



Compartment Review Presentation

Shingleton Forest Management Unit

Compartment 41036

Entry Year 2018

Acreage: 956

County Schoolcraft

Management Area: Hiawatha Moraine

Revision Date: 2016-08-31

Stand Examiner: Adam Petrelius

Legal Description:

T43N R16W : Section 3, 10, 14, 15

Identified Planning Goals:

Conduct multiple resource management for current and future generations.

Soil and topography:

The topography in this compartment is mostly flat. The hardwood forest types, located in the central portion of the compartment have some rolling hills. Major soil types are Carbondale-Lupton-Tawas and Rubicon Sand. Major habitat types are PArVAa, unclassified wetland, PArV, PVE, and AFPO.

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

Land surrounding the compartment is a mixture of private and state. Both permanent residences and seasonal camps are located adjacent to compartment lands.

Unique Natural Features:

This compartment contains a number of small lakes and streams including Ashford Lake, Ghost Lake, Kepler Lake, and Southside creek.

Archeological, Historical, and Cultural Features:

N/A

Special Management Designations or Considerations:

N/A

Watershed and Fisheries Considerations:

The Southern portion of this compartment contains Ghost Lake and Kepler Lake and an island stand located within Island Lake. The Northern portion of this compartment contains Ashford Lake and Southside Creek. Southside Creek is designated a Type 1 trout stream and serves as a tributary to Stutts Creek. A 300' buffer is recommended for Southside Creek in riparian areas susceptible to Aspen regeneration. For all other riparian areas, Best Management Practices should be followed to reduce erosion into waterbodies. This compartment contains a site (Ashford Lake) where Fisheries and Forest Resource Divisions coordinated a White Pine tree fell to improve shoreline habitat for panfish.

Wildlife Habitat Considerations:

The wildlife management objective for this compartment is to promote the age class and structural diversity between aspen stands and maintain the closed canopy conifer around Ashford Lake. This compartment lies within the Hiawatha Moraine Management Area and the featured species within this MA are American woodcock, ruffed grouse, and white-tailed deer.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of coarse-textured till and peat & muck. There is up to 200 feet or there is insufficient data to determine the glacial drift thickness. The Ordovician Queenston Shale and Stonington and Big Hill Formations subcrop below the glacial drift. The Stonington and Big Hill could be used for stone/dolomite. A clay pit is located in Section 14 and a gravel pit is located in Section 24, and there appears to be potential. There is no commercial oil and gas production in the UP.

Vehicle Access:

A well established road network is present within the compartment. Even the most remote areas of the compartment are within 1/2 mile of an existing road.

Survey Needs:

Survey needs are present for multiple treatments.

Recreational Facilities and Opportunities:

Ashford Lake boat access site lies in the northern part of the compartment. Additional opportunities for hunting, fishing, trapping, and other forms of outdoor recreation exist.

Fire Protection:

Compartment is mostly upland and spring fires are of concern here. Permanent residences and camps exist in many locations surrounding the compartment. Even though the compartment is located mid distance between 2 fire offices, a well established road network will provide good access. Abundant water sources exist also.

Additional Compartment Information:

The following reports from the Inventory are attached:

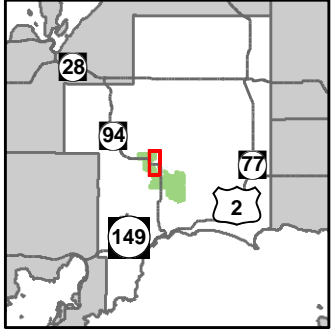
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

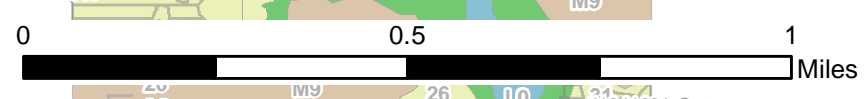
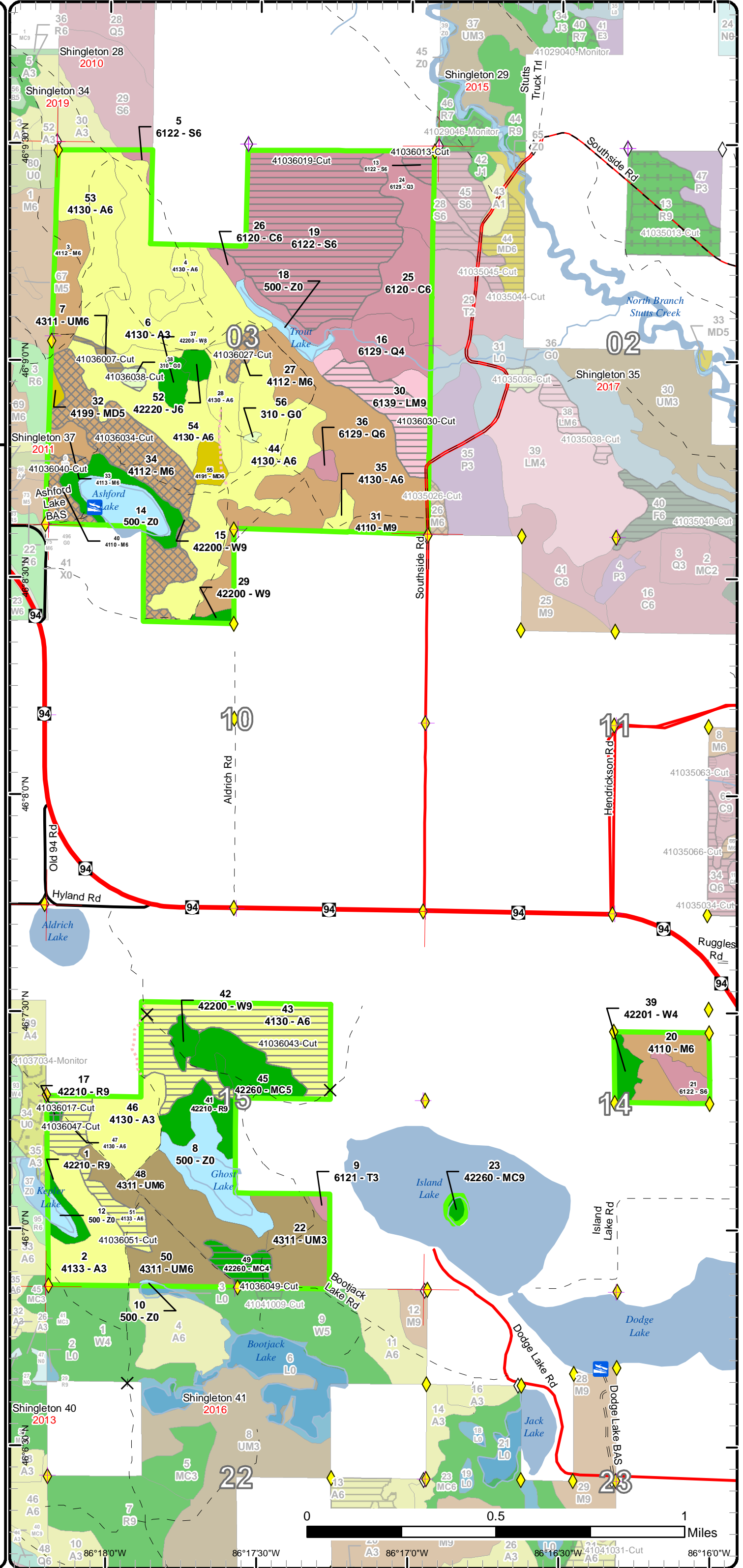
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 36
 T43N,R16W, Sec: 03, 10, 14, 15
 County: Schoolcraft
 Unit: Shingleton
 Mgmt Area: Hiawatha Moraine
 YOE: 2018
 Acres: 956 GIS Calculated
 Examiner: Adam Petrelius
 Map Revised: 12/6/2016
 Map Phase: Post Review



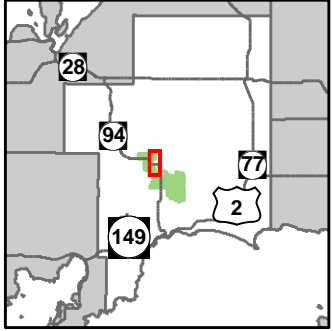
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◆ Field Grade GPS Corners
- X Gate
- Boating Access Site
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Closed Roads
- Rivers
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Seed Tree (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 310 - Herbaceous Openland
- 500 - Water
- Lakes



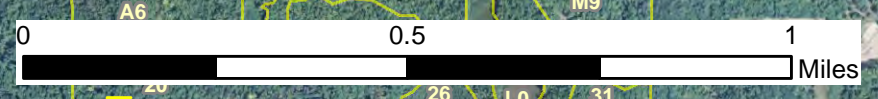
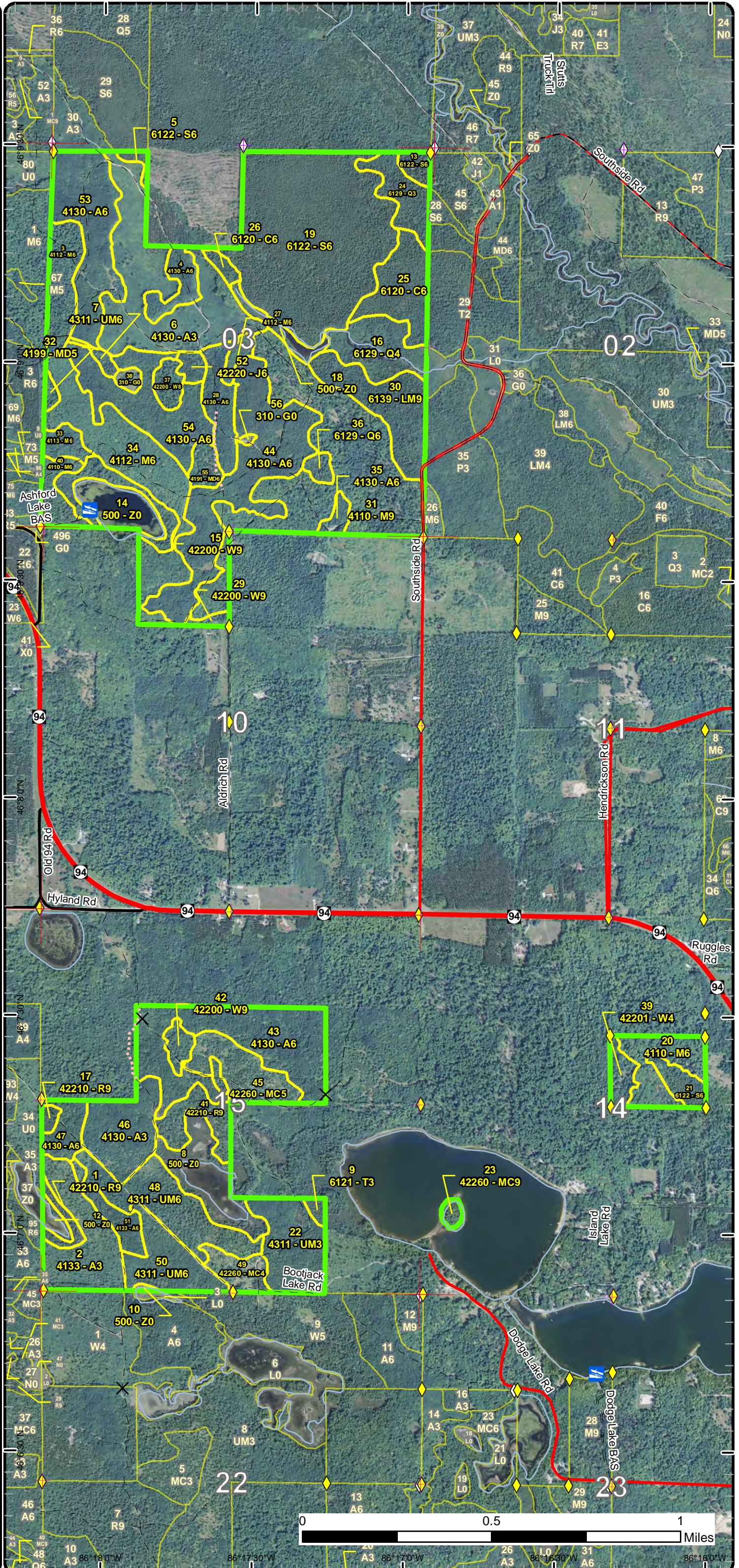
86°18'0"W 86°17'30"W 86°17'0"W 86°16'30"W 86°16'0"W

Stand Boundary Map

Compartment: 36
 T43N,R16W, Sec: 03, 10, 14, 15
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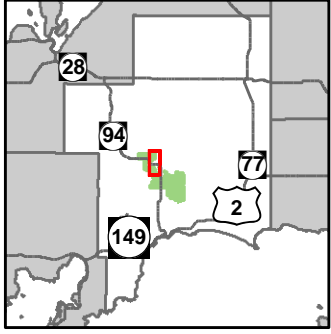
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- X Gate
- Boating Access Site
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
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- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
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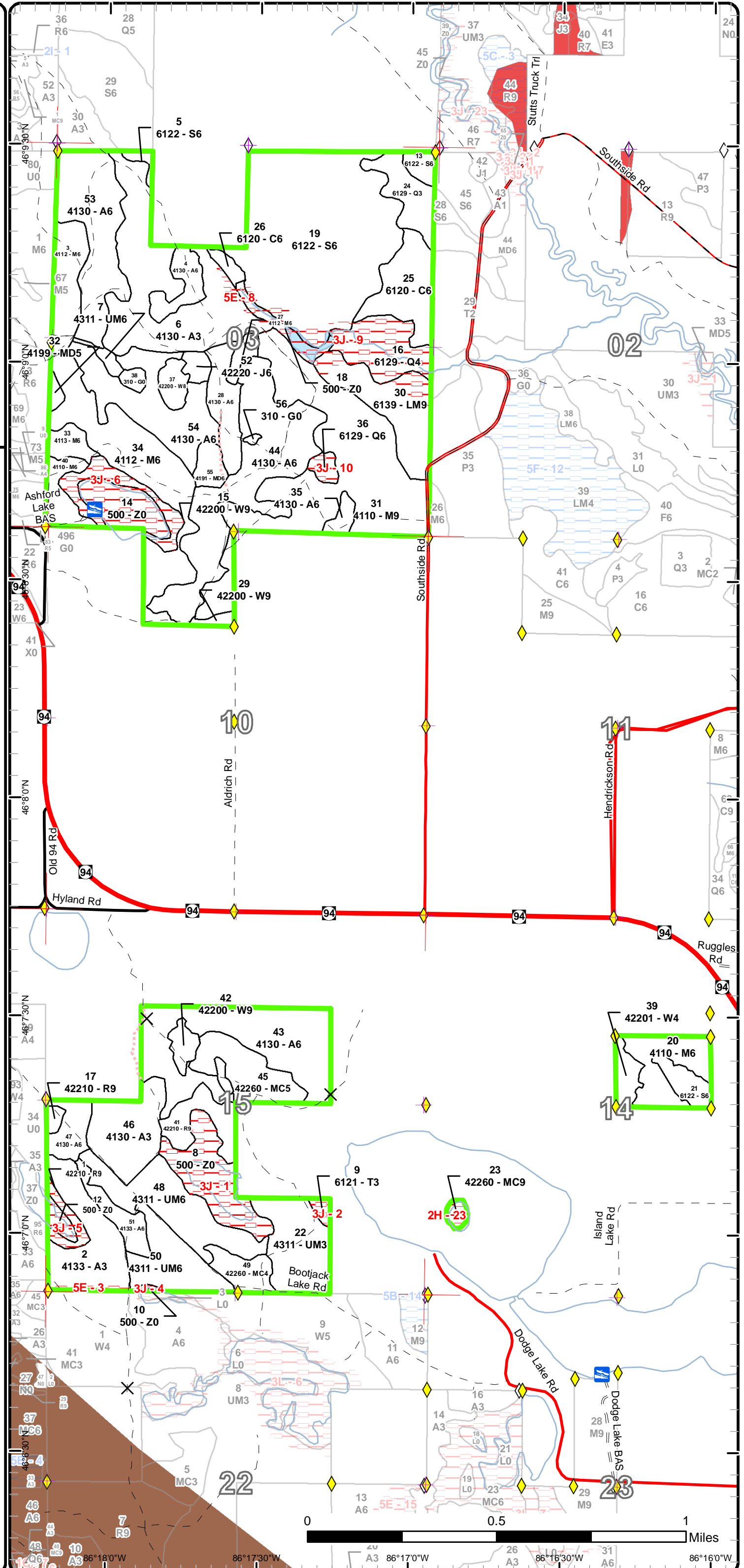
86°18'0"W 86°17'30"W 86°17'0"W 86°16'30"W 86°16'0"W

Special Conservation Areas & Site Conditions Map

Compartment: 36
 T43N,R16W, Sec: 03, 10, 14, 15
 County: Schoolcraft
 Unit: Shingleton
 Mgmt Area: Hiawatha Moraine
 YOE: 2018
 Acres: 956 GIS Calculated
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- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◆ Field Grade GPS Corners
- X Gate
- Boating Access Site
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Closed Roads
- Rivers
- Compartment Boundary
- - - Unavailable
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Ecological Reference Areas
- Cold Water Streams
- Cold Water Lakes
- Deer Winter Range



0 0.5 1 Miles
 86°18'0"W 86°17'30"W 86°17'0"W 86°16'30"W 86°16'0"W

Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	89	0	27	0	184	0	0	0	0	0	0	0	0	0	0	0	38	338
Cedar	0	0	0	0	0	0	0	0	21	3	0	0	0	0	0	0	0	0	24
Herbaceous Openland	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Jack Pine	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Lowland Conifers	0	0	0	0	0	13	0	0	20	3	0	0	0	0	0	0	0	0	36
Lowland Mixed Forest	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	27
Lowland Spruce/Fir	0	0	0	0	0	0	0	117	4	0	0	0	0	0	0	0	0	0	121
Mixed Upland Deciduous	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Natural Mixed Pines	0	0	0	0	0	28	0	0	0	0	0	2	0	0	0	0	0	0	30
Northern Hardwood	0	0	0	0	0	0	6	0	0	61	0	0	0	0	0	0	0	121	188
Red Pine	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	20
Tamarack	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Upland Mixed Forest	0	0	31	45	0	0	0	2	0	0	0	0	0	0	0	0	0	0	77
Water	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
White Pine	0	0	0	0	6	2	0	0	10	0	0	12	0	0	0	0	0	0	30
Total	51	89	31	72	6	239	6	29	188	71	0	12	2	0	0	0	0	159	954



Report 2 – Treatment Summary

Shingleton Mgt. Unit
Year of Entry: 2018

Acres of Harvest

Compartment 36
Total Compartment Acres: 956

Commercial Harvest - 272
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	70	0	0	0	0	0	0	0	0	70
Herbaceous Openland	2	0	0	0	0	0	0	0	0	2
Lowland Mixed Forest	21	0	0	0	0	0	0	0	0	21
Lowland Spruce/Fir	106	0	0	0	0	0	0	0	0	106
Natural Mixed Pines	9	0	0	0	0	0	0	0	0	9
Northern Hardwood	0	61	0	0	0	0	0	0	0	61
Red Pine	0	0	0	2	0	0	0	0	0	2
Upland Mixed Forest	2	0	0	0	0	0	0	0	0	2
Total	210	61	0	2	0	0	0	0	0	273

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	273	0	0	0	0	0	0	0	0	273
Next Step	0	0	0	0	0	0	261	0	11	273
Total	273	0	0	0	0	0	261	0	11	545



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
7	41036007-Cut	2.3	4311 - Pine, Aspen Mix	Poletimber Well	61	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Cut all trees down to 2 inches including red pine and white pine, except hemlock and oak if present. Less than 3% retention is acceptable due to
Specs: small area.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Any species onsite.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

13	41036013-Cut	3.9	6122 - Black Spruce	Poletimber Well	82	81-110	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Survey work may be needed. Cut all trees except hemlock and oak if present. There may be unmapped creeks located within stand. Buffer
Specs: accordingly if found. This is a continuation of a larger stand in adjacent compartment and retention will be placed there.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable mixed deciduous and conifer trees
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

17	41036017-Cut	1.9	42210 - Natural Red Pine	Sawtimber Well	76	81-110	Harvest	Seed Tree with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all trees except hemlock and oak if present. Leave 10 sq. ft red pine or white pine. These trees should have large crowns if present and will be
Specs: the only retention left.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Due to small stand size regeneration of red pine would be impractical. Allow stand to convert to mixed stand. Any species is acceptable for
Regen: regeneration.

Other
Comment:

Proposed Start Date: 10/01/2017

19	41036019-Cut	101.7	6122 - Black Spruce	Poletimber Well	78	51-80	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all trees except hemlock and oak if present. Denser areas of cedar should be excluded along the eastern boundary. Place retention in creek and
Specs: lake buffer to south which will be a minimum of 100 feet. This patch is over 5 acres which will meet requirements.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Any species onsite.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
27	41036027-Cut	3.6	4112 - Maple, Beech, Cherry Association	Poletimber Well	81	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Selection harvest. Target 80 sq. ft. residual basal area, but overall may be lower due to gaps and beech. Leave those beech that have had heavy use by bears in the past.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any species onsite.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

30	41036030-Cut	20.8	6139 - Mixed Lowland Forest	Sawtimber Well	66	81-110	Harvest	Clearcut with Retention	613 - Lowland Mixed Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all trees except hemlock, oak. Exclude denser pockets of cedar that are inoperable. Buffer creek and lake 100 feet minimum. This will be the retention along with any areas of thicker cedar that are excluded.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any species onsite.

Regen:

Other Buffer Southside Creek 300 feet to discourage aspen regeneration.

Comment:

Proposed Start Date: 10/01/2017

34	41036034-Cut	48.2	4112 - Maple, Beech, Cherry Association	Poletimber Well	81	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Selection harvest. Target 80 sq. ft., but overall residual may be lower due to regeneration gaps and beech. Exclude areas or advanced hemlock regeneration from sale with red line if possible, or avoid marking trees that may potentially damage this advanced regeneration. Place spec in timbersale to protect hemlock saplings. Beech with signs of heavy bear use should be left.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any species onsite.

Regen:

Other Survey work will be needed.

Comment:

Proposed Start Date: 10/01/2017

38	41036038-Cut	2.2	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Harvest	Clearcut	211 - Cropland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all trees down to 2 inches except hemlock and oak if present. Less than 3% retention is acceptable.

Specs:

Next Step NonForestMgt, Fruit Tree/Shrub Planting

Treatments:

Acceptable Any species onsite, but goal is to maintain this as a grass opening.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
40	41036040-Cut	9.2	4110 - Sugar Maple Association	Poletimber Well	81	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven- Aged	Draft Field Boundary
Habitat Cut: No		Site Condition:									
<u>Prescription</u>		Selection harvest target 80 sq. ft. basal area. Overall basal area may be lower due to beech and regeneration gaps. Visual management should be									
<u>Specs:</u>		taken into consideration when marking along the Ashford Lake boat launch road.									
<u>Next Step</u>		Monitoring, Natural Regen (Re-Inventary)									
<u>Treatments:</u>											
<u>Acceptable</u>		Any species onsite.									
<u>Regen:</u>											
<u>Other</u>		Do not deck on boat launch road except in winter.									
<u>Comment:</u>											
<u>Proposed Start Date:</u>		10/01/2017									
43	41036043-Cut	52.1	4130 - Aspen	Poletimber Well	45	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
Habitat Cut: No		Site Condition:									
<u>Prescription</u>		Cut all trees down to 2 inches except hemlock and oak if present. Leave some scattered large canopy trees for retention of various species. SW									
<u>Specs:</u>		corner could also be excluded for retention.									
<u>Next Step</u>		Monitoring, Natural Regen (Re-Inventary)									
<u>Treatments:</u>											
<u>Acceptable</u>		Any species onsite.									
<u>Regen:</u>											
<u>Other</u>		Survey work will be needed to establish boundary lines and determine location of road and gate in NW. Access currently requires going through									
<u>Comment:</u>		private land on existing road system, however a new road on state could easily be created.									
<u>Proposed Start Date:</u>		10/01/2017									
47	41036047-Cut	8.9	4130 - Aspen	Poletimber Well	46	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
Habitat Cut: No		Site Condition:									
<u>Prescription</u>		Cut all trees down to 2 inches except hemlock and oak if present. Leave a few scattered large crown red pine and white pine. This will be the only									
<u>Specs:</u>		retention.									
<u>Next Step</u>		Monitoring, Natural Regen (Re-Inventary)									
<u>Treatments:</u>											
<u>Acceptable</u>		Any species onsite.									
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u>		10/01/2017									
49	41036049-Cut	9.0	42260 - Natural Pine, Mixed Deciduous	Poletimber Poor	41	1-50	Harvest	Clearcut	310 - Herbaceous Openland		Draft Field Boundary
Habitat Cut: No		Site Condition:									
<u>Prescription</u>		Cut all trees down to 2 inches except hemlock and oak if present.									
<u>Specs:</u>											
<u>Next Step</u>		NonForestMgt, Other - Specify									
<u>Treatments:</u>											
<u>Acceptable</u>		grass management									
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u>		10/01/2017									



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
51 41036051-Cut	8.7	4133 - Aspen, Mixed Pine	Poletimber Well	46	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Cut all trees down to 2 inches including red pine and white pine, except hemlock and oak if present. Place a pocket of retention between stands 47 and 51 that will cover both stands.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Any species onsite.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 272.5**

Report 4 – Site Conditions

Shingleton Mgt. Unit
Adam Petrelius : Examiner

Compartment: 36
Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions		
		With Condition	Not Available		2H	3J	5E
338	334	0	5	Aspen			5
24	24	0	0	Cedar		0	
3	3	0	0	Herbaceous Openland			
3	3	0	0	Jack Pine			
37	13	0	23	Lowland Conifers		23	
27	21	0	6	Lowland Mixed Forest		6	
121	115	0	6	Lowland Spruce/Fir		6	
7	7	0	0	Mixed Upland Deciduous			
30	28	0	2	Natural Mixed Pines	2		
188	188	0	0	Northern Hardwood		0	
20	16	0	4	Red Pine		4	
2	0	0	2	Tamarack		2	
78	78	0	0	Upland Mixed Forest			
48	0	0	48	Water		48	
30	18	0	12	White Pine		12	
956	848		108	Total Forested Acres	2	101	5
	89%		11%	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
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Shingleton Mgt. Unit
Adam Petrelius : Examiner

Compartment: 36
Year of Entry: 2018

3	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: buffer was left during previous sale as long term retention and to satisfy green up requirements with stand to the south.							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	5E: Long-Term Retention	2	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments: steep hillside that was left during previous sale							
9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	38	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	3K: Rare or unique landforms	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Shingleton Mgt. Unit
Adam Petrelius : Examiner

Compartment: 36
Year of Entry: 2018

23	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – 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



Report 6 – 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	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42210 - Natural Red Pine	Sawtimber Well	4.3	76	81-110	<p>OPIC - FMD: Aspen stand with decent amount of red pine, white pine, and some jack pine. Pine regeneration should be protected in timbersale specs. Mark red pine and white pine to cut. Alternative acceptable management objectives include any species mixture currently found on site.</p> <p>Greenup guidelines: The southern border of stand is adjacent to a timbersale which has not been harvested. This may cause problems satisfying greenup requirements. It was decided at review to leave a 1 chain buffer along the southern portion of this stand to serve as a retention strip and satisfy greenup requirements.</p> <p>Retention Guidelines: Leave all snags that do not pose a safety risk. Do not cut hemlock and oak. Leave some red pine and white pine poles and supercanopy trees. Leave a 1 chain buffer along south side of stand for retention. This 1 chain strip will also satisfy greenup requirements with adjacent sale to the south.</p> <p>[2/11/08 BB] Stand is now on proposal 9-08, Ghost Lake Sale. Actual stand acres = 27. Residual Volume; Red Pine = 11 sq ft, White pine = 14 sq ft and oak = 1 sq ft.</p> <p>[1/24/11 BB] Sale is now closed, cut spring 2010, TCR date 7/29/10. FTP W41-1349 is open but may not get done due to the loss of inmates. Stand is now on the regen timeclock. (3/22/11 AP) FTP W41-1349 has been cancelled.</p>
2	4133 - Aspen, Mixed Pine	Sapling Well	28.3	6	1-50	
3	4112 - Maple, Beech, Cherry Association	Poletimber Well	16.4	81	81-110	Thinned in 1991 and select harvested in 2009. Residuals were 49 sugar, 19 red maple, 8 other. Passed regeneration walkthrough.
4	4130 - Aspen	Poletimber Well	8.9	44	51-80	
5	6122 - Black Spruce	Poletimber Well	1.8	78	81-110	Stand should be included with adjacent compartment to north when that is scheduled.
6	4130 - Aspen	Sapling Well	60.5	8	51-80	TSI work was done in 2008.
7	4311 - Pine, Aspen Mix	Poletimber Well	2.3	61	81-110	
9	6121 - Tamarack	Sapling Well	1.9	41	1-50	
13	6122 - Black Spruce	Poletimber Well	3.9	82	81-110	Stand was prescribed in YOE 2017 to be harvested with compartment 35.
15	42200 - Natural White Pine	Sawtimber Well	11.8	101	81-110	Ashford Lake buffer. State owned boat launch present. In 2008, 10 white pine were dropped into lake to improve fish habitat. Trees were located along the NE shoreline.
16	6129 - Mixed Coniferous Lowland Forest	Poletimber Poor	20.1	78	1-50	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42210 - Natural Red Pine	Sawtimber Well	1.9	76	81-110	
19	6122 - Black Spruce	Poletimber Well	108.3	78	51-80	Center of stand has smaller diameter and height spruce of the same age. Enough volume is present here to harvest. Perimeter has some nice spruce.
20	4110 - Sugar Maple Association	Poletimber Well	17.3	61	51-80	<p>OPIC - FMD: Deadman's Hardwood Sale 03-96-01 Cut in the spring of 200-18 Acres Actual Cancel FTP W41-1068 for white pine and oak planting. Canopy has filled in and a very thick hardwood understory is present. White pine regeneration is already present in the stand.</p> <p>[11/8/12 bb] Stand was added to the 2014 Compartment Review as an Out of Entry Treatment due to the rapid spread of BBD and overall decline of the species within the stand. Stand was part of a Unit wide analysis. The harvest is a salvage cut in which all the beech and ash will be designated unless retained for mast or resistance.</p> <p>9/4/13 bb Stand is on proposal, 24-13-01 Cemetery Beech Cemetery Beech Sale is complete. TCR date 11/10/2014.</p>
21	6122 - Black Spruce	Poletimber Well	7.0	77	1-50	Poor site. Transition zone between this stand and the adjacent hardwood stand is mostly hemlock.
22	4311 - Pine, Aspen Mix	Sapling Well	24.8	25	1-50	
23	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	2.1	116	81-110	Chipmunk Island
24	6129 - Mixed Coniferous Lowland Forest	Sapling Well	13.4	46	1-50	
25	6120 - Lowland Cedar	Poletimber Well	21.3	78	51-80	Western boundary of stand will likely change if adjacent stands are harvested. Harvest boundary will be placed where the cedar starts and merchantable spruce ends.
26	6120 - Lowland Cedar	Poletimber Well	2.7	81	81-110	
27	4112 - Maple, Beech, Cherry Association	Poletimber Well	3.6	81	111-140	
28	4130 - Aspen	Poletimber Well	13.7	44	51-80	
29	42200 - Natural White Pine	Sawtimber Well	2.0	41	1-50	open grown white pine and some scotch pine.
30	6139 - Mixed Lowland Forest	Sawtimber Well	27.0	66	81-110	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	4110 - Sugar Maple Association	Sawtimber Well	87.3	81	81-110	Stand was harvested in 1998 and 2014. Residuals from "Beechenstein" sale in 2014 were 50 sugar, 3 red maple, 5 yellow birch, 2 cherry, 3 hemlock, 1 beech, 1 fir. 65 overall.
32	4199 - Other Mixed Upland Deciduous	Poletimber Medium	1.8	41	1-50	Old grass opening filling in with maple/aspens/cherry. not worth doing any opening maintenance too much hardwood.
33	4113 - R.Maple, Conifer	Poletimber Well	5.7	56	51-80	
34	4112 - Maple, Beech, Cherry Association	Poletimber Well	48.2	81	111-140	stand was cut in 1999. Some quality advanced hemlock regeneration occurs near lake.
35	4130 - Aspen	Poletimber Well	3.4	26	51-80	Stand could be converted to sugar maple anytime if desired. Very good site index for aspen here.
36	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	3.1	80	81-110	Unique stand. Stand is a circular depression surrounded by upland hardwood. It is wet, boggy, and black spruce in the middle. Edges are mature hemlock and white pine.
37	42200 - Natural White Pine	Sawtimber Medium	5.4	78	51-80	Stand was thinned in 2008. Management objective was white pine. Leave overstory to shade out aspen.
39	42201 - Natural White Pine, Mixed Deciduous	Poletimber Poor	5.9	31	1-50	Formerly grass cover type. Stand is mostly open grown white pine poles and some mixed hardwood.
40	4110 - Sugar Maple Association	Poletimber Well	9.2	81	81-110	Stand was cut in 1999. An FTP for oak planting was created but it was cancelled.
41	42210 - Natural Red Pine	Sawtimber Well	14.1	76	51-80	Thinned in 2010.
42	42200 - Natural White Pine	Sawtimber Well	4.6	76	51-80	Stand was cut in 2010. 60 feet of white pine was residual from cruise.
43	4130 - Aspen	Poletimber Well	52.1	45	81-110	site quality increases greatly as you travel to the NE.
44	4130 - Aspen	Poletimber Well	58.1	44	51-80	
45	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	19.3	45	1-50	
46	4130 - Aspen	Sapling Well	23.9	23	1-50	
47	4130 - Aspen	Poletimber Well	8.9	46	81-110	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
48	4311 - Pine, Aspen Mix	Poletimber Well	30.5	17	1-50	
49	42260 - Natural Pine, Mixed Deciduous	Poletimber Poor	9.0	41	1-50	
50	4311 - Pine, Aspen Mix	Poletimber Well	20.4	25	1-50	
51	4133 - Aspen, Mixed Pine	Poletimber Well	8.7	46	81-110	
52	42220 - Natural Jack Pine	Poletimber Well	3.4	40	51-80	
53	4130 - Aspen	Poletimber Well	37.8	25	1-50	
54	4130 - Aspen	Poletimber Well	33.9	40	51-80	
55	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	5.4	40	51-80	



Stand	Cover Type	Acres	Managed Site	General Comments:
8	500 - Water	24.2	No	
10	500 - Water	0.6	No	
12	500 - Water	3.2	No	
14	500 - Water	14.3	No	Ashford Lake. State owned boat launch present. In 2008, 10 white pine were dropped into lake to improve fish habitat. Trees were located along the NE shoreline.
18	500 - Water	5.9	No	Trout Lake
38	310 - Herbaceous Openland	2.2	Yes	
56	310 - Herbaceous Openland	0.5	Yes	