DNR

TRAVERSE CITY FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 162 ENTRY YEAR: 2011

Compartment Acreage: 1944 County: Kalkaska

Stand Examiner: Ryan Mattila / Dave Johnson

Legal Description: T27N-R07W-Sec. 19, T27N-R08W-Sec. 22,23,24.

Management Goals: Maintain a variety of age classes of jack pine and aspen types. Promote somewhat natural mixtures of uneven-aged red pine-aspen-oak. Maintain mostly late-successional types along N. Boardman River and tributaries.

Soil and Topography: Grayling and Rubican Sands - level terrain

Ownership Patterns, Development, and Land Use in and Around the Compartment:
The city of Kalkaska is one mile north and east of compartment. The north part of section 19 is the Kalkaska Airport. There are a few private blocks of land within the compartment. There are several active oil wells in and around the compartment. There are no other desired acquisitions or disposals in this compartment.

Unique, Natural Features (include only non-site specific and non-sensitive information):
Part of the North Branch of the Boardman River is in section 19. The Boardman River falls under the Scenic and Natural Rivers Act. Nothing listed in the Natural Features Inventory

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): No concerns listed.

Special Management Designations or Considerations: Boardman River - Scenic and Natural River

Watershed and Fisheries Considerations: The South Branch of the Boardman River flows through Compartment 162. The Boardman River is a Designated Trout Stream. The South Branch of the Boardman River and hosts naturally reproducing populations of brook and brown trout. The Boardman River is protected under the Boardman River Natural Rivers Designation.

Wildlife Habitat Considerations: The well drained soils of this compartment predominately support pine communities with some aspen and oak patches mixed in. Forest treatments should maintain a variety of age classes of jack pine and aspen types, and promote somewhat natural mixtures of uneven-aged pine-aspen-oak, especially in stands on the west end of the compartment, through selective harvest practices. Along the N. Boardman River and tributaries maintain mostly late-successional types, but consider some regeneration patches along streams when not in conflict with other riparian objectives. Maintaining scattered grassy openings is also relevant here on this fire driven landscape.

Aspen harvests should retain snags and den trees, leave trees, and downed logs in order to replicate a wildfire-altered forest and increase wildlife use by species like grouse, woodcock, golden-winged warbler, and deer. Oak treatments should leave some mature mast-producing trees and protect of den/nest trees while maintaining tree species diversity.

Some species associated with pine-oak-aspen woodlands and/or brushy openings; include red and gray squirrels, wild turkey, white-tailed deer, pine warbler, northern red-bellied snake, northern hognose snake, cedar waxwing, and chipping sparrow.

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 600 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have a current economic use. Smith Lake pit is located in Section 14, but gravel potential may be limited. The Compartment is within the prolific Guelph (Niagaran) reef trend and most State minerals are leased. Some of the reefs have been nominated for underground natural gas storage.

Vehicle Access: No new access needed

Survey Needs: None

Recreational Facilities and Opportunities: Boardman River, Boardman Valley Snowmobile Trail and the MCCT cycle Trail

Fire Protection: Fire protection for this compartment is from the Kalkaska DNR Field Office. Nearly all of this compartment is within Zone 6 Dispatch, which means on a high Fire Day or above, units from Traverse City and Manton also respond. VFD Fire Protection is from the Kalkaska Fire Department. Travel time is adequate, and access is not an issue. Urban innerface is not too much of a problem with the exception of section 19 which is at the western edge of Kalkaska itself, and there are lots of residences located here.

Additional Compartment Information:

****** Cover type details, proposed treatments and stands designated as FDF are listed in the attached reports:**

- **Cover Type by Age Class**
- **Cover Type by Management Objective**
- **Compartment Volume Summary**
- **Proposed Treatments – No Limiting Factors**
- **Proposed Treatments – With Limiting Factors**

****** The following information is displayed on the attached compartment maps:**

- **Base feature information, stand numbers, cover types**
- **Proposed treatments**
- **Proposed road access system**
- **Suggested potential old growth**

Cover Type & Treatment Map

Compartment 162
T27N, R07W, Sec. 19
T28N, R08W, Sec. 22-24
County: Kalkaska
Unit: Traverse City
YOE: 2011
Acres: 1,949 GIS Calculated
Stand Examiner: Ryan Matilla
Map Revised: 10/06/2009
Map Phase: Pre-Review

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

Legend

- Miris Corners
- Highways
- Paved Road
- Gravel Road
- Poor Dirt Road
- Intermittent Stream/Drain
- Stream
- Trails
- MCCCT Trails
- Snowmobile Trails
- US Highway
- Lakes and Rivers

Treatments

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

Forest Stands

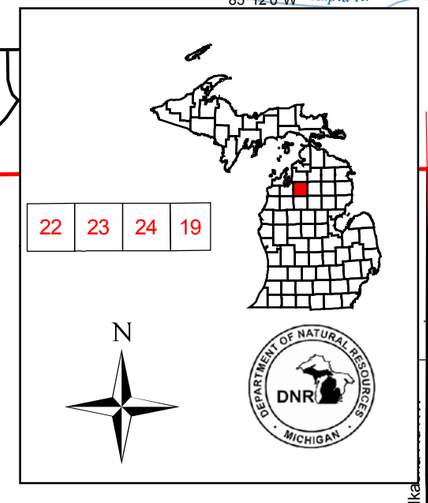
Level 3

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

Non-Forest Stands

Level 3

- 121 - Airport
- 123 - Other High Intensity Urban
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 622 - Lowland Shrub



Stand Boundary Map

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T28N, R08W, Sec. 22-24
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- Stand Boundaries

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Level 3
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22 | 23 | 24 | 19

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1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 162
T27N, R07W, Sec. 19
T28N, R08W, Sec. 22-24
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Legend
- Miris Corners
- Stand Boundaries

Dedicated Special Conservation Areas
- Cold Water Streams
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District

Forest Stands
Level 3
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412 - Oak Types
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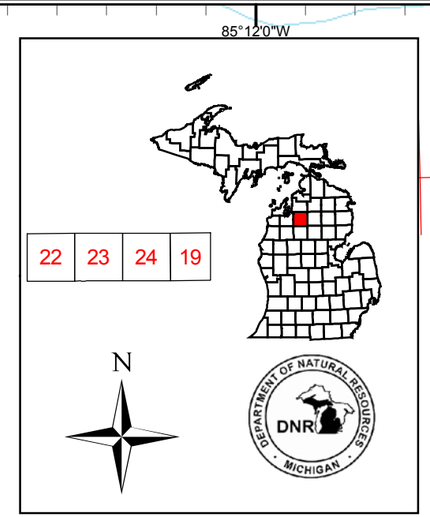
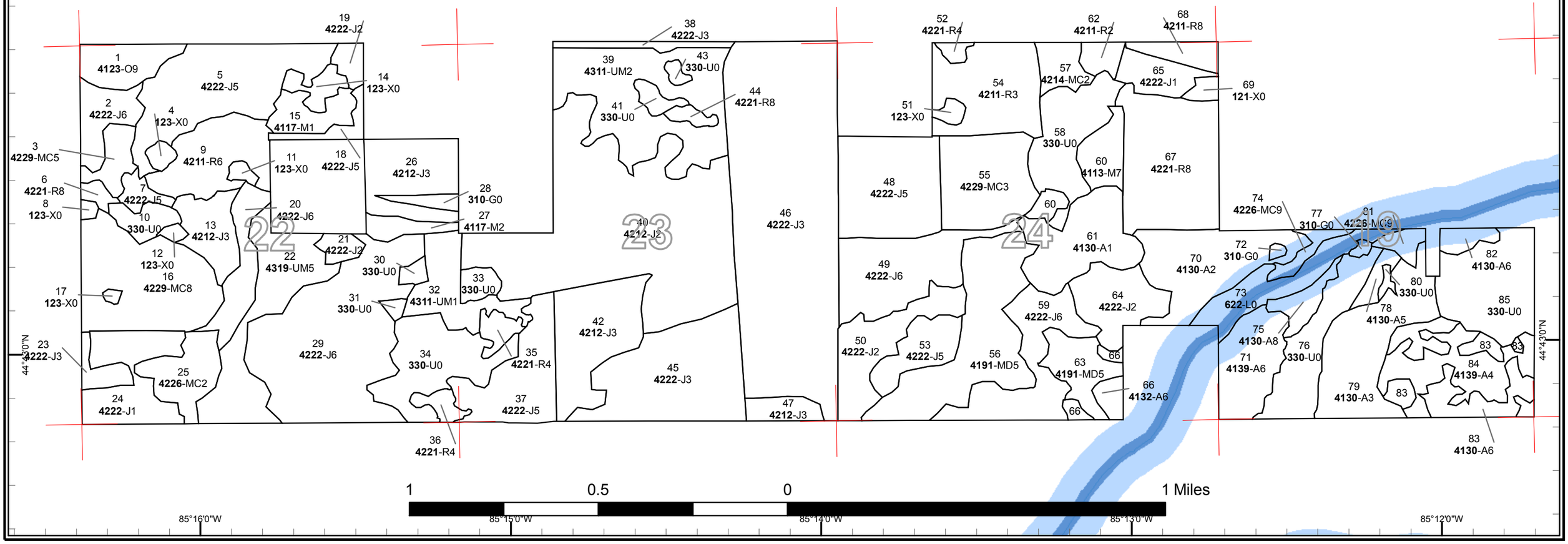
Non-Forest Stands
Level 3
121 - Airport
123 - Other High Intensity Urban
310 - Herbaceous Openland
330 - Low-Density Trees
622 - Lowland Shrub





Covertype, Acres, and Age summary

(Level 3 Cover Type)

Traverse City Mgt. Unit

Compartment 162 Year of Entry 2011

Report Date: 10/06/2009

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
Airport	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Aspen Types	0	34	45	99	18	34	0	0	0	0	0	0	0	0	0	**231**
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
Low-Density Trees	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**159**
Lowland Shrub	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**22**
Mixed Upland Deciduous	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0	**75**
Natural Pines	0	24	141	252	102	33	175	118	3	6	0	7	0	0	56	**917**
Northern Hardwood	0	0	0	19	0	0	16	0	0	0	0	0	0	0	0	**35**
Oak Types	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	**16**
Other High Intensity Urban	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**18**
Planted Pines	0	0	194	86	49	0	0	8	0	0	0	0	0	0	0	**337**
Upland Mixed Forest	0	23	64	0	0	43	0	0	0	0	0	0	0	0	0	**130**
Total	**209**	**81**	**444**	**457**	**169**	**109**	**191**	**201**	**3**	**6**	**0**	**7**	**0**	**0**	**72**	**1949**

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
2	**61162002-Cut**	15.0	42220 - Natural Jack Pine	High Density Pole	60	Harvest	Clearcut with Reserves	Natural Pine, Mixed Deciduous

Rev Cmnt:

Rev Spec: Final harvest of Jack Pine leaving Red Pine and Oak

Next Steps: check regen in 2 years - should come back to jp if not replant to JP

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
3	**61162003-Cut**	9.6	42290 - Natural Mixed Pine	Medium Density Pole	64	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous

Rev Cmnt:

Rev Spec: Final harvest of JP leaving Oak and RP

Next Steps: Area will regen to a mix of Jack pine and mixed deciduous and combination - medium stocking is acceptable. Check in 2 years.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
7	**61162007-Cut**	5.2	42220 - Natural Jack Pine	Medium Density Pole	58	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous

Rev Cmnt:

Rev Spec: Final Harvest leaving all RP and Oak

Next Steps: Check regen in 2 years - any combination of Jack Pine , Aspen and red maple will be acceptable

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
16	**61162016-Cut**	56.0	42290 - Natural Mixed Pine	Medium Density Log	129	Harvest	Single Tree Selection	Natural Mixed Pine

Rev Cmnt:

Rev Spec: Remove approx 20 sq. ft. of mixed pine sawtimber

Next Steps: Heavy multi story regen present - no further action required

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
18	**61162018-Cut**	5.6	42220 - Natural Jack Pine	Medium Density Pole	80	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous

Rev Cmnt:

Rev Spec: Final harvest leaving scattered Oak and Red Pine

Next Steps: Check regen in 2 years - should come back to moderate stocked jp with scattered mixed deciduous. If not replant to JP

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
49	**61162049-Cut**	40.6	42220 - Natural Jack Pine	High Density Pole	57	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous

Rev Cmnt:

Rev Spec: Fianl harvest leaving scattered RP and Oak

Next Steps: Check regen in 2 years should come back to medium stocked jp with mixed deciduous and some oak. If not replant to RP

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
52	61162052-Cut	2.3	42210 - Natural Red Pine	Low Density Pole	105	Harvest	Single Tree Selection	Natural Red Pine

Rev Cmnt:

Rev Spec: Remove approx 30 sq ft. BA of RP

Next Steps: No futher action required

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
56	61162056-Cut	58.6	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	65	Harvest	Group Selection	Mixed Upland Deciduous with Conifer

Rev Cmnt:

Rev Spec: Remove Jack Pine, Aspen and Red Maple.leaving pine and oak

Next Steps: Will regenerate to mixed deciduous and jack pine - no further action required

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
59	61162059-Cut	35.6	42220 - Natural Jack Pine	High Density Pole	63	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous

Rev Cmnt:

Rev Spec: Remove all JP

Next Steps: check regen in 2 years - should regen to jp with scattered mixed deciduous. If not proper stocking levels replant to JP

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
63	61162063-Cut	16.4	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	65	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer

Rev Cmnt:

Rev Spec: Final harvest leave scattered Oak and Pine

Next Steps: Area will regenerate to a mix of Aspen, Red Maple, jack Pine and Oak - medium stocking will be acceptable

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Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
58	NF_61162058-Burn	46.9	Unspecified		0	Prescribed Burn	Unspecified	Mixed Upland Shrub

Rev Cmnt: If burning is not feasible then mechanically treat with bush hog or similar equipment.

Rev Spec: Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.

Next Steps: Consider seeding in some native grasses/forbs, if needed.

Total Treatment Acreage Proposed: 291.8

PROPOSED TREATMENTS WITH LIMITING FACTORS

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

Limiting Factor and Comment:

Rev Cmnt:

Rev Spec:

Next Steps:

No Treatment Reason

Total Treatment Acreage Proposed: **0**

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.

Inventory Method: IFMAP

Stand	SCA Name	Acres	Comments

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
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.
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.