Trail Permit
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Rivers
- ▭ Compartment Boundary
- ▭ Site Prep
- ▭ Clearcut (w/Reserves)
- ▭ Other Treatment - See Comments
- ▭ Regeneration Survey
- ▭ 411 - Northern Hardwood
- ▭ 413 - Aspen Types
- ▭ 419 - Mixed Upland Deciduous
- ▭ 421 - Planted Pines
- ▭ 430 - Upland Mixed Forest
- ▭ 612 - Lowland Coniferous Forest
- ▭ 310 - Herbaceous Openland
- ▭ 320 - Upland Shrub
- ▭ 330 - Low Density Trees
- ▭ 500 - Water
- ▭ 622 - Lowland Shrub
- ▭ 790 - Other Bare/Sparsely Vegetated
- ▭ Lakes



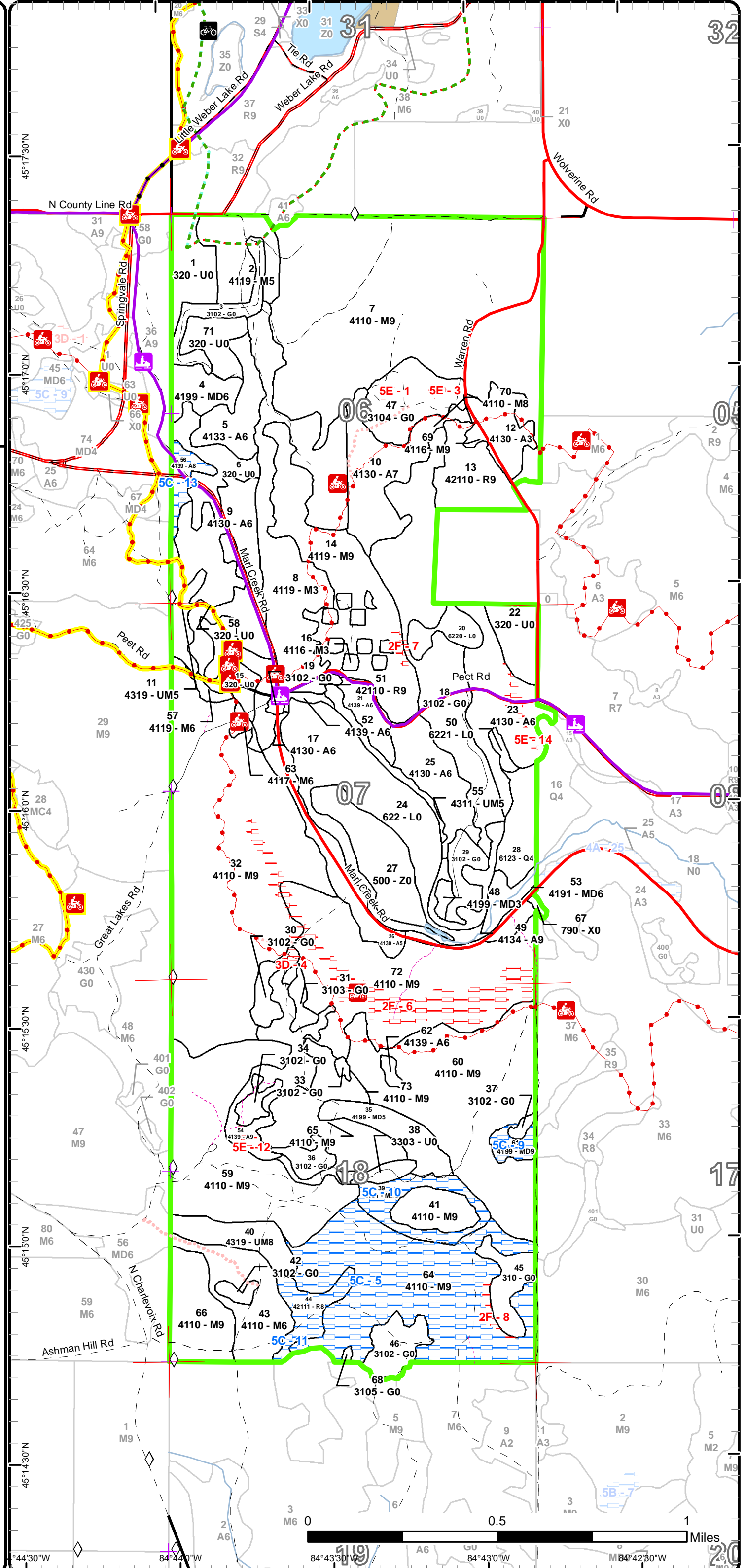
44°30'W 84°44'W 84°43'W 84°42'W

Special Conservation Areas & Site Conditions Map

Compartment: 145
 T33N R03W Sec. 6-7, 18
 County: Cheboygan
 Unit: Gaylord
 Mgmt Area: Chandler Hills
 YOE: 2018
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- Michigan Cross Country Cycle Trail (MCCCT)
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Rivers
- ▭ Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 3D: Recreational / Scenic values
- 5E: Long-Term Retention
- ▭ Stand Boundaries
- ▭ Cold Water Streams
- ▭ Cold Water Lakes
- ▭ State Forest Campground





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	15	0	144	27	10	53	0	0	0	0	0	0	0	0	0	0	248
Bare/Sparsely Vegetated	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Herbaceous Openland	168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168
Low-Density Trees	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Lowland Conifers	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	16
Lowland Shrub	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82
Mixed Upland Deciduous	0	0	0	0	2	0	12	7	0	22	0	0	0	0	0	0	0	17	60
Northern Hardwood	0	0	82	0	0	2	3	49	3	118	295	0	0	0	0	0	0	514	1064
Red Pine	0	0	0	0	0	0	22	0	0	15	0	0	0	0	0	0	0	0	36
Upland Mixed Forest	0	0	0	0	0	0	0	0	10	16	0	0	0	0	0	0	0	6	32
Upland Shrub	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84
Water	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Total	369	0	97	0	146	29	47	109	29	171	295	0	0	0	0	0	0	537	1825



Report 2 – Treatment Summary

Gaylord Mgt. Unit

Year of Entry: 2018

Compartment 145

Total Compartment Acres: 1,827

Acres of Harvest

Commercial Harvest - 126
 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	107	0	0	0	0	0	0	0	0	107
Herbaceous Openland	19	0	0	0	0	0	0	0	0	19
Total	126	0	0	0	0	0	0	0	0	126

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	126	20	0	0	0	214	0	185		545
Next Step	0	79	69	0	0	224	0	0		371
Total	126	98	69	0	0	438	0	185		916



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	52145001-NF	16.5	320 - Upland Shrub	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast. Sign and protect Lost Tamarack Trail and trail signs/markers during all activities and operations.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

3	52145003-NF	12.1	3102 - Grass	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast. Sign and protect Lost Tamarack Trail and trail signs/markers during all activities and operations.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

6	52145006-NF	15.9	320 - Upland Shrub	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast. Sign and protect Snowmobile Trail and trail signs/markers during all activities and operations.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

7	52145007-Monitor	214.3	4110 - Sugar Maple Association	Sawtimber Well	126	81-110	Monitoring	Natural Regen (Intermediate)	411 - Northern Hardwood	Two-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Intermediate monitoring for successful regeneration in canopy gaps as specified in the original harvest objectives: a mix of hardwood including sugar maple, basswood, and beech is desirable. Regen surveyed during 2016 inventory was unacceptable; more time may be needed to establish desirable regeneration.

Next Step
Treatments:

Acceptable Acceptable regeneration (as agreed upon in the original harvest/regeneration proposal) will meet minimum stocking requirements for mixed hardwood, including sugar maple, basswood, and beech.

Other Regen gaps in 2016 were dominated by beech and raspberry, then (to a lesser extent) ironwood, white ash, elderberry, and striped maple.

Comment: Occasional BTA in gaps. The stocking density was acceptable in most gaps, though the species composition wasn't completely satisfactory.

Proposed Start Date: 10/01/2020



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
10	52145010-Cut	29.5	4130 - Aspen	Sawtimber Poor	65	51-80	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Clearcut all trees to 2" dbh except conifer, oak, and any obvious den trees (to be identified during timber sale prep). Treatment may capture aspen clones in adjacent GO if the opportunity exists. Protect hawthorn (designate or work with loggers to establish set skid trails avoiding hawthorn). Require 6" stump heights to facilitate potential planting efforts in the future. Sign and protect Tomahawk Trail during all harvesting and hauling operations; do not cut trees with trail markers.

Next Step Monitoring, Natural Regen (Re-Inventory); Treatments: SitePrep, Other - Specify; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Regen: Acceptable regeneration will meet minimum stocking requirements for aspen. An inclusion of mixed hardwood and conifer is also acceptable.

Other Comment: The Tomahawk Trail was re-routed last entry when the hardwood stand to the north was clearcut. Work with the trails group to determine the best option for protecting the trail's integrity - either re-routing again or just harvesting around it. If the trail gets rerouted again, keep in mind that the former hardwood stand to the north will be planted to red pine.

Proposed Start Date: 10/01/2017

15	52145015-NF	25.9	320 - Upland Shrub	Nonstocked			Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast. Sign and protect all recreational trails during all activities and operations.

Next Step Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2017

18	52145018-Cut	7.5	3102 - Grass	Nonstocked			Unspec ified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clearcut aspen clones to enhance wildlife habitat in GO. Include with aspen harvest to the west. Protect all native shrub species, especially hawthorn, during harvesting operations. Do not cut any oak or conifer (except scotch pine) if found. Watch for scotch pine and harvest all wherever possible, regardless of diameter. The southern area of this harvest, adjacent to the LO (stand 20), should include as much workable ground as possible.

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

Acceptable Regen: Acceptable regeneration will meet minimum stocking requirements for aspen, though Wildlife objectives may accept less stocking in this Grassy Opening. An inclusion of hardwood will be acceptable at any stocking level.

Other Comment:

Proposed Start Date: 10/01/2017

18	52145018-Cutx	11.2	3102 - Grass	Nonstocked			Unspec ified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clearcut all trees 2" dbh and greater, except do not cut any hawthorn, oak, or conifer if found. Also protect the shrub component to this stand as much as possible. Harvest with aspen stand to the east. Sign and protect snowmobile trail during harvesting and hauling operations. It is recommended, but not required, that this stand be cut outside of the snowmobile season. Require oak wilt spec if oak is found within the harvest boundary. The northern area of this harvest, adjacent to the LO (stand 20), should include as much workable ground as possible.

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

Acceptable Regen: Acceptable regeneration will meet minimum requirements for aspen, however, Wildlife may feel that lower stocking will be acceptable habitat on this historically grassy opening.

Other Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
18	52145018-NF	48.3	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast. Possibly harvest aspen clones with stands 10 and 23 if opportunity presents itself. Sign and protect Snowmobile Trail and trail signs/markers during all activities and operations.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

19	52145019-NF	1.2	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast. Sign and protect Snowmobile Trail and trail signs/markers during all activities and operations.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

23	52145023-Cut	33.3	4130 - Aspen	Poletimber Well	39	Unspec ified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all trees to 2" dbh, except do not cut any oak (require oak wilt spec), conifer, hawthorn, or sumac. Drainages may exist - these are to be identified and excluded from the timber sale boundary if there is standing water. Harvest boundary may extend into adjacent GO for additional aspen clones as available. Extend treatment into lowlands, targeting alder if available. Sign and protect Snowmobile Trail during harvesting and hauling activities. Discourage winter harvesting but work to reroute the trail if winter harvesting occurs. Area retention will meet retention guidelines and is to be placed along the hill as indicated and, possibly, around sensitive areas.

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

Acceptable Acceptable regeneration will meet minimum stocking requirements for aspen. Mixed hardwood and conifer inclusions will be acceptable at any
Regen: stocking.

Other
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
26	52145026-Cut	21.0	4130 - Aspen	Poletimber Medium	67	Unspec ified	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Clearcut all trees to 2" dbh, except do not cut any oak or white pine. Add the Oak Wilt spec to the sale. Protect serviceberry and any hawthorn (if found). Discourage cutting stand in winter due to conflicts with the Snowmobile trail, but work to re-route the trail if used during the snowmobile season. Sign and protect trail during harvesting operations. Follow retention guidelines and consider placing retention around low or sensitive areas, also any areas with underrepresented species, such as hemlock.

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

Acceptable Regen: Acceptable regeneration will meet minimum stocking requirements for aspen. An inclusion of mixed hardwood in any density will be acceptable.

Other Comment:

Proposed Start Date: 10/01/2017

29	52145029-NF	10.1	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2017

30	52145030-NF	5.7	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2017

31	52145031-NF	3.9	3103 - Rubus-Fern	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
33	52145033-NF	1.1	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

34	52145034-NF	4.4	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

36	52145036-NF	6.1	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

37	52145037-NF	1.6	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
38	52145038-NF	4.8	3303 - Mixed Low Density Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

42	52145042-NF	2.9	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

45	52145045-NF	12.3	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

46	52145046-NF	12.6	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, brush, burn, or herbicide to maintain opening. Plant hard or soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

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	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
47	52145047- Prep	19.5	3104 - Degraded	Nonstocked		Unspec ified	SitePrep	Other - Specify	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Prepare stand to plant to red pine by necessary chemical and mechanical means. Interplant with oak. Sign and protect ORV trail as necessary during site prep and planting operations.

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

Acceptable Regen: Acceptable regeneration will meet requirements for a well stocked red pine plantations. Areas around oak may have slightly lower stocking, and this will be acceptable.

Other Comment:

Proposed Start Date: 10/01/2017

54	52145054-Cut	23.5	4139 - Aspen, Mixed Deciduous	Sawtimber Well	42	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all trees >2" dbh. Area retention will be placed in the south around dense sugar maple regeneration, also in the north to avoid conflict with the ORV trail. Retention may be greater than 10% of the stand size to capture desired areas. Other area retention may be placed around acreages with a high stocking of desirable hardwood regeneration, provided that the regeneration is above browse height (>7.5'). Do not cut any conifer or under-represented species if found during timber sale prep. Obvious den hardwood trees may be left if found. Make sure all skid trails and "off-road access" areas are blocked off at the end of the sale to prevent ORV activity and site degradation. Sign and protect ORV trail in the north end of the stand if the sale and/or haul route intersect. Post harvesting activity on the road throughout the duration of all harvesting and hauling activity. Sign and protect the snowmobile trail if used as a haul route.

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

Acceptable Regen: Acceptable regeneration will meet minimum stocking requirements for aspen. Mixed hardwood in any density will also be acceptable. If any areas become dominated by beech, these should be noted and considered for further treatments.

Other Comment: Consider operability when setting up this harvest. There are many bowls and ridges. Erosion and site quality should be considered during sale preparation and harvesting.

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 545.2**

Report 4 – Site Conditions

Gaylord Mgt. Unit

Compartment: 145

Tricia St. Pierre : Examiner

Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		5C	2F	3D	5E
248	234	8	6	Aspen	8		1	6
1	1	0	0	Bare/Sparsely Vegetated				
168	165	0	3	Herbaceous Openland		0		2
5	5	0	0	Low-Density Trees				
16	16	0	0	Lowland Conifers				
82	82	0	0	Lowland Shrub		0		
59	38	22	0	Mixed Upland Deciduous	22			
1065	916	107	42	Northern Hardwood	107	42		
37	25	12	0	Red Pine	12			
33	33	0	0	Upland Mixed Forest				
84	84	0	0	Upland Shrub				
29	29	0	0	Water				
1,826	1,626	149	51	Total Forested Acres	149	42	1	8
	89%	8%	3%	Relative Percent				

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3D: Recreational / Scenic values	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention around ORV trail and road intersection.							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Tricia St. Pierre : Examiner

Compartment: 145
Year of Entry: 2018

5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	107	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	2F: Too steep	38	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	2F: Too steep	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Steep slope dives into a lowland. This hillside was left uncut during the last harvesting operation.							
8	Unavailable	2F: Too steep	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment until this stand can be harvested with another nearby stand.							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	16	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment until stand has matured a bit more.							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Tricia St. Pierre : Examiner

Compartment: 145
Year of Entry: 2018

11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: There is a non-dedicated camp site in this stand and it is fairly unique in composition within this compartment.							
12	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Long-term retention will be placed around the portion of this stand with high sugar maple regeneration that is above browse height. The intent is to let the aspen convert to sugar maple through natural succession.							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment this YOE or consider treating with adjacent stand 36, compartment 34.							
14	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4119 - Mixed Northern Hardwoods	Poletimber Medium	22.5	64	51-80	Greater species diversity in north half of west half with variable diameters. A lot of multi-stemmed lesser quality trees. Basal area is hovering around 50, perhaps slightly above. The east leg is a little lower in basal area, yet shows a slight increase in site quality with greater volume of diverse hardwood, not just black cherry. The stand seems to be perpetuating itself, despite browsing, and is seeding in some conifer from the surrounding stands. FORMER COMMENTS: Very mixed stand, heavy to Black cherry, poor stacking, poor quality. Berm has been driven over to access rye field.
4	4199 - Other Mixed Upland Deciduous	Poletimber Well	11.9	51	51-80	Slight increase in productivity from the northeast. Red maple is in the transition between stand 71 to 4, also the inclusion of conifer (red and jack pine, <1%). Red maple picks up (then drops out), followed by basswood, then that goes to elm and cherry. Heavy browse on sugar maple and basswood. The northeast is 5-10' lower in elevation than the rest of the stand. Slightly less productive with more cherry brush. Leatherwood is confined to the "upper" 3/4 (higher elevation). DED and blackknot. Pockets dominated by slippery elm; very few American elm. XL black cherry and P/L QA and north central portion of the stand.
5	4133 - Aspen, Mixed Pine	Poletimber Well	17.8	38	Unspecified	Heavy browsing on the basswood. DED and black knot throughout stand. Supercanopy red pine residual. Jack pine is not consistent - it is a dense band across the middle of the stand. The band includes JP pole with QA s/p, BC S, and RP log. The southwest quarter of the stand raises up 5-10' in elevation and becomes much heavier to slippery elm, black cherry, then quaking aspen and red pine. There a small inclusion of balsam fir in that area too. Occasional log QA in the north. Jack pine picks up a bit in the north tip, though red pine is consistent throughout (with lower BA in the north). Red Pine BA is roughly 10, though higher in some areas (and not present in others). QA clones mixed with sparse areas of cherry brush and JP. Old logging road runs through the stand.
7	4110 - Sugar Maple Association	Sawtimber Well	210.7	126	81-110	EAB, BBD. Heavy browsing on anything that isn't beech or ironwood. YB is quickly fading. Lot of sugar maple poles in areas. 1 white oak, 14"; 1 hemlock 22"; trace hazelnut, black currant, white pine, balsam fir (all saplings, variable heights). Trace amount of quaking aspen (P/L) - a small pocket near the red pine in the southwest. Trace XL SM, XL Beech. Regen is dominated by beech, ironwood, white ash, basswood (heavy browsing on basswood). A lot of ash mortality and some snap in areas. Black cherry and yellow birch are closely associated throughout the stand. Regen gaps are dominated by beech and raspberry, then (to a lesser extent) ironwood, white ash, elderberry, and striped maple. Occasional BTA in gaps. Heavy to HM, southern 1/3 of stand has greater component of NRO, YB, and RM. Stand was TSI'd in the late 70s - "light commercial harvesting", then thinned in 2012 as Comp 145 Hardwood - 52-122-08-01.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
8	4119 - Mixed Northern Hardwoods	Sapling Well	74.1	12	Immature	<p>Witch Hazel densely stump-sprouted. JP/RP seed/sap in skid trail in the west, mostly. Knapweed, raspberry thick in the skid trails too. Red oak is very heavily browsed. Funny brooming on the beech - it's highly epicormic too. Stand is largely dominated by cherry, red maple, ironwood, sugar maple, and aspen. Snow was deep (!3') during inventory, so sub-canopy was observed and recorded with those conditions. Few residual pole/sap stems not cut during harvest, particularly elm, balsam fir, and miscellaneous submerchantable hardwoods.</p> <p>Former Inventory Comments: Stand surrounds ridge of hardwood, portions of stand are very steep. Sawlog sized pine was mostly removed during harvest in 2010. 1-2 RP left per acre. Stand was harvested as part of Peet Road Red Pine. Natural regen now taking place.</p>
9	4130 - Aspen	Poletimber Well	31.4	38	51-80	<p>Low end site quality. Old road bed runs through stand. Heavy browsing on hardwood regeneration. Elm is sap/pole, so is cherry; trace amounts of American elm too; very few black cherry make the canopy now. Couple clumps of red pine, jack pine (mostly dead JP); sugar maple, rock elm, and ironwood occupy subcanopy beneath red pine. Trace amounts of willow near stand 15. Far east edge transitions into adjacent clearcut; some pin cherry on the edge. More red pine, jack pine, mixed hardwood, trace bigtooth aspen along haul route (east edge).</p>
10	4130 - Aspen	Sawtimber Poor	29.8	65	51-80	<p>Basal area is fairly consistently around 40, but there are quite a few spikes around 70-90, especially in the central portion of the stand. The north is lower stocking with an increase in black cherry, occasional mixed hardwood. Northeast lacks aspen; dominated by pole hardwood.</p> <p>Stand is dominated by aspen and stump-sprouted hardwood (predominantly cherry). Marginal grade canopy quaking aspen with a well developed, higher quality and density sapling/pole understory of mixed hardwood, predominately sapling sized with some pole timber.</p> <p>Increase in serviceberry understory in the northwest; more black cherry, red maple in the canopy too (though still not a lot). Tiny non-forest inclusion in the northwest with a narrow band of sapling/pole hardwood, some red pine (sap/pole), trace amounts of oak.</p> <p>FORMER COMMENTS: Sparse aspen BC mix, Thick understory mtype and cherry brush.</p>
11	4319 - Mixed Upland Forest	Poletimber Medium	10.1	71	81-110	<p>I've featured the red pine and mixed hardwood canopy with a well stocked hardwood understory. Parts of this stand were entered when they harvested the adjacent aspen/UO</p>
12	4130 - Aspen	Sapling Well	14.6	17	Immature	<p>Very rarely is there a pole throughout the stand. Dirtbike trail runs though stand. Trace amounts of moss is landings and high volume of knapweed.</p> <p>Hardwood in the canopy is beginning to be out-competed by the aspen. Trace amounts of red pine (pole).</p> <p>Appears to be a couple hybrid poplars in the central landing. Canopy will likely become more stratified over the next cycle as the hardwood component becomes suppressed.</p> <p>Stand harvested in 2000, regen looks great.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	42110 - Planted Red Pine	Sawtimber Well	22.4	55	111-140	<p>Third row thinned in 2010 (Warren Road Red Pine). Basal areas range from 70-200, hovering around 120/130.</p> <p>1962 Year of Origin (planting record) - planted at 7-1/2' x 7-1/2' spacing, except the northernmost 2.5 acres of this stand and adjacent acre north of that - this area was existing M5-M9 interplanted with red pine at random spacing. It was not the most productive way to grow red pine, but it added diversity to that area.</p> <p>Couple pockets with leader damage (older) - likely porcupine.</p> <p>Mostly very open subacnopy except the westernmost edge through to the north. Dense beech, striped maple, ironwood, raspberry, sugar maple, black cherry, and red maple. The red pine seem shorter and with smaller diameters in on pocket especially dominated by hardwood understory - probably nutrient deficiencies (from hwd competition) in the RP. West half of stand is a little bit lower in elevation and generally has higher beech understory.</p> <p>Occasional aspen/cherry in canopy. Few trees with wind and/or snow damage.</p>
14	4119 - Mixed Northern Hardwoods	Sawtimber Well	62.3	89	81-110	<p>A lot of multi-stemmed trees in the canopy, stump sprouts from long ago. Steeper slopes on east edge down into the adjacent GO and, especially, LO. Last crew in thinning the stand did not operate on this hillside. Many of the elm are dead. WA in canopy is mostly, if not all, dead.</p> <p>Two paper birch, 8" and 10".</p> <p>Small pocket of bigtooth aspen under red pine clump. Trace amount of aspen falling out in the canopy. Trace amounts of beech in the canopy too. More oak in the south, hardly any in the north half. Pocket of aspen amongst the patch cuts and a couple clumps of red pine, otherwise the pine component is somewhat consistent throughout.</p> <p>There are pockets of this stand that are decidedly pole, but the stand as a whole is overwhelmingly log.</p> <p>Came across one striped maple, one black currant (<i>R. lacustre</i>) on hillside. Heavy browsing on regen. Raspberry in skid trails as well as mullein and thistle.</p> <p>A portion of the stand was treated last entry, small patch cuts (separated into stand 16) were harvested by prison crew, then planted with Acorns. Stand 14 itself was mostly treated with a thinning prescription, completed in 4/2015. Basal area towards the low end of 80 (pockets of 50, pockets of 110, but mode around 80).</p>
16	4116 - Mixed N. Hardwood - Aspen	Sapling Well	8.0	17	Immature	<p>1 acre openings were cut in stand by prison crew in 2000 and planted with acorns in an attempt to get an oak component in stand.</p> <p>Heavy browsing on Red Oak, lower limbs. Few super canopy red oak and red pine left, L and XL. Trace amounts of paper birch. Invasive Thistle present.</p>
17	4130 - Aspen	Poletimber Well	15.4	38	51-80	<p>More hardwood in the south quarter (south of road) - few paper birch, one log and two saplings. Red oak present around and south of road.</p> <p>Basal area is variable, 30-100, averaging around 60.</p> <p>Aspen cherry mix, some areas are sparse.</p> <p>Small amount of red pine saplings by road intersections.</p> <p>Bedstraw present. More hawthorn in the south, also a bit more sugar maple, basswood, and red oak present.</p> <p>Basal areas range from 20 to 90 - highly variable.</p>



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	4139 - Aspen, Mixed Deciduous	Poletimber Well	10.1	38	51-80	<p>Stand was clearcut in 1979 with the exception of any oak or apple trees. Most ironwood is becoming suppressed. Supercanopy XL red oak. EAB, BBD in ash and beech, respectively. Trace amounts of beech, elm, and pin cherry. Western edge of stand slopes down into LO, becoming steep with limited operability. Not harvested last time. Some very old white pine stumps remain, remnants of the early 1900s. Helleborine in the understory. The stand is incredibly variable in every way -north-center of stand is sapling-pole, becoming pole/sap/log; aspen and hardwood are very patchy. Topography, species composition, size classes, etc. - it's all variable.</p> <p>Southern tip is quite steep. FORMER COMMENTS: Aspen pole stand with Oak component, residuals from previous harvest. Stand borders flooding. NE flank of stand is leaning towards Northern Hardwood type along snowmobile trail.</p>
23	4130 - Aspen	Poletimber Well	36.0	39	Unspecified	<p>Snowmobile trail bisects the stand. Dense bracken fern. Borderline lowland. Continue shorter rotation age. Little bit of blueberry on hillside up towards stand 22 (UO in NE). Partridge berry and some moss throughout stand. Diameters become increasingly smaller in the south half, averaging 5-6" dbh, pole/sap with quite a bit of submerchantable timber. Paper birch and sumac in the road edge. (I specified "hazel" in my inventory notes, but I can't be sure if I intended it to be witch hazel or hazelnut...)</p>
25	4130 - Aspen	Poletimber Well	23.6	38	Unspecified	<p>Stand was clearcut in 1979 with the exception of any oak or apple trees. Dead elm scattered through stand (DED). Less than 10 BA of red oak in supercanopy, residual from 1979 harvest. Trace amounts of leatherwood in the south. Varying densities of hawthorn. Trace amounts of balsam fir in the canopy. Quite a few log black cherry - might also be remnants from the 1979 harvest? Poorly stocked stand of QA and BC, stand surrounds maintained WL opening and borders Marl Creek Flooding.</p>
26	4130 - Aspen	Poletimber Medium	21.0	67	Unspecified	<p>Stand located adjacent to flooding. Fisheries division previous requested that the stand not be treated to prevent beaver activity on the regenerating aspen, though they are now willing to try management. Black knot in cherry. Sugar maple is becoming suppressed into subcanopy. One red oak germinated now pole sized) in disturbed soil along road - scarification has been good for oak germination in this compartment. Pockets of deteriorating aspen being replaced by mixed hardwood understory. Trace amounts of ironwood, basswood, pin cherry, and paper birch in the canopy, <2% total. A small portion of this stand to the south (/east) of the road heading SW into the hills was harvested in 1979 along with stands to the north and east of the ZO.</p>
28	6123 - Lowland Fir	Poletimber Poor	16.0	74	1-50	<p>Stand flooded at time of inventory, mortality taking place due to high water level -beaver activity.</p>



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4110 - Sugar Maple Association	Sawtimber Well	169.7	95	81-110	BAs are highly variable, though stand composition is fairly consistent with the exception of pockets of beech and a linear band of ash. With the exception of the far south, the majority of this stand is on a hillside with a northeast aspect. BBD and EAB. Evident stump sprouts on the top of the hill. Few pockets dominated by pole timber and some dense pockets of beech regeneration. Few ironwood pole reach the canopy, <1%. This could easily be called a pole stand, dominated by sugar maple and basswood, but I'm confident with a small log class. Dead yellow birch (12"), funny cankers on basswood. Heavy browsing on basswood sprouts and white ash. A couple ridges are considerably variable, uneven-aged, with XL beech, sm, and ironwood. Couple white pine regenerating by white pine in canopy. Sharp-lobed hepatica present, also helleborine, leeks, sarsaparilla. Heavy browsing on elderberry. ORV trails present.
35	4199 - Other Mixed Upland Deciduous	Poletimber Medium	16.7	83	81-110	Dominant canopy is even-aged aspen/pine, but development of subcanopy has resulted in a more multi-aged stand. Diverse stand with aspen and white pine "super" canopy; hardwood subcanopy is mixing in and muddling the stratification. Log/XL sugar maple on the far east crescent edge. More log QA in center of stand. Small non-forested inclusion in the north with QA saplings, also scattered cherry and white pine too. Aspen stand with dense hardwood understory, significant WP component.
39	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	16.2	81	81-110	Variable stand diameters and species distribution. Northern arc transitions (from east to west) from QA/WP L to pole, back to log WP, SM, BW (center of arc), then back to aspen/WP. Sugar maple and basswood consistent throughout. Southern arc is a little more hardwood with aspen/white pine, whereas the northern arc is aspen/pine with hardwood. Supercanopy white pine in spots; dead elm. Predominately pole with pockets of log timber. Occasional red maple, elm (mostly dead - DED), beech, black cherry. Couple areas with basal area <80, closer to 60 or 70. Helleborine. present. Poorly stocked hardwoods with aspen and large WP.
40	4319 - Mixed Upland Forest	Sawtimber Medium	16.0	86	81-110	Maidenhair fern, helleborine, Lily of the Valley, leeks, trillium, Solomon's seal, sharp-lobed hepatica - nice site. Few white pine seedlings about 2'. Lots of sugar maple cotyledons/seedlings - it was a good year for germination. Dead white pine snags scattered; regeneration increases in the western portion of the stand. <1/4 ac NF opening in the west with raspberry, strawberry, sugar maple, miterwort, ironwood, pin cherry, white pine, black cherry, henbit, and honeysuckle. White pine has been a good covercrop for a hardwood understory. Understory hardwood varies amongst sapling and pole sizes. Stand was classified as a white pine canopy with a pole hardwood understory during the last inventory, but some of the hardwood has matured to be included in the canopy composition. Overstory still remains open, but the understory (pole and sapling sized) is pretty well stocked.
41	4110 - Sugar Maple Association	Sawtimber Well	13.3	83	81-110	Harvested as part of the Pilot Project. Few marked pulp trees left uncut. BAs variable, from 60-110, averaging 80. Few areas, especially south-central along boundary, heavier to basswood.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4110 - Sugar Maple Association	Poletimber Well	28.7	66	81-110	Good year for sugar maple regeneration. Pockets of immature basswood, ironwood, some sugar maple; few distinct pockets of mature hardwood, largely pole/log with developed sapling subcanopy >20'.
44	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Medium	12.5	87	111-140	Most sugar maple doesn't make canopy. Only a few log-sized, some pole. Occasional dead elm, some white ash - some dead, but no EAB sign. Ash yellows? Old road bed through northeast leg. Tiny QA inclusion. RP and WP left from planting in 1931. BAs range from 60-170, 118 ave, though BAs are either high (120-170) or low (60-90) without a lot in the middle.
48	4199 - Other Mixed Upland Deciduous	Sapling Well	2.3	38	1-50	Clearcut in 1979; slight ridge that is not as productive as surrounding area but has good species diversity.
49	4134 - Aspen, Spruce/Fir	Sawtimber Well	9.9	38	Unspecified	Honeysuckle and raspberry on the perimeter of GO. Some pockets are heavy to black cherry pole. Lots are barely log sized; stand could be classified as pole.
51	42110 - Planted Red Pine	Sawtimber Well	2.2	86	111-140	This stand was retained while the parent stand (to the north) was harvested. There are steep slopes, though the west half is operable. There's a small NF opening in the center of the stand with quaking aspen. Red pine was planted in 1931. Spruce seedling on edge of A6; trace amounts of elm.
52	4139 - Aspen, Mixed Deciduous	Poletimber Well	2.3	56	51-80	Aspen stand transitioning into adjacent lowland. Occasional red pine in canopy. Trace white pine and bigtooth aspen (BTA on east edge). Ground pine, wintergreen, bracken fern, sharp- and round-lobed hepatica, bedstraw all present.
53	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	6.6	60	51-80	Slight change in hydrology and soil. Upland with lowland tendencies sloping into adjacent LO. Trace red oak and basswood in canopy. Log QA by road. Some older timber mixed in. BF 9" = 87years old.
54	4139 - Aspen, Mixed Deciduous	Sawtimber Well	26.5	42	81-110	Club moss, partridgeberry, ground pine. Pole hardwood. Marginally hilly, variable topography. Lesser quality aspen except better site quality in the south. North hilltop (adjacent to stand 31 - GO) dominated by beech (also some sugar maple, red maple). Few other pockets dominated by pole hardwood, especially sugar maple, beech, basswood, and ironwood. Aspen is variable by age, size, diameter across the stand; it continues to encroach into adjacent non-forested openings.
55	4311 - Pine, Aspen Mix	Poletimber Medium	6.4	53	81-110	Very steep west-facing slope into LO, Stumps from white pine harvested in the early 1900s (per perhaps from fire...?), but has since returned to an unevenaged variable and diverse stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	4139 - Aspen, Mixed Deciduous	Sawtimber Medium	7.9	58	1-50	Trace jack pine in canopy. Subcanopy includes S/P Rock Elm, P/S Black Cherry, P/S Balsam Fir. L/P QA, RP in north; stand is a bit more open in the south. Oddly unique stand in south with inclusion of variable diameter hardwood. Stand could be merged with stand 9 to the south (or possibly with the adjacent compartment's MD stand 74), excluding the "hardwood hill", which could be merged with the adjacent compartment's stand 64. Old Comments: Quaking Aspen stand with Black Cherry component , also scattered JP and RP in the stand, some areas heavy to cherry shrubs and grass openings.
57	4119 - Mixed Northern Hardwoods	Poletimber Well	2.2	46	51-80	Trace overstory (log) sugar maple, basswood. Occasional log cherry. Apple trees near road. Trace amounts of elm. Stand could go for a sapling size.
59	4110 - Sugar Maple Association	Sawtimber Well	84.6	90	81-110	Both beech and white pine should be 14" dbh average with log/pole represented, but MiFI wouldn't accept the diameter with that size class. Canopy closure is at the low end toward 75%. Basal areas are highly variable - 50-140, averaging 80-90. White pine is confined to the southern portion of the stand, as is elm. Beech is more consistent in the north but present throughout; white ash is in the north only. Trace amounts of quaking aspen, though most is dead. Marked pulp left uncut in areas. I expect more white ash seedlings in the future. There was some logging damage to the soils and some broken cambiums on residual stems. Maidenhair, bloodroot, wild leek, lady fern, Canada violet, and helleborine present. BBD present but not affecting all beech.
60	4110 - Sugar Maple Association	Sawtimber Well	101.3	99	81-110	Stand was treated as part of the Pilot Project. Residual basal area is highly variable, 50-120, averaging around 80. Canopy closure hovers around 75%; could go either way (50-75 or 75- 100%). QA falling out. Trace amounts of ironwood in the canopy; trace white ash in the southwest. Couple clumps of QA saplings. Bedstraw, helleborine, maidenhair, mullein. Beech regeneration was likely fairly full prior to harvest. It has been knocked back but will likely rebound. Stand could easily be classified as a pole stand now. Very heavy browse on new regeneration and stump sprouts. Quite a lot of coarse woody debris.
61	4199 - Other Mixed Upland Deciduous	Sawtimber Well	5.6	81	81-110	Trace amounts of elm and white ash in the canopy. West edge has much larger timber. Quaking aspen is XL there, otherwise LP. Appears to have been encroaching on NF for a long time. Dense sugar maple understory under smaller QA. Some dead elm. Aspen starting to break apart. Southeast 1/4 is dominated by pole, heavier to hardwood.
62	4139 - Aspen, Mixed Deciduous	Poletimber Well	1.9	66	81-110	Stand was excluded from surrounding timber sale. Northern 1 acre is a log-sized aspen clone; southern 1 acre is a pole hardwood stand. Southeasternmost tip includes log/xl bta. Aspen clone BA 90-130 + 40 BA SM. Aspen has a hardwood understory: SM - M/P/>20, BE - M/S/V, IW - L/S/V, StripedMaple - L/S/<5'. Hwd Pocket understory: IW - H/S/V, BE - H/S/V, WA - L/S/<5', SM - L/S/>20'. Also a couple dead aspen in the canopy.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
63	4117 - Mixed N. Hardwood - Pine	Poletimber Well	2.7	57	81-110	Supercanopy red pine, represented in the canopy layer, otherwise it is a pole stand with a small pocket of log sized sugar maple and basswood. Red pine planted in 1931.
64	4110 - Sugar Maple Association	Sawtimber Well	109.2	95	111-140	(no XL white ash) Basal areas range from 80-140, averaging around 116. QD came back with 121 ave BA. Surprising amount of beech regeneration in areas (especially the south east) for so few beech in the canopy. Heavier to pole timber on west half of stand just after slight ridge. Westernmost quarter is less consist than east 3/4. More white pine, various species, less consistent diameters. Consider separate stands. Few karsts/pot holes throughout the stand. Came across one leatherwood, 4'. Large stand of N Hardwood, potholes through out southern half of the stand. Steep topography around potholes, also a severe drop in elevation in the northern third of the stand. Stand has not recieved any commercial treatments, some TSI work has been done. Old RR Grades run through the stand, also ORV trails present.
65	4110 - Sugar Maple Association	Sawtimber Well	37.5	87	81-110	Beech size class is actually XL/P/L. Few clones of aspen; both bigtooth and quaking (both represented as "bigtooth" in species list). Smaller diameter in southeast (south of stand 35); truly a pole stand in this area, converging on log; Few pockets of dense ironwood regeneration, 5-10', low iw regen throughout, though medium in these areas. BBD, EAB present. Northwest of stand 35 is dominated by log, higher BA. Increased presence of aspen in north. Trace amounts of bedstraw, helleborine, lady fern, and maidenhair fern.
66	4110 - Sugar Maple Association	Sawtimber Well	26.0	66	51-80	White ash - mostly has EAB, trace amount living in the canopy . Trace amount of white pine (14" dbh)and bigtooth aspen (12" dbh); elm is localized, not persistent throughout. Stand was treated in 2015. Quite a bit of marked pulp left uncut; some damage to residual stems (broken cambiums). Good year for sm germination, but time is needed to see what persists through the winter, beyond browsing, and recruits successfully. Otherwise not a lot of regeneration below 20' in height except occasional beech and ironwood. Stand is now heavy to sugar maple pole. Average BA is 64, ranging from 40-90. Old adjacent (to the west) cut has no regeneration except raspberry and sugar maple germinants. Occasional white pine, <1' tall. Most of the pine planted the area has been removed, a few scattered Red and White pine left in the stand as a trace.
69	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	2.5	76	51-80	West portion of stand 12, unharvested. Long term retention? Multi-stemmed red maple, lesser quality. Few ironwood developing into poles in the subcanopy. One log iw. Log and pole aspen along south wedge; higher sugar maple and beech regeneration underneath.
70	4110 - Sugar Maple Association	Sawtimber Medium	4.7	86	81-110	Red oak (pole) on edge Multi-stemmed in areas - has probably been logged or possibly farmed before. Some great wolfy wildlife den trees in spots. Unique stand. Seems that red pine was interplanted into sparsely stocked hardwood in the east end, now matured.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
72	4110 - Sugar Maple Association	Sawtimber Well	105.0	95	81-110	<p>Good species diversity. Trace amounts of black cherry, ironwood, quaking aspen, and paper birch also present in the canopy. Most of the beech are on the hillsides; XL beech are on the steepest slopes (further south in the stand), probably inoperable terrain even during the early 1900s, occurring with other XL sugar maple, basswood, and ash. EAB, BBD, DED present. Very heavy deer browsing, especially on elderberry and basswood.</p> <p>Aspect is overall north, but ridges and varying topography make for a highly variable composition in species composition, diameters, and densities. Hemlock present in pole, log, and sapling size.</p> <p>Band of BTA and WA in the south/east with dense striped maple regeneration underneath. Red maple in the far east with associates: RM, QA, BE, BW, SM - QA is deteriorating; dense beech regeneration. YB, PB, Aspen, BE are more or less patchy; YB/PB/Aspen occur mostly in the far east. Far west (west of trail) is largely dominated by basswood, then sugar maple, beech, white ash. Elm is consistent throughout. Helleborine throughout stand. Good year for sugar maple regeneration - a lot of seedlings <3" - some might survive the winter and/or browsing. Not all ash is dead, though EAB has already come and gone (or come and stayed). Many XL ash are surviving.</p> <p>Saw one white pine <1' sapling regenerating; one white cedar, 7" diameter. Platey and potential for platey bark in many sugar maple: good habitat for bats.</p> <p>Not supreme quality hardwood, but operable terrain would be suitable for a thinning in the future with some regeneration gaps. Clearcutting is also a consideration.</p> <p>Uneven aged because of topography and variable diameters - steep hillsides do not appear to have been logged in the past.</p>
73	4110 - Sugar Maple Association	Sawtimber Well	0.0	86	141-170	<p>Beech size class is actually XL/P/L. Few clones of aspen; both bigtooth and quaking (both represented as "bigtooth" in species list). Smaller diameter in southeast (south of stand 35); truly a pole stand in this area, converging on log; Few pockets of dense ironwood regeneration, 5-10', low iw regen throughout, though medium in these areas. BBD, EAB present. Northwest of stand 35 is dominated by log, higher BA. Increased presence of aspen in north. Trace amounts of bedstraw, helleborine, lady fern, and maidenhair fern.</p>



Stand	Cover Type	Acres	Managed Site	General Comments:
1	320 - Upland Shrub	16.5	No	Basswood has been repeatedly browsed to hardly anything. There are a couple aspen clones of variable sizes. Some weevil damage to white pine. Reindeer moss and blue cladonia present. Lost Tamarack hiking trail runs through this stand. Be cautious to protect the trail (and users) if management occurs. FTP from 1977 had the area clearcut and hand planted to hybrid aspen. I did not see any evidence of hybrid aspen, but it should be noted that planting here was intentional. I did see some hybrid poplar in a landing on the eastern edge of the compartment in stand 12, however.
3	3102 - Grass	12.1	No	Red pine, jack pine, and black cherry are present in pole and sapling size, generally along the perimeter of the stand, encroaching. Quaking Aspen is present in pole/log/sapling sizes, also encroaching. Formerly planted to rye.
6	320 - Upland Shrub	15.9	No	Black cherry present in S/P/L. QA in P/L/S. SE in P/S/L. JP in P/S. BF in P/S. Very stunted black cherry seedlings. This is a relatively low quality site with low productivity. Clump of jack pine in the east. It appears as though there was a temporary landing established in the far east of this stand, adjacent to the clearcut. Snow conditions were too heavy to judge if it was a landing, turn around, or used for something else during the harvest, though the area had been bulldozed and trees were brought back in and scattered. Jack pine, elm - whole trees felled and scattered in opening.
15	320 - Upland Shrub	25.9	No	South end has a larger inclusion of hardwood, will likely develop into sapling/pole hwd cover type next entry. JP, black cherry are present in pole/sap.
18	3102 - Grass	69.3	No	self-sustaining, low/understocked aspen, cherry, pine community. Risk of scotch pine cultivation (already present from adjacent private plantation). Variable size classes for most species, especially BC (SPL), QA (PS(L)), and RP (PS). Much higher stem densities around LO (trace amounts of Ribes and nannyberry on the edge of the lowland); higher stocking to south of LO also - thicker aspen clones. This could very easily be typed out as a low stocked aspen stand (25-50% closure).
19	3102 - Grass	1.2	No	I think there was Lopseed (<i>Phryma leptostachya</i>) also present, though I did not positively ID it. This is a major intersection of five forest roads; very sandy. There are some lowland tendencies in the southeast as the stand drops down toward the swamp.
20	6220 - Alder/willow	9.2	No	This could be seasonally inundated. Rattlesnake fern present. There was standing water when I visited the stand. Trace amounts of riverbank grape, black ash, basswood (heavily browsed), and elm in the perimeter, especially the north edge into the cover of the aspen.
22	320 - Upland Shrub	13.5	No	Extreme variability in species composition, diameters, densities, height. BC present in L/P/S, QA in P/L/S. Couple aspen clones; most of the hardwood is compressed on the west half of the stand; red pine is mostly in the east half. 2-year old growth (needles) on red pine were eaten off - look for European (or other) sawfly activity in the spring.
24	622 - Lowland Shrub	70.2	No	Inundated at time of inventory. Snags consistent throughout stand with very few living trees. Occasional cattails; mostly lowland grass.
27	500 - Water	29.1	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
29	3102 - Grass	10.1	No	Maintained Wildlife Opening from 1979 though 1984. "1979: disc and fertilize to maintain rye. 1980: till and seed to legumes. 1980-1984: mow and fertilize as needed." Unknown management history since then.
30	3102 - Grass	5.7	No	Henbit, deadnettle, raspberry, milkweed, mullein (tr), field strawberry, clump of reindeer moss and blue cladonia. Sap/pole black cherry.
31	3103 - Rubus-Fern	3.9	No	
33	3102 - Grass	1.1	No	Encroaching aspen, mixed hardwood. Trace conifer.
34	3102 - Grass	4.4	No	Perimeter trees filling in; few clumps throughout stand.
36	3102 - Grass	6.1	No	Encroaching woody vegetation, mostly pine and cherry with mixed hardwood on the edges. East half is more densely forested than west, but stand should be maintained as a non-forested opening. I was surprised that I didn't see knapweed, but it's likely on the horizon if not already present.
37	3102 - Grass	1.8	No	Sapling and pole sized white pine, encroaching aspen, hardwood of variable sizes (S/P). Bedstraw present.
38	3303 - Mixed Low Density Trees	4.8	No	Stand is converting to forested and should be maintained to keep opening status. "Canopy" QA P/L/S, WP P/S/L, BW L/P, BC S/P, IW S/P; "Subcanopy" BF, sumac, raspberry, BE, WP, SM, RP, BC (variable densities and sizes of mixed deciduous and coniferous regeneration). Mullein present.
42	3102 - Grass	2.9	No	Milkweed, cow vetch, thistle present in trace amounts.
45	310 - Herbaceous Openland	12.3	No	Mullein, cow vetch, milkweed, wild geranium, henbit, lettuce, wild strawberry, reindeer moss. The majority of the stand is void of knapweed (it's relatively inaccessible from traffic), though it has been introduced from the road to the east.
46	3102 - Grass	12.6	No	Henbit, field strawberry, milkweed, goldenrod, wild geranium, clover, mullein, reindeer moss, various lettuce present. Black cherry, white pine, and aspen all present in various size classes.
47	3104 - Degraded	23.9		Hardwood was clearcut in 2012 with intention of hardwood regeneration. Very little regeneration except for a couple aspen clones (mostly in the south and east) and some decent regeneration on the north hill (south aspect). Amazingly heavy browsing on all species.
50	6221 - Fen	2.3	No	emergence of lowland from upland, flowing towards Marl Ck drainage.
58	320 - Upland Shrub	0.0	No	South end has a larger inclusion of hardwood, will likely develop into sapling/pole hwd cover type next entry.JP, black cherry are present in pole/sap.



Stand	Cover Type	Acres	Managed Site	General Comments:
67	790 - Other Bare/Sparsely Vegetate	0.9	No	Old landing, Slight hill. Mixed deciduous regenerating, <20% canopy cover.
68	3105 - Mixed Upland Herbaceous	0.6	No	Non-forested bowl.
71	320 - Upland Shrub	12.1	No	Self-sustaining pine/cherry/aspen UO. All size classes represented in jack pine, P/S/L. Red pine present in L/S. Knapweed heavier on perimeter and in openings. Some jack pine defoliation on saplings, come completely defoliated. Quaking aspen is P/S/L; elm - S/P. Little bit of black knot in cherry - but not much. Some galls on jack pine.