Roscommon Forest Management Unit
Compartment Review Presentation
Compartment #148 Entry Year: 2013
Compartment Acreage: 1919 County: Roscommon

Revision Date: 2/25/2011

Stand Examiner: Dale Ekdom

Legal Description: T22N R4W Sections 3,10,& 15

Identified Planning Goals: Upper Muskegon Management Unit

Management Goals: Maintain current age and species diversity in a range of early and late successional ecosystems.

Soil and Topography: Terrain is flat and is cut by several broad drainages with permanent streams. Soils are Saugatuck and Grayling sands in the upland areas and rifle peat in the drainages and swamps.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Compartment is a solid block of state land with the addition of the west side of the Wraco Lodge property and is surrounded on 3 sides by state land. Private land to the north of the compartment ranges from larger parcels of non-developed property used for recreation and agriculture to smaller parcels with permanent residences.

Unique, Natural Features: A Great Blue Heron Rookery as well as Loon and Bald Eagle nesting sites have been recorded just outside the compartment on Wraco Lake flooding. Slippershell mussels have been recorded in the compartment.

Archeological, Historical, and Cultural Features: None known or detected during fieldwork.

Special Management Designations or Considerations: Several stands are designated as SCA's which are mostly centered around riparian corridors.

Watershed and Fisheries Considerations: Portions of Wraco Lake Flooding, Wolf Creek, and an un-named creek are within the compartment.

Wildlife Habitat Considerations: Maintain ecosystem diversity in the compartment via habitat manipulation to benefit game species such as deer, grouse, rabbits, and turkeys, and water-fowl as well as non-game species.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift are the Jurassic Ionia Formation and the Pennsylvanian Grand River and

Saginaw Formations. The Saginaw is quarried for clay in the State. There are no nearby gravel pits in the area. The nearest gravel pit is located six miles to the south and potential is thought to be limited. Headquarters Field is located two miles to the southeast. The field has produced over 11.3 million BO and 4.2 Bcf gas primarily from the Devonian Richfield Formation and is in secondary recovery operations currently. Part of the State land is currently leased and the rest has been nominated for the May 2010 oil and gas lease auction.

Vehicle Access: Vehicle access to the Wraco Lodge portion of the compartment is restricted by department gates to protect the dike for Wraco Lake Flooding and will remain walk in access only at this time. Vehicle access to the rest of the compartment is good via county and seasonal county roads and forest roads.

Survey Needs: None needed at this time.

Recreational Facilities and Opportunities: Segments of the Denton ORV loops are within the compartment. Compartment is heavily used for deer hunting and other dispersed recreation and now that Wraco Lodge property is now state land it is anticipated that the compartment will be heavily used for waterfowl hunting.

Fire Protection: Compartment has no recent history of major fires, low incidence of wildland-urban interface, no large concentrations of high hazard fuel types, and numerous natural barriers to fire spread. It is also in close proximity to fire suppression forces.

Additional Compartment Information: Proposed treatments include 150 acres of final harvests in aspen, lowland hardwood, and white pine cover types and 11 acres of partial cuts in red pine and oak cover types.

- **The following reports from the Inventory are attached:**
  - **Total Acres by Cover Type and Age Class**
  - **Proposed Treatment Summary**
  - **Proposed Treatments – No Limiting Factors**
  - **Proposed Treatments – With Limiting Factors**
  - **Stand Details (Forested and Nonforested)**
  - **Dedicated and Proposed Special Conservation Areas**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
  - **Base feature information, stand boundaries, cover types, and numbers**
  - **Proposed treatments**
  - **Details on the road access system**

Cover Type & Treatment Map

Compartment 148
T21N, R04W, Sec. 3, 10, 15
County: Roscommon
Unit: Roscommon
YOE: 2013
Acres: 1,920 GIS Calculated
Stand Examiner: Dale Ekdom
Map Revised: 8/15/2011
Map Phase: Pre-Review

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

3
10
15

N

DEPARTMENT OF NATURAL RESOURCES DNR MICHIGAN

Legend

- Highway
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Pipe
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers
- ORV Trails
- Snowmobile Trails
- ORV Trail
- Snowmobile Trail

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)

Forest Stands

Level 3

- 412 - Oak Types
- 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

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 790 - Other Bare/Sparsely Vegetated

1 6128-Q4
2 4226-MC9
3 622-L0
4 622-L0
5 623-N0
6 6129-Q6
7 6128-Q6
8 6129-Q6
9 622-V0
10 6117-E6
11 622-L0
12 6117-E6
13 310-G0
14 4130-A5
15 4226-MC9
16 6129-Q6
17 623-N0
18 4191-MD8
19 4133-A6
20 4214-MC9
21 4130-A6
22 623-N0
23 4133-A6
24 790-X0
25 4211-R9
26 622-V0
27 4221-R9
28 6122-S6
29 4133-A6
30 6117-E6
31 4226-MC9
32 4133-A6
33 310-G0
34 4133-A6
35 4214-MC9
36 500-Z0
37 4191-MD9
38 4134-A6
39 623-N0
40 4229-MC6
41 790-X0
42 4191-MD9
43 4191-MD3
44 6124-Q6
45 4226-MC9
46 4191-MD6
47 4310-UM5
48 310-G0
49 4310-UM9
50 6128-Q5
51 122-X0
52 790-X0
53 4199-MD5
54 4191-MD8
55 4126-O8
56 4199-MD1
57 622-L0
58 623-N0
59 4311-UM9
60 4229-MC6
61 4136-A6
62 330-U0
63 310-G0
64 6113-E7
65 6118-E6
66 622-L0
67 6112-P3
68 6117-E6
69 4139-A6
70 622-L0
71 4199-MD1
72 6120-C6
73 4311-UM8
74 4191-MD5
75 500-Z0

Old US-27
Wraco Rd
Wolf Creek
W Rollway Rd
Elwell Rd
Tillman Rd
Wexford Dr
Porky Dr

1 0.5 0 1 Miles

84°49'0"W 84°48'0"W 84°47'0"W 84°46'0"W
44°15'0"N 44°14'0"N 44°13'0"N 44°12'0"N

Stand Boundary Map

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County: Roscommon
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Stand Examiner: Dale Ekdom
Map Revised: 8/15/2011
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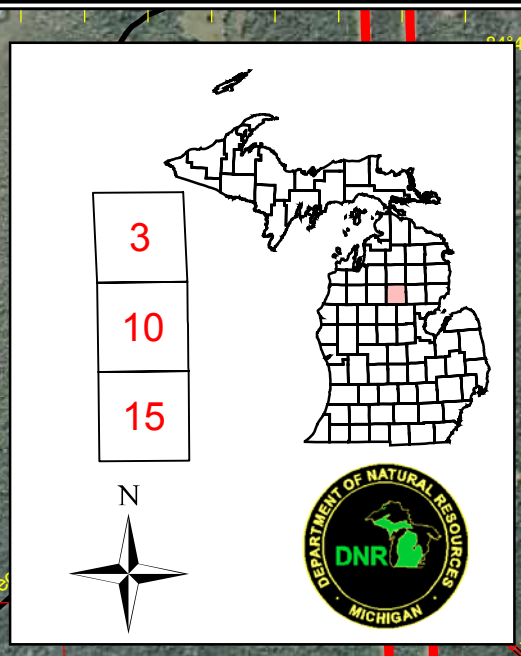

Stand # 23
Stocking Density
(412)0) - A7
Level 3 OI
Level 4 Code
Cover Type Code

Legend
- Miris Corners
- Highway
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Pipe
- Intermittent Stream/Drain
- Stream
- ORV Trails
- Snowmobile Trails
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- Stand Boundaries

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39 623-N0
40 4229-MC9
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44 6124-Q6
45 4226-MC9
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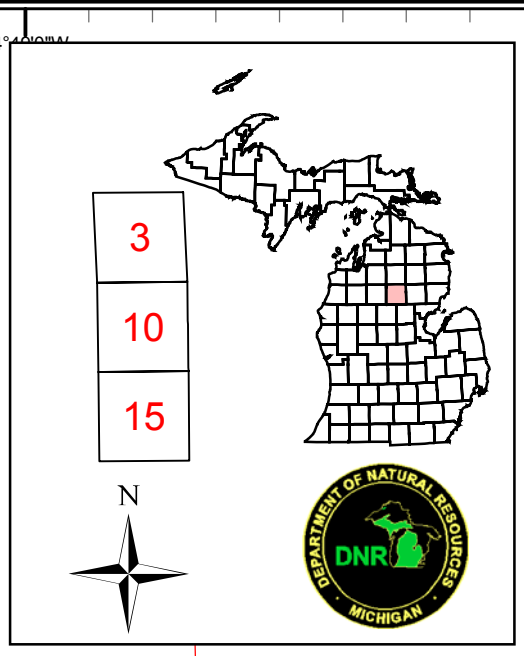
68 6117-E6
69 4139-A6
70 622-L0
71 4199-MD1
72 6120-C6
73 4311-UM8
74 4191-MD5
75 500-Z0

Old US 27
Grass Rd
Wolf Creek
W Rollway Rd
Tillman Rd
Wexford Dr
Porky Dr
Hose Rd
Cambridge Rd
Elwell Rd

1 0.5 0 1 Miles

44°14'0"N
44°13'0"N
44°12'0"N
84°48'0"W
84°47'0"W
84°46'0"W

Dedicated & Proposed Special Conservation Area Map



Stand # 23

Stocking Density

(412)0) - A7

Level 3 Level 4 OI Code

Cover Type Code

Compartment 148
T21N, R04W, Sec. 3, 10, 15
County: Roscommon
Unit: Roscommon
YOE: 2013
Acres: 1,920 GIS Calculated
Stand Examiner: Dale Ekdom
Map Revised: 8/15/2011
Map Phase: Pre-Review

Legend

- Miris Corners
- Remonumented Section Corners

Proposed Special Conservation Areas

- SCA - Special Conservation Area
- SCA Removal

Special Conservation Areas

- Cold Water Streams
- Stand Boundaries

Forest Stands

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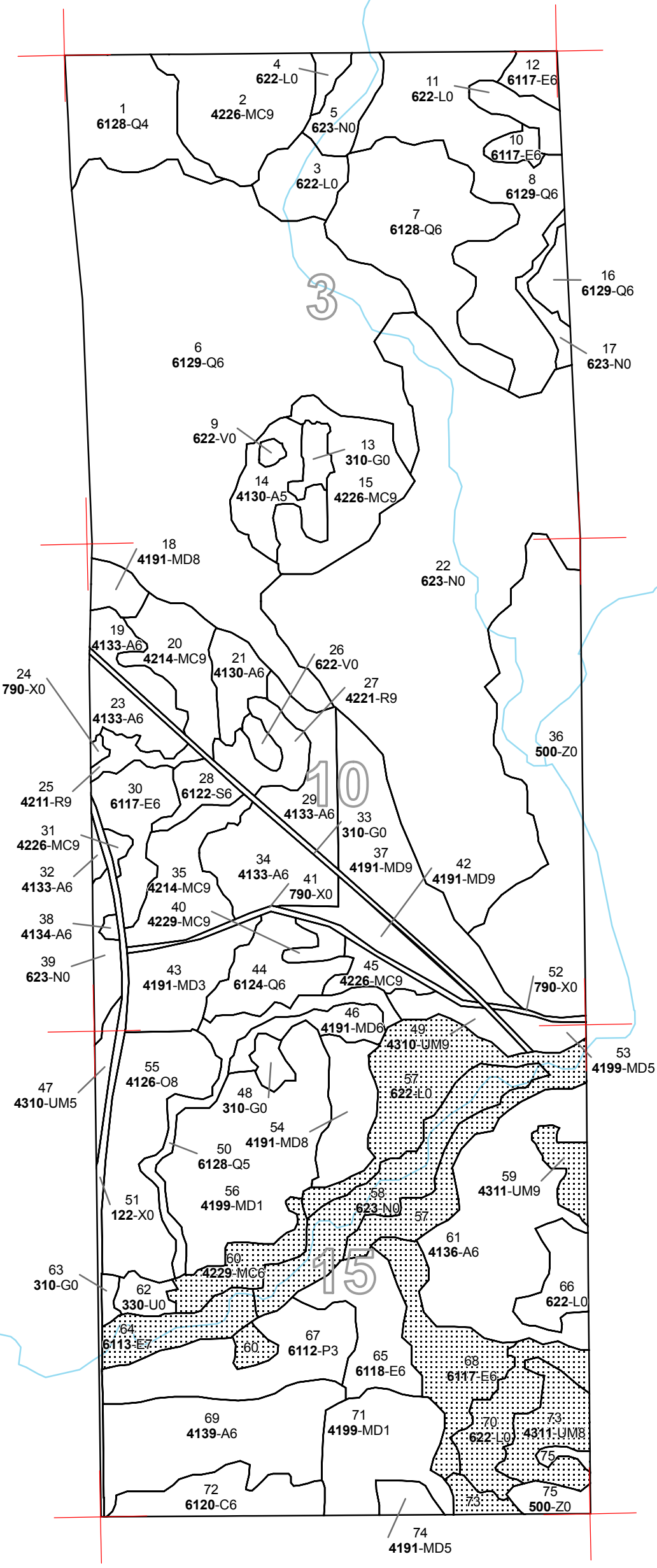

1 0.5 0 1 Miles

84°49'0"W 84°48'0"W 84°47'0"W 84°46'0"W

44°14'0"N 44°15'0"N 44°13'0"N 44°12'0"N

Table 1 – Total Acres by Cover Type and Age Class

Roscommon Mgt. Unit **Compartment 148 Year of Entry 2013**

Dale Ekdom : Examiner

Age Class

	Non-Forested	1-9	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	Total
Aspen	0	0	0	0	32	189	0	0	0	0	0	0	0	0	0	**221**
Bare/Sparsely Vegetated	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**
Bog	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Cedar	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	**20**
Herbaceous Openland	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**19**
Low-Density Trees	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
Lowland Aspen/Balsam Poplar	0	0	0	0	0	38	0	0	0	0	0	0	0	0	0	**38**
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	191	0	0	0	293	**484**
Lowland Deciduous	0	0	0	0	19	0	0	0	0	45	35	0	0	0	0	**99**
Lowland Shrub	116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**116**
Lowland Spruce/Fir	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	**8**
Marsh	304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**304**
Mixed Upland Deciduous	0	100	23	0	6	47	0	0	0	0	35	0	0	0	12	**223**
Natural Mixed Pines	0	0	0	0	0	17	0	0	7	0	72	0	0	0	6	**102**
Oak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	**45**
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	**46**
Red Pine	0	0	0	0	0	0	0	0	6	13	0	0	0	0	0	**18**
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	5	32	0	0	0	7	**44**
Urban	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**10**
Water	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**103**
Total	**571**	**100**	**23**	**0**	**57**	**299**	**0**	**0**	**13**	**83**	**366**	**0**	**0**	**0**	**409**	**1920**

Table 2 – Proposed Treatment Summaries

Roscommon Mgt. Unit
Year of Entry 2013

Compartment 148
Total Compartment Acres: 1920

Acres by Treatment Type

Commercial Harvest - 166	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	73	0	0	0	0	0	**73**
Mixed Upland Deciduous	61	0	0	0	0	0	**61**
Planted Mixed Pines	0	0	16	0	5	0	**22**
Red Pine	0	0	0	0	3	0	**3**
Upland Mixed Forest	0	0	0	8	0	0	**8**
Total	**134**	**0**	**16**	**8**	**8**	**0**	**166**

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18	71148018-Cut	6.3	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	90	Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: recommend cutting as much of this stand as possible given wetter terrain in parts of this stand, trench and plant RP in areas that don't regenerate to hardwoods, buffer swamp to the north and west

Other Comments:

Next Steps: regen check before trenching/planting RP in areas that don't regenerate to HW's

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
20	71148020-seed tree	16.3	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	75	Harvest	Seed Tree with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: seed tree harvest and rollerchop/scarify to expose a seed bed, leave part to the north that is heavier to hardwoods as a buffer on the swamp, mark 10 SF/Acre each of RP/WP/Oak for retention, diversity, wildlife mast, and seed source

Other Comments: alternate regeneration will be to plant red pine if stand is not fully stocked with R/W pine and hardwoods, wildlife biologist would like to plant acorns in this stand if also planted to red pine if funding and availability can be accomplished and oak regeneration is lacking - low priority.

Next Steps: rollerchop or scarify

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
20	71148020-thinning	5.3	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	75	Harvest	Low Thinning	42141 - Planted Mixed Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: thin to 90 -120 SF residual leaving a mix of of R/W pine and oak, mange to improve the quality and bidiversity of the stand

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
27	71148027-Cut	2.9	42210 - Natural Red Pine	High Density Log	88	Harvest	Low Thinning	42211 - Natural Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: thin to 120 SF by removing defect and suppressed trees, promote a mix of species by marking all trees to cut and removing a mix of R/W pine and oak where possible

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
37	71148037-Cut	41.9	4191 - Mixed Upland Deciduous with Conifer	High Density Log	48	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: --Dale Ekdom : 08/09/2011 comments:

--Dale Ekdom : 08/09/2011 comments:

recommend final harvesting and managing for a A/O mix, retain R/W pine for diversity/retention, Mark oak - favoring white oak- to leave throughout the stand and leave larger oaks along flooding to provide potential wood duck nesting sites, leave out areas with only oak/WP esp. if along the west edge - this will help reinforce the gate closures along Wraco Lake Road and the pipeline ROW, winter or dormant season cut to increase sprouting of aspen, reduce erosion hazard along the flooding, and avoid waterfowl nesting season

Other Comments: stand should regenerate to aspen but trench and plant jack pine in larger areas which do not regenerate to aspen

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
42	71148042-Cut	12.4	4191 - Mixed Upland Deciduous with Conifer	High Density Log	68	Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: final harvest for aspen mgt., no retention due to small size of treatment, should regenerate to aspen but alternate regen is to plant RP if aspen fails

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
49	71148049-Cut	8.4	4310 - Pine, Oak Mix	High Density Log	90	Harvest	Shelterwood	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: cut everything but green marked oak and all R/W pine, oak and pine residual would be approx. 60 SF, retain as much oak as possible on south end of stand for wood duck nesting, no retention except for residual oak/pine, any amount of oak or pine regeneration is acceptable

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
61	71148061-Cut	21.0	4136 - Aspen, Mixed Conifer	High Density Pole	48	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: final harvest for aspen mgt., leave out low/wet areas for retention, mark oak and R/W pine to leave for retention, wildlife mast, diversity, and visual, leave out SE arm for retention, dormant season cut due to age of the aspen, stand should regenerate to aspen fur alternate regeneration will be to trench and plant RP if aspen fails

Other Comments: watch ORV trail visuals and BMP's in wetter areas

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
69	71148069-Cut	52.0	4139 - Aspen, Mixed Deciduous	High Density Pole	48	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: final harvest for aspen mgt., leave any wet areas and buffer swamp for retention, mark oak and R/W pine for retention, wildlife mast, diversity, and visual (esp. along Old 27), leave any areas heavy to WP poles/Oak SL for retetnion also, stand should regenerate to aspen but alternate regen will be RP if aspen fails

Other Comments: use "rabbitat" spec on the south edge of the stand

Next Steps:

Total Treatment Acreage Proposed: 166.4

Table 4 -- Treatments Prescribed with a Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error						

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: **0**

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
71048_OutOfYOE_1-Cut	2.2				Harvest	Low Thinning	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: thin to 120 SF by concentrating on improving the quality of the stand, no retention other than residual RP, save areas heavy to oak understory where possible

Other Comments: cut wiht stand to the west in 71046

Next Steps: manage for utility poles next YOE

71048_OutOfYOE-Cut	4.0			0	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: final harvest for aspen mgmt., mark oak SL tro leave for wildlife mast, mark R/W pine SL for diversity, no retention other than marked leave trees, address green-up concerns on the east side of this stand if still a problem, dormant season cut to promote vigorous sprouting of the older aspen in the stand, any regeneration to a fully stocked stand is acceptable, trench and plant RP if regeneration fails

Other Comments: cut with stand to the west in 71046

Next Steps:

71118_OutOfYOE-Cut	6.6			0	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: final harvest for aspen mgmt. mark or leave all oak for diversity/retention/visuals. buffer low marshy ground on southwest. leave out any wetter areas in the north part of the stand for BMP reasons. leave out areas with heavy R/W pine component for diversity/retention/visuals. Any regeneration of aspen/oak/pine to a fully stocked stand is acceptable. regeneration alternative is to plant red pine if stand is not fully stocked but this is unlikely.

Other Comments: treat with stand to the west in 71117, add proper protection specs to ensure trail staus open to snowmobiles during hauling

Next Steps:

71165_OutOfYOE-Cut	5.1				Harvest	Low Thinning	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: thin to 90-120 SF/Acre so as to enhance old growth/bio-diversity characteristics

Other Comments: stand has a dense A/RM understory which will need to be addressed with appropriate sale specs, save W3 understory where possible, treat stand to the west in 71163when this stand is treated (same stand)

Next Steps:

Total Treatment Acreage Proposed: **17.9**

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6128 - Lowland Coniferous, Mixed Deciduous	Low Density Pole	34.3	90		swamp with lots of areaswith standing water & "L", wet and very slow growing due to water influence
2	42260 - Natural Pine, Mixed Deciduous	High Density Log	39.9	90		Au Gres sand w/PArVCo kotar type
6	6129 - Mixed Coniferous Lowland Forest	High Density Pole	271.5	Uneven Age		very wet, lots of blowdown, primeval swamp, upper part of Wraco Lake Flooding
7	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	60.7	90		bulk of stand is Tawas-Lupton mucks w/unclassified lowland kotar type, north end of the stand has one higher area which has Croswell sand w/PArVHa kotar type
8	6129 - Mixed Coniferous Lowland Forest	High Density Pole	72.7	90		
10	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	4.2	90		
12	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	6.5	90		
14	4130 - Aspen	Medium Density Pole	18.7	30		A3/A6 habitat cut in 1980
15	42260 - Natural Pine, Mixed Deciduous	High Density Log	32.5	90		
16	6129 - Mixed Coniferous Lowland Forest	High Density Pole	6.0	90		
18	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	6.3	90		upland 2 aged stand, RM SL with a heavy BF u.s., grades into wetter areas to the west and north, Aspen in this stand are over-mature and declining, Kotar is PArVHa on the east 1/3rd and PArVCo on the 2/3rds
19	4133 - Aspen, Mixed Pine	High Density Pole	10.5	33		high SI BTA stand with scattered R/W oak and R/W pine SL's,
20	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	21.5	Uneven Age	171-200	parts of this stand were planted to R/W/J pine mix in 1929, 1934, and 1938 so stand is of plantation origin, stand is now a mix of R/W pine SL/poles and HW SL/poles, north edge is less dense with more of a hardwood component, most WP is weeviled or of poor form, scattered small clones of A6 thru-out stand, Kotar type is PArVHa and soils are Graycalm sands, site is appears to be not suited to WP, recommend clearcutting part north of the 2-track and planting RP where aspen does not regenerate and thinning south of the 2-track to 90-120 SF/Ac with part of stand to the east
21	4130 - Aspen	High Density Pole	11.3	48		A/O poles with scattered R/W pine SL, Oak SL, and WP poles

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	4133 - Aspen, Mixed Pine	High Density Pole	11.9	48		high site index BTA stand with scattered oak/RM/RP SL and WP poles, hold 10 years to take advantage of this productive site
25	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	5.7	75	171-200	parts of stand are RP/Aspen & other parts are RP/Oak, appears to have been inter-planted with RP in 1930's, east end is heavier to planted WP and has flatter terrain, small narrow stand with steeper terrain in spots which is not worth cutting by itself, areas of the stand have lots of oak seedlings in addition to the oak saplings, recommend holding stand 10 years and treating with stand to the north
27	42210 - Natural Red Pine	High Density Log	12.7	88	111-140	nice natural RP stand with has a few scattered WP poles and SL, thinned in 1996 by removing most hardwoods and JP, most of stand is not ready for a second thinning yet esp. the east and north parts, the southwest arm could be thinned again with RP stand to the west if desired as BA is higher here, some decent R/W pine regeneration starting on some ofthe more open spots
28	6122 - Black Spruce	High Density Pole	7.6	48		black spruce bog
29	4133 - Aspen, Mixed Pine	High Density Pole	19.0	45		BTA /oak poles with scattered pine poles and XL's, some areas heavy to pine(R/W0 poles and SL's
30	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	19.1	35		mix of TA/RM on Tawas-Lupton-Leaf River mucks, slow growing due to high water table, most of the stand is lower and wetter and consists of RM/WB/swamp conifers but there are a few higher spots - esp. on the edges with TA/RM/Oak, lower ground is very wet with standing water in the lowest spots
31	42260 - Natural Pine, Mixed Deciduous	High Density Log	1.7	Uneven Age	200+	small stand of pine and hardwoods surrounded by Old 27 and swamp, possibly thin to enhance OG characteristics, possibly designate as OG SCA
32	4133 - Aspen, Mixed Pine	High Density Pole	1.5	39		aspen stand cut in 1971, looks like they left R/W pine and some oak for visual
34	4133 - Aspen, Mixed Pine	High Density Pole	25.5	45		45 year old A/O/WP with scattered XL oak, east end is more oak/pine with scattered aspen and west end is more A/O with scattered pine, hold 10 years until stand to the east is grown back up after treatment
35	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	24.8	Uneven Age	111-140	Parts of this stand were planted to R/W/J pine in 1929,1934, and 1938 so stand is plantation origin, stand was thinned in 1996 by removing all merch. HW's and JP, stand now has a lot of RM and WP saplings and a few RP and pin oak saps in the understory gaps, RP is both scattered with heavy RM/WP u.s. and in pockets with very little u.s., RP SL are decent quality but mostly too big for utility poles and the RP pulp is poorer quality, stand is 2 aged going towards all aged,

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	4191 - Mixed Upland Deciduous with Conifer	High Density Log	41.9	48		mix of older oak and younger BTA with scattered pine poles, north tip is heavier to pine (esp. JP), oak is declining but smaller oak should stump sprout if cut, BTA is doing OK and is merch. now, if cut, stand will regenerate to aspen/oak mix, some pockets of oak wtih WP u.s. could be left out of the sale (esp. on the west edge) and managed for oak/pine in 10 years
38	4134 - Aspen, Spruce/Fir	High Density Pole	1.0	39		cut in 1971 according to t'sale records
40	42290 - Natural Mixed Pine	High Density Log	4.0	Uneven Age	111-140	natural pine stand, parts may have been thinned in last 10-20 years but no records of a sale were found, recommend holding at least 10 years and using to reinforce gate/closure on Wraco Lake Road
42	4191 - Mixed Upland Deciduous with Conifer	High Density Log	12.4	Uneven Age	51-80	oak SL with BTA/WP/JP poles, west end is mostly oak SL with WP pole u.s., east end is Oak SL with aspen poles and scattered JP poles, either hold entire stand 10 years or cut east part which is heavier to aspen now and manage with stand to east for aspen, stand is currently all aged with at least 3 age classes
43	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	23.0	16		final harvested in 1994, mix of A/O/J natural regeneration, scattered nat RP regeneration also
44	6124 - Lowland Spruce-Fir	High Density Pole	21.1	Uneven Age		spruce-fir swamp mixed with other lowland conifer species, lots of pillow moss as ground cover, very wet in spots
45	42260 - Natural Pine, Mixed Deciduous	High Density Log	7.0	70		JP overstory and WP understory as you west and south, some pockets of swamp conifer with leatherleaf/BB ground cover in the south part which are wetter, definitely at least 2 aged, needs some sort of removal cut to salvage overmature JP w/o doing too much damage to the WP u.s.
46	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	10.2	90	81-110	narrow transition stand betwen upland and lowland, older HW's with pine and fir thru-out, 2 aged going to all aged
47	4310 - Pine, Oak Mix	Medium Density Pole	4.7	85	51-80	narrow stand of oak & pine, manage this stand w/stand to the west in 71150, looks like A/RM were removed in the early 1970's
49	4310 - Pine, Oak Mix	High Density Log	8.4	90	111-140	narrow stand just north of lowland stand with a mix of everything, A/O/J mature, R/W pine immature, stand slopes to the south and is on west edge of Wraco dam
50	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	17.5	93		long narrow stand with intermittent stream, south end is RM/TA with a few BF, north end is more cedar swamp with scattered HW's
53	4199 - Other Mixed Upland Deciduous	Medium Density Pole	6.0	35		long narrow stand of pin oak SL, RM/TA/WB poles, and pin oak saplings, scattered WP poles and RP SL's, retain as buffer on downslope part of Wraco dam, possibly add to SCA as part of the Wolf Creek riparian corridor

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	18.2	93	81-110	oak SL overstory with WP pole/sap and oak seedling/sap in the understory, oak is decent quality, stand is 2 aged going towards all-aged, stand grades into the marsh to the east and south with more BF coming into the understory as the terrain gets lower and wetter, hold 10 years until the WP becomes more merchantable and the cut to the west grows up
55	4126 - White, Black, N. Pin Oak	Medium Density Log	44.9	Uneven Age	81-110	parts of this oak stand were thinned in 1994, stand consists of a fairly equal mix of NPO/WO, oak is decent quality, thinned parts are oak SL with a hardwood understory OR Oak SL with WP understory, there are pockets heavy to WP saps/poles, recommend holding 10 years for visual on Old 27 and for shelterwood purposes and then thin again in 10 years when the WP u.s. is more merchantable
56	4199 - Other Mixed Upland Deciduous	Low Density Sapling	66.7	4		cut 2007, left R/W pine and white oak, equal mix of RM/Aspen/Oak regenerating
59	4311 - Pine, Aspen Mix	High Density Log	7.5	Uneven Age	111-140	WP X-L's, BTA SL, and WP poles, stand is at least 2 aged and probably 3/multi-aged, stand continues into 71147 to the east, possible SCA - old growth, good spot to let WP take over
60	42290 - Natural Mixed Pine	High Density Pole	17.1	48	111-140	mostly R/W pine poles and SL with scattered HW poles and SL, scattered lower pockets with HW's and tag alder, WP u.s. is almost pole size, HW's are 1960's YOO also, retain as SCA buffer along riparian corridor
61	4136 - Aspen, Mixed Conifer	High Density Pole	69.5	48		stand is 2 aged aspen(north part is 1962 YOO and south part is 1920 YOO) and has both BTA and QA, low/wetter parts are QA with balsam fir and more upland drier areas are BTA with oak/RM, stand should be cut now before oldest aspen declines more or dies, leave out lowest/wettest areas for retention and mark oak for mast esp. along road/orv trail, leave drainage on east part out of sale for retention and also could leave SE arm for retention
64	6113 - Lowland Maple	Low Density Log	16.4	85		bottomland adjacent to Wolf Creek, red maple and black ash with marsh grass or tag alder in understory, retain as riparian corridor SCA
65	6118 - Lowland Deciduous with Cedar	High Density Pole	24.5	90		wet aspen stand with bam, t. aspen,black ash, and NWC in approx. eqal amounts, not operable except during a very hard freeze or extremely dry fall, stand gets wetter as you get closer to Wolf Creek, includes some pockets of hemlock, soils are Au Gres-Kinross complex
67	6112 - Lowland Aspen	High Density Sapling	38.4	46		lower stand of t. aspen, bam, red maple, and black ash, possibly operable after spring run-off when dry or frozen but problematic, not ready for treatment yet, scattered larger aspen and cottonwood, soils are Kinross-Au Gres complex
68	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	28.8	89		stand is very wet and contains a flowing stream, not operable, retain as part of riparian corridor SCA

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
69	4139 - Aspen, Mixed Deciduous	High Density Pole	52.0	48		pole size aspen/RM with scattered oak SL and R/W pine SL, pockets are heavy to oak and WP poles which could be left for retention if cut,SE corner is sparser/wetter with RM poles and WP SL which also could be left for retention
71	4199 - Other Mixed Upland Deciduous	Low Density Sapling	32.9	4		cut 2007, mix of RM/Oak/Aspen regen., left scattered R/W pine poles for visual on ORV trail, wetter areas did not regenerate too well (raised water tabel and heavy deer browse??)
72	6120 - Lowland Cedar	High Density Pole	20.2	85		cedar swamp with a few areas of E6 which are more hardwoods and composed of WP X-L's and RM/TA/WB poles
73	4311 - Pine, Aspen Mix	Medium Density Log	23.6	90		upland stand or RM?TA/WP cut by numerous smaller swales and at least 1 major drainage, stand consists of several multi-part islands surrounded by "L", scatteredR/W pine X-L's also, lots of beaver, deer, and other wildlife activity w/in this stand and surrounding stands, recommend allowing this stand to convert to WP as any treatment removing HW's would not regenerate well due to heavy deerand beaver activity, add to riparian corridor SCA to the north
74	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	5.0	45	1-50	mix of hardwoods and jack pine, scattered WP also, stand is just past pole size

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	622 - Lowland Shrub	15.3	N\A	Unspecified	
4	622 - Lowland Shrub	3.6	N\A	Unspecified	
5	623 - Emergent Wetland	11.9	N\A	Unspecified	
9	6225 - Bog	1.5	No	Unspecified	
11	622 - Lowland Shrub	8.1	N\A	Unspecified	
13	310 - Herbaceous Openland	5.2	N\A	Unspecified	
17	623 - Emergent Wetland	5.6	N\A	Unspecified	
22	6230 - Cattail	242.7	No	Low (NonForested)	Wraco Lake Flooding
24	790 - Other Bare/Sparsely Vegetate	1.0	No	Unspecified	looks like this was an old barrow pit for Old 27/US-127, mostly grass covered but a few spots with bare soil, encroaching oak seedlings and saplings
26	6225 - Bog	3.3	No	Unspecified	
33	310 - Herbaceous Openland	8.0	N\A	Unspecified	
36	50 - Water	94.7	N\A	Unspecified	
39	6239 - Mixed Emergent Wetland	8.6	No	Low (NonForested)	
41	790 - Other Bare/Sparsely Vegetate	5.5	No	Low (NonForested)	
48	3105 - Mixed Upland Herbaceous	4.2	Yes	Low (NonForested)	managed wildlife opening
51	122 - Road/Parking Lot	10.4	N\A	Unspecified	
52	790 - Other Bare/Sparsely Vegetate	1.2	Yes	High (NonForested)	Wraco Lake Dike
57	6229 - Mixed lowland shrub	54.6	No	Low (NonForested)	SCA - riparian corridor

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
58	6239 - Mixed Emergent Wetland	35.4	No	Low (NonForested)	SCA - riparian corridor
62	3303 - Mixed Low Density Trees	5.5	No	Unspecified	
63	310 - Herbaceous Openland	2.0	N\A	Unspecified	
66	622 - Lowland Shrub	13.3	N\A	Unspecified	
70	6229 - Mixed lowland shrub	21.4	No	Low (NonForested)	possibly add to SCA - riparian corridor
75	50 - Water	7.8	No	Unspecified	beaver flooding

7 – 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.

Stand	SCA Type	SCA Name	Acres	Comments
59	Unique Site - SCA	71148059	7.5	add as SCA - age of WP
60	Unique Site - SCA	71148060	17.1	SCA - riparian corridor
64	Unique Site - SCA	71148064	16.4	SCA - riparian corridor
68	Unique Site - SCA	71148068	28.8	SCA - riparian corridor
73	Unique Site - SCA	71148073	23.6	add to riparian corridor SCA
57	Unique Site - SCA	NF_71148057	54.6	riparian corridor SCA
58	Unique Site - SCA	NF_71148058	35.4	riparian corridor SCA
70	Unique Site - SCA	NF_71148070	21.4	add to riparian corridor SCA

8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.