



Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 147

Entry Year 2015

Acreage: 1,507

County Cheboygan

Management Area: Chandler Hills

Revision Date: 04/25/2013

Stand Examiner: Tricia Mitchell

Legal Description:

T33N R03W Sec 20

T33N R03W Sec 29

T33N R03W Sec 32: NE1/4, SE1/4NW1/4

Identified Planning Goals:

Within the Chandler Hills Management Area for 2015 YOY, it was recommended to have a final harvest on 46-70 acres of aspen and thinning on 488 acres of northern hardwood. However, the number for northern hardwood did not take into account the current prescription on 452 acres (sold and in progress), leaving a deficit target of 36 acres.

There are two compartments for this MA in the 2015 YOY.

Soil and topography:

LTA types and codes include the following:

1121: Steep, broken, moraine ridges, well drained loamy sand

5121: broad flat, outwash plain, well drained loamy sand

5549: Narrow outwash channel, very poorly drained peat and muck

Topography is generally rolling, hilly, and steep in some areas. The stream corridor sits in a flat valley with sloping terrain to either side.

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

The majority of this compartment is adjacent to State land, however section 32 is mostly privately owned and stateland therein is adjacent to private land to the west and south.

Unique Natural Features:

There is a presence of elm throughout most hardwood stands within this compartment, most of which are healthy and vigorous. The northeast half of section 20 has many seeps along its easterly slopes that should be considered and avoided during any management activities. There was a resident population of elk in the 2012-2013 winter.

Archeological, Historical, and Cultural Features:

There are known concerns in the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

As there are no documented MNFI occurrences within this compartment, there are no recommended SCAs or HVCAs to address. A spring field survey (for rare species and habitat typing) is recommended.

Red-shouldered hawk records just e of section 20 and 32. Additional red-shouldered hawk records to w/sw, w, w/nw, nw, n/ne, e/ne, and e. Bald eagle to e/ne and se. Northern goshawk to n/ne. Common loon to NE. Limestone oak fern to W. Potential for woodland vole, red-shouldered hawk, northern goshawk, wood turtle, and eastern massasauga. Potential for ram's head lady's-slipper, limestone oak fern, round-leaved orchis, and calypso orchid in cedar swamps.

Watershed and Fisheries Considerations:

This compartment is in the Sturgeon River watershed, and contains a portion of the West Branch Sturgeon River. A minimum no-clear cut buffer of 300' should be maintained adjacent to this stream. Management for coniferous species within that buffer is acceptable.

Wildlife Habitat Considerations:

This compartment consists of mostly upland habitat with a small component of lowland habitat associated with the West Branch of the Sturgeon River. The lowland area supports a variety of species including black bear, white-tailed deer, furbearers and various amphibians. The majority of the upland habitat is hardwoods with a few pockets of aspen. A portion of the aspen will be treated to provide age-class diversity and early successional habitat that benefits white-tailed deer, ruffed grouse, American woodcock, and various song birds.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and coarse-textured glacial till. The glacial drift thickness varies between 400 and 800 feet. The Devonian Antrim Shale subcrops below the glacial drift. The Antrim is used for cement products. Gravel pits are located in Section 32 and the uplands appear to have good potential. The Antrim Shale gas play has expanded to include Section 32. The Compartment is leased for oil and gas development for the Collingwood Formation.

Vehicle Access:

Perry Road, Wilderness Road, and Real Water Road are the primary access roads for this compartment. There exist unnamed spurs and a dirtbike trail allowing motorized access to more remote areas of the compartment. The terrain would make further road development difficult.

Survey Needs:

There is one survey corner needed in this compartment, yet with the abundance of surrounding stateland, there are no other pressing needs to survey for section corners or quarter corners that aren't already in place.

Recreational Facilities and Opportunities:

The dirtbike trail runs through the compartment, merging with Wilderness Road for a bit. The NWSW of Sec 20 presents some maintenance issues with restored RDRs being ignored and misused, although the main disturbance is in Section 19.

Fire Protection:

Fire danger is moderately low in these predominately hardwood forests, although fire suppression would be difficult given the terrain. The West Branch of the Sturgeon River dissects the SE1/4 of Sec 29 with channels to the north and south, creating a potential fire break. A bridge in section 28 provides access to the river for drafting if needed.

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**

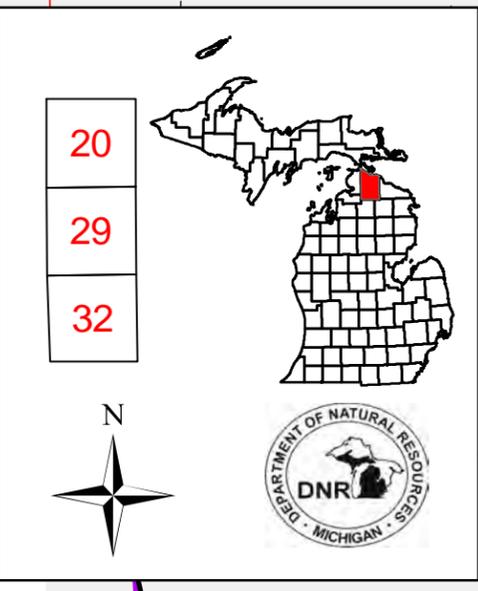
The following information is displayed, where pertinent, on the attached compartment maps:

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

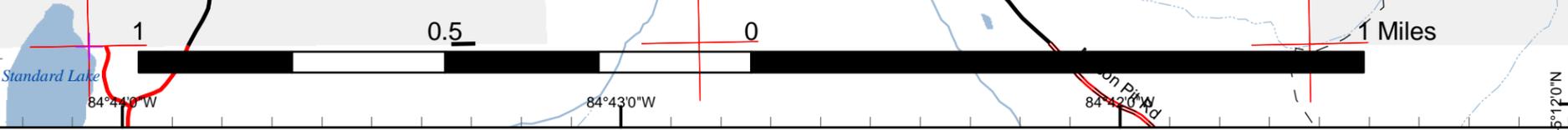
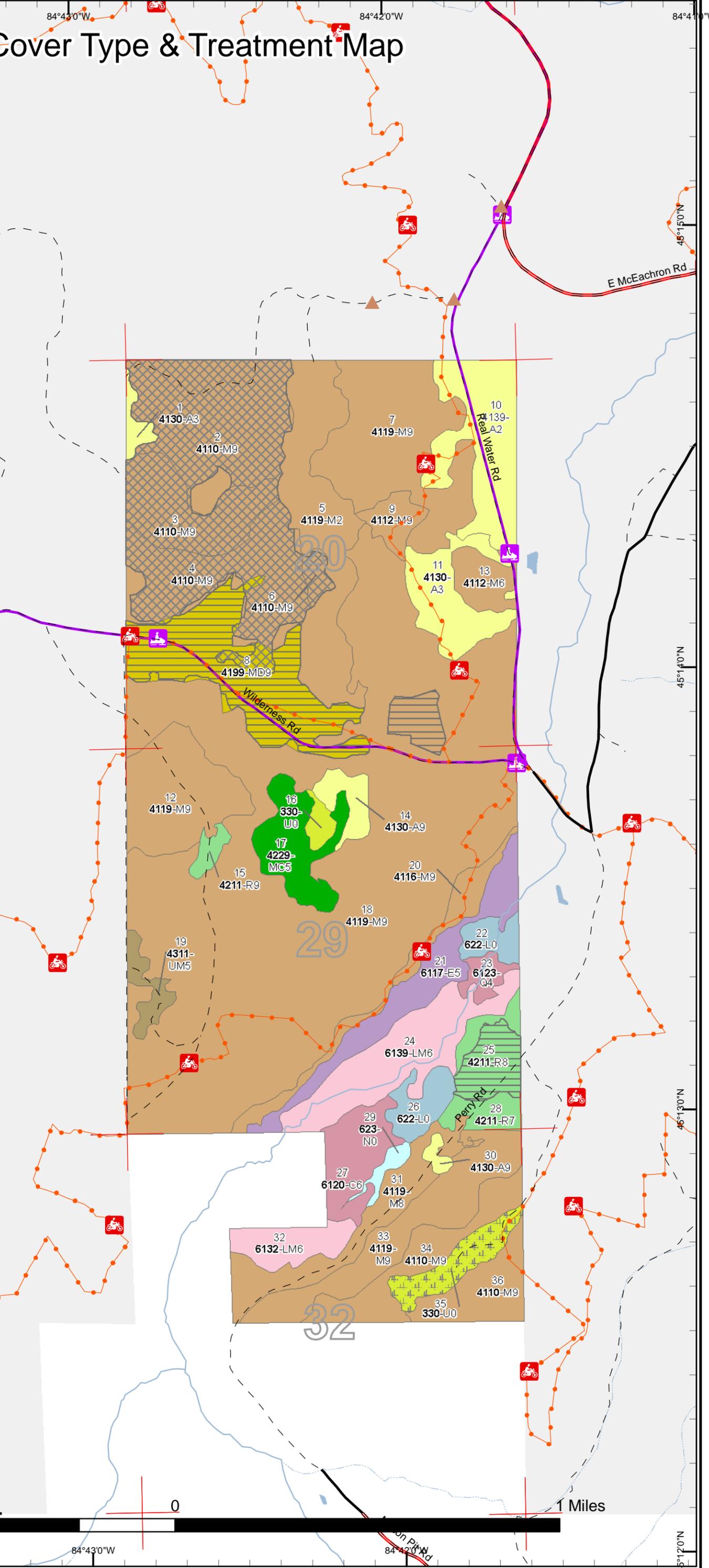
Cover Type & Treatment Map

Compartment: 147
 T33N R03W Sec. 20, 29, 32
 County: Cheboygan
 Unit: Gaylord
 YOY: 2015
 Acres: 1,507 GIS Calculated
 Examiner: Tricia Mitchell
 Map Revised: 04/08/2014
 Map Phase: Post-Review

Stand #
 23
(4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



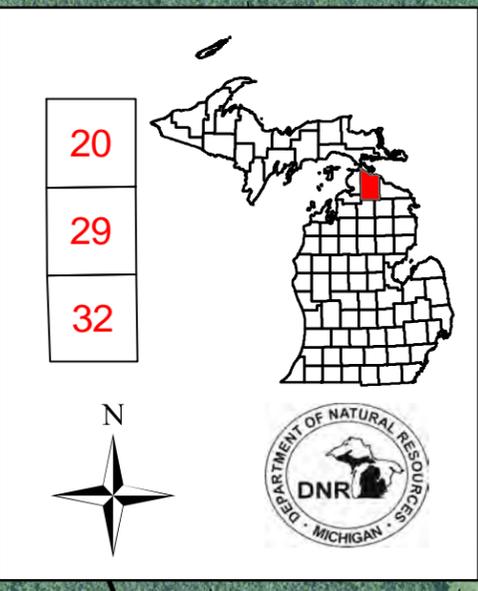
- ✚ Remonumented Section Corners
 - Miris Corners
 - ◆ PLSS Corner
 - ▲ Berms
 - 🏍 Motorcycle Trails (DNR License)
 - 🏂 Snowmobile Trails
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - 🏍 Motorcycle (DNR License)
 - 🏂 Snowmobile Trail
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
 - State Forest Land
- Treatments**
- ▭ Clearcut (w/Reserves, Patch/Strip)
 - ▭ Selection (Group, Single Tree)
 - ▭ Other Treatment - See Comments
- Forest Stands**
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
- Non-Forest Stands**
- 330 - Low-Density Trees
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland



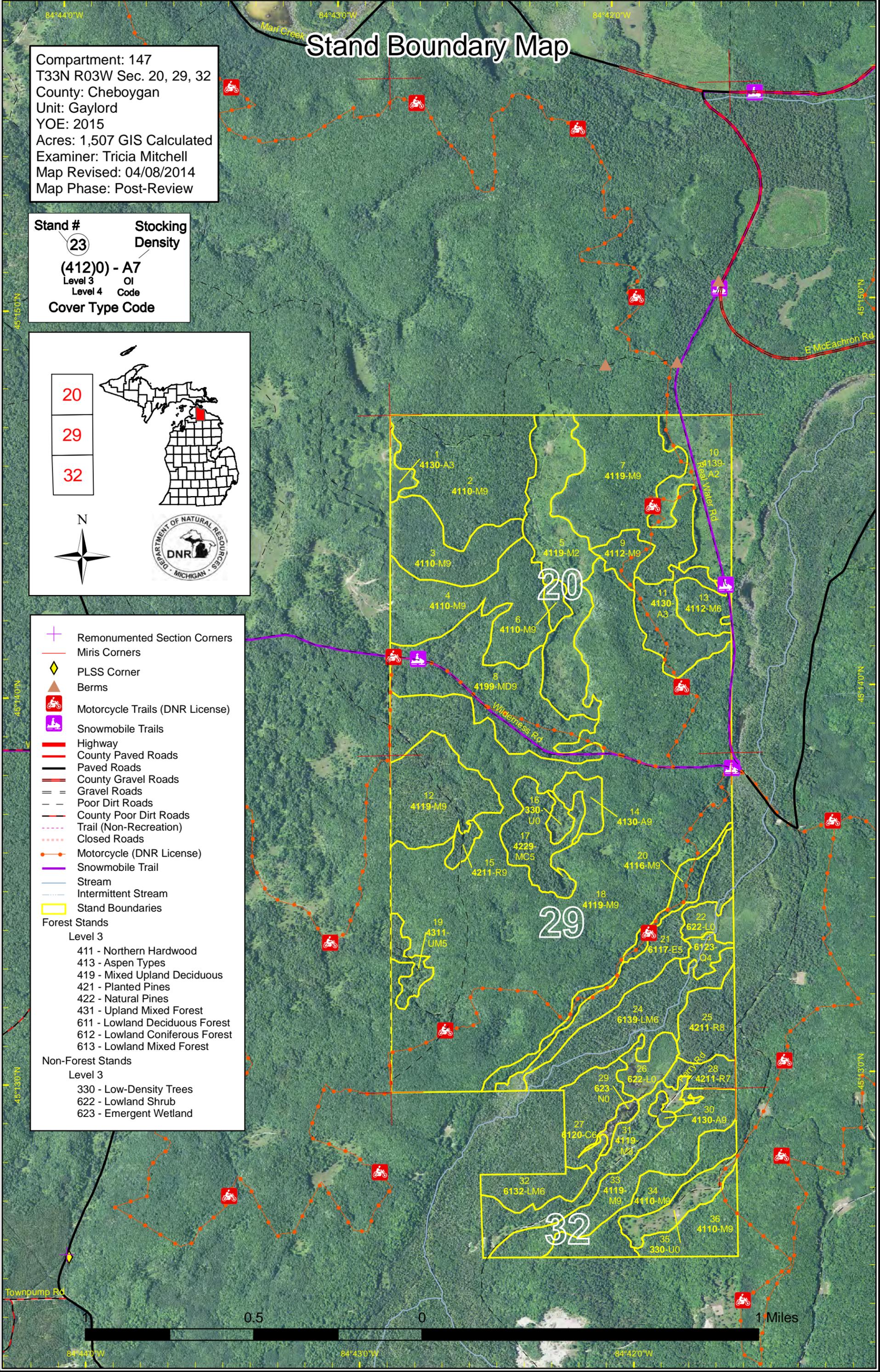
Stand Boundary Map

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Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



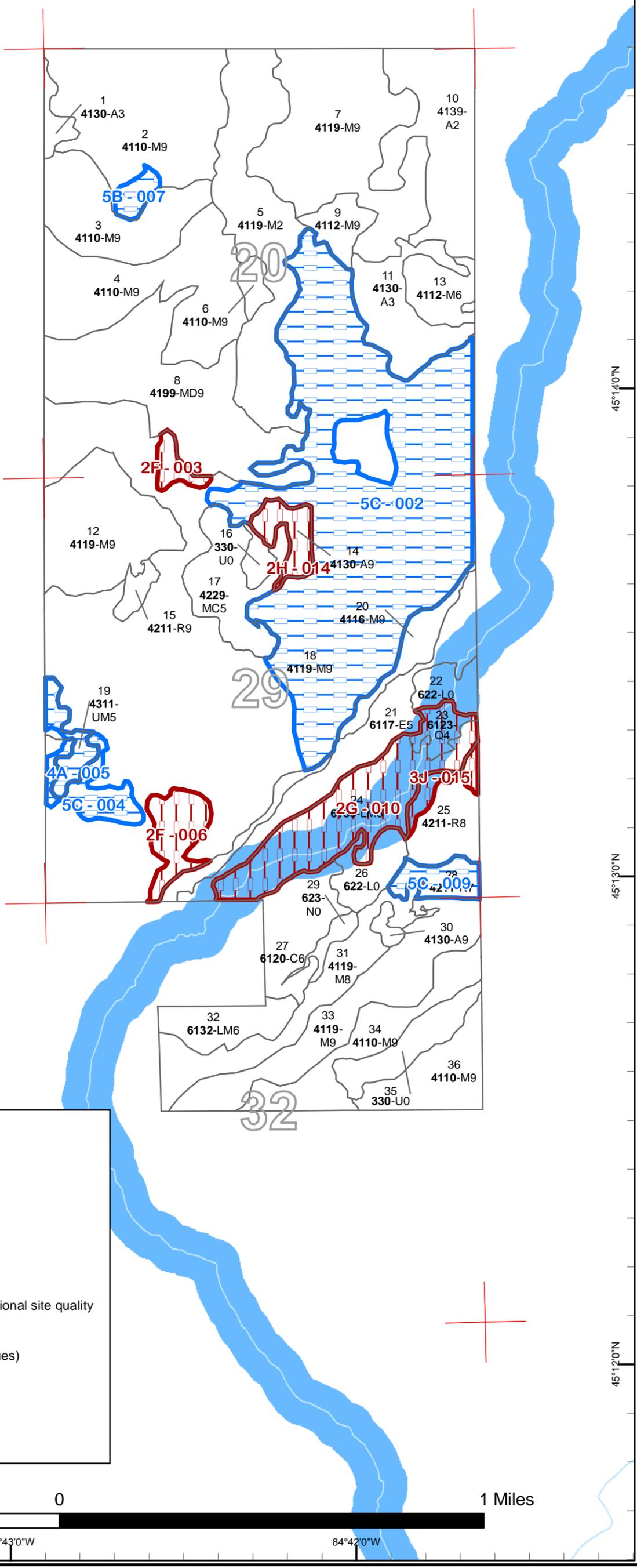
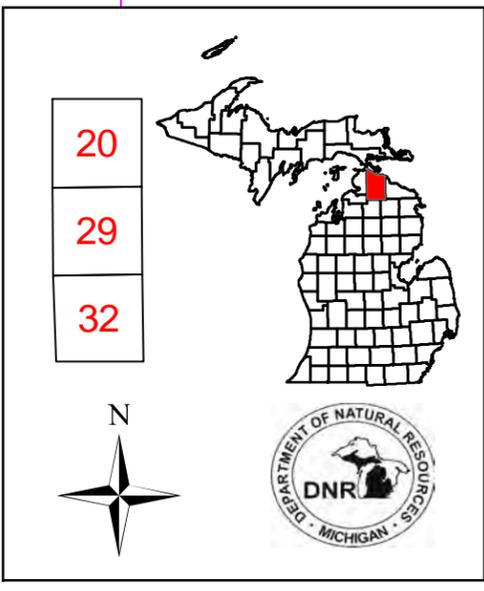
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Special Conservation Areas & Site Conditions Map

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 County: Cheboygan
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Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



+ Remonumented Section Corners
— Miris Corners
 Stand Boundaries
Site Condition Available
 Available w/ Constraints (Factor - Number)
 Unavailable (Factor - Number)
Available Factors W/ Constraints
 2E: Road needed
 4A: No merchantable products (see product standards)
 5B: Retention for regeneration purposes
 5C: Delay treatment for age/size class diversity or exceptional site quality
Unavailable Factors
 2F: Too steep
 2G: Too wet (sensitive soils, does not include access issues)
 3J: Water quality / BMPs (stream, river, or lake)
Dedicated Special Conservation Areas
— Cold Water Streams
— Cold Water Lakes
— High Priority Trout Stream Buffer



Cover Type & Treatment Map

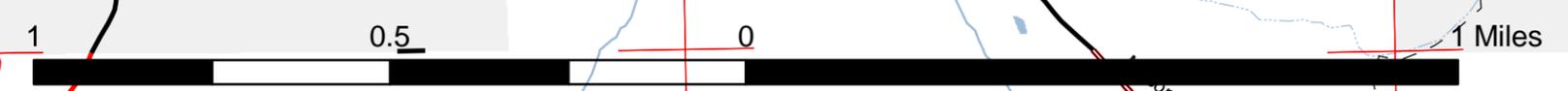
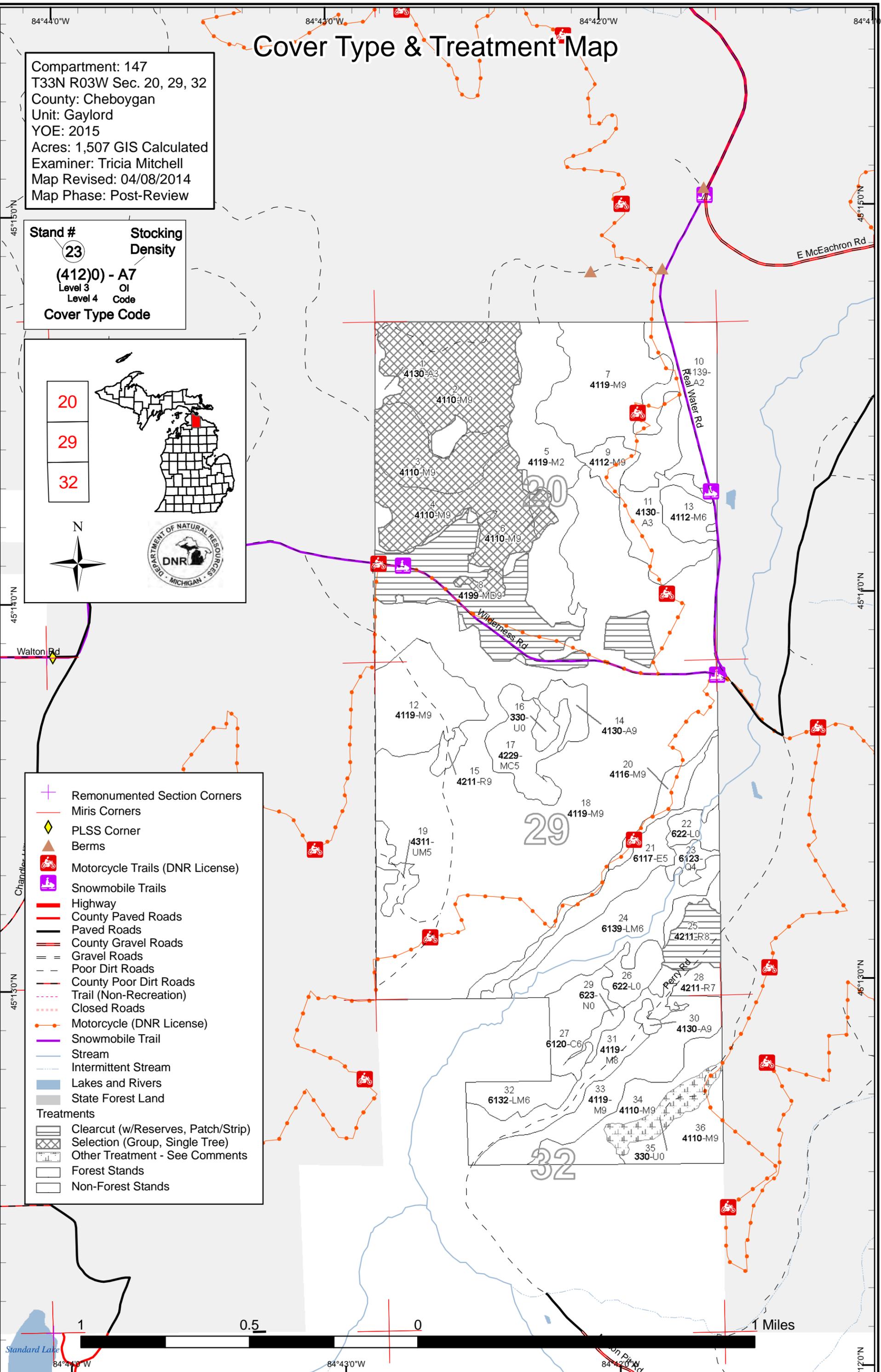
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20
 29
 32

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 DNR
 DEPARTMENT OF NATURAL RESOURCES
 MICHIGAN

+ Remonumented Section Corners
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Treatments
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 Selection (Group, Single Tree)
 Other Treatment - See Comments
 Forest Stands
 Non-Forest Stands



Standard Lake
 84°44'0" W 84°43'0" W 84°42'0" W 84°41'0" W
 45°15'0" N 45°14'0" N 45°13'0" N 45°12'0" N

Report 1 – Total Acres by Cover Type and Age Class



	Age Class													Total	
	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 +		Uneven Age
Aspen	49	35	0	0	0	0	0	10	0	0	0	0	0	3	97
Cedar	0	0	0	0	0	0	0	0	0	26	0	0	0	0	26
Low-Density Trees	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Lowland Conifers	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
Lowland Deciduous	0	0	0	0	38	0	0	0	0	0	0	0	0	0	38
Lowland Mixed Forest	0	0	0	0	0	0	69	0	0	0	0	0	0	0	69
Lowland Shrub	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Marsh	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Mixed Upland Deciduous	0	0	0	0	0	0	78	0	0	0	0	0	0	0	78
Natural Mixed Pines	0	0	0	0	0	0	0	29	0	0	0	0	0	0	29
Northern Hardwood	68	0	0	0	0	179	78	642	46	0	0	0	0	55	1069
Red Pine	0	0	0	0	0	0	0	38	0	0	0	0	0	0	38
Upland Mixed Forest	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9
Total	166	35	0	0	0	217	94	799	112	26	0	0	0	58	1507



Report 2 – Proposed Treatment Summaries

Gaylord Mgt. Unit
Year of Entry 2015

Compartment 147
Total Compartment Acres: 1,507

Acres by Treatment Type

Commercial Harvest - 210 Tree Planting - 0 Other - 0
 Habitat Cut - 0 Opening Maintenance - 18

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Mixed Upland Deciduous	71	0	0	0	0	0	71
Northern Hardwood	11	112	0	0	0	0	123
Planted Pines	17	0	0	0	0	0	17
Total	99	112	0	0	0	0	210



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2 52147002-Cut_ReDo	111.8	4110 - Sugar Maple Association	High Density Log	78	51-80	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Fld. Tr. Bdy. - Incomplete

Prescription --Tricia Mitchell : 08/22/2013 comments:

Specs: --Tricia Mitchell : 08/22/2013 comments:

--Tricia Mitchell : 08/22/2013 comments:

Other Pothole Hardwood, 52-129-05.

Comments:

Next Steps: To be re-advertised with clearcuts prescribed in the 2015 YOE inventory. This hardwood has already been marked to the following specs: Reduce stand to 80 square feet using single tree selection/crop tree release marking techniques. Manage for best tree in place, however, do not mark any American Elm or Juneberry. Retain at least 1-3 12"DBH+ trees/ac of declining vigor (cull) to serve as future den trees. Create an average of one, 40' regen hole per ac except where very high quality timber predominates. Girdle at least 1-2 trees/ac to serve as den trees; mark with orange "X" on opposite sides. When possible, release pockets of advanced hardwood regen by creating an overhead canopy gap.

Proposed
Start Date: 10/01/2013

8 52147008-Cut	70.9	4199 - Other Mixed Upland Deciduous	High Density Log	77	51-80	Harvest	Clearcut with Reserves	4130 - Aspen	Fld. Tr. Bdy. - Incomplete
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Prescription Clearcut aspen with retention around elm specifically, also hardwood dominated pockets. Continue sale boundary to east, catching accessible aspen from outside of the stand. This might require two or more separate units.

Other Focus retention along the snowmobile trail / Wilderness Rd.

Comments:

Next Steps: Regen Survey, acceptable regeneration includes a mix of aspen and hardwood species.

Proposed
Start Date: 10/24/2013

18 52147018-Cut1_exp-0	10.8	4119 - Mixed Northern Hardwoods	High Density Log	76	111-140	Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Fld. Tr. Bdy. - Incomplete
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Prescription Treat with aspen clearcut to the west (stand 8). Red line around aspen clone(s), avoiding quality hardwood, elm, and clean ash/beechn (red line as necessary, not necessarily following Rx polygon). Clearcut aspen and any balsam fir, leave pine and underrepresented species.

Other Focus retention along the snowmobile trail / Wilderness Rd.

Comments:

Next Steps: Regen Survey, Acceptable regeneration includes aspen and hardwood.

Proposed
Start Date: 10/24/2013

25 52147025-Cut	17.0	42110 - Planted Red Pine	Medium Density Log	83	81-110	Harvest	Clearcut with Reserves	4119 - Mixed Northern Hardwoods	Fld. Tr. Bdy. - Incomplete
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Prescription Clearcut all species to 2", leaving 20 BA of mature red pine. Leave a 300' buffer from the Sturgeon River. Acceptable regeneration includes a mix of hardwood and aspen.

Other Focus retention of 3-10% of the stand area in pockets along the road for visual management in addition to what was left along the river in the riparian management zone.

Next Steps: Regeneration survey with next inventory cycle.

Proposed
Start Date: 10/01/2014



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35 NF_52147035-NonFor	17.5	3303 - Mixed Low Density Trees				Non-Forest Management	Other - Specify	3303 - Mixed Low Density Trees	Fld. Tr. Bdy. - Incomplete

Prescription: Opening maintenance by means of burning, mowing, brush cutting or other methods as needed to get the desired result.

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: Unspecified

**Total Treatment
Acreage Proposed: 227.9**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type! #Type!

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

Total Treatment
Acreage Proposed: 0.0

Report 5 – Site Conditions

Gaylord Mgt. Unit
Tricia Mitchell : Examiner

Compartment 147
Year of Entry 2015

Availability for Management

Total Acres	Acres		Dominant Site Conditions	Dominant Site Conditions							
	Available	Not Available		No	5C	5B	4A	3J	2G	2F	2E
97	97		Aspen	87							10
26	26		Cedar	26							
7		7	Lowland Conifers						7		
38	38		Lowland Deciduous	38							
69	18	51	Lowland Mixed Forest	18					51		
78	78		Mixed Upland Deciduous	78							
29	29		Natural Mixed Pines	29							
1068	1048	20	Northern Hardwood	803	240	5				20	
38	32	6	Red Pine	22	10			6			
9	9		Upland Mixed Forest	1			8				
1,457	1,374	84	Total Forested Acres	1,100	250	5	8	6	58	20	10
	94%	6%	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
002	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	227				
Comments:							
The majority of this stand is operable terrain with quality mixed northern hardwood and pockets of aspen. Suggested delay of treatment because of high volumes of ash and beech salvage projects.							
003	Not Available	2F: Too steep	5				
Comments:							

Report 5 – Site Conditions

Gaylord Mgt. Unit
Tricia Mitchell : Examiner

Compartment 147
Year of Entry 2015

004	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	13		
Comments: The majority of this stand is operable terrain, although there are steep slopes within this portion of the stand. Decent quality mixed northern hardwood and pockets of aspen. Suggested delay of treatment because of high volumes of ash and beech salvage projects.					
005	Available	4A: No merchantable products (see product standards)	8		
Comments: Low quality, poorly stocked predominately jack pine stand.					
006	Not Available	2F: Too steep	15		
Comments:					
007	Available	5B: Maintain for regeneration purposes	5		
Comments: This was a retention island within the surrounding selection harvest (Pothold Hardwood) and was left intact intentionally.					
009	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	No Limiting Factor	
Comments:					
010	Not Available	2G: Too wet (sensitive soils, does not include access issues)	58		
Comments: Very wet, very sensitive soils.					

Report 5 – Site Conditions

Gaylord Mgt. Unit
Tricia Mitchell : Examiner

Compartment 147
Year of Entry 2015

014	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	10	2E: Road needed
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Comments:

Infeasible access.

015	Not Available	3J: Water quality / BMPs (stream, river, or lake)	6	
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Comments:

Provides a 300-foot buffer from the West Branch of the Sturgeon River.



Report 6 – 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 7 – 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Sapling	4.8	10	81-110	Clearcut in 2004 - "Pothole Contract" - small acreage in section 20 cut with rest of sale in section 19.
2	4110 - Sugar Maple Association	High Density Log	78.7	78	51-80	Pothole Hardwood contract, closed 6/30/13. Came across one Black Cherry in the canopy. Few Red and White Pine along eastern edge of stand. Abundance of blackberries and raspberries in canopy gaps and along skid trails. Basswood stump sprouts have been heavily grazed.
3	4110 - Sugar Maple Association	High Density Log	39.0	68	81-110	Couple XL SM >16". Scattered elm. Timber increases in DBH as stand progresses north. EAB present but not prolific (yet). No WP present in NW. Handful of Log BTA in extreme North tip of stand.
4	4110 - Sugar Maple Association	High Density Log	62.7	76	81-110	Hawthorn on the edge by pre-inventory stand 8, off road in old RDR. Cherry on edge too. Western (specifically south western) chunk along compartment boundary is a west-facing slope and is heavier to BTA, RM (dominant species), SM, IW, and WP. Occasional XL SM in stand. Pockets of BTA scattered throughout.
5	4119 - Mixed Northern Hardwoods	Medium Density	68.0	9		Clumpy regeneration and heavy browsing. Elm, Red Pine, and White Pine are residual (unclut) "supercanopy".
6	4110 - Sugar Maple Association	High Density Log	4.9	88	141-170	EAB present. Marginal-low quality wood. Red Pine and White Pine on eastern edge along clearcut.
7	4119 - Mixed Northern Hardwoods	High Density Log	81.6	59	81-110	Heavy Beech Scale, small presence of White Ash. Evidence of EAB though not yet devastating ash. Good access to stand through clearcut unit to the west. Stand gets hilly as you progress south and east. Wildlife guys (out of Roscommon) were tracking a female with cubs in the area.
8	4199 - Other Mixed Upland Deciduous	High Density Log	77.8	77	51-80	Aspen, mixed deciduous, with conifer. Pockets of L, XL sugar maple and white ash. Stand is the resulting succession from QA/BTA natural regen and JP/RP/WP planting (200tpa) in 1931. Variable densities. Trace amounts of jack pine and paper birch. Red Pine present in SE only; some brooming.
9	4112 - Maple, Beech, Cherry Association	High Density Log	10.3	81	81-110	Beech Scale present. No great access for harvesting. Come back and habitat type in the spring.
10	4139 - Aspen, Mixed Deciduous	Medium Density	49.2	9		Few residual red pine, sugar maple left standing. Beech on south edge of stand. Clearcut in 2005.
11	4130 - Aspen	High Density Sapling	30.0	19		Dense raspberry in landings. Cut in 1995. Residual BF and WP, poles and logs.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	4119 - Mixed Northern Hardwoods	High Density Log	48.1	59	81-110	Slash is from current timber sale. Couple elm scattered throughout, but less than 2% canopy. Close to a log SM component, averages around 10-12".
13	4112 - Maple, Beech, Cherry Association	High Density Pole	14.3	68	81-110	Borderline Log-sized stand. Terrain slopes down to the East with especially steep grade in the eastern-most quarter of the stand. Large pocket of blowdown in west. Dead elm. Beech scale present. Low quality sugar maple, decent basswood, good quality red maple. Basswood is heavier in southeast and on steep slope. Red maple BA increases to the north (almost entirely RM in northern most portion of stand). Yellow birch present (<2%).
14	4130 - Aspen	High Density Log	10.2	77	111-140	Aspen meets silvicultural criteria for harvest. Terrain might make for a difficult sale; SW slope. BA swings: 210, 130, 70, 100 = 127.5 average
15	42110 - Planted Red Pine	High Density Log	4.6	86	81-110	BA might be a little closer to 100 average. Red pine and white pine planted in the 1930s. Trace amounts of basswood, white ash, and black cherry are in the canopy. Very few regenerating elm are in the disturbed soil along the road.
17	42290 - Natural Mixed Pine	Medium Density Pole	28.6	83	51-80	Clumpy with dense pockets of aspen, some with dense sugar maple regen. Trace amounts of black cherry, ironwood, elm, and balsam fir. RP/JP planted in 1931. RP and JP regenerating but not well. Most canopy (and super canopy) RP is in the south portion of the stand.
18	4119 - Mixed Northern Hardwoods	High Density Log	500.7	76	111-140	Variable densities and size classes throughout stand. Much of the stand has been prescribed and is currently being harvested. Densities and composition will change; this should be reflected when sale is closed. There are many clumps of aspen clones, many of which are mature but not large enough in acreage (or with definite breaks between aspen and hardwood) to be their own stand(s). There are also a few grass openings within the stand. Occasional Elm. White and red pine were planted throughout much of this stand in the 1930s. Terrain is incredibly variable; some ground (even some within the current timber sale) is inoperable because of steepness. Obvious deer and elk sign; old bear sign (although there is one confirmed female with cubs nearby this compartment). There is some beautiful log and xl red oak in the southern portion of this stand concentrated on south facing slopes and along a ridge line east of the road and south of the dirtbike trail.
19	4311 - Pine, Aspen Mix	Medium Density Pole	9.0	64	1-50	Most Log elm, cherry, and maple are on the edges. Lots of snap in the jack pine from this past winter. Aspen is in (clonal) pockets.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	4116 - Mixed N. Hardwood - Aspen	High Density Log	20.1	Uneven Age	51-80	Multi-stemmed, wolfy timber; low quality. South aspect, quite steep, dropping down into a stream (side channel to the river). Too steep to harvest. Beech scale present but not prolific. Multiple age classes and strata represented. Occasional paper birch and yellow birch, XL sugar maple and beech. Openings throughout stand with large white pine stumps.
21	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	37.8	59	51-80	Alder is clumpy. Occasional black cherry on edge of west boundary. Trace beech is also along western edge. Stand densities and composition are variable; canopy closure is variable also, <75% on the interior, >75% on the edges. Increased aspen as you travel south. Interior is inaccessible because of side channels.
23	6123 - Lowland Fir	Low Density Pole	7.0	60	1-50	Cedar falling out. Stream goes through middle of stand. Very wet.
24	6139 - Mixed Lowland Forest	High Density Pole	51.0	74	51-80	BA: 60, 90, 120, 50, 50 = 74 ave Heavier cedar to the south. Very wet stand fairly poor quality making management undesirable. River and channels run through this stand, especially along the eastern half (Sturgeon River).
25	42110 - Planted Red Pine	Medium Density Log	22.9	83	81-110	BAs: 70, 110, 140, 50 = 92.5 average BA Planted in 1931 @ 800 tpa. Thinned in 1984. Densely stocked understory, sapling to pole sized trees.
27	6120 - Lowland Cedar	High Density Pole	26.0	91	111-140	Locked by channels on either side. Canopy cedar is fading but appears to be regenerating. Super-canopy white pine and spruce.
28	42110 - Planted Red Pine	Low Density Log	10.2	83	51-80	1931 Red Pine and Jack Pine planted @ 800 tpa over 26 acres. Thinnings in 1984 and/or 1989. Canopy closure is 95% with hardwood understory. Occasional cherry and elm (<4" dbh) along road. Jack Pine regen confined to south tip of western leg.
30	4130 - Aspen	High Density Log	2.8	Uneven Age	81-110	Aspen colonizing opening; staggered heights, ages, diameters. Smaller diameter stand east of road (3-6"); more densely stocked. Cherry, sugar maple, and red pine present on the edges of the stand. Harvest concern nearby.
31	4119 - Mixed Northern Hardwoods	Medium Density Log	35.1	Uneven Age	51-80	BA Swings: 120, 50, 150, 30, 10 = 72 ave. Primarily upland but drops into lowland along northerly stand (pre-inventory stands #32, 26, 28). Cherry concentrated along edges of more densely vegetated areas and road. Few elm on the edges too. Occasional paper birch. "Multi-storied" because of age and structural diversity/variability. Occasional scotch pine, red pine, and white pine in openings and on forest edges. One white ash of very poor quality.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	6132 - Mixed Lowland Forest with Cedar	High Density Pole	17.7	79		Occasional log paper birch (couple white ash on edges). Maturing into log-sized stand. No obvious signs of EAB. Cored ash appeared suppressed for first 40-45 years. Canopy closure is right around 75% and could go either way, 50-75% or 75-100% closure.
33	4119 - Mixed Northern Hardwoods	High Density Log	49.6	59	81-110	Stand sits on west-facing slope with a lot of undulations. Most terrain is inoperable. Trace amount of white ash and white spruce. "Big Tooth Aspen" in species includes a trace amount of Quaking Aspen. Beech scale is present but not ubiquitous. Basswood and sugar maple dominate south and east stand boundaries, especially where slopes crest or flatten. Beech and paper birch are not uniform throughout the stand - beech is present mostly in the center of the stand, tapering a bit as you progress northeast and is not present in south portion of stand. Paper birch is mostly present in the northern most and western portion of stand. Diameters lessen and densities increase as the stand progresses northeast.
34	4110 - Sugar Maple Association	High Density Log	30.5	80	81-110	Variable stand with uneven terrain, varying densities, diameters, and species composition. CONSIDER REVISING STAND BOUNDARIES. Slope in southeast has larger timber. Average diameter generally decreases with northeasterly progression. Trace amounts of paper birch, hemlock (located in SW draw only), black cherry (most log-sized cherry is dead), occasional XL sugar maple. Trace amounts of red maple in BTA pocket. Dead elm in north and the occasional sapling/pole elm on the eastern edge into the grass opening. Liverwort on large white ash in southeast. Heavy browsing on understory sugar maple.
36	4110 - Sugar Maple Association	High Density Log	25.0	62	51-80	Bigtooth Aspen in Northeast, especially along nonforest stand. Occasional pockets throughout stand. Plenty of Log sized sugar maple, 12". One yellow birch, 10". Pocket of XL basswood, sugar maple, white ash, 16" ave dbh. Occasional Elm. Lots of stump sprouts. Easy ground. Occasional black cherry. Southwest corner drops down. QA/BTA L, XL. BF P, L (12-14"). PB especially on NW edge.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
16	3303 - Mixed Low Density Trees	4.6	No	Unspecified	
22	6229 - Mixed lowland shrub	9.6	No	Unspecified	
26	6229 - Mixed lowland shrub	13.3	No	Unspecified	
29	6239 - Mixed Emergent Wetland	4.2	Unspecified	Unspecified	Standing dead cedar and balsam fir. High water. Not completely inundated, but pockets of standing water. Channels move through and around this stand.
35	3303 - Mixed Low Density Trees	17.5	No	Unspecified	