

Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 63091 Entry Year 2019 Acreage: 2,214

County Missaukee

Management Area: Houghton Lake Wetlands

Revision Date: 06/08/2017

Stand Examiner: Andy Hallfrisch

Legal Description: T23N, R5W, Sec 1-4

Identified Planning Goals:

Vegetation management in the Houghton Lake Wetlands management area will provide forest products; maintain or enhance wildlife habitat; protect areas of unique threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management for this 10-year planning period will focus on balancing the aspen age-class distribution. Wildlife habitat management objectives include perpetuating early-successional communities for species adapted to young forests for hunting and other wildlife-related recreation opportunity. Expected trends within the next decade are the need to continue to balance aspen age-class distributions, an expected increase in recreation pressure and invasive species encroachment.

Soil and topography:

Lupton-Roscommon-Tawas sands and mucks in the eastern half of the compartment. Rubicon-Montcalm-Graycalm sands in the western half of the compartment.

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

The eastern part of the Compartment is designated Dead Stream Swamp National Natural Landmark and is all state owned and limited in development. The western part is a mixture of state and private with a number of permanent homes. The Enterprise Oil Field is located just to the south. The Dead Stream Swamp is a very popular area for hunters.

Unique Natural Features:

Bald eagle records within 1 mile to the east. Great blue heron rookery to the north. Numerous osprey records to the southeast and black tern to the southeast. Common moorhen to the northeast. Bigmouth shiner records to the south and southwest and blanding's turtle to the east.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations:

The majority of the compartment is within the Dead Stream Swamp National Natural Landmark. This designation recognizes and encourages the conservation of sites that contain outstanding biological and geological resources.

Watershed and Fisheries Considerations:

Bear Lake lies in Compartment 91. The Deadstream flows through Compartment 91, as do several other small tributaries. It is likely that brook trout are present in both the Deadstream and the unnamed tributaries. BMPs should be followed in stream corridors.

Wildlife Habitat Considerations:

Featured wildlife species include deer, bear, ruffed grouse, woodcock, and beaver. Management objectives are to retain a variety of cover types and age class diversity as well as maintain and/or enhance habitat including work on openings and edges to preserve wildlife viewing and hunting opportunities. A portion of this compartment is a part of the Deadstream Swamp. (A. Herban 6/07/17)

Mineral Resource and Development Concerns and/or Restrictions

There is currently no known metallic mineral potential in this part of the state. A currently inactive sand/gravel pit is located in Section 4, and there appears to be good sand and gravel potential within the compartment. The Enterprise oil field is located just to the south. The field is currently in secondary recovery operations and additional new wells are unlikely. Much of the compartment is currently leased by Marathon for oil and gas exploration but no drilling is anticipated, and Marathon is in the process of releasing all of their state leases.

Vehicle Access:

A forest road access plan is detailed on the compartment map. Identified are state and county roads as well as forest roads and trails under the jurisdiction of the DNR. Also indicated are forest roads and trails under the jurisdiction of the DNR that are proposed for abandonment. These roads were determined to be in excess of the access needs in the area, are a threat to the resources, or are a concern environmentally.

Survey Needs:

The west side of the compartment has very few corners along the private property and needs to be surveyed.

Recreational Facilities and Opportunities:

There are no designated recreational facilities within this compartment. Dispersed camping, hunting, and fishing are common recreational activities in this compartment. (T.M.N 12-2-16)

Fire Protection:

Fire growth potential is low in some of this compartment unless drought conditions exist. There is some urban interface within the compartment. Access would be difficult for equipment, and any fires in some areas may require specialized equipment, or a larger crew for suppression. Also the potential for deep burning fires exist, which become very labor intensive.

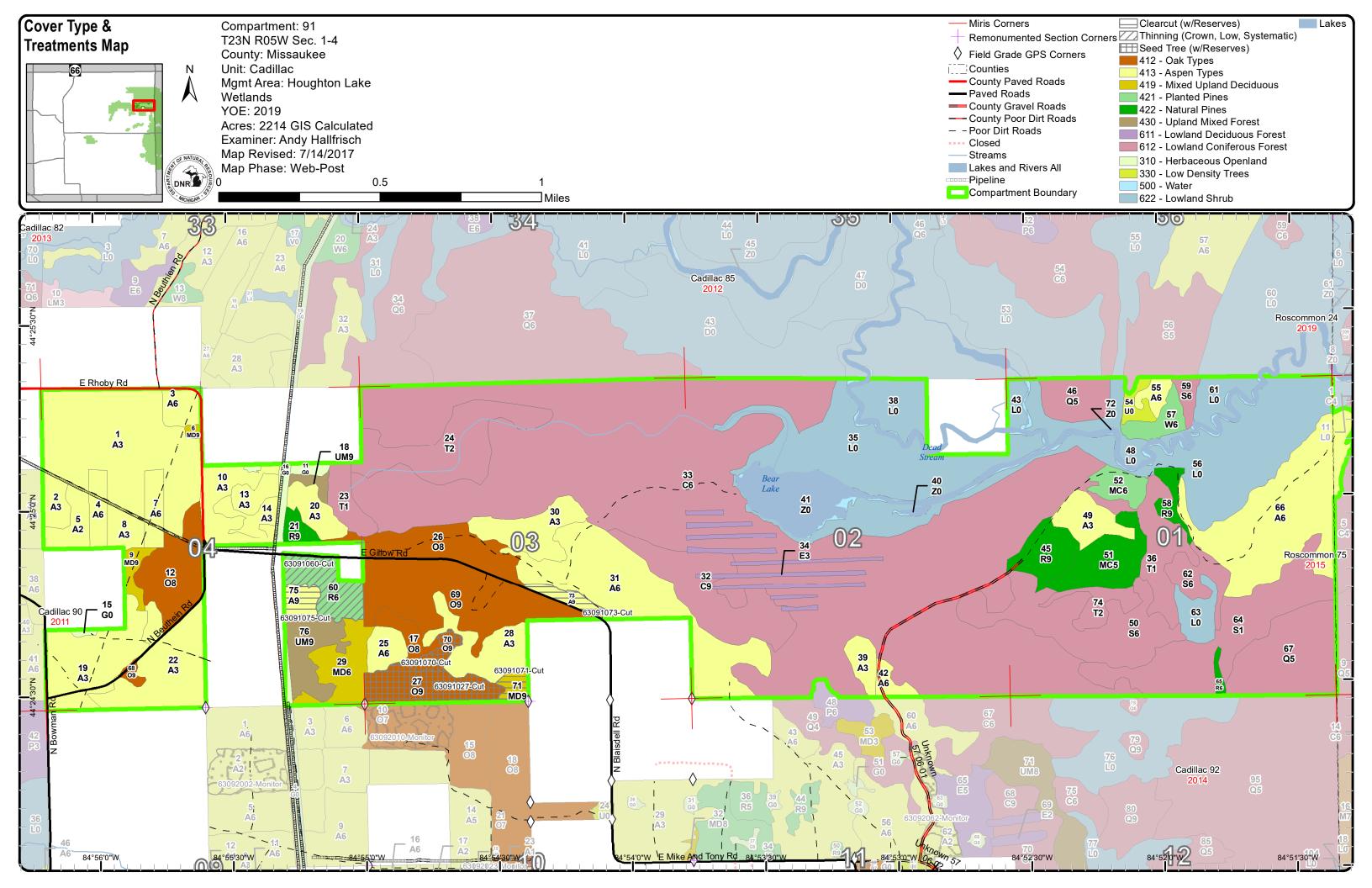
Additional Compartment Information:

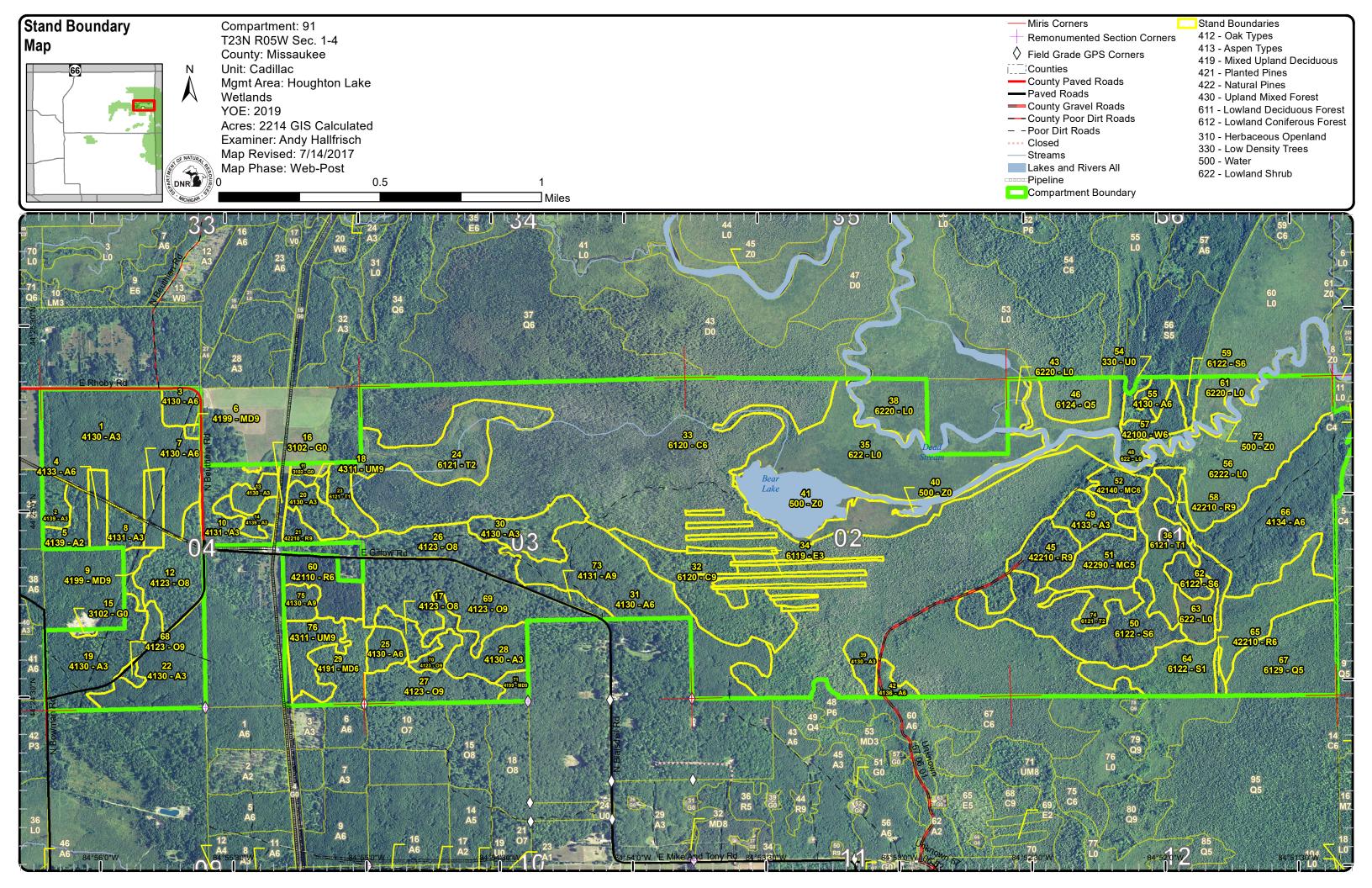
The following reports from the Inventory are attached:

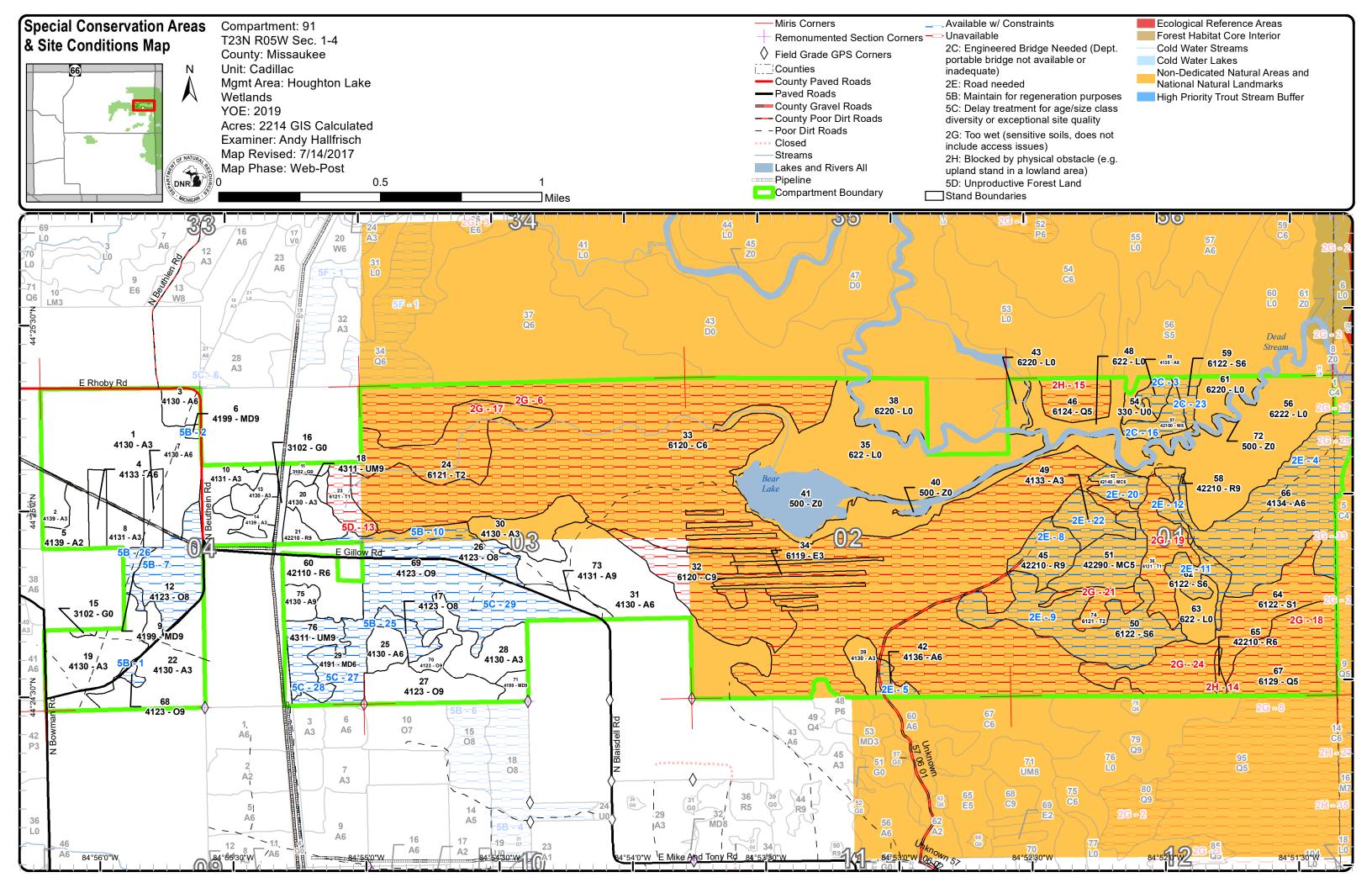
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







Compartment 91 Year of Entry 2019

Cadillac Mgt. Unit Andy Hallfrisch: Examiner



Age Class

	¥oc €	Kos /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			§ / §	The So	, , , , ,					, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,	,	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			g* Jue	LA LO
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	553
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	670
Herbaceous Openland	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Low-Density Trees	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Lowland Shrub	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Oak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Red Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Tamarack	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Water	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2304



Report 2 – Treatment Summary

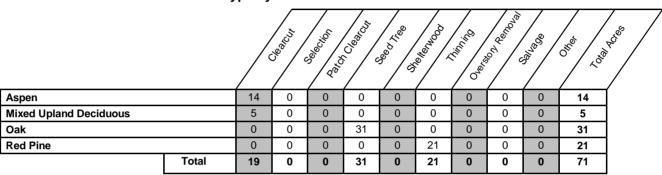
Cadillac Mgt. Unit Year of Entry: 2019

Acres of Harvest

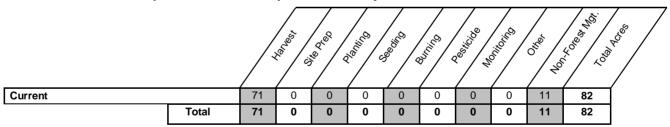
Compartment 91
Total Compartment Acres: 2,214

Commercial Harvest - 70 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method



Proposed and Next Step Treatments by Method



Cadillac Mgt. Unit Report 3 -- Treatments Compartment: 91 s Year of Entry: 2019 а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Approval n Age Range Method Objective Name Density Structure **Status** d CoverType Age **Type** 63091011-NF 310 -11 3.4 3102 - Grass Nonstocked Unspec NonForestMgt **Brush Cutting Draft Proposal** Herbaceous ified Openland **Habitat Cut: No Site Condition:** Prescription Maintain in an open state. Brushing and cutting a few trees should accomplish this goal. In addition, native grasses and forbs as well as mast bearing shrubs and trees may be planted. Treatment of invasive species as needed. Specs: Next Step Treatments: Acceptable Regen: Other Comment: **Proposed Start Date:** 10/01/2018 63091015-NF 1.0 3102 - Grass Nonstocked Unspec NonForestMgt **Brush Cutting** 310 -Draft Proposal ified Herbaceous Openland **Habitat Cut: No Site Condition:** Prescription Maintain in an open state. Brushing and cutting a few trees should accomplish this goal. In addition, native grasses and forbs as well as mast bearing shrubs and trees may be planted. Treatment of invasive species as needed. Specs: Next Step Treatments: <u>Acceptable</u> Regen: Other Comment: 10/01/2018 **Proposed Start Date:** 63091016-NF 7.0 3102 - Grass NonForestMgt **Brush Cutting** 310 -**Draft Proposal** Nonstocked Unspec ified Herbaceous Openland **Habitat Cut: No Site Condition:** Prescription Maintain in an open state. Brushing and cutting a few trees should accomplish this goal. In addition, native grasses and forbs as well as mast bearing Specs: shrubs and trees may be planted. Treatment of invasive species as needed. Next Step Treatments: Acceptable Regen: Other Comment: **Proposed Start Date:** 10/01/2018 63091027-Cut 25.7 4123 - Red Oak Sawtimber 98 111-Harvest Seed Tree with 4123 - Red Oak Even-Aged Proposal

Habitat Cut: No

Site Condition:

Prescription Seed tree harvest leaving 10 - 20 BA of the best quality oak. Treat with stand 70 to the north. Include oak wilt spec.

Well

140

Retention

Specs:

Next Step Treatments:

Acceptable Red oak with a small maple component.

Regen:

Other Stand was previously marked but not thinned.

Comment:

Proposed Start Date: 10/01/2018

Cadillac Mgt. Unit Report 3 -- Treatments Compartment: 91 s Year of Entry: 2019 а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approval n Density Method Objective Status Name Structure d CoverType Age Range Type 63091060-Cut 42110 - Planted Poletimber 4211 - Planted 60 20.5 59 201+ Harvest Crown Thinning Even-Aged Proposal Red Pine Red Pine Well **Habitat Cut: No Site Condition:** Prescription Mark red pine to a residual BA of 110 - 130, removing approximately 1/3 of the volume. Focus on marking for access and removing damage. Specs: Next Step Treatments: Acceptable Regen: Other Comment: Proposed Start Date: 10/01/2018 70 63091070-Cut 4123 - Red Oak 111-Sawtimber Harvest Seed Tree 4123 - Red Oak Even-Aged Proposal Well 140 **Habitat Cut: No** Site Condition: Prescription Seed tree harvest leaving 10 - 20 BA of the best quality oak. Treat with stand 27 to the south. Include oak wilt spec. Specs: Next Step Treatments: <u>Acceptable</u> Red oak with some aspen and red maple. Regen: Other Stand was previously marked but not harvested. Comment: **Proposed Start Date:** 10/01/2018 63091071-Cut 5.1 4199 - Other Mixed Sawtimber 111-Harvest Clearcut 4131 - Aspen, Even-Aged Proposal **Upland Deciduous** Well 140 Oak **Site Condition: Habitat Cut: No** Prescription Final harvest. No retention due to small acreage of stand. Include drumming log and oak wilt specs. Next Step

Specs:

Treatments:

Acceptable Aspen/Oak/Maple mix

Regen:

Other Comment:

Proposed Start Date: 10/01/2018

63091073-Cut 6.2 4131 - Aspen, Oak Sawtimber 79 111-Harvest Clearcut 413 - Aspen Even-Aged Proposal

140 Well

Habitat Cut: No Site Condition:

Prescription Final harvest to promote aspen regeneration. No retention due to small size of the stand. Include drumming log and oak wilt spec.

Specs:

Next Step **Treatments:**

Acceptable Aspen

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018 Cadillac Mgt. Unit

Report 3 -- Treatments

Compartment: 91
Year of Entry: 2019

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
75	63091075-Cut	7.3	4130 - Aspen	Sawtimber Well	57	Unspec ified	Harvest	Clearcut	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No Site Condition:

<u>Prescription</u> Final harvest, leaving red pine as retention. Include drumming log spec in sale write up and consider oak wilt spec.

Specs:

S

Next Step Treatments:

Acceptable Aspen

Regen:

Other Comment:

Proposed Start Date: 10/01/2018

Total Treatment Acreage Proposed:

81.9

Cadillac Mgt. Unit
Andy Hallfrisch: Examiner

Availa	ability for	Managemer	nt								
Total	Acres	Acres Avail	Acres		Domina	nt Site	Con	ditions	3		
Acres	Available	With Condition	Not Available		2C	2E	5B	5C	2G	2H	5D
553	438	114	0	Aspen	5	109					
670	0	0	670	Cedar					670		
11	11	0	0	Herbaceous Openland							
5	5	0	0	Low-Density Trees							
66	0	0	66	Lowland Conifers					48	17	
21	0	0	21	Lowland Deciduous					21		
271	271	0	0	Lowland Shrub							
143	0	77	66	Lowland Spruce/Fir	5	72			66		
33	5	28	0	Mixed Upland Deciduous			7	21			
25	0	25	0	Natural Mixed Pines		25					
170	31	139	0	Oak			73	66			
10	0	10	0	Planted Mixed Pines		10					
52	26	24	2	Red Pine		24				2	
95	0	0	95	Tamarack		0			83		12
23	3	19	0	Upland Mixed Forest				19			
56	56	0	0	Water							
10	0	10	0	White Pine	10						
2,214	848	447	919	Total Forested Acres	20	241	79	107	888	19	12
	38%	20%	42%	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	Available	5B: Maintain for regeneration purposes	2	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
2	Available	5B: Maintain for regeneration purposes	1	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

Report 4 – Site Conditions

Cadillac Mgt. Unit
Andy Hallfrisch: Examiner

3	Available	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	5	2E: Road needed	Unspecified	Unspecified	Unspecified			
	Comments: Major road work an	d a bridge needed to access	stand.							
4	Available	2E: Road needed	89	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Major road repair no	eeded if management is to ta	ke place.	Possible use of crane ma	ats.					
5	Available	2E: Road needed	5	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Major road repair n	eeded for stand to be harves	ted.							
6	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	691	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified			
	Comments: Dead Stream Swan	np NNL.								
7	Available	5B: Maintain for regeneration purposes	31	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments:									
8	Available	2E: Road needed	18	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Major road repair needed if management is desirable. Possible use of crane mats.									
9	Available	2E: Road needed	84	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Dead Stream Swamp NNL. If management considered, road will need major repair.									

Report 4 – Site Conditions

Cadillac Mgt. Unit

Compartment: 91 Year of Entry: 2019 Andy Hallfrisch: Examiner

10	Available	5B: Maintain for regeneration purposes	31	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
11	Available	2E: Road needed	14	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Major road repair n	eeded if management is desira	able.				
2	Available	2E: Road needed	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Major road repair n	eeded if management is desira	able.				
3	Unavailable	5D: Unproductive Forest Land	12	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
(Comments:						
4	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	2	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Surrounded by low	land. In the Dead Stream Swar	mp NNL				
15	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	17	2G: Too wet (sensitive soils, does not include access issues)	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	Unspecified	Unspecified
	Comments:						

Report 4 - Site Conditions

Compartment: 91
Year of Entry: 2019

Unspecified Unspecified 16 2C: Engineered Bridge 10 2F: Road needed Unspecified **Available** Needed (Dept. portable bridge not available or inadequate) Comments: Major road work and a bridge needed to access stand. Unspecified 17 2G: Too wet (sensitive 45 5D: Unproductive Forest Unspecified Unavailable 5A: Not able to obtain soils, does not include desirable regeneration Land access issues) Comments: 18 Unavailable 48 Unspecified Unspecified Unspecified Unspecified 2G: Too wet (sensitive soils, does not include access issues) Comments: Unspecified Unspecified Unspecified 19 28 5A: Not able to obtain Unavailable 2G: Too wet (sensitive soils, does not include desirable regeneration access issues) Comments: 20 10 Unspecified Unspecified Unspecified Unspecified **Available** 2E: Road needed Comments: Major road work needed for access. Not worth it fiscally at this time. Unspecified Unspecified Unspecified 21 2G: Too wet (sensitive 5D: Unproductive Forest Unavailable 11 soils, does not include Land access issues) Comments:

Cadillac Mqt. Unit

Andy Hallfrisch: Examiner

Report 4 - Site Conditions

Cadillac Mgt. Unit
Andy Hallfrisch: Examiner

Compartment: 91
Year of Entry: 2019

22 Unspecified Unspecified Unspecified Unspecified **Available** 2E: Road needed 15 Comments: Major road repair needed to access stand. Possible use of crane mats. 23 2C: Engineered Bridge 5 2E: Road needed Unspecified Unspecified Unspecified **Available** Needed (Dept. portable bridge not available or inadequate) Comments: Major road work and a bridge need to access. Unspecified Unspecified 24 Unavailable 2G: Too wet (sensitive 66 5D: Unproductive Forest 5A: Not able to obtain soils, does not include Land desirable regeneration access issues) Comments: 25 **Available** 5B: Maintain for 8 Unspecified Unspecified Unspecified Unspecified regeneration purposes Comments: 26 5B: Maintain for 6 Unspecified Unspecified Unspecified Unspecified **Available** regeneration purposes Comments: Holding until stands 4 and 7 are ready to be treated. 27 5C: Delay treatment for 21 Unspecified Unspecified Unspecified Unspecified **Available** age/size class diversity or exceptional site quality Comments:

Report 4 – Site Conditions

Cadillac Mgt. Unit
Andy Hallfrisch: Examiner

28	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
C	omments:						
29	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	66	Unspecified	Unspecified	Unspecified	Unspecified
	omments:						

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
Comments				

Cadillac Mgt. Unit Compartment: 91
Year of Entry 2019



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.

Conservat Area	ion Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions stocked trout populations and those of other coldwater fish specific conditions for coldwater fishes may occur in Michigan lakes if the groundwater inflows, or are located in colder (northern) areas of Director's action and designated as trout resources by Fisheries	cies to persist from year to year. Suitable ey are relatively deep, have substantial fithe state. Such lakes are established by
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions and those of other coldwater fish spectyear to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such stream designated as trout resources by Fisheries Order 210.	cies (e.g., slimy sculpin) to persist from ese conditions due to substantial
SCA	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wi proposed for legal dedication, but for which legal dedication by I nomination process is defined by Part 351, Wilderness and Natu Environmental Protection Act, 1994 PA 451. The program is addrequire the submittal of a Natural Areas Nomination Packet to the proposed sites in various stages of review. Final dedication of n Areas is accomplished through legislative action.	egislature has not occurred. The ural Areas, of the Natural Resources and ministered by the DNR. Nominations ne DNR. This is an active program, with
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems influences the aquatic ecosystem and vice-versa. Because of th streams and open water wetlands, riparian areas harbor a high communities are ecologically and socially significant in their effe as aesthetics, habitat, bank stability, timber production, and their	ne unique conditions adjacent to lakes, diversity of plants and wildlife. Riparian ects on water quality and quantity, as well
HCVA	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and and Environmental Protection Act, 1994 PA 451. The program is require the submittal of a Natural Areas Nomination Packet to the proposed sites in various stages of review. Final dedication of n Areas is accomplished through legislative action.	s administered by the DNR. Nominations ne DNR. This is an active program, with
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of identified as Element Occurrences (EOs) by the Michigan Natur context of their natural community classification system. Elemer (Excellent) or B (Good) and a Global (G) or State (S) element (r. threatened (2), or rare (3) serve as an initial base of ERAs. They the State. The system is comprised of individual or associations managed for restoration and maintenance of natural ecological submit recommendations for lands as ERAs using the DNR Corespondence of the Michigan Nature of the Michigan Nature (S) element (P) e	ral Features Inventory (MNFI) within the not Occurrences with viability ranks of A arity) ranking of endangered (1), y may be located upon any ownership in of natural community types that are processes and values. The public may

S t	Cadillac	: Mgt. Unit		Report 7	- Forested	Stands Compartment: 91 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Sapling Well	94.1	26	Unspecified	Pipeline running on the south end of stand, and running through the east side. Red pine pocket on the southwest side.
2	4139 - Aspen, Mixed Deciduous	Sapling Well	8.1	6	Unspecified	Treated with sale #63-033-09-01. Aspen stand with a lot of stump sprout red maple. Pockets of red pine were left untreated, along with scattered red oak. Canopy closure closer to 75%.
3	4130 - Aspen	Poletimber Well	8.9	38	Unspecified	Pipeline crosses thru stand. More red maple east of the pipeline.
4	4133 - Aspen, Mixed Pine	Poletimber Well	8.7	38	Unspecified	Majority of white pine located in northern half of stand.
5	4139 - Aspen, Mixed Deciduous	Sapling Medium	11.2	15	Unspecified	Aspen coming in nicely. Lower volume where larger oaks were left. Canopy closure closer to 75%.
6	4199 - Other Mixed Upland Deciduous	Sawtimber Well	1.3	80	111-140	Paper birch falling out of stand.
7	4130 - Aspen	Poletimber Well	9.2	38	Unspecified	Nice aspen stand. Consider harvest next YOE.
8	4131 - Aspen, Oak	Sapling Well	8.2	15	Unspecified	Larger and denser aspen to the west of stand, with fewer large oak. Canopy closure closer to 75%.
9	4199 - Other Mixed Upland Deciduous	Sawtimber Well	5.5	91	81-110	Most aspen in pockets in the northern portion of the stand.
10	4131 - Aspen, Oak	Sapling Well	21.6	6	Immature	Aspen stand with a lot of red maple regeneration. Saw log sized oak scattered throughout the stand were left from harvest. White pine is mostly located close to the road. There is a wet area in the northeast portion of the stand.
12	4123 - Red Oak	Sawtimber Medium	31.4	91	51-80	Deer browse in areas. Some scattered pockets of aspen in larger canopy gaps. The understory seems to be filling in nicely.
13	4130 - Aspen	Sapling Well	7.4	27	Unspecified	Heavy browse on oak.
14	4139 - Aspen, Mixed Deciduous	Sapling Well	7.8	15	Unspecified	Pocket of red pine in the western portion of the stand. Heavy deer browse on the oak regeneration.
17	4123 - Red Oak	Sawtimber Medium	7.7	91	51-80	
18	4311 - Pine, Aspen Mix	Sawtimber Well	3.3	58	141-170	Pipeline running north/south through the stand. The NE is heavy to red pine and lots of aspen regeneration in the SE finger. Average BA of 147.
19	4130 - Aspen	Sapling Well	41.1	16	Unspecified	Pipeline running through stand.

S t	Cadillad	: Mgt. Unit		Report 7	- Forested	Stands Compartment: 91 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	4130 - Aspen	Sapling Well	11.5	15	Unspecified	Some scattered large red oak and red pine. Most of the balsam is located along eastern edge adjacent to the lowland. Heavy deer browse on the red oak regeneration. A pipeline runs North/South through the stand.
21	42210 - Natural Red Pine	Sawtimber Well	5.6	71	141-170	Red pine appears to be natural. South side of stand borders private property.
22	4130 - Aspen	Sapling Well	43.0	26		Aspen almost pole size. Small pocket of red pine next to the road on the north end of stand.
23	6121 - Tamarack	Sapling Poor	11.7	34	1-50	Very wet with lots of tag alder and cattails. Canopy closure right at 25%. Heavy deer browse on cedar regeneration. Larger black spruce and balsam along the edge.
24	6121 - Tamarack	Sapling Medium	44.9	74	1-50	Stand is very wet. Mix of small, old tamarack and black spruce with open areas of cattail and tag alder.
25	4130 - Aspen	Poletimber Well	9.0	26	Unspecified	
26	4123 - Red Oak	Sawtimber Medium	31.3	89	51-80	Areas of heavy aspen regeneration, mostly in the western portion of the stand where the canopy is lighter.
27	4123 - Red Oak	Sawtimber Well	25.7	98	111-140	Oak stand with some crown die back.
28	4130 - Aspen	Sapling Well	24.9	17	Unspecified	
29	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	21.3	78	111-140	Mixed stand. Aspen is located in pockets within the stand.
30	4130 - Aspen	Sapling Well	22.7	7	Unspecified	Aspen regeneration coming in very nicely.
31	4130 - Aspen	Poletimber Well	79.1	26		Scattered wet areas within the stand.
32	6120 - Lowland Cedar	Sawtimber Well	47.0	112	171-200	Located in the Dead Stream Swamp NNL. Heavy blow down in areas. Cedar looks healthier than in surrounding stand.
33	6120 - Lowland Cedar	Poletimber Well	623.3	97	81-110	Located in the Dead Stream Swamp NNL. Very wet cedar/black spruce stand. There are pockets of cedar die back in some areas. More black spruce to the west of the stand and scattered super canopy white pine throughout.
34	6119 - Mixed Lowland Deciduous Forest	Sapling Well	20.6	47	1-50	Located in the Dead Stream Swamp NNL. Strip cuts in a cedar stand. Lots of paper birch and red maple. Very wet.
36	6121 - Tamarack	Sapling Poor	27.8	25	Immature	Located in the Dead Stream Swamp NNL. Very wet. Looks like a wet opening that has been filling in with lowland tree species.

s t				Report 7	- Forested	Stands Compartment: 91 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
39	4130 - Aspen	Sapling Well	8.0	18	Immature	Located in the Dead Stream Swamp NNL. Some scattered saw log sized oak.
42	4136 - Aspen, Mixed Conifer	Poletimber Well	5.4	51	Unspecified	Located in the Dead Stream Swamp NNL. Transitions to lowland to the north and east. Continues into the next compartment to the south.
45	42210 - Natural Red Pine	Sawtimber Well	17.7	94	171-200	Located in the Dead Stream Swamp NNL. Natural red pine stand.
46	6124 - Lowland Spruce- Fir	Poletimber Medium	17.5	76	Unspecified	Located in the Dead Stream Swamp NNL. Wet, lowland stand with no road access. Portions burned in 1984.
49	4133 - Aspen, Mixed Pine	Sapling Well	14.9	34	Unspecified	Located in the Dead Stream Swamp NNL. 2 acre white/red pine pocket in NW of stand.
50	6122 - Black Spruce	Poletimber Well	58.7	66	51-80	Located in the Dead Stream Swamp NNL. Lowland black spruce stand with high ground ridges of natural red pine.
51	42290 - Natural Mixed Pine	Poletimber Medium	25.0	94	51-80	Located in the Dead Stream Swamp NNL. Upland stand transitioning to lowland to the south and east. Jack pine is old and falling apart.
52	42140 - Planted Mixed Pine	Poletimber Well	10.0	57	141-170	Planted in 1960. Mix of white pine, red pine, jack pine. Contains some pockets of solid red pine. Located in the Dead Stream Swamp NNL.
55	4130 - Aspen	Poletimber Well	5.3	48	Unspecified	Located in the Dead Stream Swamp NNL. Upland aspen stand on a high ground ridge in the middle of a swamp. No access without crossing the dead stream.
						Previous inventory shows a stand comprised mostly of pole size quaking aspen, with lesser amounts of red maple and log size red pine.
57	42100 - Planted White Pine	Poletimber Well	9.7	57	141-170	Located in the Dead Stream Swamp NNL, on a ridge of high ground. White pine stand was planted in 1960, the same time as the stand to the south, when a bridge crossed the Dead Stream.
58	42210 - Natural Red Pine	Sawtimber Well	6.6	94	141-170	Located in the Dead Stream Swamp NNL. North end of stand is almost entirely red pine, with the south being a mix with heavier spruce component.
59	6122 - Black Spruce	Poletimber Well	4.9	67	Unspecified	Located in the Dead Stream Swamp NNL. Spruce stand located on a high ground ridge transitioning to lowland and continues to the stand to the north. No access via road.
						Inventory data from 2007 shows a mix of black spruce, white pine, and balsam poplar, with lesser amounts of red maple.

S t	Cadillac	Cadillac Mgt. Unit			- Forested	Stands Compartment: 91 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
60	42110 - Planted Red Pine	Poletimber Well	20.5	59	201+	First time stand has been inventoried. Clean understory red pine with the majority of the understory occurring along Gillow Road and in frost pockets. Appears to have been treated once with a "take one row, leave four" thinning. Remaining rows have 6' spacing.
62	6122 - Black Spruce	Poletimber Well	13.7	62	141-170	Mix of black spruce, red and jack pine. Basal area varies widely throughout stand.
64	6122 - Black Spruce	Sapling Poor	65.8	30	Immature	Located in the Dead Stream Swamp NNL. Very wet ground with lots of tag alder and willow, with some black spruce and tamarack saplings.
65	42210 - Natural Red Pine	Poletimber Well	2.1	61	81-110	Located in the Dead Stream Swamp NNL. Narrow strip of natural red pine surrounded by lowland. No access.
66	4134 - Aspen, Spruce/Fir	Poletimber Well	88.9	36	Unspecified	Dead Stream Swamp NNL. Strips of black spruce and wet areas throughout. A few large white pine scattered about stand. Southern edge is heavy to tag alder.
67	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	48.3	92	Unspecified	Located in the Dead Stream Swamp NNL. Stand continues to the east and south into different compartments. A mix of lowland species including cedar, black spruce, tamarack, balsam fir, and red maple.
68	4123 - Red Oak	Sawtimber Well	2.3	92	81-110	Small, mature oak stand in the middle of aspen.
69	4123 - Red Oak	Sawtimber Well	66.2	94	81-110	Aspen regeneration in pockets throughout the stand. Heavy deer browse.
70	4123 - Red Oak	Sawtimber Well	5.7	91	111-140	Some topography within the stand. Slopes upward to the south.
71	4199 - Other Mixed Upland Deciduous	Sawtimber Well	5.1	86	111-140	
73	4131 - Aspen, Oak	Sawtimber Well	6.2	79	111-140	Stand is heavier to aspen towards the east, with scattered aspen found throughout the rest of the stand. Heavy deer browse on the oak regeneration.
74	6121 - Tamarack	Sapling Medium	10.9	25	Immature	Located in the Dead Stream Swamp NNL. Very wet stand. Appears to be a wet opening filling in with lowland tree species.
75	4130 - Aspen	Sawtimber Well	7.3	57	Unspecified	Nice aspen stand. Red pine pocket along pipeline south side.
76	4311 - Pine, Aspen Mix	Sawtimber Well	19.2	74	111-140	Mixed pine, aspen, and oak stand. Basal area plots of 130, 150, 110, and 180.



Cover Type	Acres	Managed Site	General Comments:
3102 - Grass	3.4	No	
3102 - Grass	1.0	No	Grass opening on edge of gravel pit.
3102 - Grass	7.0	No	Pipeline.
622 - Lowland Shrub	85.5	No	Dead Stream Swamp NNL. Very wet area around Bear Lake and the Dead Stream.
6220 - Alder/willow	21.8	No	Located in the Dead Stream Swamp NNL. Open wet area that is a continuation of the stand to the north. Tag alder with areas of tamarack.
500 - Water	1.1	No	Open water.
500 - Water	32.7	No	Bear Lake
6220 - Alder/willow	5.7	No	Located in the Dead Stream Swamp NNL. Open wet area that is a continuation of the stand to the north. Tag alder with areas of tamarack.
622 - Lowland Shrub	21.2	No	
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
	3102 - Grass 3102 - Grass 3102 - Grass 3102 - Grass 322 - Lowland Shrub 3220 - Alder/willow 300 - Water 3220 - Alder/willow 322 - Lowland Shrub 330 - Low-Density Trees	3102 - Grass 3.4 3102 - Grass 1.0 3102 - Grass 7.0 322 - Lowland Shrub 85.5 3220 - Alder/willow 21.8 300 - Water 32.7 3220 - Alder/willow 5.7 322 - Lowland Shrub 21.2 330 - Low-Density Trees 5.2 330 - Low-Density Trees 5.2	Acres Site Site



Stand	Cover Type	Acres	Managed Site	General Comments:
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
54	330 - Low-Density Trees	5.2	No	Located in the Dead Stream Swamp NNL. Stand is located on a high ground ridge with lowland on either side. A low density of trees within a grass opening.
56	6222 - Shrub-Carr	113.4	No	
61	6220 - Alder/willow	12.2	No	Located in the Dead Stream Swamp NNL. No access across the Dead Stream. Stand is a continuation of the stand to the north. Very wet with tag alder.
63	622 - Lowland Shrub	11.4	No	Located in the Dead Stream Swamp NNL. Very wet and shrubby.
72	500 - Water	22.1	No	Dead Stream.