



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32044

Entry Year 2016

Acreage: 1609.98250000

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2014-09-18

Stand Examiner: Theresa Sysol

Legal Description:

T44N R25W Section(s) 20, 21, 22

Identified Planning Goals:

To maintain the health and sustainability of the forest while providing for recreational, wildlife and fisheries concerns.

Soil and topography:

Most of this compartment is gently rolling uplands of Rubicon, Croswell and Rousseau-Ocqueoc sands and level swamps of Carbondale and Tawas mucks.

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

Mostly State owned, with isolated hunting camps in and around compartment.

Unique Natural Features:

No Unique Natural Features known.

Archeological, Historical, and Cultural Features:

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

Special Management Designations or Considerations:

Some potential for pearlwort or Cooper's mild-vetch along rocky portions of Escanaba River. Some potential for submergent and emergent marsh species creek and along river: auricled tway-blade, autumnal water starwort, alternate-leaved water-milfoil, Farwell's water-milfoil, linear-leaved gentian, and veiny meadow-rue.

Watershed and Fisheries Considerations:

Bob's Creek and main branch of the Escanaba River are found within.

Wildlife Habitat Considerations:

Compartment 44 is found within the Chain Lakes Moraine Management Area; on a Disintegration Moraine in Southwestern Marquette County. The dominant Natural Communities are dry mesic northern forests, poor conifer swamps, and mesic northern forests. This management area offers opportunities to increase diversity and perhaps long-term oak sustainability through under planting white and red pine. Another priority is to maintain or increase wildlife corridors especially along riparian corridors. Wildlife management issues in the management area are: mast (hard and soft); habitat fragmentation; mature forest conditions; mesic conifer; coarse woody debris; and retention or development of large living and dead standing trees (for cavities). This management area represents approximately 1/4 of the oak resource on WUP state forest.

The following have been identified as featured species for Chain Lakes Management Area: black bear, gray jay, pileated woodpecker, Northern goshawk, red crossbill.

Mineral Resource and Development Concerns and/or Restrictions

Sections 20 - 22, T44N-R25W, Marquette County

Surface sediments consist of peat and muck. There is insufficient data to determine the glacial drift thickness. The Cambrian Trempealeau Formation subcrops below the glacial drift. The Trempealeau could be used for stone. Gravel pits are located four miles to the northwest, and potential is limited. Abandoned iron mines are located three miles to the northeast. This area has not been previously leased. There is no economic oil and gas production in the UP.

Vehicle Access:

Good access overall, although some routine maintenance/better improvement would be desirable on Bob's Creek Truck Trail.

Survey Needs:

Private 40 in Section 21 SWNW.

Recreational Facilities and Opportunities:

No established recreational facilities, although hunting and fishing are popular in this compartment. Several dispersed campsites can be found along the Escanaba River, which receives a lot of use by canoes.

Fire Protection:

Some drier soil types here and nearby camps, river campsites indicate a higher fire frequency. Old fire plow lines are visible in areas.

Additional Compartment Information:

Some old logging grades in the area.

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:

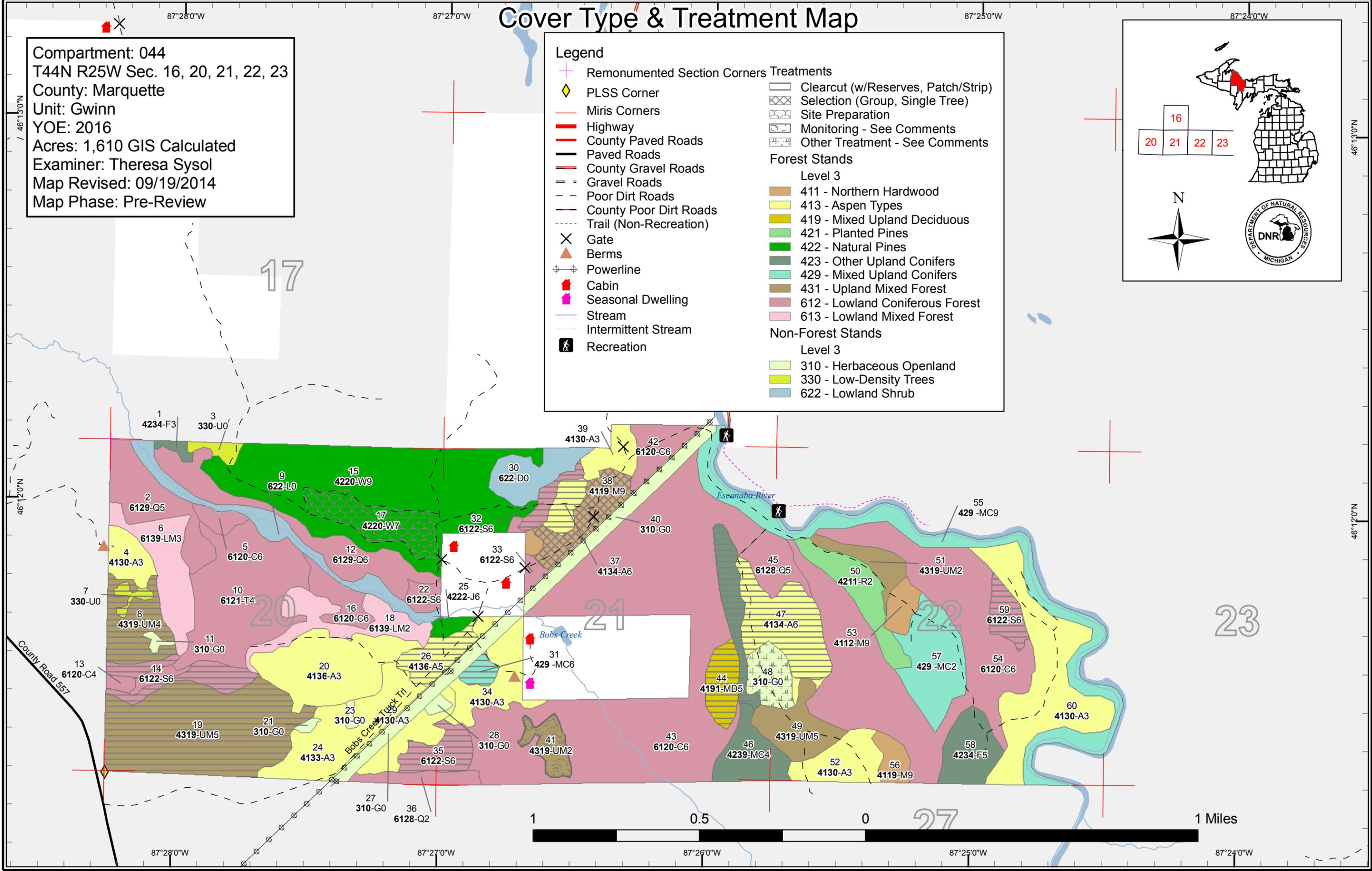
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatment Map

Compartment: 044
 T44N R25W Sec. 16, 20, 21, 22, 23
 County: Marquette
 Unit: Gwinn
 YOE: 2016
 Acres: 1,610 GIS Calculated
 Examiner: Theresa Sysol
 Map Revised: 09/19/2014
 Map Phase: Pre-Review

Legend

+	Remonumented Section Corners	Treatments	
◇	PLSS Corner	▨	Clearcut (w/Reserves, Patch/Strip)
—	Miris Corners	▩	Selection (Group, Single Tree)
—	Highway	▧	Site Preparation
—	County Paved Roads	▤	Monitoring - See Comments
—	Paved Roads	▥	Other Treatment - See Comments
—	County Gravel Roads		
—	Gravel Roads	Forest Stands	
—	Poor Dirt Roads	Level 3	
—	County Poor Dirt Roads	■	411 - Northern Hardwood
—	Trail (Non-Recreation)	■	413 - Aspen Types
×	Gate	■	419 - Mixed Upland Deciduous
▲	Berms	■	421 - Planted Pines
⊕	Powerline	■	422 - Natural Pines
🏠	Cabin	■	423 - Other Upland Conifers
🏡	Seasonal Dwelling	■	429 - Mixed Upland Conifers
—	Stream	■	431 - Upland Mixed Forest
—	Intermittent Stream	■	612 - Lowland Coniferous Forest
🚶	Recreation	■	613 - Lowland Mixed Forest
		Non-Forest Stands	
		Level 3	
		■	310 - Herbaceous Openland
		■	330 - Low-Density Trees
		■	622 - Lowland Shrub



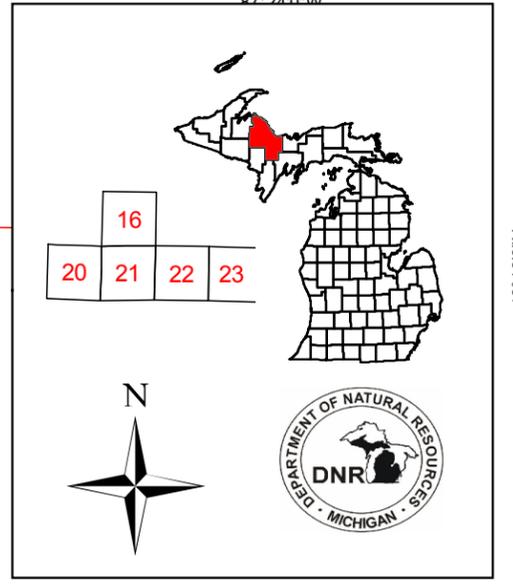
Special Conservation Areas & Site Conditions Map

Compartment: 044
 T44N R25W Sec. 16, 20, 21, 22, 23
 County: Marquette
 Unit: Gwinn
 YOE: 2016
 Acres: 1,610 GIS Calculated
 Examiner: Theresa Sysol
 Map Revised: 05/22/2014
 Map Phase: Pre-Review

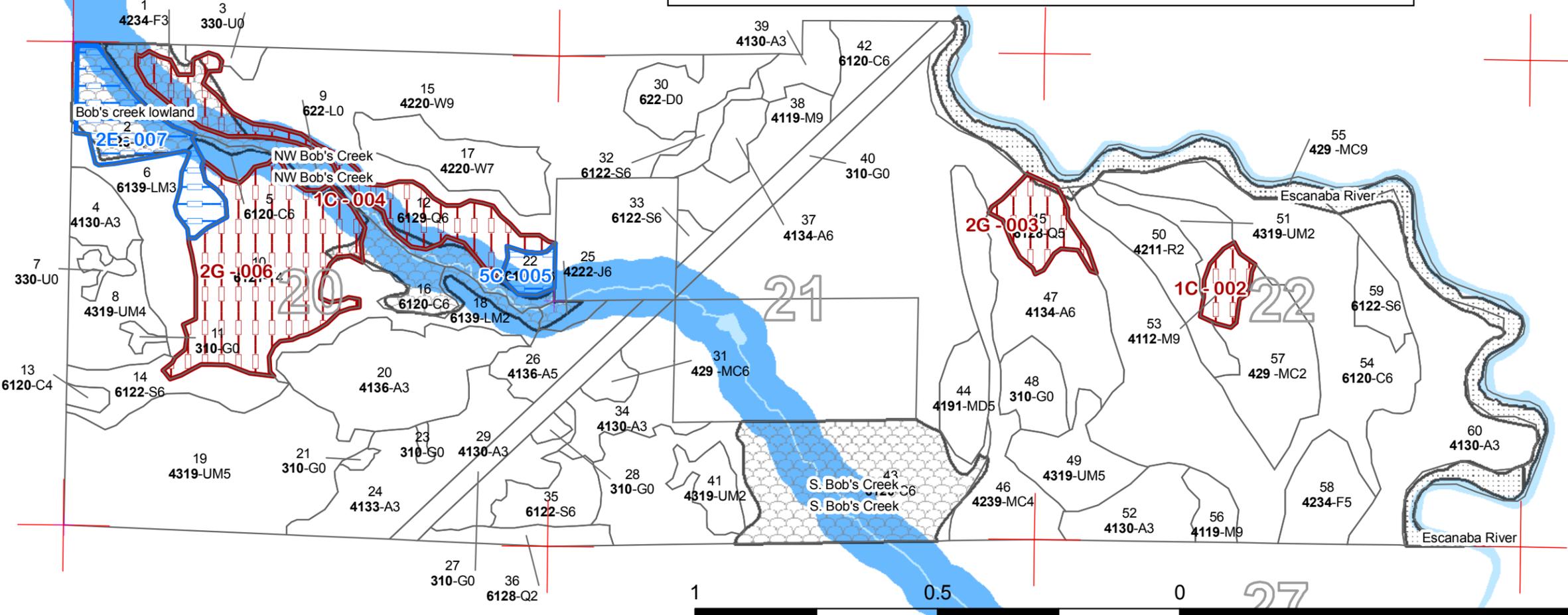
Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Remonumented Section Corners
- Miris Corners
- Stand Boundaries
- Reviewable SCAs**
- Proposed SCA
- SCA Removal
- Site Condition Available**
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Site Condition Type**
- Available Factors W/ Constraints**
- 2E: Road needed
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable Factors**
- 1C: Other dept or div proc/practices
- 2G: Too wet (sensitive soils, does not include access issues)
- Special Conservation Areas**
- Cold Water Streams
- High Priority Trout Stream Buffer
- Cold Water Lakes



17



23



87°28'0"W

87°27'0"W

87°26'0"W

87°25'0"W

87°24'0"W

46°13'0"N

46°12'0"N

46°13'0"N

46°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	53	47	128	15	9	0	38	0	0	0	0	0	0	0	291
Cedar	0	0	0	0	0	0	0	0	2	17	13	144	223	0	400
Herbaceous Openland	60	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Jack Pine	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Low-Density Trees	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Lowland Conifers	0	0	9	0	0	0	0	0	80	0	0	0	0	0	89
Lowland Mixed Forest	0	54	0	0	0	0	0	0	0	0	0	0	0	0	54
Lowland Shrub	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	61	0	0	0	0	0	61
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	14	0	0	0	0	0	14
Northern Hardwood	0	0	0	0	0	0	0	0	30	7	0	0	0	0	37
Red Pine	0	0	22	0	0	0	0	0	0	0	0	0	0	0	22
Tamarack	0	0	0	0	0	0	0	0	0	70	0	0	0	0	70
Treed Bog	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Upland Conifers	0	0	34	5	0	0	35	0	0	62	0	0	0	0	136
Upland Mixed Forest	10	0	32	0	114	0	0	0	0	0	0	0	0	0	157
Upland Spruce/Fir	0	0	22	0	0	0	0	0	0	0	0	0	0	0	22
White Pine	0	0	0	0	0	0	0	0	0	144	0	0	0	0	144
Total	173	101	248	24	123	0	73	0	187	301	13	144	223	0	1610



Report 2 – Proposed Treatment Summaries

Gwinn Mgt. Unit
Year of Entry 2016

Compartment 044
Total Compartment Acres: 1,610

Acres by Treatment Type

Commercial Harvest - 274 Tree Planting - 0 Other - 25
 Habitat Cut - 3 Opening Maintenance - 14

Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
(Habitat Cut)Low-Density Trees	3	0	0	0	0	0	3
Aspen Types	59	0	0	0	0	0	59
Lowland Coniferous Forest	48	0	0	0	0	0	48
Mixed Upland Conifers	5	0	0	0	0	0	5
Mixed Upland Deciduous	14	0	0	0	0	0	14
Northern Hardwood	0	20	0	0	0	0	20
Other Upland Conifers	16	0	0	0	0	0	16
Upland Mixed Forest	114	0	0	0	0	0	114
Total	257	20	0	0	0	0	277



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
8	32044008-Cut	23.0	4319 - Mixed Upland Forest	Low Density Pole	47	1-50	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all aspen, balsam fir, jack pine, spruce and red maple. Leave all red and white pine, black cherry. No chipping due to snowshoe hare and red-shouldered hawk featured species.</p> <p><u>Specs:</u></p> <p><u>Other</u> Protect advanced red and white pine regeneration where it exists and leave large diameter, open-grown white spruce. Any additional retention should be left within exclusion patches of mixed species. If possible, treat that portion of Compartment 47 stand 3 (2012 YOE) where adjoins stand (~10 acres) due to access and contiguous stand composition.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for adequate regeneration prior to next entry cycle. Acceptable regeneration includes aspen, birch, spruce/fir, mixed pine.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
14	32044014-Cut	16.9	6122 - Black Spruce	High Density Pole	83		Harvest	Clearcut with Reserves	6122 - Black Spruce	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all black spruce, tamarack, jack pine, aspen and red maple, staying mainly on accessible, higher grounds. Leave all white pine, cedar.</p> <p><u>Specs:</u></p> <p><u>Other</u> Exclude lower swale/drainage area (approximate middle of stand) heavier to cedar, tagalder and include retention of some tamarack, spruce within. Treat with adjoining stands, for marketability.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for natural regeneration of mixed conifer species.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
19	32044019-Cut	91.1	4319 - Mixed Upland Forest	Medium Density Pole	47	51-80	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all aspen, balsam fir, spruce, jack pine and red maple. Leave all red and white pine, as well as any paper birch which may be present.</p> <p><u>Specs:</u> No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species. Also include C. 45 stand 3 (road strip N. side of Bob's Creek Tr Tr - ~ 23 acres) with harvest.</p> <p><u>Other</u> Retention should be in patches, with mixed species included (including older aspen). Protect advanced regeneration of white, red pine. Leave some larger white spruce, either by diameter cut spec or mark leave trees - evaluate best method at time of sale prep. Retention can be accomplished by leaving a few exclusion patches.</p> <p><u>Comments:</u></p> <p><u>Next</u> Scarify those areas of stand heavier to jack pine to increase natural regeneration success. Monitor for successful natural regeneration of mixed species prior to next entry cycle.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
26	32044026-Cut	13.6	4136 - Aspen, Mixed Conifer	Medium Density Pole	36	51-80	Harvest	Clearcut	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all aspen, balsam fir, jack pine, tamarack. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.</p> <p><u>Specs:</u></p> <p><u>Other</u> Leave smaller S/F (especially clumps), all cherry, white and red pine. Leave a few large aspen. Retain all or leave tree mark some paper birch - evaluate best method at time of sale prep. Exclude NE portion of stand, which is younger and healthier.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for successful natural regeneration of aspen and mixed conifers.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval
										Status
31	32044031-Cut	4.7	429 - Mixed Upland Conifers	High Density Pole	36	51-80	Harvest	Clearcut	429 - Mixed Upland Conifers	Cmpt. Review Proposal

Prescription Harvest all jack pine, balsam fir, spruce, aspen and tamarack. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.

Other No retention, due to small stand size.

Comments:

Next Steps:

Proposed Start Date: 10/01/2015

32	32044032-Cut	6.3	6122 - Black Spruce	High Density Pole	83	51-80	Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal
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Prescription Harvest all spruce, tamarack, balsam fir, aspen, red maple and paper birch. Leave all white and red pine, cedar. Leave retention aspen in areas excluded from harvest adjacent to/with stand 37. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.

Other Seed source will be from adjacent edges and interior advanced regeneration. Clearcut no reserves. Survey work may be needed.

Comments:

Next Steps: Monitor for natural regeneration.

Proposed Start Date: 10/01/2015

35	32044035-Cut	14.6	6122 - Black Spruce	High Density Pole	83	51-80	Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal
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Prescription Harvest all species. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.

Specs:

Other Lots of blowdown, esp. along adjacent cutting edge. Drops into more tamarack, tagalder - some of this area should be avoided. Winter prep and harvest. No reserve due to stand size and salvage; seed source will be from within and adjacent stands.

Next Steps: Monitor for successful natural regeneration.

Proposed Start Date: 10/01/2015

37	32044037-Cut	8.6	4134 - Aspen, Spruce/Fir	High Density Pole	48		Harvest	Clearcut	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
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Prescription Small stand of older aspen - harvest with adjacent stand for marketability. Protect roadside regeneration as much as possible. Clearcut no reserve, due to size. Leave retention aspen (exclusion) on north end of stand adjacent/tied in with stand 32 no cut area/exclusion. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.

Other
Comments:

Next Steps: Monitor for successful natural regeneration.

Proposed Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
38	32044038-Cut	19.8	4119 - Mixed Northern Hardwoods	High Density Log	87	81-110	Harvest	Single Tree Selection	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal
<p><u>Prescription</u> Lightly selective mark hardwood stand to ~80 BA, creating additional regeneration gaps where appropriate. Do not mark any hemlock or white pine within. Leave all black cherry. Harvest all merchantable aspen and balsam fir. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.</p> <p><u>Specs:</u></p> <p><u>Other</u> Use hardwood marking guidelines. Maintain species diversity by leaving under-represented species. Efforts can be made to try and regenerate these species also. Lower residual BA of 50-70 is acceptable where stems are of extremely low quality, to create gaps. Avoid any treatment in SW end of stand where aspen regeneration is more predominate. Survey work should not be required.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for successful natural regeneration of northern hardwoods.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
44	32044044-Cut	13.6	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	83	51-80	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest aspen, paper birch, balsam fir, red maple. Mostly smaller, poor quality red maple, cherry interior, transitioning into a paper birch/fir mix. Some overmature quaking aspen - leave some. Lower edges with balsam poplar. Leave cherry, cedar; also leave component of white spruce, paper birch, and maple - leave tree mark or diameter cut. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.</p> <p><u>Specs:</u></p> <p><u>Other</u> Numerous dead; heavier slash, in place. Lots of patchy wet ground within - access to stand is across ash/tagalder/cedar swale. Best if combined with stand(s) 46,47</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for successful natural regeneration of mixed deciduous, conifers.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
46	32044046-Cut	15.8	42390 - Mixed Non- Pine Upland Conifers	Low Density Pole	61	1-50	Harvest	Clearcut with Reserves	42390 - Mixed Non- Pine Upland Conifers	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest merchantable balsam fir, spruce, tamarack, red maple, aspen, and paper birch concentrating primarily on higher ground (roadway and grass opening areas). Leave all white pine. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.</p> <p><u>Specs:</u></p> <p><u>Other</u> Treat only mature areas; most of stand is immature yet. Avoid any cedar and/or hemlock patches. Leave residual component of submerchantable S/F. Protect advanced birch, cedar regeneration, as much as possible.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for successful natural regeneration.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
47	32044047-Cut	36.3	4134 - Aspen, Spruce/Fir	High Density Pole	63	51-80	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all aspen, red maple, balsam fir, tamarack. Leave any white pine, elm, cherry present. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.</p> <p><u>Specs:</u></p> <p><u>Other</u> Protect any red and white pine regeneration. Apply retention to swale area within stand and/or edges including mixed species. Stay out of adjacent stand (see Stage 1 management notes).</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor for successful natural regeneration.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
59	32044059-Cut	9.9	6122 - Black Spruce	High Density Pole	82	111-140	Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal

Prescription Harvest all spruce, birch and aspen. Leave any white pine, cedar - located mainly along stand edges - keep out of sale area as much as possible. No chipping to be allowed due to snowshoe hare and red-shouldered hawk featured species.

Other No retention, due to stand size. Seed source will be from surrounding stand(s) and tops (no chipping). Will need to be winter cut/frozen conditions, due to soils.

Next Monitor for successful regeneration of spruce.

Proposed
Start Date: 10/01/2015

7	NF_32044007- Cut	3.0	3303 - Mixed Low Density Trees				Harvest	Clearcut	3302 - Low Density Conifer Trees	Cmpt. Review Proposal
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Prescription Allow harvesting inclusion of merchantable aspen, jack pine, red maple, balsam fir with adjacent stand to maintain natural opening.

Specs:

Other Leave any white pine, red pine, large open-grown white spruce.

Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

17	32044017- Prep	25.5	42200 - Natural White Pine	Low Density Log	97	1-50	Site Prep	Scarification	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Remove competing vegetation from site by using mechanical scarification, exposing mineral soil to prepare seedbed for natural regeneration, following up with hand planting or trench/plant, if necessary.

Other Stand was to be managed for natural pine and either could be scarified for potential natural seeding from surrounding stand, or, underplant/hand plant with white pine, red pine (no trenching, if possible) to mimick natural. Will need to remove ground cover to obtain mineral soil first. Toss up as to whether to remove dying overstory WP; probably should leave to provide some shading, few seed, and future/present wildlife cavity trees. Soils are Rousseau-Ocqueoc fine sand.

Next Plant red and/or white pine seedlings once site prep is complete according to reforestation guidelines and TMS recommendations.

Proposed
Start Date: 10/01/2015

48	NF_32044048- NonFor	13.9	3102 - Grass				Non-Forest Management	Other - Specify	310 - Herbaceous Openland	Cmpt. Review Proposal
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Prescription Allow harvesting inclusion of merchantable trees. Possible chainsaw work to maintain opening. Planting of hard/soft mast trees/shrubs to benefit featured species.

Other
Comments:

Next
Steps:

Proposed
Start Date: Unspecified

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	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41	32044041-Monitor	10.3	4319 - Mixed Upland Forest	Medium Density Sapling	3		Monitoring	See Comments	4319 - Mixed Upland Forest	Cmpt. Review Proposal

Prescription: Continue to monitor natural regeneration for successful stocking levels.

Specs:

Other: Stand is in process of regeneration - should be sufficiently stocked (note 1-2' regen hts). Need to verify during snow-free conditions, when time allows.

Comments:

Next

Steps:

Proposed

Start Date: 06/01/2015

**Total Treatment
Acreage Proposed: 326.9**



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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

Gwinn Mgt. Unit
Theresa Sysol : Examiner

Compartment 044
Year of Entry 2016

Availability for Management

Availability for Management			Dominant Site Conditions					
Total Acres	Acres Available	Acres Not Available		No	5C	2G	2E	1C
291	291		Aspen	291				
400	400		Cedar	400				
4	4		Jack Pine	4				
89	38	51	Lowland Conifers	10		14	28	37
54	54		Lowland Mixed Forest	54				
61	61		Lowland Spruce/Fir	55	6			
14	14		Mixed Upland Deciduous	14				
37	29	8	Northern Hardwood	29				8
22	22		Red Pine	22				
70		70	Tamarack			70		
136	136		Upland Conifers	136				
156	156		Upland Mixed Forest	156				
22	22		Upland Spruce/Fir	22				
144	144		White Pine	144				
1,501	1,372	129	Total Forested Acres	1,339	6	84	28	45
	91%	9%	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	Not Available	1C: Other dept or div proc/practices	8				
Comments: Wildlife Division - protection of raptor nest (need to confirm presence) and zone.							
003	Not Available	2G: Too wet (sensitive soils, does not include access issues)	14				
Comments:							

Report 5 – Site Conditions

Gwinn Mgt. Unit
Theresa Sysol : Examiner

Compartment 044
Year of Entry 2016

004	Not Available	1C: Other dept or div proc/practices	37	
Comments:				
005	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	
Comments:				
006	Not Available	2G: Too wet (sensitive soils, does not include access issues)	70	
Comments:				
007	Available	2E: Road needed	28	No Limiting Factor
Comments: Heavier cedar patches interspersed would reduce harvestable areas. Good wildlife corridor also.				



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
Escanaba River	Visual Management Area	Recreational/Scenic Value Area	SCA	50.0
Comments Visual, and old growth potential buffer left along Escanaba River. Mostly W. Spruce with cedar, w. birch, r. maple and some large red and white pine. Some dispersed campsites.				
Bob's creek lowland	Potential Old Growth		SCA Removal	21.2
Comments Small trees, mixed lowland conifers. Does not meet old growth criteria - use BMP guidelines.				
NW Bob's Creek	Spring-Seeps, Riparian Areas	Riparian Area	SCA Removal	54.5
Comments Protected by Static SCA (Springs, wetlands, Riparian) and BMP's.				
NW Bob's Creek	Visual Management Area		SCA Removal	54.5
Comments Protected by Static SCA (Springs, wetlands, Riparian) and BMP's.				
S. Bob's Creek	Spring-Seeps, Riparian Areas	Riparian Area	SCA Removal	68.2
Comments Protected under Static SCA (Springs, wetlands, riparian) and BMP guidelines.				
S. Bob's Creek	Visual Management Area		SCA Removal	68.2
Comments Protected under Static SCA (Springs, wetlands, riparian) and BMP guidelines.				



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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42340 - Upland Spruce/Fir	High Density Sapling	2.4	27		Upland ground slopes into lowland portions. Cut 1986.
2	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	29.1	83	51-80	More open-grown spruce with thicker (120 BA) cedar patches interspersed. Areas with fairly good S/F regeneration. Blowdown spruce within. Lab tea ground cover noted.
4	4130 - Aspen	High Density Sapling	11.5	27		Stand transitioning from saplings to poles; maple in understory. Fringe of mature aspen, spruce left.
5	6120 - Lowland Cedar	High Density Pole	5.4	94		Tall, thick cedar (270 BA) with little/no understory.
6	6139 - Mixed Lowland Forest	High Density Sapling	28.0	18		Mixture of upland and lowland ground; upland with more aspen/fir transitioning into spruce/tamarack. "Camp 49 Spruce sale" #019-96, cut 1995-96. Cut volume was heavier to S/F; left any white pine, red pine, cedar and hemlock present as well as submerchantable spruce and fir. Accounts for patches noted with larger spruce (6-8"), WP and aspen (8-10"). Lab tea ground cover noted.
8	4319 - Mixed Upland Forest	Low Density Pole	23.0	47	1-50	Open-grown stand; aspen is in decline.
10	6121 - Tamarack	Low Density Pole	69.6	94	1-50	Scattered spruce and tamarack within heavy tagalder understory. Pockets of higher density timber, esp. along stand edges.
12	6129 - Mixed Coniferous Lowland Forest	High Density Pole	36.9	81	111-140	Scattered concentrations of black spruce, but mainly cedar type. Trace amount of paper birch. Aspen primarily along upland edges. Ground cover of sphagnum, labrador tea.
13	6120 - Lowland Cedar	Low Density Pole	2.5	86		Heavy tagalder with cedar.
14	6122 - Black Spruce	High Density Pole	20.5	83		Some blowdown timber within; treat accessible areas with surrounding stands when prescribed. Avoid any low areas or cedar pockets. Larger balsam fir mainly dead; some mistletoe noted.
15	42200 - Natural White Pine	High Density Log	118.8	97	81-110	"Bob's Creek Sale" #018-96 - cut fall, 1999 - Jan, 2000. Mixed regeneration obtained - a lot of 5-10' white and red pine regen along road/burn lines where mineral soil was exposed and 3-5' white pine elsewhere. East part of stand has heavier aspen regen component; more W7/A3 and some white pine regeneration. Heavier spruce/fir edges along south side, dropping into lower type, and more hemlock to the north. Good mix of species.
16	6120 - Lowland Cedar	High Density Pole	11.9	93	111-140	Cedar under spruce/tamarack. Quite a bit of blowdown/uprooting especially near adjacent harvest boundary.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42200 - Natural White Pine	Low Density Log	25.5	97	1-50	"Bob's Creek Sale" #018-96 - cut fall, 1999 - Jan., 2000. Stand was treated with prescribed burn 5/22/2006 (C32-633); prescribed to be light burn to reduce maple, spruce competition and prepare seedbed for white and red pine regeneration. Site was also re-burned Sept, 8-9, 2011 (32-720) to reduce more competition, prepare seedbed. Burn appears to have been too hot and a failure to achieve these objectives - no regeneration present, other than a trace of red maple, aspen clumps, and overstory white pine is only 15-20% live with the remainder dead/dying. Heavy sedge, grasses, raspberry, mullein ground cover about the only thing present. Heavy char on tree boles.
18	6139 - Mixed Lowland Forest	Medium Density	25.9	14		"Flowing Spring Sale" #020-96 (Unit 3) - cut summer/fall, 1999. Some residual white pine, fir. Thicker S/F/T regeneration closer to north retention buffer strip. Wetter and fairly rutted near cedar type edge - more tamarack, grasses, cattails noted. Average seedling heights = 5 - 20'.
19	4319 - Mixed Upland Forest	Medium Density Pole	91.1	47	51-80	Stand origin previously cut-over type. Aspen within is dying/dead - needs treatment if wish to maintain future component in the stand. Assorted regeneration species and stages noted throughout stand, with some areas heavier to S/F and others to white pine/maple. Larger white pine is heavily weeviled, but most of the understory (10-30' hts) is looking very healthy and straight. As previous inventory stated, long term management should be for pine.
20	4136 - Aspen, Mixed Conifer	High Density Sapling	47.3	14		"Flowing Spring Sale" (Unit 1,2) #020-96 - cut Su, 1999. Stand gently slopes into lower ground to the north. Contains residual pine, spruce and fir. Aspen is 20 - 30' heights. Knapweed noted in old trails. Some bracken, raspberry ground cover.
22	6122 - Black Spruce	High Density Pole	5.6	83	81-110	Well-stocked black spruce - lots of height, but small diameters overall. Bob's Creek influence. Lab tea, sphagnum ground cover.
24	4133 - Aspen, Mixed Pine	High Density Sapling	40.0	4		"Bob's Creek Road sale" (Unit 1,2) #008-06 - cut Feb, 2009 (unit 2) and May/June, 2009 (unit 1). Thick white pine (6-10" dbh) buffer/residual along Bob's Creek Road and powerline wedge. Good scattered white and jack pine regen. Aspen regeneration now ~ 10 - 20' hts. Numerous S/F residual patches - all diameters. Some low density, semi-open red maple, white pine areas within stand which were not treated.
25	42220 - Natural Jack Pine	High Density Pole	3.7	36	51-80	Upland jack pine cut under permit #26/76 (Sp, 1977). Stand is fairly limby; some dead, forked.
26	4136 - Aspen, Mixed Conifer	Medium Density Pole	15.5	36	51-80	Most of stand was cut under permit #26-76 in 1977, except for western portion, cut sometime in the early-mid 1960's. Aspen is not all that healthy - numerous snapped off tops, hypoxylon noted. Trace amount of balsam poplar, tamarack. Cut now, to encourage healthier clones, leaving smaller S/F (esp. clumps) and WP,RP.
29	4130 - Aspen	High Density Sapling	13.4	4		"Bob's Creek Road Sale" (unit 3,4) #008-06 - cut March, 2009. Good regeneration - aspen now 5 - 15' hts; some spruce/fir residual and trace amount of aspen poles. Heavier spruce (<3' ht) along lower edges noted.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	429 - Mixed Upland Conifers	High Density Pole	4.7	36	51-80	Cut under permit #26/76 - Sp, 1977. Lots of dead/dying, limby, forked- top jack pine with fir coming up thick in understory. Numerous blowdown and snapped trees of older fir and jack pine also. Cut now.
32	6122 - Black Spruce	High Density Pole	7.4	83	51-80	More upland black spruce with pine. Some blowdown occurring. Pockets of F/S regeneration (10-20' hts) to protect. Trace amount of cedar, red maple.
33	6122 - Black Spruce	High Density Pole	3.0	83		Lowland stand with cedar, spruce mix. Stand diameter still fairly small. Trace amount of birch, aspen. Ground cover of lab tea, sphagnum.
34	4130 - Aspen	High Density Sapling	22.0	24		Just transitioning from saplings to poles. "Bob's Creek Fir Sale" #014-86 - cut 1988 - 1990. Trace amount of white spruce. Ground cover of raspberries, bracken noted. Knapweed in old road.
35	6122 - Black Spruce	High Density Pole	14.6	83	51-80	Lots of blowdown, esp. along adjacent cutting edge. Drops into more tamarack, tagalder - some of this area should be avoided. Clearcut no reserves, due to small stand size. Lab tea, tagalder ground cover.
36	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density	8.8	22		Cut with Compartment 45 sale "Bob's Creek Spruce Block" #029-90 - cut Dec, 1990 - Feb, 1991.
37	4134 - Aspen, Spruce/Fir	High Density Pole	8.6	48		Small stand of older aspen - harvest with adjacent stand for marketability. Protect roadside regeneration as much as possible. Clearcut no reserve, due to size.
38	4119 - Mixed Northern Hardwoods	High Density Log	21.8	87	81-110	"Bob's Creek Hardwood" (unit 1) #024-86 - thinned summer, 1987. Lower quality maple stand - noted black stain, logging damage to boles, forked and clump trees. Trace amounts of paper birch, cedar. BA is not all that high, but could remove some maple, creating gaps, to encourage regeneration. Avoid any treatment in SW end of stand where aspen regeneration is more predominate.
39	4130 - Aspen	High Density Sapling	10.8	25		"Bob's Creek Hardwood" (unit 2) #024-86 - cut spring/summer 1987.
41	4319 - Mixed Upland Forest	Medium Density	10.3	3		"Bob's Creek Road Sale" (unit 5) #008-06 - cut Feb, 2009. Patch clumps of spruce/fir (10- 20' hts) from original stand, and also residual spruce, tamarack, cedar, and white pine (pole - log size) within. Stand is in process of regeneration - should be sufficiently stocked (note 1-2' regen hts).
42	6120 - Lowland Cedar	High Density Pole	13.3	103	141-170	Cedar with some sparser and wetter areas, dead cedar and/or heavy tagalder. Ground cover of lab tea noted.
43	6120 - Lowland Cedar	High Density Pole	222.9	142	81-110	Noted quite a bit of standing water within stand. Contains isolated areas of more upland timber.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
44	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	13.6	83	51-80	Mostly smaller, poor quality red maple, cherry interior, transitioning into a paper birch/fir mix. Some overmature quaking aspen. Lower edges with balsam poplar. Numerous dead; heavier slash, in place. Lots of patchy wet ground within - access to stand is across ash/tagalder/cedar swale.
45	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	14.1	80		Wet, sparse stand.
46	42390 - Mixed Non- Pine Upland Conifers	Low Density Pole	35.4	61	1-50	Mix of upland and low grounds. Lots of smaller diameter conifers, esp. at the north end of stand. Natural seeding in of stand over the years. Ground cover of club moss, bunchberry, sphagnum noted. Possibly treat portions when harvesting adjacent stand(s) due to access and feasibility. Smaller black spruce at the south end - may wish to treat that portion with Compartment 45.
47	4134 - Aspen, Spruce/Fir	High Density Pole	37.7	63	51-80	Some smaller aspen/balsam poplar along east side, and low, tagalder swale runs N/S through stand. Trace amount of elm, white pine and tamarack within. Ground cover of sedges, bunchberry, bracken and hazel noted.
49	4319 - Mixed Upland Forest	Medium Density Pole	21.0	23	1-50	Part of old opening slowly filling in, some of which was treated in late 1980's. Ground cover of bracken fern, grasses, princess pine noted.
50	42110 - Planted Red Pine	Medium Density	22.3	23		"Highbanks West" #030-86 - seed tree cut 1991 (for birch). FTP32-402: for scarification (MO = birch). FTP32-495 - hand planting of 2-0 RP w/herbicide (Velpar) 1992. Birch trees had all died and site was nearly all raspberry, per TMS note - conversion was approved. Now transitioning from saplings to poles. Some natural regeneration also.
51	4319 - Mixed Upland Forest	Medium Density	11.0	21		"Highbanks West" #030-86 - seed tree cut 1991. Extremely mixed and patchy stand.
52	4130 - Aspen	High Density Sapling	19.4	21		"Larson Field Block" #005-90 - cut with Compartment 45.
53	4112 - Maple, Beech, Cherry Association	High Density Log	7.9	87	111-140	"Highbanks West" (Unit 3 portion) #030-86 - select cut 1991. Sugar maple with black stain, black knot on cherry; low quality red maple. Trace amount of hemlock, paper birch. Could use light thinning, but not much volume to create a marketable sale.
54	6120 - Lowland Cedar	High Density Pole	144.2	112	51-80	Cedar/tagalder with some small (1-3' ht) cedar regen noted. Pure cedar, in places. Inclusions of slightly more upland grounds with scattered red maple, paper birch, hemlock and/or spruce/fir concentrations with thick fir understory. (Dead balsam fir from previous budworm kill in the late 1980's.) Stand is quite variable. Sphagnum ground cover.
55	429 - Mixed Upland Conifers	High Density Log	62.4	93	51-80	Escanaba River riparian zone buffer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	4119 - Mixed Northern Hardwoods	High Density Log	7.5	93	51-80	Small patch of hardwood. Half of stand is steep slope. Some of the stand is ready to thin, but other areas contain numerous dead balsam fir and lower BA. Would be best to wait and treat with a larger stand, due to low volume and difficult access. Ground cover of princess pine. Very little hardwood regeneration noted (trace cherry, maple <3').
57	429 - Mixed Upland Conifers	Medium Density	33.8	21		"Highbanks West" #030-86 - seed tree cut 1991. Extremely mixed and patchy stand. Some high and low grounds - bracken fern, sedges/grasses. Pocket of mature white pine within.
58	42340 - Upland Spruce/Fir	Medium Density Pole	20.0	24	1-50	Spruce budworm killed most of this stand in the late 1980's - almost completely stocked now with young spruce/fir, although older component is still present. Hemlock is deformed/"wolfy" - heavy forking. Larger maple is dead/dying. Trace amount of jack pine noted. Also contains old gravel "pit"/opening with cherry; knapweed present.
59	6122 - Black Spruce	High Density Pole	9.9	82	111-140	Some windthrow noted. Not much S/F regeneration within stand interior, but surrounding edges more heavily stocked. Trace amount of white pine along edges and a few aspen within. If treated, clearcut, no reserves due to stand size. Stand could probably be treated, although it would be a long winter haul for volume present. Ground cover of sphagnum, snowberry, bunchberry and occasional labrador tea.
60	4130 - Aspen	High Density Sapling	64.7	21		"Highbanks West" sale #030-86 (unit 1 and 2) - cut 1991. 100' buffer left along Escanaba River. Scattered residual white pine and white spruce. Very mixed upland stand. 10 - 20' ht regeneration of S/F, white pine; some 1' cedar ground cover.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	3303 - Mixed Low Density Trees	4.0	No	Unspecified	Scattered spruce, fir, pine and aspen. Soils = rubicon.
7	3303 - Mixed Low Density Trees	3.0	No	Unspecified	Natural opening.
9	6220 - Alder/willow	23.9	No	Unspecified	Contains Bob's Creek. Soils are Tawas-Deford muck.
11	3103 - Rubus-Fern	1.7	No	Unspecified	
21	3102 - Grass	1.3	Yes	Low	
23	3102 - Grass	1.3	Yes	Unspecified	
27	3103 - Rubus-Fern	18.9	Yes	Low	Powerline and R.O.W.
28	3103 - Rubus-Fern	1.9	No	Unspecified	
30	6224 - Treed Bog	18.6	No	Unspecified	with fringe of some mature black spruce, white pine
40	3103 - Rubus-Fern	20.9	Yes	Low	Powerline and R.O.W.
48	3102 - Grass	13.9	Yes	Low	Low density tree encroachment. Very old white pine stumps visible in places.