



Compartment Review Presentation

Newberry Forest Management Unit

Compartment 42034

Entry Year 2023

Acreage: 1,383

County Luce

Management Area: Deer Park

Revision Date: 2021-12-29

Stand Examiner: Amy Douglass

Legal Description:

T49N R09W Sections 7, 8, 17 & 18

Identified Planning Goals:

To maintain and enhance forest health, diversity and sustainability while considering wildlife, fisheries, recreation and environmental needs and concerns.

Soil and topography:

The soil type is predominately Rubicon sand. The topography is mostly level to rolling throughout the compartment with areas of steep sand banks along the E. Branch Two Hearted River.

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

The compartment is entirely State owned and is almost entirely surrounded by State land. There is a private 40 acre parcel with a seasonal cabin to the northwest of the compartment. The compartment is adjacent to the E. Branch Two Hearted River which is designated as a Natural River. The area is used heavily for recreation activity such as camping, hiking, canoeing, fishing, ORV riding and some hunting. The area has also been historically used for timber production.

Unique Natural Features:

The Two Hearted River and its corridor is a unique and natural feature to the area. The Two Hearted River and its' tributaries have been designated as a Natural River and there was a natural river plan adopted as to how to manage land around the river.

Archeological, Historical, and Cultural Features:

None noted.

Special Management Designations or Considerations:

Special considerations must be made for timber management around the Two Hearted River. Follow the Two Hearted River Natural River Plan.

Watershed and Fisheries Considerations:

The East Branch Two-Hearted River runs along the entire western edge of the compartment. The East Branch Two-Hearted River supports a natural population of brook trout and supports an excellent seasonal fishery for steelhead and salmon. The terrain adjacent to the river serves as an excellent buffer to any treatments to the east, making treatments in the adjacent stands difficult. The Two Hearted River is a Natural River and any treatments or activities planned in this compartment should comply to the recommendations in the Two Hearted River Natural River Plan.

Wildlife Habitat Considerations:

Compartment 34 lies in north central Luce county and lies in the Grand Marais Sandy End Moraine and Outwash ecological sub-subsection and lies within the Deer Park Management Area. American marten, Kirtland's warbler and red crossbill are featured species within this compartment. The compartment is almost entirely jack pine and the western border is the Two-hearted River which provides an excellent wildlife travel corridor.

In a predominantly pine forested ecosystem, maintaining a variety of age and size classes and maintaining as much structural diversity as possible in managed stands will be important to achieving wildlife objectives. For example, retaining soft and hard mast producing species where they exist in harvested stands will help provide food sources, nest and den trees, and improve structural diversity of the stands. Species diversity will increase wildlife diversity and thus a variety of non-jack pine species will be retained after final harvests such as aspen (for food sources for birds, snags for cavity nesting birds and mammals) and maple (for multi canopy layering for mid canopy nesting birds) and oak for mast production for deer and squirrels. Kirtland warbler, a featured species in the compartment, will benefit from the maintenance of young jack pine within the compartment. Since the Duck Lake Fire in 2012, sharp-tailed grouse have been using this compartment for leks, or spring dancing grounds. Maintaining some openings within this compartment as the surrounding stands grow up would benefit sharp-tailed grouse.

Mineral Resource and Development Concerns and/or Restrictions

No known potential exists for commercial oil & gas production in this part of the state, and there is no known potential for metallic minerals in this area. The nearest active sand/gravel pit is more than five miles to the southwest. There may be some limited potential for sand & gravel (primarily sand) within the compartment on the uplands. No current mineral leasing activity exists in the area.

Vehicle Access:

County Roads 414 and 423 border the compartment on the south and east sides respectively. These are maintained sand/gravel roads. All other roads are State Forest roads and are mostly sand two-tracks that receive minimal to no maintenance. There are some hills can be difficult to navigate during very dry conditions due to the sand condition.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

The Two Heart ATV Trail runs through the compartment. Snowmobile Trail 8 is adjacent on the south side of the compartment. The area is heavily used by recreationists for fishing, camping, blueberry picking, and by ATV and snowmobile users.

Fire Protection:

The entire compartment falls under the Two Hearted Zone Dispatch fire response plan. With a mostly Jack Pine cover type, and long response time, large fire runs are possible. Risk to private property or State facilities in neighboring compartments would be high. Access for some heavy equipment in the interior of the compartment will be limited because of the loose sand composition. The eastern half of the compartment was burned during the Duck Lake Fire in 2012.

Additional Compartment Information:

The following reports from the Inventory are attached:

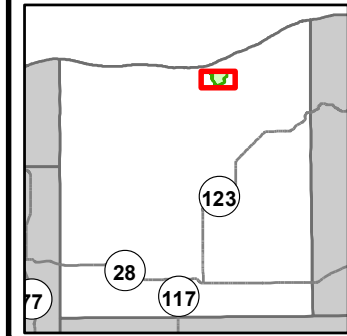
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

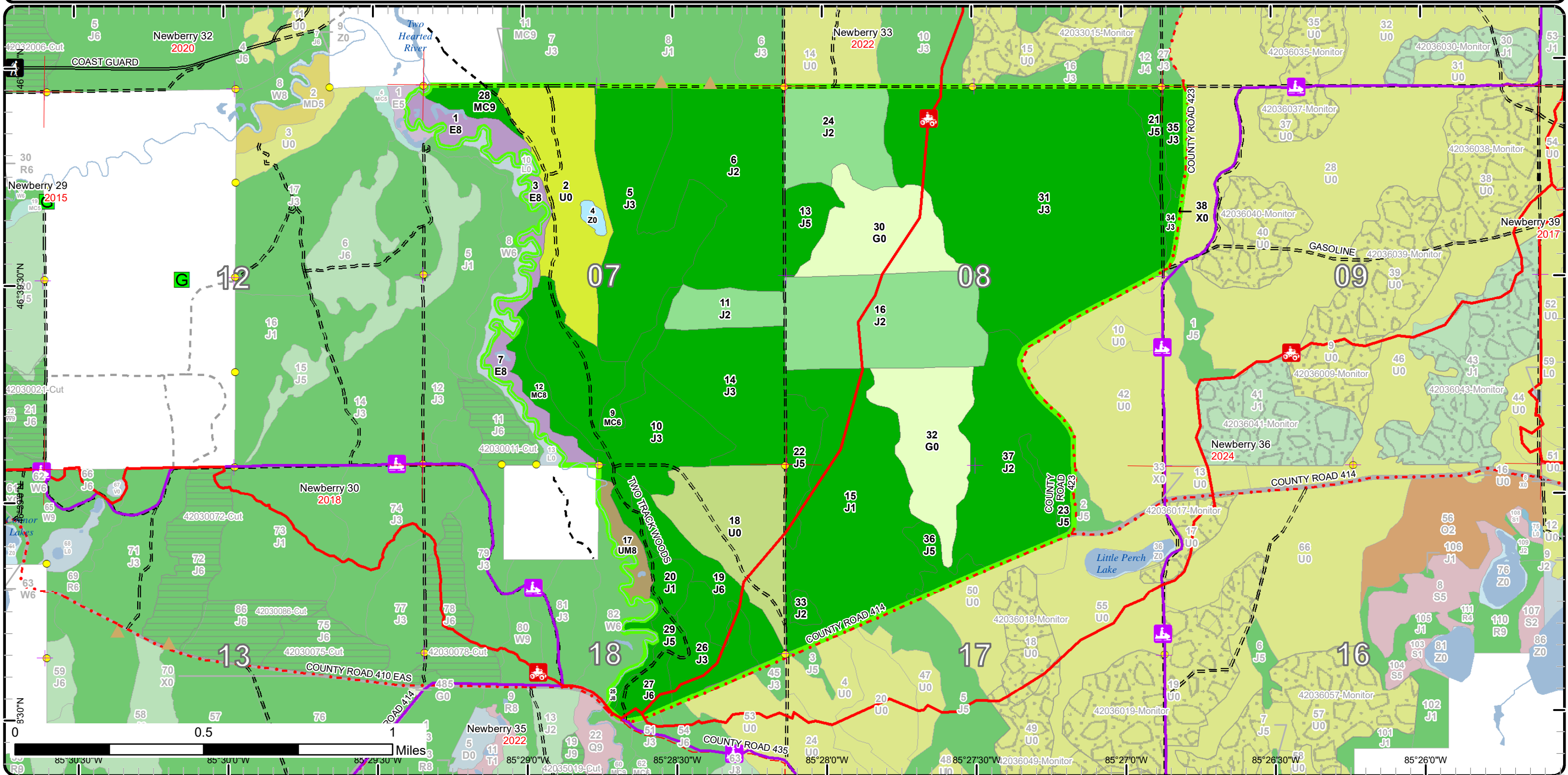
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 34
 T49N, R09W, Sec. 7-9, 17, 18
 T49N, R10W, Sec. 12
 County: Luce
 Unit: Newberry
 Mgmt Area: Deer Park
 YOE: 2023
 Acres: 1382.7 GIS Calculated
 Examiner: Amy Douglass
 Map Revised: 12/29/2021
 Map Phase: Post-Review

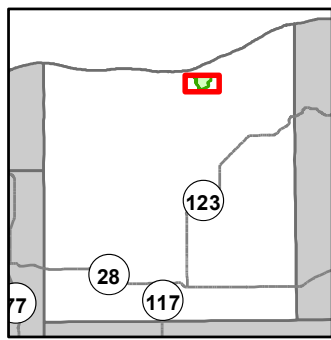


- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Hiking Trails
- ORV Trails
- Snowmobile Trails
- Designated ATV
- Designated Snowmobile Trails
- ▲ Berms
- G Gate
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Compartment Boundary
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water

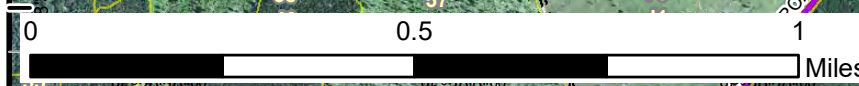
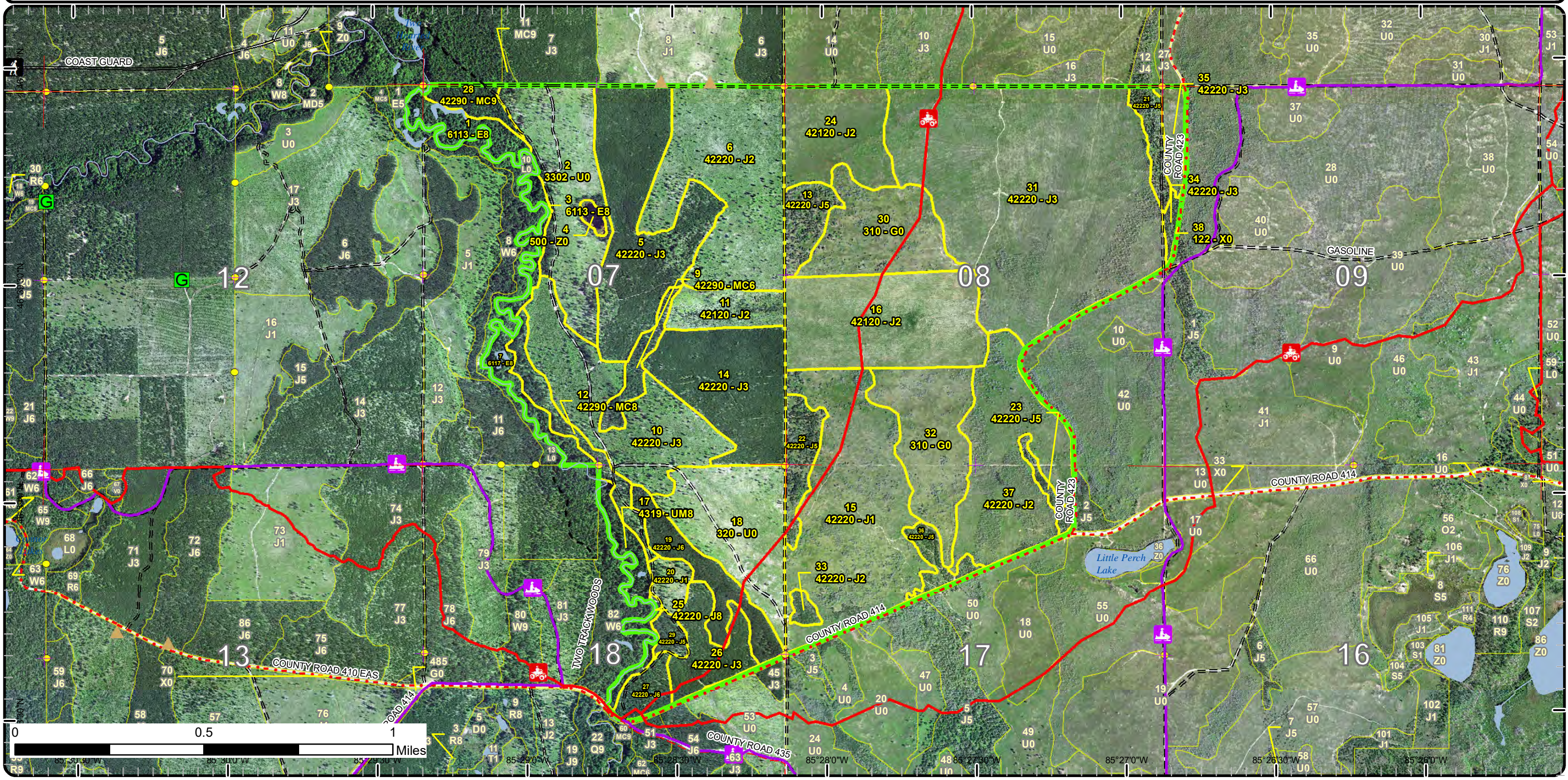


Stand Boundary Map

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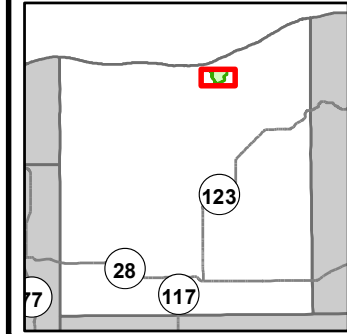
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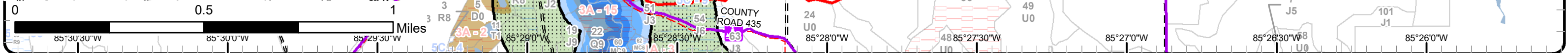
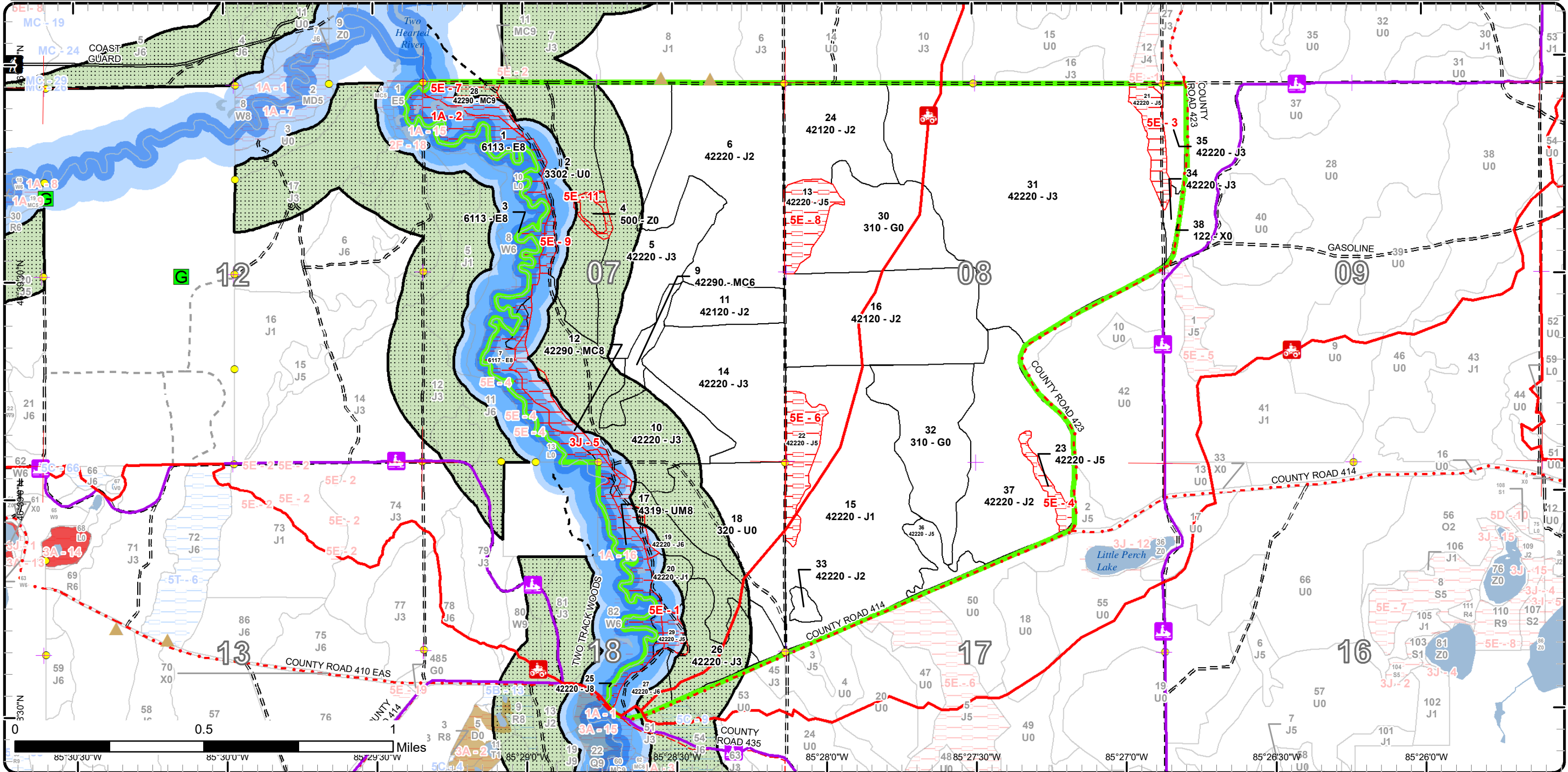
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Special Conservation Areas

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- Island in Lake or River
- Lake/Pond
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- Lakes and Rivers
- Compartment Boundary
- Unavailable
- 1A: Federal/State/Local Law
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Ecological Reference Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Forest Habitat Core Interior
- High Priority Trout Stream Buffer
- Recreational/Scenic Value Area



Report 1 – Total Acres by Cover Type and Age Class

Newberry Mgt. Unit

Compartment 34

Year of Entry 2023

Amy Douglass : Examiner



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
Herbaceous Openland	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102
Jack Pine	0	493	274	175	16	11	59	21	0	0	6	0	0	0	0	0	0	0	1055
Low-Density Trees	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	16	22	0	0	0	0	0	0	38
Natural Mixed Pines	0	0	0	0	0	0	0	11	0	0	29	0	0	0	0	0	0	0	40
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11
Upland Shrub	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Water	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	240	493	274	175	16	11	59	32	0	0	51	33	0	0	0	0	0	0	1384



Report 2 – Treatment Summary

Newberry Mgt. Unit
Year of Entry: 2023

Acres of Harvest

Compartment 34
Total Compartment Acres: 1,383

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

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Mgt. Unit

Report 3 -- Treatments

Compartment:

Year of Entry:



Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Total Treatment Acreage Proposed: 0

Report 4 – Site Conditions

Newberry Mgt. Unit
Amy Douglass : Examiner

Compartment: 34
Year of Entry: 2023

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions		
		With Condition	Not Available		1A	3J	5E
102	102	0	0	Herbaceous Openland			
1054	994	0	60	Jack Pine	8		52
67	59	0	7	Low-Density Trees	1		6
38	0	0	38	Lowland Deciduous	38		
40	11	0	29	Natural Mixed Pines	4	15	10
11	0	0	11	Upland Mixed Forest	11		
59	59	0	0	Upland Shrub			
9	9	0	0	Urban	0		0
3	3	0	0	Water			
1,383	1,238		145	Total Forested Acres	62	15	68
	90%		10%	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	5E: Long-Term Retention	4	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	1A: Federal/State/Local Law	62	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	5E: Long-Term Retention	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention for Duck Lake Salvage #8							

Report 4 – Site Conditions

Newberry Mgt. Unit
Amy Douglass : Examiner

Compartment: 34
Year of Entry: 2023

4	Unavailable	5E: Long-Term Retention	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention for Duck Lake Salvage #8							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	15	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments: Hillside within river corridor.							
6	Unavailable	5E: Long-Term Retention	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention for Duck Lake Salvage #8							
7	Unavailable	5E: Long-Term Retention	10	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	5E: Long-Term Retention	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention for Duck Lake Salvage #8							
9	Unavailable	5E: Long-Term Retention	3	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Retention for Jack in the Pine Stalk.							
11	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention for Jack in the Pine Stalk sale.							

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				
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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	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments			
1	6113 - Lowland Maple	Sawtimber Medium	16.0	90	81-110	N/A	Stand flanks the East Branch Two Hearted River. Stand follows river corridor and is a mix of uplands and lowlands. Called stand lowland because of the seasonal flooding that can occur in the spring months.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		75	Log/Pole/XLog	14	90	Red Maple		Medium	Variable	Sapling
Balsam Fir		10	Pole/Log/Sap	8		Balsam Fir		Medium	Variable	Sapling
Black Spruce		5	Pole/Log/Sap	8		Black Spruce		Low	10 - 20 feet	Sapling
White Pine		10	XLog/Log	18		Tag Alder	Medium	5 - 10 feet	Tall Shrub	
						Hazelnut (American)	Low	< 5 feet	Tall Shrub	
2	3302 - Low Density Conifer Trees	Nonstocked	66.6	0	Immature	4222 - Natural Jack Pine	10/2020: Variable Jack pine regen ~1-2' tall. Red maple scattered and thick in spots. Stand includes some edges with standing jack pine that were buffers along the river and around the water hole. Scarification completed 2015. Part of Jack In the Pine Stalk sale.			
Sub-Canopy Species		Density	Avg. Height	Size						
Jack Pine		Medium	< 5 feet	Seeding						
Red Maple		Medium	< 5 feet	Sapling						
Red Pine		Low	>20 feet	Log						
White Pine		Medium	>20 feet	Log						
Red Oak		Low	>20 feet	Pole						
3	6113 - Lowland Maple	Sawtimber Medium	8.9	100	81-110	N/A	Stand flanks the East Branch Two Hearted River. Stand follows river corridor and is a mix of uplands and lowlands. Called stand lowland because of the seasonal flooding that can occur in the spring months.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		65	Log/Pole/XLog	14	100	Red Maple		Medium	Variable	Sapling
Balsam Fir		10	Pole/Log/Sap	8		Balsam Fir		Medium	Variable	Sapling
Black Spruce		5	Pole/Log/Sap	8		Black Spruce		Low	Variable	Sapling
White Pine		20	XLog/Log	18		Tag Alder		Medium	5 - 10 feet	Tall Shrub
						Hazelnut (American)	Low	< 5 feet	Tall Shrub	
4	500 - Water	Nonstocked	2.6		Unspecified	No	Small depression in topography. Fluctuating water levels. There is leatherleaf along the edges of stand.			
5	42220 - Natural Jack Pine	Sapling Well	86.8	26	Immature	N/A	Stand was cut in 1993-94; TSale#008-93. Never scarified. It came in thick and is now sapling sized. Some pole/saw sized residual of oak, red pine, and red maple in the overstory throughout stand. Two patches heavier to oak are noted within the stand.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		2	Pole/Sapling	6		Red Maple		Low	5 - 10 feet	Sapling
Red Oak		4	Pole	8						
Red Pine		2	Log	12						
Jack Pine		92	Sapling	3	26					
6	42220 - Natural Jack Pine	Sapling Medium	96.8	16	Immature	N/A	Stand was cut in 2005 - South Rainbow Pine #017-03. JP seedlings now regenerating and 1-2" dbh. Stand looks to be fully stocked.			
Canopy Species		% Cover	Size Class	DBH	Age					
Jack Pine		87	Sapling	1	16					
Red Pine		1	Log	10						
White Pine		1	Pole/Log	9						
Red Oak		2	Pole/Sapling	6						
Red Maple		9	Sapling/Pole	2						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																														
7	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Medium	13.1	100	81-110	N/A	Stand flanks the East Branch Two Hearted River. Stand follows river corridor and is a mix of uplands and lowlands. Called stand lowland because of the seasonal flooding that can occur in the spring months.																																														
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9	42290 - Natural Mixed Pine	Poletimber Well	11.0	61	81-110	N/A	Variable mixed pine stand. Areas heavier to Jack pine and areas heavier to white pine. Both with red pine mixed in. Occasional oak. This stand is mainly a ridge between J3 stands.																																														
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10	42220 - Natural Jack Pine	Sapling Well	74.1	16	Immature	N/A	Stand was cut in 2005; Tsale#018-03, Two Hearted Jack Pine. Scarified in October 2005 under FTP C42-586. Scattered red pine, white pine, and red maple in overstory that was left as residual from the cutting.																																														
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11	42120 - Planted Jack Pine	Sapling Medium	20.0	19	Immature	N/A	Stand was cut in fall 1996. TSale#009-93. It did not regenerate well and was planted in 2002; FTP42-352. Some semi-open areas in stand where the trees did not survive.																																														
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12	42290 - Natural Mixed Pine	Sawtimber Medium	19.0	93	81-110	N/A	Thinned as part of Jack and the Pine Stalk T/S #012-13. Jack pine, balsam and spruce were designated for cutting, as well as other species that were marked. Some small areas of jack pine left along edges. Stand falls in the Two Hearted Natural River Zone. Some of stand falls on topography that's rolling with abrupt hillsides along old river corridors. Regen check summer 2017. Red Maple: 1208 trees/acre, White Spruce: 80 trees/acre, Balsam Fir: 523 trees/acre.																																														
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13	42220 - Natural Jack Pine	Poletimber Medium	15.4	51	1-50	N/A	Duck Lake fire May 2012. Retention area of live trees for DLS#8 sale #42-031-12-01. 10/2020: Mainly open grown jack pine. Fire burned thru here but left only minor fire scars.																																																							
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14	42220 - Natural Jack Pine	Sapling Well	62.8	27	Immature	N/A	10/2020: Very thick jack pine regen ~1-3" dbh. Stand was cut in late 1993. TSale#009-93. Scattered residual red pine, oak and red maple in the overstory.																																																							
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15	42220 - Natural Jack Pine	Sapling Poor	117.5	9	Immature	N/A	10/2020: Mosaic of semi-open areas mixed with pockets of Jack pine regen (3-5' tall). The area was semi-open prior to fire. Evidence of old plow lines. Old notes relate this to discing for blueberries in 1967. Duck Lake fire May 2012. Salvaged cut 2012-13 DLS#8 sale #42-031-12-01. Regen check in spring 2015, by summer students. Variable regeneration densities. Some areas were more open prior to the fire. Average 550 trees/acre. Plots varied from 0-42.																																																							
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16	42120 - Planted Jack Pine	Sapling Medium	83.3	14	Immature	N/A	Duck Lake Fire May 2012. Young, planted JP at time of fire. Many survived the fire. Regeneration survey, spring 2015, by summer students. Average 878 trees/acre. Originally machine planted in 2005; failed; hand planted in 2007. FTP C-42-628 10/2020: Pretty much spared by the fire. Decent stocking throughout most of the plantation. Some areas of low to moderate stocking. Height ranges from 4- 10' tall. Minor evidence of sawfly activity. Very little scotch pine volunteers.																																																							
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17	4319 - Mixed Upland Forest	Sawtimber Medium	11.2	100	51-80	N/A	Stand flanks the East Branch Two Hearted River. Stand follows river corridor and is a mix of uplands and lowlands. The stand does have seasonal flooding that can occur in the spring months.																																																							
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18	320 - Upland Shrub	Nonstocked	59.1	0	Unspecified	4222 - Natural Jack Pine	10/2020: variable density. ~1-3' tall. Regeneration Check: 10/08/2019 - Good stocking of Jack Pine throughout. 750 TPA. WP approximately 100 - 150 TPA. Regeneration Check 2018 - Failed. Part of Jack and the Pine Stalk sale. Scarified 2015.				
								Sub-Canopy Species	Density	Avg. Height	Size
								Jack Pine	Medium	< 5 feet	Seeding
								White Pine	Medium	< 5 feet	Seeding
								Jack Pine	Trace	Variable	Sapling
Red Oak	Low	< 5 feet	Seeding								
Red Maple	Low	Variable	Sapling								
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19	42220 - Natural Jack Pine	Poletimber Well	26.7	51	Unspecified	N/A	Stand was scarified in 1969.				
Canopy Species		% Cover	Size Class	DBH	Age						
Jack Pine	100	Pole	6	51							
20	42220 - Natural Jack Pine	Sapling Poor	8.2	6	Immature	N/A	Red and white pine left as residuals following treatment of Jack in the Pine Stalk #420121301. 10/2020: moderate stocking of jack pine regen (~2-4' tall). Noticed at least 2 saplings with sawfly damage. Most looked uninfected. Stand falls in the Two Hearted River Zone.				
Canopy Species		% Cover	Size Class	DBH	Age						
Red Pine	5	XLog/Log	18								
White Pine	10	Pole/Log/XLog	9								
Balsam Fir	5	Sapling	3								
Jack Pine	80	Sapling	1	6							
21	42220 - Natural Jack Pine	Poletimber Medium	10.8	66	51-80	N/A	Duck Lake fire May 2012. Retention area of live trees for DLS#8 sale #42-031-12-01. 10/2020: Jack pine experiencing mortality. Some jack pine seeding in.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size		
Jack Pine	100	Pole	8	66	Jack Pine	Low	< 5 feet	Sapling			
22	42220 - Natural Jack Pine	Poletimber Medium	16.5	56	1-50	N/A	Duck Lake fire May 2012. Retention area of live trees for DLS#8 sale #42-031-12-01. 10/2020: Within fire area but relatively unscathed. Some basal burn scars. Evidence of plow lines that old notes relate to discing for blueberries in 1967.				
Canopy Species		% Cover	Size Class	DBH	Age						
Jack Pine	100	Pole/Log	9	56							
23	42220 - Natural Jack Pine	Poletimber Medium	5.3	61	51-80	N/A	Duck Lake fire May 2012. Retention area of live trees for DLS#8 sale #42-031-12-01. 10/2020: Jack pine experiencing mortality. Some regen coming in.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size		
Jack Pine	100	Pole	8	61	Jack Pine	Low	< 5 feet	Sapling			
24	42120 - Planted Jack Pine	Sapling Medium	45.0	7	Immature	N/A	10/2020: jack pine ~6' tall. Fully stocked. Very little noticable sawfly damage. Duck Lake fire May 2012. Salvage cut 2012-13 DLS#8 sale #42-031-12-01. Planted in May 2013, no trenches, 5 x 8 spacing, approx 1200 trees/acre. FTP# 42-823. Failed 1 year regen check in 2014 by TMS. Replanted by hand, no trenches, in spring 2014. Walk thru regen check in 2015/2016 - acceptable. Regen check summer 2017: 348 trees/acre. Adequate regen for the area. Originally cut in 2005 - South Rainbow Pine #017-03.				
Canopy Species		% Cover	Size Class	DBH	Age						
Jack Pine	100	Sapling	1	7							



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25	42220 - Natural Jack Pine	Sawtimber Medium	5.7	93	Unspecified	N/A	Stand falls on the edge/bank of the Two Hearted River and serves as a forested buffer along the river corridor. Jack pine in the stand is old and beyond rotation age. Heavy balsam fir understory in most places in stand.																																																				
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27	42220 - Natural Jack Pine	Poletimber Well	10.8	41	Unspecified	N/A	Stand is a mix of jack pine, white pine, red pine, spruce, balsam and p. birch. Jack pine is dominant. Some older red pine on the overstory. Some variability in ages. Scarified in fall 1979 (FTP C-191/35).																																																				
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28	42290 - Natural Mixed Pine	Sawtimber Well	10.1	93	81-110	N/A	This stand has more of a red pine/white pine component with more balsam fir/red maple understory. This area is also rolling topography with a few gullies /drainages leading towards river.																																																				
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29	42220 - Natural Jack Pine	Poletimber Medium	5.3	61	Unspecified	N/A	Stand is mostly even aged jack pine, although there are some scattered older jack pine in stand. The stand has a red/white pine component that is older as well. The jack pine in the stand is limby and must have started from an open grown condition, the BA in stand is medium stocked but merchantable. Stand left as retention due to seeps to the river. Stand falls in the Two Hearted River Zone. 10/2020: stand is still relatively healthy. Some mortality has occurred.																																																				
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30	310 - Herbaceous Openland	Nonstocked	49.2		Immature	No	Duck Lake fire May 2012. Salvaged cut 2012-13 DLS#8 sale #42-031-12-01. Regeneration survey, spring 2015, by summer students - less than 100 trees/acre. Originally was a semi-open area before the fire. 10/2020: Jack pine presence increased at least 10-fold from fire. Small pockets of regen under burned out residual. A few jack pine poles still alive.																																																				
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
31	42220 - Natural Jack Pine	Sapling Well	231.9	8	Immature	N/A	Duck Lake fire May 2012. Salvaged cut 2012-13 DLS#8 sale #42-031-12-01. Regeneration survey, spring 2015, by summer students. Average 3800 trees/acre. Plots varied from 0-140. Variable regen densities. 10/2020: Predominately thick jack pine regen (~5-10' tall).
Canopy Species		% Cover	Size Class	DBH	Age		
Jack Pine		95	Sapling	1	8		
Red Maple		4	Sapling	1			
Red Oak		1	Sapling	1			
32	310 - Herbaceous Openland	Nonstocked	52.7		Unspecified	No	Duck Lake fire May 2012. Salvaged cut 2012-13 DLS#8 sale #42-031-12-01. Originally an opening with scattered trees before the fire. Regeneration check, spring 2015, by summer students, showed no regeneration within this stand. 10/2020: very little jack pine regen encroachment. Only regen is some saplings under the burned out residual Jack pine that were present before the fire. At least a 10-fold increase in the presence of jack pine from before the fire.
Sub-Canopy Species		Density	Avg. Height	Size			
Red Maple		Low	5 - 10 feet	Sapling			
Jack Pine		Low	< 5 feet	Sapling			
33	42220 - Natural Jack Pine	Sapling Medium	3.4	37	Unspecified	N/A	Duck Lake fire May 2012. Pocket of mainly unburned timber.
Canopy Species		% Cover	Size Class	DBH	Age		
Jack Pine		100	Sapling/Pole	4	37		
34	42220 - Natural Jack Pine	Sapling Well	3.2	37	Unspecified	N/A	Duck Lake fire May 2012. Pocket of mainly unburned, immature timber. Scarified in August 1984 under FTP C42-157.
Canopy Species		% Cover	Size Class	DBH	Age		
Jack Pine		100	Sapling	3	37		
35	42220 - Natural Jack Pine	Sapling Well	9.7	8	Immature	N/A	Duck Lake fire May 2012. Salvaged cut 2012-13 DLS#8 sale #42-031-12-01. Regeneration survey, spring 2015, by summer students. Average 3800 trees/acre. Plots varied from 0-140. Variable regen densities. 10/2020: Fully stocked jack pine regen (~5-10' tall), but semi-open in spots..
Canopy Species		% Cover	Size Class	DBH	Age		
Jack Pine		95	Sapling	1	8		
Red Maple		4	Sapling	1			
Red Oak		1	Sapling	1			
36	42220 - Natural Jack Pine	Poletimber Medium	9.4	37	Unspecified	N/A	Duck Lake fire May 2012. Pocket of mainly unburned timber. Scarified in August 1984 under FTP C42-157.
Canopy Species		% Cover	Size Class	DBH	Age		
Jack Pine		100	Pole/Sapling	5	37		
37	42220 - Natural Jack Pine	Sapling Medium	80.0	9	Immature	N/A	Duck Lake fire May 2012. Salvaged cut 2012-13 DLS#8 sale #42-031-12-01. Regen check in spring 2015, by summer students. Variable regeneration densities. Some areas were more open prior to the fire. Average 550 trees/acre. Plots varied from 0-42. 10/2020: Mosaic of semi-open areas mixed with pockets of fully stocked Jack pine regen (3-5' tall).
Canopy Species		% Cover	Size Class	DBH	Age		
Jack Pine		90	Sapling	1	9		
Red Maple		8	Sapling	1			
Red Oak		2	Sapling	1			
38	122 - Road/Parking Lot	Nonstocked	9.3	0	Unspecified	No	County Roads 414 and 423 ROW.