GRAYLING FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 208 ENTRY YEAR: 2012

GIS Compartment Acreage: 648 County: Crawford

Revision Date: 8/20/2010

Stand Examiner: Patrick L. Potter

Legal Description: Crawford County – Frederic Township, T27N R04W Sections 1, 2 and 3.

Management Goals: To maintain forest health, productivity, sustainability, and diversity throughout the compartment while providing for multiple use within the area.

Soils and Topography: Flat to gently rolling hills with some steep hills. Soils are mostly well-drained sands comprised of Kalkaska, Rubicon-Roselawn and Blue Lake.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Various sized blocks of State-owned land bordering small private parcels. The surrounding private is made up of both permanent and seasonal residences.

Unique, Natural Features: None know at this time

Archeological, Historical, and Cultural Features: Turn of the century homestead found. Hal information has been submitted.

Special Management Designations or Considerations: Beech Bark Disease scales have been found with a positive id within the compartment.

Watershed and Fisheries Considerations: None at this time

Wildlife Habitat Considerations: Deer and Grouse. Several maintained wildlife openings (mature rye) each year during August will be disc down and fertilize at 200 lbs/acre, covered under existing FTP's.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial and ice-contact outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. The nearest gravel pit is two miles to the northeast, and gravel potential is thought to be good on the upland areas. None of the State land in the compartment has been leased for oil and gas. The Antrim Shale is the producing formation in the area, but has not produced this far south.

Vehicle Access: The compartment can be accessed using county roads. Oil and gas right-of-ways provide multiple access opportunities for wheeled vehicles and foot traffic.

Survey Needs: No survey requests needed.

Recreational Facilities and Opportunities: The South Frederic Connector Snowmobile Trail runs through section 1.

Fire Protection: This compartment is comprised of mostly Northern Hardwoods with very few "high hazard" fuel types, access should be adequate for suppression activities.

LOTS Compartment Acreage: 652 acres

- **The following reports are available:**
  - **Cover Type by Age Class**
  - **Proposed Treatment Summaries**
  - **Dedicated Conservation Area Details**
  - **Listing of Forested Stands**
  - **Listing of Non-Forested Stands**
  - **Proposed Treatments – No Limiting Factors**
  - **Proposed Treatments – With Limiting Factors**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
  - **Base feature information, stand numbers, cover types, recreation trails and facilities**
  - **Proposed treatments**
  - **Proposed road access system**
- **Special Conservation areas**

Cover Type & Treatment Map

Compartment 208
T27N, R04W, Sec. 1-4
County: Crawford
Unit: Grayling
YOE: 2012
Acres: 648 GIS Calculated
Stand Examiner: Patrick Potter
Map Revised: 9/09/2010
Map Phase: Pre-Review

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

Legend

- Miris Corners
- County Paved Roads
- Paved Roads
- Gravel Roads
- Trails
- Pipe
- Railroads
- Intermittent Stream/Drain
- Stream
- ORV Trails
- Motorcycle Trails
- Snowmobile Trails
- Hiking Trails
- Horse Trails
- Culverts
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Prescribed Burn

Forest Stands

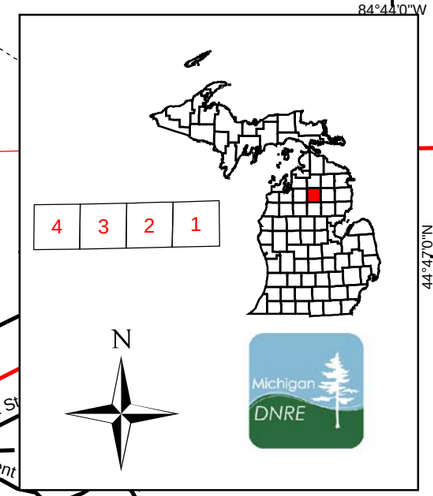
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 222 - Orchards/Vineyards/Nursery
- 310 - Herbaceous Openland
- 622 - Lowland Shrub
- 720 - Exposed Rock



84°48'0"W 84°47'0"W 84°46'0"W 84°45'0"W 84°44'0"W
44°47'0"N 44°46'0"N

Hulbert Rd
N Kolka Creek Rd
Johnson St
N Park St
Genesee St
Cheboygan St
Myrtle St
Curt St
Kent
Ward St
Manistee St
Brown St
Center St
Johnson St
Mill St
N Wight St
May Lake
N Cindy Ln
Au Sable River
W May Lake Rd
Camel Lake
W County Road 612
Sandy Trl
Dunckley Trl
Indian Trl
Holland Ave
N Partridge Dr
W Batterson Rd
Pratt Rd
N Old 27
N Ives Lake Rd

1 **4111**-M9
2 **4111**-M6
3 **4116**-M9
4 **4130**-A3
5 **4111**-M6
6 **310**-G0
7 **310**-G0
8 **4130**-A4
9 **622**-L0
10 **622**-V0
11 **310**-G0
12 **4133**-A9
13 **122**-X0
14 **4130**-A3
15 **4311**-UM6
16 **4221**-R5
17 **4130**-A6
18 **720**-K0
19 **310**-G0
20 **4130**-A3
21 **4112**-M5
22 **4199**-MD5
23 **4130**-A3
24 **4130**-A3
25 **310**-G0
26 **310**-G0
27 **4229**-MC9
28 **4211**-R9
29 **4139**-A3
30 **4111**-M9
31 **4119**-M6
32 **222**-G0
33 **4130**-A3
34 **4211**-R9
35 **4112**-M8
36 **4112**-M9

1 0.5 0 1 Miles

Stand Boundary Map

Compartment 208
T27N, R04W, Sec. 1-4
County: Crawford
Unit: Grayling
YOE: 2012
Acres: 648 GIS Calculated
Stand Examiner: Patrick Potter
Map Revised: 9/09/2010
Map Phase: Pre-Review

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

Legend

- Miris Corners
- County Paved Roads
- Paved Roads
- Gravel Roads
- Pipe
- Railroads
- Trails
- ORV Trails
- Motorcycle Trails
- Snowmobile Trails
- Hiking Trails
- Horse Trails
- Stand Boundaries

Forest Stands

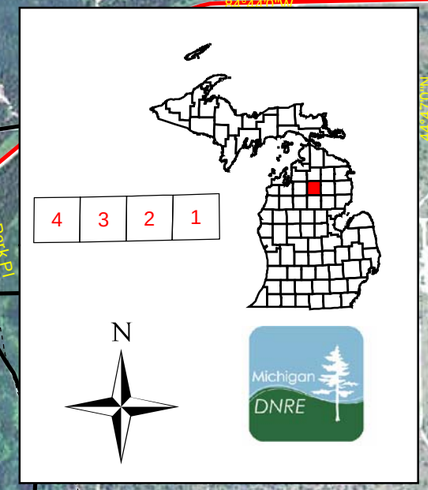
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 222 - Orchards/Vineyards/Nursery
- 310 - Herbaceous Openland
- 622 - Lowland Shrub
- 720 - Exposed Rock



1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 208
T27N, R04W, Sec. 1-4
County: Crawford
Unit: Grayling
YOE: 2012
Acres: 648 GIS Calculated
Stand Examiner: Patrick Potter
Map Revised: 9/09/2010
Map Phase: Pre-Review

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

Legend

- Miris Corners
- Stand Boundaries
- SCA - Special Conservation Area

Dedicated Special Conservation Areas

- Cold Water Streams
- Natural Rivers Zoning District

Forest Stands

Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 222 - Orchards/Vineyards/Nursery
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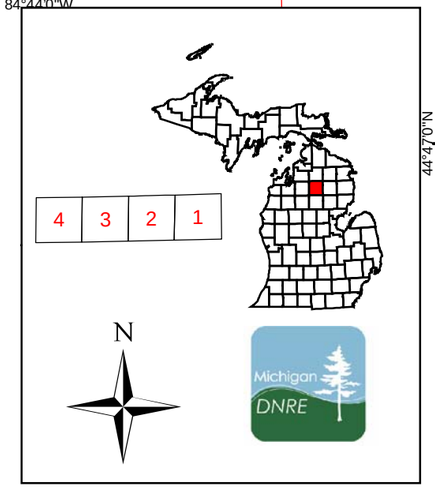

1 0.5 0 1 Miles

84°48'0"W 84°47'0"W 84°46'0"W 84°45'0"W 84°44'0"W
44°47'0"N 44°46'0"N

Table 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit **Compartment: 208** **Year of Entry: 2012**

Data updated before 10:00 AM

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	10	82	136	0	28	0	42	0	0	0	0	0	0	0	**298**
Bog	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Cropland	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**42**
Exposed Rock	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Herbaceous Openland	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**37**
Lowland Shrub	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Mixed Upland Deciduous	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	**11**
Natural Mixed Pines	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	**5**
Northern Hardwood	0	0	0	0	0	0	0	0	43	90	83	0	0	0	0	**216**
Red Pine	0	0	0	0	0	0	0	5	2	3	0	0	0	0	0	**10**
Upland Mixed Forest	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	**13**
Urban	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**
Total	**94**	**10**	**82**	**136**	**0**	**28**	**0**	**72**	**50**	**93**	**83**	**0**	**0**	**0**	**0**	**648**

Table 2 – Proposed Treatment Summaries

Data updated before 10:00 AM

Grayling Mgt. Unit
Year of Entry: 2012

Compartment: 208
Total Compartment Acres: 647.6

Acres by Treatment Type

Commercial Harvest - 173	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 67	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	25	0	0	0	0	0	**25**
Northern Hardwood	9	51	0	0	84	0	**144**
Red Pine	3	0	0	0	0	0	**3**
Total	**38**	**51**	**0**	**0**	**84**	**0**	**173**

Table 3 -- Treatments Prescribed with No Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	72208001-Cut	25.2	4111 - S.Maple, Hard Mast Association	High Density Log	88	Harvest	Systematic Thinning	S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Specs: Thin down to 60-80 BA. When marking in sawlog area-first remove high risk and cull trees. Then take trees of poor form. Always manage for the best tree in place. In the area where the diameter is less than 8" do a seven foot crown release--in areas where the diameter greater than 8" mark two crown competitor. Then thin from below until stocking level is reached.

Other Comments: Do not cut aspen in this stand.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	72208002-Cut	10.0	4111 - S.Maple, Hard Mast Association	High Density Pole	88	Harvest	Systematic Thinning	S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Specs: thin down to 60-70 BA. When marking in sawlog area-first remove high risk and cull trees. Then take trees of poor form. Always manage for the best tree in place. In the area where the diameter is less than 8" do a seven foot crown release--in areas where the diameter greater than 8" mark two crown competitor. Then thin from below until stocking level is reached.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	72208003-Cut	9.0	4116 - Mixed N. Hardwood - Aspen	High Density Log	85	Harvest	Clearcut with Reserves	Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest and convert ot aspen. Leave a few oak as retention on hill top.

Other Comments: Adjust boundary line as need into stand 2.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
17	72208017-Cut	25.5	4130 - Aspen	High Density Pole	60	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest. Leave super canopy white pine as the only retention.

Other Comments: Super canopy white pine will be the retention, no standard retention.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
21	72208021-Cut	42.7	4112 - Maple, Beech, Cherry Association	Medium Density Pole	72	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal

Prescription Specs: Thin stand, focusing on removing high-risk beech stems and increasing stand diversity.

Other Comments: Treatment Objective: increase stand resiliency in advance of BBD

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
30	**72208030-Cut**	49.2	4111 - S.Maple, Hard Mast Association	High Density Log	90	Harvest	Systematic Thinning	S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Specs: Thin down to 60-80 BA. When marking in sawlog area-first remove high risk and cull trees. Then take trees of poor form. Always manage for the best tree in place. In the area where the diameter is less than 8" do a seven foot crown release--in areas where the diameter greater than 8" mark two crown competitor. Then thin from below until stocking level is reached.

Other Comments:

Next Steps:

31	**72208031-Cut**	8.1	4119 - Mixed Northern Hardwoods	High Density Pole	89	Harvest	Single Tree Selection	Mixed Northern Hardwoods	Cmpt. Review Proposal

Prescription Specs: Thin stand, focusing on removing high-risk beech stems and increasing stand diversity.

Other Comments: Treatment Objective: increase stand resiliency in advance of BBD.

Next Steps:

34	**72208034-Cut**	3.2	42110 - Planted Red Pine	High Density Log	80	Harvest	Clearcut	S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Specs: Final harvest and let natural regeneration take over. Treat with stand 30.

Other Comments:

Next Steps:

25	**NF_72208025-Burn**	12.5	Non-Forested		0	Prescribed Burn	Unspecified	Warm Season Grass	Cmpt. Review Proposal

Prescription Specs: Prescribe burn removing all white pine.

Other Comments:

Next Steps:

	NF_72208026-Burn	13.0	Non-Forested		0	Prescribed Burn	Unspecified	Warm Season Grass	Cmpt. Review Proposal

Prescription Specs: Prescribe burn to enhance bluestem grass/warm season grasses, allow white pine to burn.

Other Comments:

Next Steps:

32	**NF_72208032-Burn**	41.8	Non-Forested		0	Prescribed Burn	Unspecified	Warm Season Grass	Cmpt. Review Proposal

Prescription Specs: Prescribed burn to enhance bluestem grass, allow white pine to burn.

Other Comments: OLD apple orchard-starting to fill in with some WP

Next Steps:

Table 3 -- Treatments Prescribed with No Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
Total Treatment Acreage Proposed:		**240.2**							

Table 4 -- Treatments Prescribed with a Limiting Factor

Data updated before 10:00 AM

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**

Data updated before 10:00 AM

Out of YOE -- Treatments Prescribed with No Limiting Factor

Year of Entry: 2012

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

Prescription Specs:

Other Comments:

Next Steps:

Total Treatment Acreage Proposed: **0**

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4111 - S.Maple, Hard Mast Association	High Density Log	25.2	88	111-140	Nice sugar maple and beech. Stand much better quality than stand #2,
2	4111 - S.Maple, Hard Mast Association	High Density Pole	10.0	88	81-110	muti-stem-Leave for now. Stand is still pole size over all. Stand beaten-up pretty bad during the late 20's early 30's. Stand is a little better than stand #2. Could treat with stand #4 and thin down to 50-70 BA. I would think about leaving all aspen it is in the condition of creating very good standing snags.
3	4116 - Mixed N. Hardwood - Aspen	High Density Log	9.0	85	51-80	Stand beaten-up pretty bad during the late 20's early 30's, then allow to be grazed on or fire. Some open grassly areas, appears to a drier site than the adjacent stands with mixed hardwood and scattered wolf oak trees.
4	4130 - Aspen	High Density Sapling	19.1	16		Mixed species of Aspen, & Maple mosty with some beech and Oak scattered. Stand final harvested 1993.
5	4111 - S.Maple, Hard Mast Association	High Density Pole	37.3	88	81-110	Leave for now. Stand is still pole size over all. Stand beaten-up pretty bad during the late 20's early 30's.
8	4130 - Aspen	Low Density Pole	27.6	48	81-110	Stand has some interesting history. Starting in 1964-65, all cedar was cut. In 1966-68 all aspen and maple was harvested. Only found a small pocket of cedar not enough to make it it's on stand also scattered white pine trees throughout. Stand does have a high water table.
12	4133 - Aspen, Mixed Pine	High Density Log	16.7	67	81-110	Stand is slowly converting to White pine. One of the adjacent private property owners has expanded their yard, and another has put a gate on state owned land. Trespass reports have been submitted. Stand is west of the railroad tracks (6 chains X 40 chains) and can be accessed off of county road (May Lake).
14	4130 - Aspen	High Density Sapling	8.7	27	1-50	Stand treated 1983 - everything harvested except Red & White pine.
15	4311 - Pine, Aspen Mix	High Density Pole	13.4	62	51-80	Stand was treated 1962-63 all merchantable Paper Birch was harvested.
16	42210 - Natural Red Pine	Medium Density Pole	5.5	62	51-80	All aspen and marked red pine harvested last YOE.
17	4130 - Aspen	High Density Pole	25.5	60	81-110	Stand is a mix of Aspen, SM, RM, with scattered super canopy WP. Final Harvest leave WP.
20	4130 - Aspen	High Density Sapling	17.1	27		Stand final harvested 1983.
21	4112 - Maple, Beech, Cherry Association	Medium Density Pole	42.7	72		Stand was treated last YOE.
22	4199 - Other Mixed Upland Deciduous	Medium Density Pole	10.9	68	51-80	Planted black locust with a heavy blackberry. Two big cotton wood trees and one really big sugar maple. Area was part of the Deward Apple Orchard, found old water well.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	4130 - Aspen	High Density Sapling	96.3	26	1-50	Stand final harvested 1984, by Champion International Corporation.
24	4130 - Aspen	High Density Sapling	13.9	27		Stand was final harvested 1983.
27	42290 - Natural Mixed Pine	High Density Log	5.4	70	81-110	Do to close proximity of this stand to residential area and with the possible of BBD in the adjacent stand I do not recommend harvesting this stand except to cut all hardwoods.
28	42110 - Planted Red Pine	High Density Log	1.7	70	81-110	3rd row thinned last YOE
29	4139 - Aspen, Mixed Deciduous	High Density Sapling	10.2	7		All aspen harvested last YOE, two 1-acre regen gaps created
30	4111 - S.Maple, Hard Mast Association	High Density Log	49.2	90	111-140	Stand is a mix of size classes-mostly log. This stand also has an interesting history. In 1982 stand was mark to 90 BA residual then divided into four individual sales and sold for fuelwood in 1983. No further work was done since. Stand changes as you head to the northeast more species diversity and larger diameter.
31	4119 - Mixed Northern Hardwoods	High Density Pole	8.1	89		Possible BDD--sent in field health report to Roger Mech. Found one tree heavyly infected with a white waxy cover, and found many beech trees with tarry spots which can be Nectria infection and which is associated with beech bark diease.
33	4130 - Aspen	High Density Sapling	62.9	14		Stand final harvested and completed in 1996.
34	42110 - Planted Red Pine	High Density Log	3.2	80	111-140	3rd row thinned last YOE.
35	4112 - Maple, Beech, Cherry Association	Medium Density Log	2.8	90		Stand thinned last YOE. Some SM in the groundcover
36	4112 - Maple, Beech, Cherry Association	High Density Log	31.4	90	51-80	Stand thinned last YOE. Some SM in the groundcover

6 – Nonforested Stands

Data updated before 10:00 AM

Stand	Cover Type	Acres	Gen Cmts:
6	3102 - Grass	1.2	
7	3102 - Grass	2.1	
9	6220 - Alder/willow	4.0	Stand is Tag Alder
10	6225 - Bog	1.9	
11	3102 - Grass	4.5	
13	122 - Road/Parking Lot	8.5	
18	720 - Exposed Rock	1.0	Former gravel pit, now being used as a n informal shooting range and grabage dump.
19	3102 - Grass	3.3	
25	3105 - Mixed Upland Herbaceous	12.5	Part of the Deward Apple orchard-no apple trees were planted.
26	3102 - Grass	13.0	
32	222 - Orchards/Vineyards/Nursery	41.7	OLD apple orchard-starting to fill in with some WP

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.

Data updated before 10:00 AM

Stand	SCA Type	SCA Name	Acres	Comments

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.

Data updated before 10:00 AM

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.
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.