



Compartment Review Presentation

Roscommon Forest Management Unit

Compartment 62

Entry Year 2016

Acreage: 1,272

County Roscommon

Management Area: AuSable Outwash

Revision Date: 06/24/2014

Stand Examiner: Doug Bates

Legal Description:

T23N R02W Sections 8 and 17

Identified Planning Goals:

Maintain current cover types staggering age classes providing healthy forests for both natural and human uses.

Soil and topography:

Rubicon and Saugatauk sands in the uplands with Rifle Peat mainly in the swamps.

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

The site is a solid block of state land adjoining other state land on all sides.

Unique Natural Features:

No Unique Natural Features known.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

The former Roscommon County Landfill which is closed is contained within this compartment. Numerous monitoring wells are found surrounding the former site outside of the fenced perimeter enclosure. A large open pit mine is found immediately to the west and is currently active under a long-term land use agreement with Reith-Reilly Corporation.

Watershed and Fisheries Considerations:

None noted.

Wildlife Habitat Considerations:

None noted.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. Most of the good gravel pits are associated with upland areas. Nine Mile Pit is located in Section 17 and 18 and there may be additional potential to the west. St. Helen Field lies four miles to the northeast. The field has produced over 8.7 million BO and 14.7 Bcf gas from the Devonian Richfield Formation, and is in secondary recovery operations currently. There are no current oil and gas leases.

Vehicle Access:

Vehicular access is good will two seasonal county roads within the compartment Boundary. Landfill Road goes up to the former landfill and active pit. Moscow Road skirts the outer east fringe of the compartment. Several forest roads branch off from these county roads accessing most of the stands.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

A mixed variety of activities occur on the land from hiking, to hunting, to dispersed snowmobiling. No designated recreational system is found here though.

Fire Protection:

Compartment is mostly aspen, oak, and lowland types with poor access in section 8. Fire protection concerns are low in

this 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**

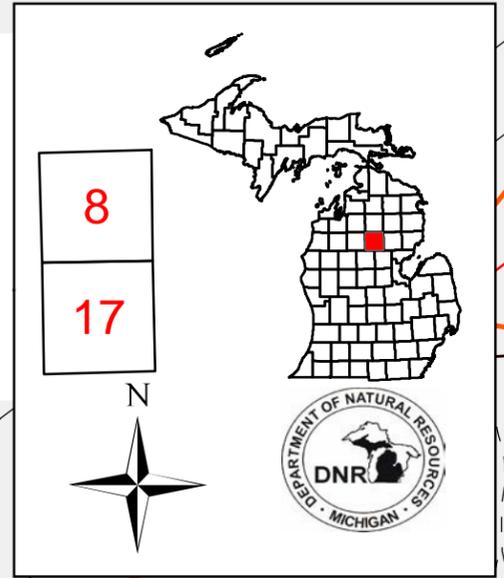
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

Compartment: 062
 T23N R02W
 Sections: 8, 17
 County: Roscommon
 Unit: Roscommon
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 1,272 GIS Calculated
 Examiner: Doug Bates
 Map Revised: 08/08/2014
 Map Phase: Web Post

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



Legend

- Miris Corners
- Remonumented Section Corners

Type

- Well
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Stream
- Intermittent Stream
- Pipeline
- Powerline
- ORV Trail

Regen Legend

- Natural
- Planted

Treatments

- Shelter Wood (w/Reserves)
- Clearcut (w/Reserves, Patch/Strip)
- Selection (Group, Single Tree)
- Treatments w/ Site Condition

Forest Stands

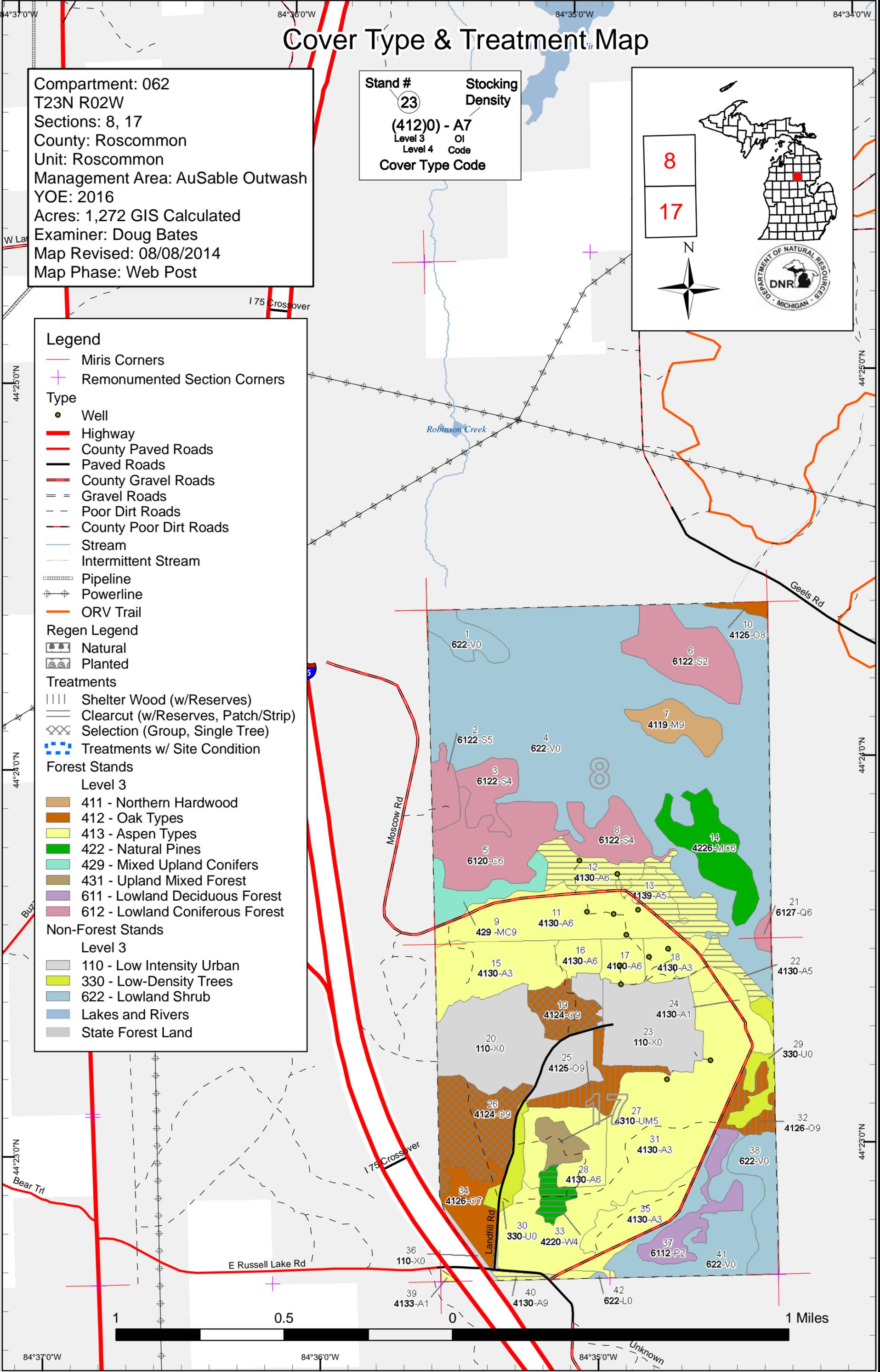
Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- Lakes and Rivers
- State Forest Land



84°37'0"W

84°36'0"W

84°35'0"W

Unknown

44°25'0"N

44°24'0"N

44°23'0"N

44°25'0"N

44°24'0"N

44°23'0"N

W La

Bear Trl

E Russell Lake Rd

I 75 Crossover

Moscow Rd

I 75 Crossover

Landfill Rd

Geels Rd

Robinson Creek

39 4133-A1

40 4130-A9

42 622-L0

36 110-X0

37 6112-P2

41 622-V0

38 622-V0

32 4126-O9

31 4130-A3

28 4130-A6

27 4310-UM5

26 4124-O9

25 4125-O9

24 4130-A1

23 110-X0

20 110-X0

19 4124-O9

16 4130-A6

15 4130-A3

11 4130-A6

9 429-MC9

5 6120-C6

3 6122-S4

2 6122-S5

1 622-V0

10 4125-O8

6 6122-S2

7 4119-M9

14 4226-MC6

12 4130-A6

13 4139-A5

21 6127-Q6

22 4130-A5

29 330-U0

30 330-U0

33 4220-W4

34 4126-O7

35 4130-A3

36 110-X0

39 4133-A1

40 4130-A9

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37 6112-P2

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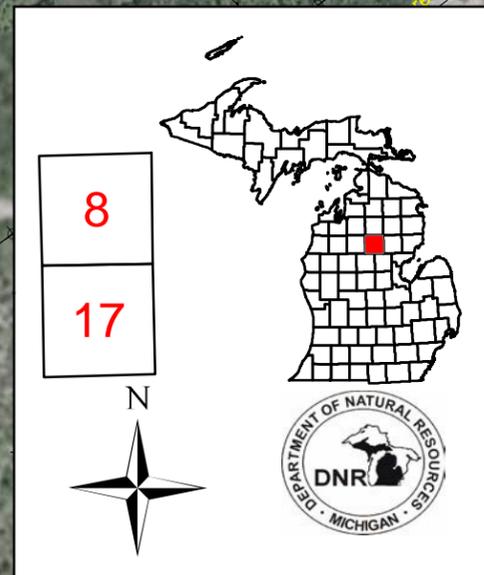
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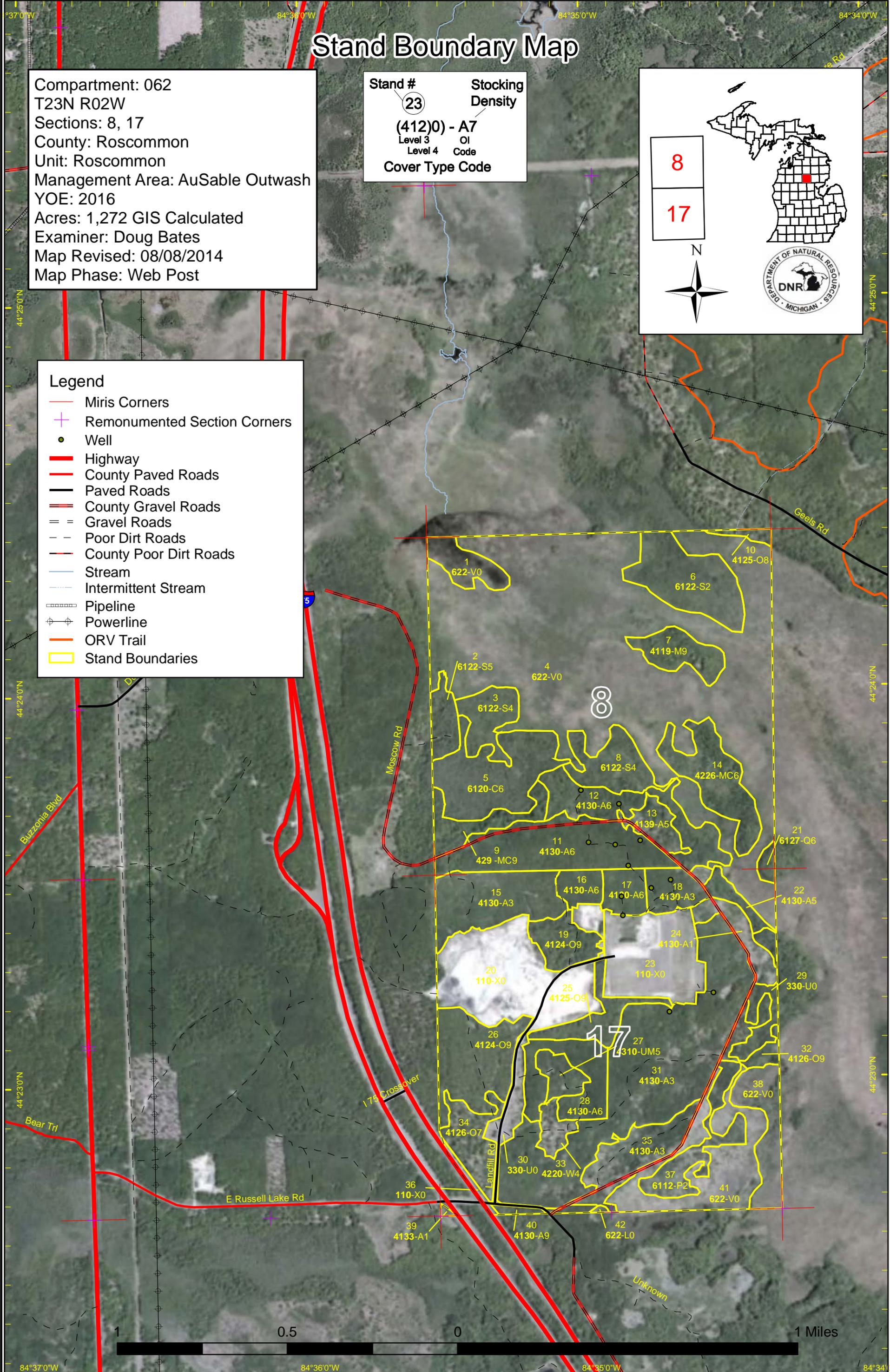
Stand Boundary Map

Compartment: 062
 T23N R02W
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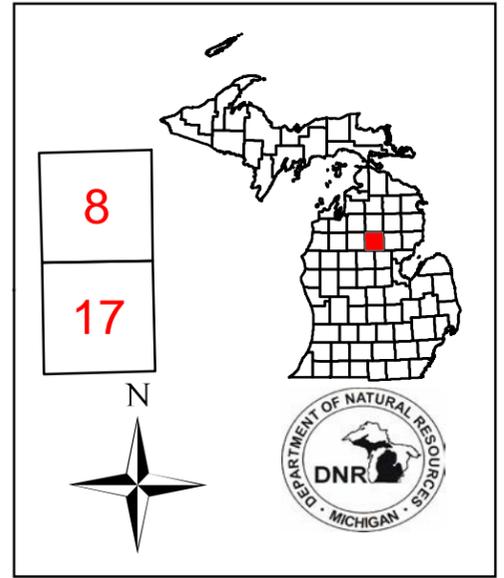
- Legend**
- Miris Corners
 - + Remonumented Section Corners
 - Well
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 - Powerline
 - ORV Trail
 - Stand Boundaries



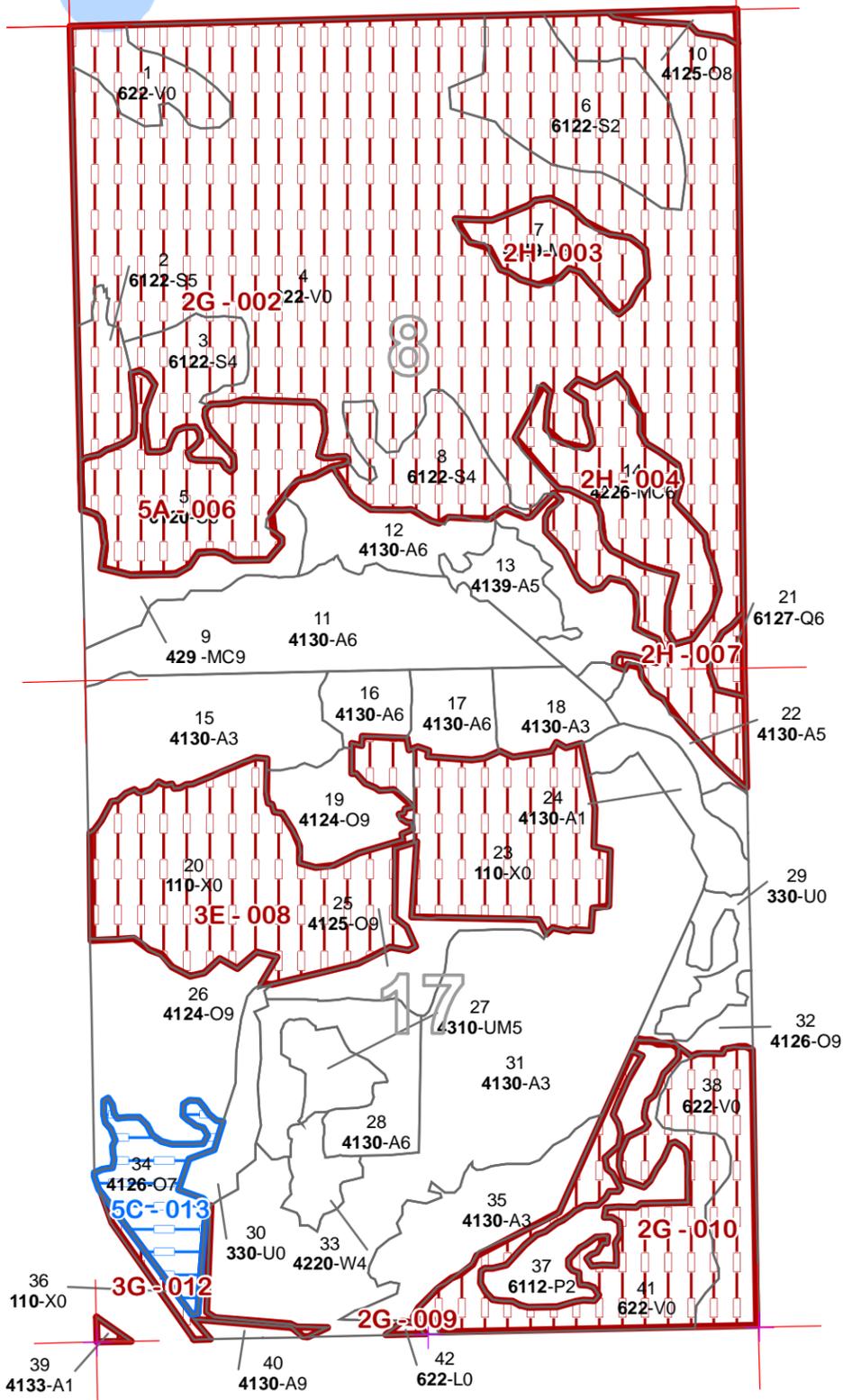
Special Conservation Areas & Site Conditions Map

Compartment: 062
 T23N R02W
 Sections: 8, 17
 County: Roscommon
 Unit: Roscommon
 Management Area: AuSable Outwash
 YOE: 2016
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Stand # **23**
 Stocking Density
(4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



- Legend**
- Miris Corners
 - ✚ Remonumented Section Corners
 - Site Condition Available
 - Available w/ Constraints (Factor - Number)
 - Unavailable (Factor - Number)
 - Special Conservation Areas
 - Natural Rivers Vegetative Buffer
 - Natural Rivers Zoning District
 - Wildlife Management Areas
 - Stand Boundaries



84°37'0"W 84°36'0"W 84°35'0"W 84°34'0"W

44°25'0"N 44°24'0"N 44°23'0"N

44°25'0"N 44°24'0"N 44°23'0"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	1	78	152	37	103	0	0	2	0	0	0	0	0	0	372
Bog	424	0	0	0	0	0	0	0	0	0	0	0	0	0	424
Cedar	0	0	0	0	0	0	0	0	0	0	0	44	0	0	44
Low-Density Trees	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Lowland Aspen/Balsam Poplar	0	21	0	0	0	0	0	0	0	0	0	0	0	0	21
Lowland Conifers	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
Lowland Shrub	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lowland Spruce/Fir	0	0	0	0	0	21	37	16	0	0	0	0	10	0	84
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
Northern Hardwood	0	0	0	0	0	0	0	0	16	0	0	0	0	0	16
Oak	0	0	0	0	0	0	0	0	70	32	0	0	0	0	102
Upland Conifers	0	0	0	0	0	0	0	16	0	0	0	0	0	0	16
Upland Mixed Forest	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
Urban	123	0	0	0	0	0	0	0	0	0	0	0	0	0	123
White Pine	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Total	570	99	152	53	103	21	37	34	86	35	0	44	10	31	1272



Report 2 – Proposed Treatment Summaries

Roscommon Mgt. Unit
Year of Entry 2016

Compartment 062
Total Compartment Acres: 1,272

Acres by Treatment Type

Commercial Harvest - 138 Tree Planting - 7 Other - 0
 Habitat Cut - 0 Opening Maintenance - 0

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>
Aspen Types	51	0	0	0	0	0	51
Natural Pines	7	0	0	0	0	0	7
Oak Types	0	54	0	26	0	0	80
Total	58	54	0	26	0	0	138



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12	71062012-Cut	31.9	4130 - Aspen	High Density Pole	45	81-110	Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Treatment: Final harvest all tree species to a 2 inch d.b.h.. Mark to leave a few large oaks for mast. Cut during dormancy to stimulate coppice regeneration.</p> <p><u>Specs:</u> Retention: Leave 3- 5% by area retention around the monitoring wells.</p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u> Monitor to see if aspen regeneration, with regeneration already present should not be a concern. However, a mixed regeneration of maple, oak, aspen, and/or pine is acceptable.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
13	71062013-Cut	10.5	4139 - Aspen, Mixed Deciduous	Medium Density Pole	42		Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Treatment: Remove all tree species to a 2 inch d.b.h. during dormancy to stimulate coppice regeneration.</p> <p><u>Specs:</u> Retention: Will be incorporated into Stand 12 around monitoring wells</p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u> Monitor for aspen regeneration. Hopefully the treatment stimulates better regrowth. A mixed stand of maple, oak, and some aspen is also acceptable.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
19	71062019-Cut	15.3	4124 - Red with White Oak	High Density Log	83	111-140	Harvest	Single Tree Selection	4124 - Red with White Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Treatment: Mark to remove oak by reducing crown competition around the best quality trees. Basal area target is 70 and is the lowest want to go.</p> <p><u>Specs:</u> Open up a couple 1/4 acre regeneration gaps by removing spots with the poorest quality trees. Retention: None</p> <p><u>Other</u> <u>Comments:</u> This stand is on land under long-term lease to Reith-Riley for their gravel pit. Tentative want to manage stand for the quality oak that is there. If they plan to expand their pit east more this site will be clearcut by the DNR before expansion.</p> <p><u>Next</u> <u>Steps:</u> Evaluate next rotation to see if want to bring basal area down to 20 as a seed tree if regeneration is present in oak. The gravel pit lease can change this though.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										
22	71062022-Cut	6.6	4130 - Aspen	Medium Density Pole	47	51-80	Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Treatment: Remove all tree species to a 2 inch d.b.h. during the dormant season to help stimulate coppice regeneration on the decline aspen. Mark to leave a few large oaks for mast if present.</p> <p><u>Specs:</u> Retention: None</p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u> Monitor to see if aspen regeneration is stimulated by harvest. A mixed stand is acceptable of maple, oak, and some aspen.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2015</p>										

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25 71062025-Cut	15.5	4125 - Black, N. Pin Oak	High Density Log	89	111-140	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal
<u>Prescription</u> Treatment: Remove all aspen, pine, and red maple to a 2 inch d.b.h.. Mark to leave a handful of larger red pine in overstory for visual. Mark to <u>Specs:</u> leave 40 basal area of oak, where applicable, that will be the best for mast and seeding. Side towards white oak where possible because of oak wilt. Retention: None <u>Other</u> Stand under a long term land lease to Reith-Riley for their gravel pit. Current prescription could change if they decided to expand the current pit <u>Comments:</u> further. If so the D.N.R. will clearcut the stand before expansion. <u>Next</u> Monitor next rotation to determine if enough regeneration and leave the overstory. If it is light, remove the remaining overstory and re-evaluate. <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015									
26 71062026-Cut	38.7	4124 - Red with White Oak	High Density Log	83	111-140	Harvest	Group Selection	412 - Oak	Cmpt. Review Proposal
<u>Prescription</u> Treatment: Remove all aspen, red maple, white pine, and mark oak to remove so residual basal area is 70. Reduce crown competition around the <u>Specs:</u> best quality oak trees by removing the deformed, cull, etc.. Create 5-6, 1/4 acre or smaller regeneration gaps scattered about in areas where poorest oaks can be removed to create. Leave some larger crowned trees even if poor quality for mast, seedling, and future snag. These can be around the regen. gap perimeters. Also favor white oak where possible due to oak wilt. Retention: Leave a 3% by area retention pocket at the discretion of the timber sale preparer. <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015									
32 71062032-Cut	10.0	4126 - White, Black, N. Pin Oak	High Density Log	91	111-140	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal
<u>Prescription</u> Treatment: Remove all aspen, red maple, and mark oak and white pine down to a 40-50 basa area average where applicable. Favor leaving larger <u>Specs:</u> pine for diversity and large crowned oaks for mast/seeding. Retention: None due to stand's small irregular size. <u>Other</u> <u>Comments:</u> <u>Next</u> Evaluate in ten years for oak/aspen regeneration. If it's good may just leave overstory, but if it is not remove the remaining overstory and then <u>Steps:</u> evaluate. <u>Proposed</u> <u>Start Date:</u> 10/01/2015									
33 71062033-Cut	7.4	42200 - Natural White Pine	Low Density Pole	37	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Treatment: Harvest all trees to a 2 inch d.b.h.. Chipping is required for all tops because site is to be trenched and plant to red pine. <u>Specs:</u> Retention: None <u>Other</u> Site came back poorly with puff ball shaped white pine. The area is conducive to red pine as evident by it naturally regenerating in adjacent stands. <u>Comments:</u> Plant with red pine. <u>Next</u> Trench and plant with red pine seedlings. <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015									

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40 71062040-Cut	2.0	4130 - Aspen	High Density Log	79		Harvest	Clearcut	412 - Oak	Cmpt. Review Proposal

Prescription Treatment: Remove all aspen and red maple to a 2 inch d.b.h..
Specs: Retention: None due to small size

Other Stand is not in poor health so does not need to be cut during dormancy.
Comments:

Next Aspen should come back nicely without external help based on it already present.
Steps:

Proposed
Start Date: 10/01/2015

Total Treatment
Acreage Proposed: 138.0

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

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

Total Treatment
Acreage Proposed: 0.0

Report 5 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment 062

Year of Entry 2016

Availability for Management

Availability for Management			Dominant Site Conditions						
Total Acres	Acres Available	Acres Not Available		No	5C	5A	3E	2H	2G
371	370	1	Aspen	370					1
43		43	Cedar			43			0
20	20		Lowland Aspen/Balsam Poplar	20					
3		3	Lowland Conifers					3	0
84		84	Lowland Spruce/Fir						84
30		30	Natural Mixed Pines					30	0
16		16	Northern Hardwood					16	
101	101	0	Oak	82	19		0		
15	15	0	Upland Conifers	15		0			
9	9		Upland Mixed Forest	9					
7	7		White Pine	7					
700	523	177	Total Forested Acres	504	19	43	0	49	85
	75%	25%	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	2G: Too wet (sensitive soils, does not include access issues)	441	5D: Unproductive Forest Land			
Comments:							
003	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	16				
Comments:							

Report 5 – Site Conditions

Roscommon Mgt. Unit

Compartment 062

Doug Bates : Examiner

Year of Entry 2016

004	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	31		
Comments:					
006	Not Available	5A: Not able to obtain desirable regeneration	43	2G: Too wet (sensitive soils, does not include access issues)	
Comments:					
007	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	3		
Comments:					
008	Not Available	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	118	5D: Unproductive Forest Land	
Comments:					
009	Not Available	2G: Too wet (sensitive soils, does not include access issues)	1		
Comments:					
010	Not Available	2G: Too wet (sensitive soils, does not include access issues)	67		
Comments:					

012	Not Available	3G: Other Influence zones - See comments	5
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Comments:

County Roads and their respective R.O.W.

013	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19
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Comments:



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
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Comments				
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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.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	6122 - Black Spruce	Medium Density Pole	10.3	130	51-80	Black spruce stand on the line between being pole or a saw log class stand. The main regeneration is spruce in the understory. The ground cover shows leatherleaf with tag alder also. It would be a harder spruce stand to harvest because the ground shows signs of a higher water table than some other spruce stands in the area. It's regenerating on its own nicely. Heavy spruce on the narrow upper ridge (30-50 foot wide) where a 2 track is for about 200 feet and then ends. The ground is low on either side of ridge and the basal area decreases also. Pick up heavy tag alder and some cedar.
3	6122 - Black Spruce	Low Density Pole	16.4	70	1-50	Poor quality stand with high water table evident by the sea of tag alder and and canary grass in the understory. Just barely a forested stand. Regeneration is light for the spruce and just trace for the other overstory species. May eventually lose more of the overstory falling out of the forested type especially if a 6 inch tree is 70 years old. The most canopy closure is found in the eastern half.
5	6120 - Lowland Cedar	High Density Pole	43.7	118	111-140	Cedar stand with dense regeneration but none of it cedar. Wall of balsam fir with pockets of spruce and/or red maple scattered about. Heavy signs of deer activity. Do not cut, will lose cedar component completely because with deer density's in area cedar won't regenerate.
6	6122 - Black Spruce	Medium Density	36.5	62		North half of stand had all species cut to 1 inch by chainsaw except for cedar in a habitat cut done in 1988. The stand is just slightly higher elevated mound in the middle of a leatherleaf bog. There still is some leatherleaf and tag alder in amongst stand's ground cover. The site is just poor quality resulting in slow growing, stunted trees. The tree bored was just 30 foot tall. Dense regeneration though of mixed species.
7	4119 - Mixed Northern Hardwoods	High Density Log	16.1	87	51-80	Lowland hardwood stand on a slight mound in the middle of a bog. The hardwood is not regenerating with just a trace in the sub-canopy. Rather it is mostly dense fir and pine mix. The east end of the stand is light on regeneration but gets dense as go to the west. Small packet of cedar on perimeter, Will eventually convert to a pine/fir mix. Not much for in the overstory but full in the sub-canopy.
8	6122 - Black Spruce	Low Density Pole	20.9	58	1-50	On the upper end of the canopy closure. The southern 1/3rd of the stand is a transition zone from higher aspen site to the lower soils of the cedar/spruce. Find small amounts of aspen here with red maple, white pine, and black spruce. Regeneration pretty much is just maple. As go north find mostly spruce regeneration mixed with heavy tag alder, canary grass, and some maple. The overstory is 3/4 spruce with the rest being more open areas. There are several open areas mixed about in the upper 2/3rds of the stand. Only part worth harvesting would be the fringe zone. May pick some of this up as harvest the stand immediately to the south.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
9	429 - Mixed Upland Conifers	High Density Log	15.6	71	111-140	Older white pine stand with numerous supercanopy trees of both white and some red pine. They core at 151 plus years old. The main overstory is half that age with the aspen being 40 plus and the predominate species, white pine, 70 plus. It is a mixed stand that grades downhill from the south to north to wet ground. The super-canopy trees are along the northern third. As go south pick up more maple, aspen, and some oak. Appears to have been some treatment done in the south half because of the younger aspen and numerous stump sprouted red maple. The regeneration has widespread white pine but the north half mainly dense balsam fir.
10	4125 - Black, N. Pin Oak	Medium Density Log	2.9	94	51-80	Older oak stand with numerous wolfy mast oaks scattered about. Not much in the pole size. Few of the large oaks dead and are providing good snags. The west end of the stand is sparse with overstory. This is where finding oak regeneration as well as in open areas in the denser overstory to the west. Overstory gets denser and trees larger as go east, The east half is heavy to white pine in both canopies. The red maple is even across the site in the understory. If stand was to be treated it should have been done with the stand to the north in Compartment 60. Best to leave the stand for diversity, small in size and not much volume. Besides the large old trees are good for mast and future snags.
11	4130 - Aspen	High Density Pole	53.6	42		Clearcut in 1972. Very good quality bigtooth aspen. This stand starts at base of a big hill at the south end and slightly tapers down to the north towards lower soil ground. The terrain is level compared to stands to the south. The aspen has only a trace amount of aspen regeneration with some oak. Little more white pine but heavy to red maple. There is a sawlog size stand of red pine inclusion at the northeast corner of the stand with understory of red maple and some aspen. About three acres. This stand is to good of quality to cut early. Other 40 year old stands in this compartment should go first, Northern fringe is heavy with white pine mixed with aspen. This area is a transition to the white pine stand to the north.
12	4130 - Aspen	High Density Pole	31.9	45	81-110	Stand quality and vigor is declining and would benefit from a restart. Best to cut during dormant season to help stimulate resprouting but is not mandatory. The red maple regeneration is dense. Have a few aspen and oak regen but getting browsed by deer above snow line.
13	4139 - Aspen, Mixed Deciduous	Medium Density Pole	10.5	42		Clearcut done in 1972 that regenerated back poorly with many open areas with just grass or pin cherry. Can see where the original parent clones were and they have not spread out much from them. On the lower end of the canopy closure scale. Not much regeneration besides small amount of oak and the rest is maple or cherry but these are even on the lower end. Recommend a dormant season harvest to try and stimulate the aspen and see if it fills out more quickly. Stand will still be more open than adjacent aspen stands but this is good for wildlife.
14	42260 - Natural Pine, Mixed Deciduous	High Density Pole	30.6	Uneven Age	81-110	An older hardwood stand converting to white pine. The red maple, paper birch, and a trace of oak are larger pulp size to log, but no regeneration of it in sub-canopy. Dense white pine with some fir. The pine is just out of sapling size to pulp. Open areas just pine saplings. Some large white pine in log size on perimeter, but not much.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	4130 - Aspen	High Density Sapling	37.8	17		Clearcut form 1997. Some red maple and small amount of oak in amongst the stand. More aspen though. Terrain slopes sharply to the south uphill backing up against a gravel pit. Besides the slope there are several ravines/ridges. The north edge of the stand is real steep drop off to the north.
16	4130 - Aspen	High Density Pole	8.6	27		Clearcut from the fall of 1986. Good aspen overstory. The red maple is predominately from stump sprouts. There is some oak but not enough to count. As far as sub-canopy regeneration there is just a trace of aspen, the rest is moderate to heavy red maple. The stand slopes downward to the north and has a very steep slope along the north line splitting this stand from the one to the north.
17	4130 - Aspen	High Density Pole	10.8	37		Clearcut form 1977 with good aspen regeneration and some actually in the sawlog class. Aspen is the predominate overstory with some red maple and oak mostly from stump sprouts. The sub-canopy is dense red maple regeneration with an aspen/oak sapling here and there. As the aspen stands in this area mature the aspen falls out of the sub-canopy and is replaced by the red maple. Found 2 monitoring wells in stand. The terrain slopes moderately to steeply downward from south to north.
18	4130 - Aspen	High Density Sapling	12.4	26		Was a clearcut done in the fall of 1987 and came back good to aspen with some red maple and oak in there. Those in overstory are mainly from stump sprouts. The aspen just getting into pole size. The sub-canopy regeneration still contains some aspen but slightly more red maple. Slopes moderately to steeply in places downward from south to north. Found 2 monitoring wells in stand because of the adjacent landfill.
19	4124 - Red with White Oak	High Density Log	15.3	83	111-140	Oak stanned thinned in 1996-97 removing all species but oak. It was supposedly dropped to 40 basal are but I do not think so based on the current stocking levels. Couple scattered white pine and red maple in the overstory but their regeneration is in the entire understory and quite thick in most places. Find some aspen regeneration around the outer edge. Just trace amounts of oak. Better quality oak stand with very nice form. Recommend a thinning, have good formed trees now so want to move this along but also created some regen. gaps to promote more oak seeding.
21	6127 - Lowland Pine	High Density Pole	3.0	91	81-110	White pine stand with it being heaviest around the perimeter and grading into more red maple and paper birch towards the center and adjacent compartment. Regeneration is mainly heavy white pine with some red maple. It's an island in the middle of a leatherleaf bog and can't be reached for harvest.
22	4130 - Aspen	Medium Density Pole	6.6	47	51-80	Poor quality aspen stand starting to decline with dense regeneration of maple in the understory. Just traces of oak and aspen for regen. Some white pine here too. Harvest should be in dormancy time to help stimulate aspen regeneration. If don't harvest soon will loose aspen component to maple.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	4130 - Aspen	Low Density Sapling	14.4	17		Very sparse stand just making the percentage to call forested. Can clearly see where the parent aspen clones were. It is filled in here thick with aspen but is slow to spread out. Other open area must have been oak which is coming in but sparse. More oak just above the snow but it is getting nipped by the deer. Only oak above the deer browse are those from stump sprouts. A lot of cherry brush in these open areas also. Overtime will fill in with varying stocking levels, but the open areas are providing good fragmentation for wildlife unfortunately these openings are so variable in size that the total amount of grass opening acres as a whole in compartments are way more than the numbers show because these areas are not counted as such.
25	4125 - Black, N. Pin Oak	High Density Log	15.5	89	111-140	Oak stand that is on the edge of the old county landfill. Under a long-term land use easement to Reith-Reilly for the gravel pit. The stand contains oak with pockets of heavier white pine in the overstory on the west tip and an aspen clone on the east end. Regeneration is heavy to white pine and red maple. Trace amounts of oak and red pine. If easement allows, recommend either a thinning or light shelterwood removing all pine, aspen, and majority of red maple. Leave scattered red pine in overstory for diversity. Some beech in both canopies, but not enough to classify.
26	4124 - Red with White Oak	High Density Log	38.7	83	111-140	This oak is poorer quality with lots of deformed trees. There is some good logs but in the smaller size class. Believe this stand would benefit from a thinning two fold. First, there is no oak regeneration to speak of. Saw just a trace above the snow and it is being mowed by deer. The red maple is light but the white pine is thick. By thinning with open up some regeneration gaps to get seeding and some stump sprouts. Secondly, this will allow the smaller better quality trees time and room to grow before they are harvested. There is an aspen clone in the west edge that will give diversity in the stand by being clearcut. The stand as a whole will be able to support multiple treatments unlike the stand to the south.
27	4310 - Pine, Oak Mix	Medium Density Pole	8.9	37	51-80	An aspen clearcut done in 1977. Only trace amounts of aspen coming back. Heavy to white pine and pin oak in the overstory and regeneration. Not best form or quality stand but diverse and contains several small grass opening inclusion for wildlife fragmentation.
28	4130 - Aspen	High Density Pole	25.7	39		Stand was clearcut in 1975. The aspen is good quality. The northeast portion of the stand is heavy to white pine in both canopy levels. This portion is not large enough to make its own stand and there is some aspen mixed in with it. The remaining portion of stand is aspen with a red maple component. There is some oak regeneration and in the overstory but trace amounts for both. The regeneration is labeled moderate overall. Where the pine is in the overstory that is on the understorey and vice versa with red maple in the overstory.
31	4130 - Aspen	High Density Sapling	130.8	25		aspen clearcut done in the later part of 1988. Have some aspen just into pole size, but not enough to count. Red maple is in the overstory with those being stump sprouts are pole size. The only regeneration in the understorey in enough numbers to count is red maple. The aspen is healthy and will outpace the maple. A couple of open grass pockets at the north end about 3/4 acres total. Good fragmentor.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4126 - White, Black, N. Pin Oak	High Density Log	10.0	91	111-140	Variable stand with pockets of aspen, but the regeneration under the aspen is maple. Find most of aspen and maple on the east side towards the lower ground. Oak and pine more upland. Northeast tip us all white pine (2 acres). Under the oak find oak regeneration but also white pine and some maple. Not much of any oak componenet in compartment, so not going to clearcut but rather thin creating some regeneration gaps in the areas of the oak. Will clearcut the aspen though.
33	42200 - Natural White Pine	Low Density Pole	7.4	37	1-50	This was part of a stand harvested in 1977. Not sure if this was a large landing for the adjacent aspen cuts and the soil compacted but the regeneration is very poor. There is white pine scattered about that are just large bushy getting the canopy closure to 25%. Some of the pockets have larger stems and more basal area but for the most part it is scattered pine and stump sprouted maple/oak. Pin cherry also. Regeneration is real light oak. Recommend harvesting the stand and planting back to red pine. There is natural red pine coming in but just not enough.
34	4126 - White, Black, N. Pin Oak	Low Density Log	19.1	98	1-50	Thinned in 1996/97 removing all species but oak. Left the large wolffy/multi-stemmed oak that is good for mast and seed sources. The oak regeneration is very good. It is in all heights with stump sprouts being 20 feet. The deer are browsing heavily on the seed regenerating oak due to shorter heighth. Red maple regeneration is scattered throughout with some spots being heavy to it. White pine is the same. At the southern end of the stand is a large aspen clone that is coming back nicely. The overstoru is not impacting regneration so ecommend to leave it. Would destroy to much regen. by removing the residual overstory and the quality is poor anyway. Let them keep producing mast and become future snags.
35	4130 - Aspen	High Density Sapling	25.8	17		Partially harvested in 1997. Several large vernal ponds and open areas of upland with cherry brush. The canopy closure just into 75%. The sites quality, diameter, etc. increases as go north. The soils appear to be better upland whereby getting some aspen in the pole class.
37	6112 - Lowland Aspen	Medium Density	20.6	17		From a clearcut done in 1997. North 4 acres way better quality(thicker) regeneration, it is slightly higher ground. Surrounded by leatherleaf bogs but the ground is just high enough to grow some trees yet still find some low ground cover like dogwood and canary grass. This is why the stand is not as heavily canopied and is a poorer quality aspen stand.
39	4133 - Aspen, Mixed Pine	Low Density Sapling	0.6	8		Small pie shaped chunk between Compartment 63 to the west and I-75 to the east. It was cut in the spring of 2006 when C63 was treated.
40	4130 - Aspen	High Density Log	2.0	79		Mature aspen stand that is a small strip between county road and the compartment to the south. Was not harvested when other adjacent stands were done. Beyond age rotation and more maple in the understory than aspen. Trace amounts of oak in regeneration.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6225 - Bog	13.3	No	Unspecified	Bog with high water levels
4	6225 - Bog	342.3	No	Unspecified	Leatherleaf bog with sapling sized white pine, balck spruce, jack pine pine, and tamarack scattered about. These species are denser around the perimeters where it tapers to higher ground elevation.
20	11 - Low Intensity Urban	73.1	Yes	High	Active gravel pit on long-term lease to Reith-Reilly Company.
23	11 - Low Intensity Urban	45.5	Yes	Low	Closed/capped Roscommon County Landfill. Fenced perimeter with numerous monitoring wells within the enclosure as well as outside in adjacent stands.
29	3301 - Low Density Deciduous Trees	11.6	No	Unspecified	Aspen clearcut done in the Fall of 2010 out of Y.O.E. with Compartment 61 to the east. All species removed but white pine and some large mast oak trees. Can tell where the parent clones were and the better ground. Here the aspen is tall and thick. Overall still too much open area to call forested at this time. The aspen is found all over the stand in multiple clumps with oak stump sprouts but just not at density. Areas outside these pockets have no visible regeneration as of yet.
30	3301 - Low Density Deciduous Trees	10.2	No	Unspecified	Was part of an aspen clearcut done in 1997. One area looks to be an old landing locations. May explain lack of regeneration. Overall the regeneration just doesn't meet the 25% closure. There are still large open grass areas, but also areas heavy to oak saplings. There are white pine in the pole size whereby oak is saplings. Only ones pole sized are from stump sprouts. Oak comprises 75% of the tree species with white pine being the other. Might reach the canopy closure amount to call forested in about 20 years. There is also buried utility line along the west edge bordering Landfill Road.
36	11 - Low Intensity Urban	4.8	Yes	Medium	Seasonal County Roads, Landfill and Russell Lake Road.
38	6225 - Bog	22.7	No	Unspecified	Leatherleaf bog that is separated from a similiar type to the west by a narrow upland ridge containing sparse oak and aspen. Single trees scattered evenly about in stand, mainly white pine with some tamarack.
41	6225 - Bog	45.6	No	Unspecified	This stand was part of a clearcut done in 1997 and can still see the skid trails from it. Believe the site was wet to begin with and once the overstory was removed the water table came up and converted over to a leatherleaf bog with upland species about in it. Fair amount of oak in spots. The deer are browsing it heavy though. Find heavy reed canary grass patches also. The outer perimeter grades up in elevation with more aspen and cherry but the size of this upland chunk and percentage of crown closure won't make its own stand nor be forested. The northwest tip is bare except for sweetfern. Old landing site.
42	6220 - Alder/willow	0.5	No	Unspecified	Tag alder marsh