



Compartment Review Presentation

Newberry Forest Management Unit

Compartment 42010

Entry Year 2021

Acreage: 1,497

County Luce

Management Area: Two Hearted Headwaters

Revision Date: 2019-08-30

Stand Examiner: Lester Livermore

Legal Description:

T48N R11W Sec. 7, 8, 16-18 and T48N R12W Sec. 11.

Identified Planning Goals:

Wildlife, timber, and recreation are the main uses of this area. The goal is to manage for all these simultaneously and to provide, enhance and perpetuate their uses through proper management. Forest treatments prescribed will help ensure the sustainability of the forest resource and continue to enhance the quality of the wildlife habitat.

Soil and topography:

Topography is variable throughout the compartment with a complex of uplands and lowlands. The soils are mostly complexes as well due to the upland and lowland nature of the landscape. Most of the uplands are dominated by beech-maple-hemlock, white pine-hemlock forest types where the topography is level to rolling with steep ridges mixed throughout and the major soil types are Wallace, Paquin, Rubicon and AuGres. The lowland areas are relatively level and dominated by mixed conifer swamp and shrub/emergent marsh cover types. They mostly consist of soil complexes such as Tawas/Spot/Finch, Carbondale/Lupton/Tawas and Dawson/Greenwood/Loxely.

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

The compartment lies to the west of Pine Stump Junction. The West Branch of the Two Hearted River is the northern boundary and the South Branch of the Two Hearted River is the east boundary of the compartment. This compartment is rather contiguous with isolated parcels adjacent to the West Branch of the Two Hearted River in Section 11 of 48N, 12W, which are surrounded by The Nature Conservancy (TNC) Lands. A land acquisition (swap) in 2019 with TNC majorly altered the compartment. Newly acquired parcels occur in Sections 9, 16, 17, and 18. Parcels traded away occur in Sections 19, 20, 28-30, 32, and 33 of T48N, R11W and Sections 10, 14 and 15 of T48N, R12W. The compartment is within the Two Hearted River Watershed. Predominate land use in the area is mostly involves timber production and recreation such as hunting, fishing, dispersed camping, ORV and snowmobile riding, dog sledding and wildlife/nature viewing.

Unique Natural Features:

Unique features of the compartment would be the watershed of the Two Hearted River and its corridors. The Michigan Natural Features Inventory (MNFI) identified the compartment as containing natural communities of hardwood-conifer swamp and poor fen. Within these communities MNFI lists the potential for red-shouldered hawk, goshawk, merlin, great blue heron rookery, black-backed woodpecker, spruce grouse, eagle, and osprey. Potential for moose and wolf. Potential for incurvate emerald, frigga fritillary, freija fritillary, and ebony boghaunter in boggy areas. Potential for wood turtle. Potential for loon in lakes. They also list the potential for sweet coltsfoot, Wiegand's sedge, northern prostrate clubmoss, fir clubmoss, English sundew, meadow beauty, round-leaved orchis, black crowberry, yellow pitcher plant, and panicked screwstem in bogs and open wetlands.

Archeological, Historical, and Cultural Features:

The Bureau of History does not list any historical features.

Special Management Designations or Considerations:

The Beavertown Lakes ERA encompasses two natural communities that occur within the compartment: Poor Fen and Hardwood-Conifer Swamp. State ownership within the hardwood conifer swamp is an isolated parcel and currently exhibits old growth criteria characteristics.

Watershed and Fisheries Considerations:

Fisheries Values: Excellent

The South and West Branches of the Two Hearted River border this compartment. Brook trout are present in these tributaries and offer an outstanding remote experience for trout anglers. Both are included in the Natural River Plan and have appropriate protections in place for any proposed treatments in stands located in the management zones.

Wildlife Habitat Considerations:

Compartment 10 lies in northwestern Luce County and is in the Seney Sand Lake Plain ecological sub-subsection and the Two Hearted Headwaters Management Area with blackburnian warbler, black bear, pileated woodpecker and American Marten as featured species. The west branch of the Two-Hearted River makes up portions of the northern boundary of the compartment and the Little Two-Hearted Lakes are within the compartment. The compartment is intermixed with large portions of Nature Conservancy ownership and is a mix of mature hardwood, lowland conifer types, and bogs and marshes.

Wildlife objectives for this compartment will be met by maintaining species diversity in harvested stands including retaining conifers in thinned hardwood stands. Soft mast species will be retained as will some good quality potential raptor nest trees. Interspersion of harvested stands will ensure that travel corridors for wildlife will remain intact. Marshes will be buffered and low ground leatherleaf areas will be avoided during harvest to preserve wetland wildlife values and habitats. White-tailed deer, black bear, moose, marten, grouse and otter and mink are species expected to inhabit this compartment.

Mineral Resource and Development Concerns and/or Restrictions

Sections 7-8 & 16-18, T48N-R11W and Section 11, T48N-R12W, Luce County

The nearest active sand/gravel pit is located six miles to the northeast, and potential for any sand & gravel development within the compartment appears low. There is no history of mineral leasing in the compartment. There is no known potential for metallic minerals in this area, and no known potential exists economic hydrocarbon production in the UP. The state does not own all mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

The main access to the compartment via the CCI Road. There are several unnamed two tracks that lead into various parts of the compartment. Most of, if not all the roads in this compartment were created by past logging activities on both State and private land. Currently some of these roads are only passable by 4-wheel drive vehicle and many of them are not well traveled. Because of this some roads have become abandoned and overgrown with trees making areas of the compartment relatively remote and difficult to access by vehicle.

Survey Needs:

The establishment of a survey corner in the SESE of Section 11 would be needed for the treatment prescribed.

Recreational Facilities and Opportunities:

The CCI Road serves as a DNR designated snowmobile trail during the winter months. Other recreational opportunities in and near this compartment would be hunting, fishing, trapping, ORV riding and wildlife viewing. In the fall this area is typically hunted heavily for bear.

Fire Protection:

The compartment is partially in the Two Hearted Zone Dispatch area. Large fire runs are not likely but possible because of the scattered lowland area and cover types not typical of large fire runs. Fire suppression will be difficult in some areas because of poor heavy wheeled equipment access and remoteness. Private properties risk would be moderate to low.

Additional Compartment Information:

The following reports from the Inventory are attached:

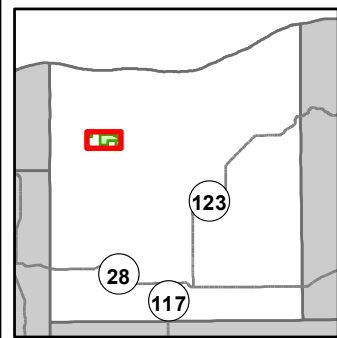
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

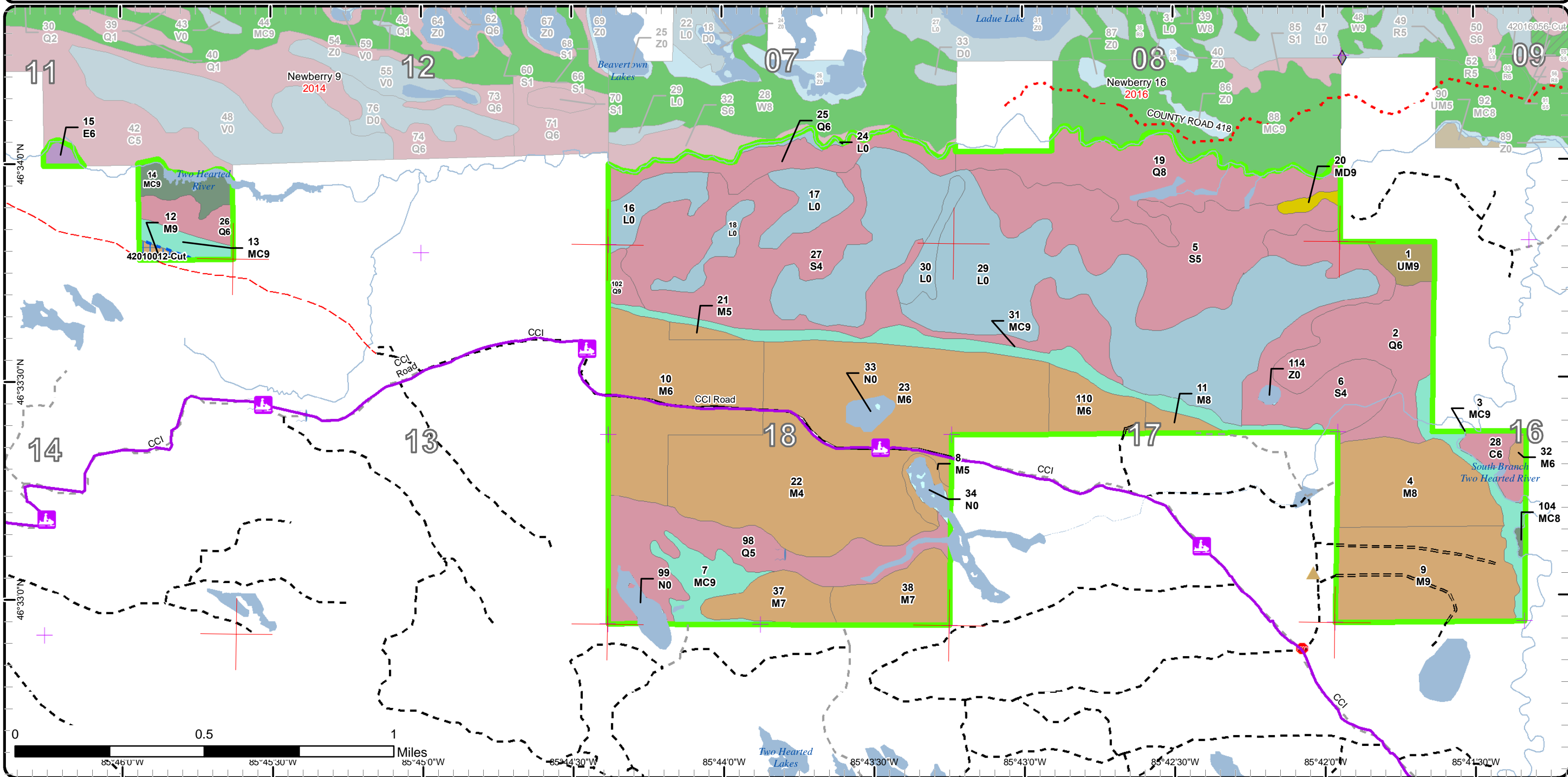
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 10
 T48N, R11W, Sec. 7, 8, 16-18
 T48N, R12W, Sec. 11
 County: Luce
 Unit: Newberry
 Mgmt Area: Two Hearted
 Headwaters
 YOE: 2021
 Acres: 1,497 GIS Calculated
 Examiner: Lester Livermore
 Map Revised: 12/19/2019
 Map Phase: Post-Review

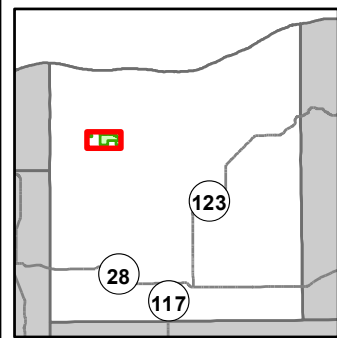


- Miris Corners
- + Remonumented Section Corners
- ◆ Field Grade Corners
- Counties
- == DNR - Primary Forest Road
- == DNR - Secondary Forest Road
- == DNR - Forest Access Route
- - - Federal / State - Dirt / Gravel Road
- - - County - Gravel Road
- - - County - Dirt Road (Seasonal)
- - - Private - Dirt / Gravel Road
- ⬇ Snowmobile Trails
- ⬇ Designated Snowmobile Trails
- ▲ Berms
- ⬇ Culvert
- ⬇ Sign
- ⬇ Intermittent Stream
- ⬇ Island in Lake or River
- ⬇ Lake/Pond
- ⬇ Perennial River
- ⬇ Lakes and Rivers
- ⬇ Compartment Boundary
- ⬇ Treatments with Site Conditions
- ⬇ Seed Tree (w/Reserves)
- 411 - Northern Hardwood
- 419 - Mixed Upland Deciduous
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

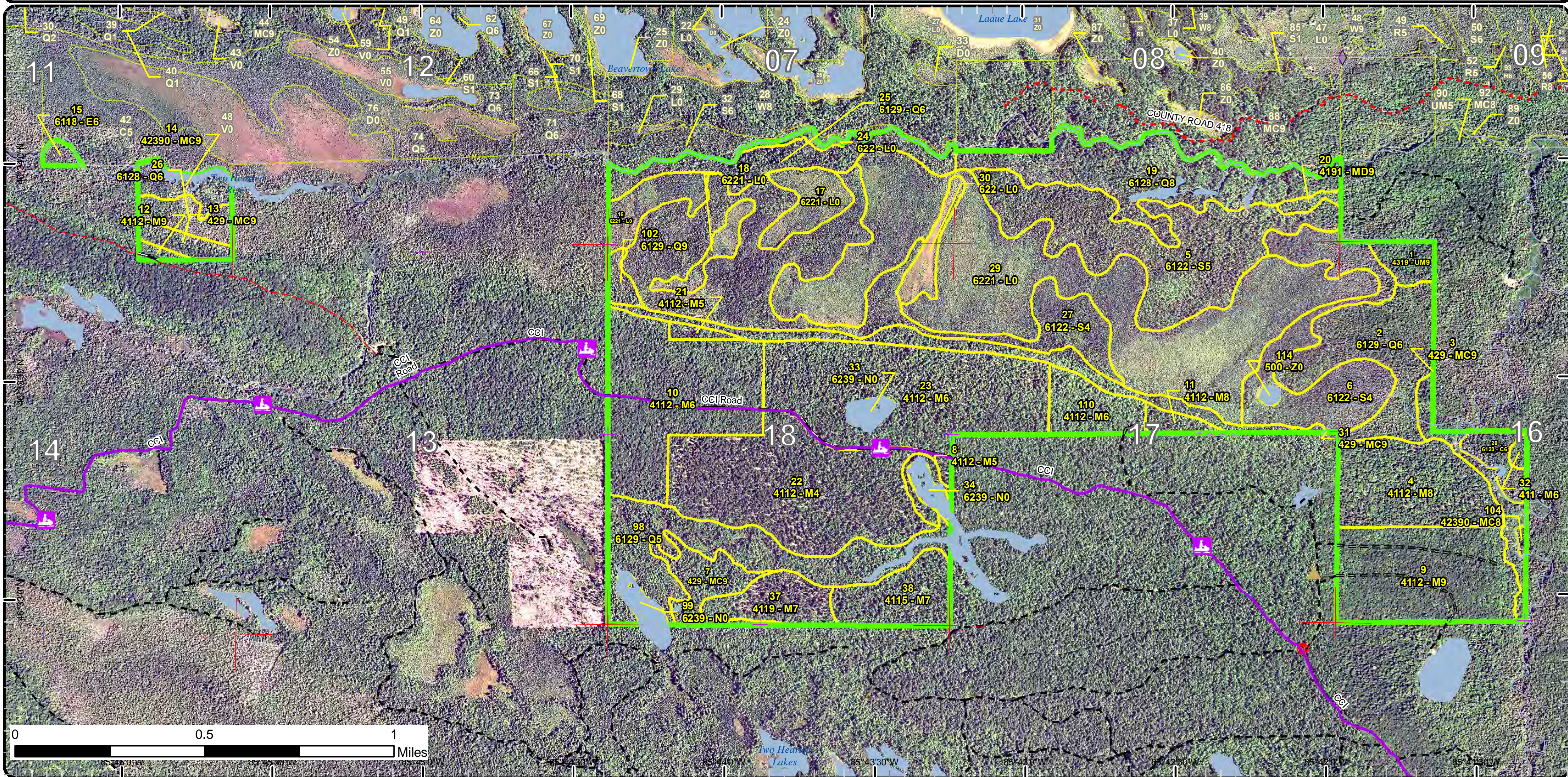


Stand Boundary Map

Compartment: 10
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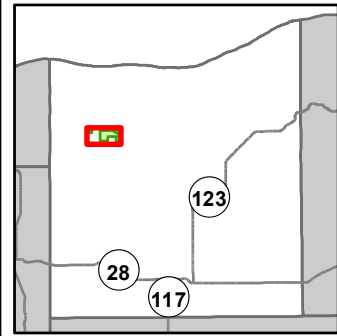


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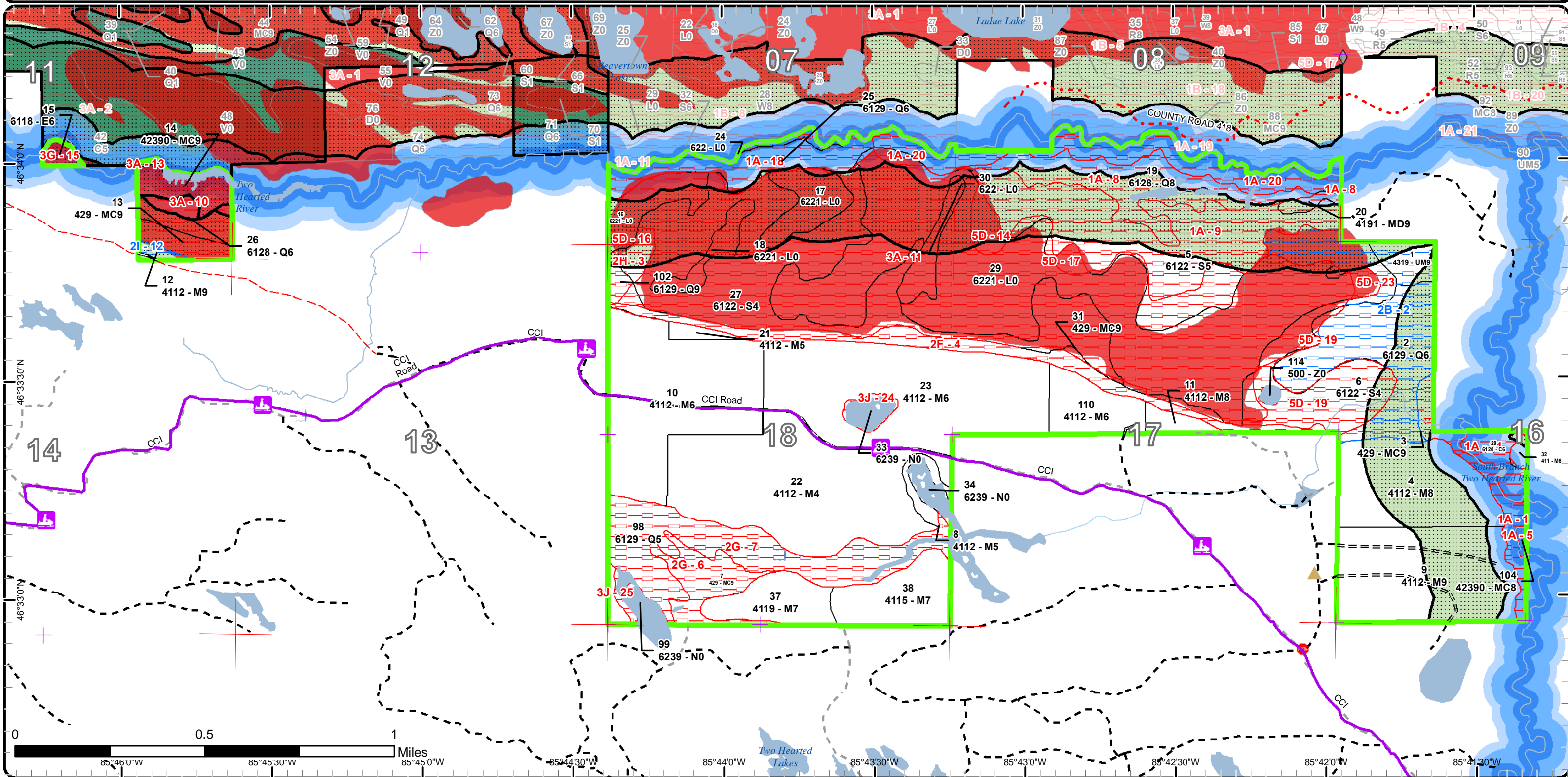
Special Conservation Areas & Site Conditions Map

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 T48N, R12W, Sec. 11
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- Berms
- Culvert
- Sign
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2I: Survey needed
- 1A: Federal/State/Local Law
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)

- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3A: Conservation Values incompatible with harvest at this time
- 3G: Other Influence zones - See comments
- 3J: Water quality / BMPs (stream, river, or lake)
- 5D: Unproductive Forest Land
- Stand Boundaries
- SCA
- Ecological Reference Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Habitat Corridor
- Recreational/Scenic Value Area
- Possible Type 1 Old Growth



Report 1 – Total Acres by Cover Type and Age Class

Newberry Mgt. Unit

Compartment 10

Year of Entry 2021

Lester Livermore : 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
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	130	5	0	0	13	0	0	103	251
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
Lowland Shrub	281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	281
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	129	101	60	0	0	0	0	0	0	290
Marsh	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Northern Hardwood	0	0	0	0	0	0	0	0	245	15	31	0	0	0	0	0	0	245	536
Upland Conifers	0	0	0	0	0	0	0	0	0	20	18	0	0	0	0	0	57	0	94
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	297	0	0	0	0	0	0	0	245	164	283	78	0	11	13	0	57	348	1495



Report 2 – Treatment Summary

Newberry Mgt. Unit
Year of Entry: 2021

Acres of Harvest

Compartment 10
Total Compartment Acres: 1,497

Commercial Harvest -
Harvests with Site Condition - 3
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
Northern Hardwood		0	0	0	3	0	0	0	0	0	3
	Total	0	0	0	3	0	0	0	0	0	3

Proposed and Next Step Treatments by Method

		Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current		3	0	0	0	0	0	0	0	0	3
Next Step		0	0	0	0	0	3	0	0	0	3
	Total	3	0	0	0	0	3	0	0	0	5



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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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Approved Treatments:

12	42010012-Cut	2.6	4112 - Maple, Beech, Cherry Association	Sawtimber Well	125	81-110	Harvest	Seed Tree with Retention	411 - Northern Hardwood	Two-Aged	No
<p><u>Prescription</u> Seed tree cut. Retain approximately 20-30 BA, targeting good quality individuals as crop trees. Leave all hemlock.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Maple, beech, balsam, spruce, hemlock, white pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> Missed opportunity to treat stand with adjacent TNC hardwoods. Survey needed.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2020</p>											

Total Treatment 2.6
Acreage Proposed:

Report 4 – Site Conditions

Newberry Mgt. Unit
Lester Livermore : Examiner

Compartment: 10
Year of Entry: 2021



Availability for Management

Total Acres	Acres Available	Acres Avail With Condition	Acres Not Available
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Dominant Site Conditions

	Total Acres	Acres Available	Acres Avail With Condition	Acres Not Available	Dominant Site Condition	Dominant Site Conditions											
						2B	2I	1A	2F	2G	2H	3A	3G	3J	5D		
11	0	0	0	11	Cedar			11									
252	3	55	55	194	Lowland Conifers	55		108	0	65	4	16			1	0	
3	0	0	0	3	Lowland Deciduous								3				
281	0	0	0	281	Lowland Shrub			6	1		0	257				16	
290	0	18	18	271	Lowland Spruce/Fir	18		83	1		4	152				32	
15	15	0	0	0	Marsh												
3	0	0	0	3	Mixed Upland Deciduous			3									
536	531	3	3	2	Northern Hardwood		3	0	0			0			2		
95	0	0	0	95	Upland Conifers			18	32	20		25					
10	0	10	10	0	Upland Mixed Forest	10											
1	1	0	0	0	Water												
1,497	550	86	86	861	Total Forested Acres	83	3	229	33	85	8	450	3	4	49		
	37%	6%	6%	58%	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	1A: Federal/State/Local Law	17	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Natural river management zone. River corridor/side hill.							
2	Available	2B: Unknown if access through adjacent landowner(s) is possible	83	2E: Road needed	2D: Portable Bridge Needed (Dept. bridge will be adequate)	Unspecified	Unspecified
Comments: Portable bridge would be needed to cross south branch of the Two-Hearted River on private land to the east.							

Report 4 – Site Conditions



Newberry Mgt. Unit

Lester Livermore : Examiner

Compartment: 10

Year of Entry: 2021

3	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	8	3A: Conservation Values incompatible with harvest at this time	2E: Road needed	Unspecified	Unspecified
Comments:							
4	Unavailable	2F: Too steep	34	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments: Steep side hill. Evaluated for SBW.							
5	Unavailable	1A: Federal/State/Local Law	1	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: South Branch of the Two- Hearted River. Natural River Plan.							
6	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	65	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	1A: Federal/State/Local Law	43	3J: Water quality / BMPs (stream, river, or lake)	2I: Survey needed	2B: Unknown if access through adjacent landowner(s) is possible	2D: Portable Bridge Needed (Dept. bridge will be adequate)
Comments: Natural River Management Zone. Several drains and/or old oxbows from the Two-Hearted river throughout the site. Other underlying conditions listed.							

Report 4 – Site Conditions



Newberry Mgt. Unit
Lester Livermore : Examiner

Compartment: 10
Year of Entry: 2021

9	Unavailable	1A: Federal/State/Local Law	85	2E: Road needed	2D: Portable Bridge Needed (Dept. bridge will be adequate)	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified
Comments: Natural River Management Zone. Access through private landowner with inadequate crossing for logging equipment.							
10	Unavailable	3A: Conservation Values incompatible with harvest at this time	34	Unspecified	Unspecified	Unspecified	Unspecified
Comments: ERA							
11	Unavailable	3A: Conservation Values incompatible with harvest at this time	415	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: ERA - Poor Fen							
12	Available	2I: Survey needed	3	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments: Survey and Access through TNC needed							
13	Unavailable	3A: Conservation Values incompatible with harvest at this time	1	2B: Unknown if access through adjacent landowner(s) is possible	2I: Survey needed	Unspecified	Unspecified
Comments: ERA							

Report 4 – Site Conditions



Newberry Mgt. Unit
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Compartment: 10
Year of Entry: 2021

14	Unavailable	5D: Unproductive Forest Land	7	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
15	Unavailable	3G: Other Influence zones - See comments	3	3J: Water quality / BMPs (stream, river, or lake)	2E: Road needed	Unspecified	Unspecified
Comments:							
16	Unavailable	5D: Unproductive Forest Land	5	2E: Road needed	Unspecified	Unspecified	Unspecified
Comments: Natural river management zone							
17	Unavailable	5D: Unproductive Forest Land	3	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
18	Unavailable	1A: Federal/State/Local Law	31	2E: Road needed	Unspecified	Unspecified	Unspecified
Comments: Natural river management zone							
19	Unavailable	5D: Unproductive Forest Land	31	2E: Road needed	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions



Newberry Mgt. Unit
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Compartment: 10
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20	Unavailable	1A: Federal/State/Local Law	41	2E: Road needed	Unspecified	Unspecified	Unspecified
Comments: Natural river management zone							
21	Unavailable	1A: Federal/State/Local Law	11	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments: Natural River Management Zone.							
23	Unavailable	5D: Unproductive Forest Land	3	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Approximately 100' buffer around boggy drainage.							



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
Beavertown Lakes	Type 1 or Type 2 Old Growth	Verified Type 1 Old Growth Area	SCA	16
Comments Stand exhibits canopy trees meeting the age criteria and compositional and structure criteria met. No obvious evidence of past cutting.				



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	Type 1 and Type 2 Old Growth	Old-Growth forest (also termed primary forest, ancient forest, virgin forest, or primeval forest) is an area of forest that has few or no signs of human disturbance and that exhibits unique ecological features related to age, composition and associated structure. Old growth forests are of natural origin. They may be dominated by late successional forest species (i.e. sugar maple and American beech), or may be a very old example of a stand dominated by long-lived early- or mid-seral species (i.e. oak, or red pine).
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.
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																		
1	4319 - Mixed Upland Forest	Sawtimber Well	9.9	103	81-110	N/A	Eastern portion of the stand is moderate to low quality hardwoods. White pine and hemlock dominate the south and east parts of the stand. Some American beech present that occupies small component of BA; evidence of BBD in larger log size classes. OPIC - FMD: Mixed bag stand. Hardwood stand, mostly lower quality. Conifer component throughout - WP/hemlock/spruce/balsam/cedar. Heavy to white pine on the southern fringe of stand. Difficult stand to treat. The access to this stand is across PVT land where there gated road as well as a bridge crossing the S.Branch Two Heart that does not look like it will hold a log truck.																																																		
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2	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	56.3	95	111-140	N/A	Stand is mostly a Q type. Large white pine scattered in overstory. Difficult stand to access. PVT land and low ground surrounding State land with no existing roads to the stand. Would need permission to cross PVT land as well as a new road. The closest access to this stand is across PVT land where there gated road as well as a bridge crossing the S.Branch Two Heart that does not look like it will hold a log truck. Portions of stand fall in the Two Hearted Natural River Zone.																																																		
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3	429 - Mixed Upland Conifers	Sawtimber Well	16.5	90	111-140	N/A	Stand is adjacent to S.Branch Two Hearted River and is situated on the slope of the river as well as some lowlands around the river. South half of stand is being acquired from The Nature Conservancy in 2019. OPIC - FMD: Stand falls adjacent to S.Branch Two Hearted River. Stand is situated on the side of hill leading to the river bank. Soil=Croswell/Deford.																																																		
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4	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	56.0	87	1-50	N/A	Lower quality hardwood stand. Variable BA between 1 to 40. Good regeneration and recruitment of maple from below with trace amounts of yellow birch and cherry. Pockets of higher beech saplings but relatively low across the stand as a whole. Evidence of BBD with standing snags and course woody debris. Current stand conditions are a result of seed tree treatment. Relatively lower canopy density in this stand compared to other treated in the same sale. Stand harvested via seed tree, sale #42-026-11-01, Compartment 10 Hardwoods. Completed 09/27/2016. OPIC - FMD: Stand was treated in 1965 T.Sale#050-64. It is now large hardwood trees over-topping abundant sapling sized hardwood reproduction. Some hemlock and white pine present. The beech in here has been severely impacted by beech bark disease, many dead standing snags and dying trees. Quality of the standing timber is not that great because the trees are over-mature and defective. A portion of this stand falls within the Two Hearted Natural river zone, follow plan if stand is treated.																																																		
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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5 6122 - Black Spruce Poletimber Medium 100.6 97 Unspecified N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	50	Pole	8	97	Northern White Cedar	Medium	Variable	Sapling
White Pine	20	Pole/Log	8		Black Spruce	Medium	10 - 20 feet	Sapling
Paper Birch	7	Log	12		Red Maple	Medium	Variable	Sapling
Balsam Fir	10	Log/Pole	10		Tamarack	Low	Variable	Sapling

Large variable stand with black spruce continuous across the stand. Better site index within stand than that of the ERA to the south. Portions of the stand are within the ERA boundary. Northeastern and north western portions of the stand have higher components of log/ pole sized birch and red maple as associate species. Western portions of the stand have higher cedar, white pine associates. Majority of the stand was acquired from The Nature Conservancy (TNC) in 2019. Access from east with issues still applicable (see OPIC comments below).

OPIC - FMD: Difficult stand to treat. The access to this stand is across PVT land where there gated road as well as a bridge crossing the S.Branch Two Heart that does not look like it will hold a log truck.

6 6122 - Black Spruce Poletimber Poor 59.8 109 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	70	Pole/Sapling	5	109	White Pine	Low	< 5 feet	Seeding
Tamarack	15	Pole/Sapling	5		Northern White Cedar	Low	< 5 feet	Seeding
Northern White Cedar	10	Sapling/Pole	4					

Stunted black spruce comprises a majority of the stand with white pine, cedar and tamarack as associates. Some edge dynamics present in sub-canopy species from hardwoods to the north. Slightly higher site index than some of the similar adjacent stands. Portion of the stand acquired from The Nature Conservancy (TNC) in 2019. Portion of the stand falls within Beavertown Lakes Fen ERA.

OPIC - FMD: Difficult stand to treat. The access to this stand is across PVT land where there gated road as well as a bridge crossing the S.Branch Two Heart that does not look like it will hold a log truck. Low ground in here, would need to treat in winter conditions.

7 429 - Mixed Upland Conifers Sawtimber Well 20.4 85 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Hemlock	50	Log/XLog	14	85	Hemlock	Medium	Variable	Sapling
White Pine	20	Log	12		Red Maple	Medium	Variable	Sapling
Red Maple	20	Pole/Log	9		Red Maple	Low	< 5 feet	Seeding
					White Pine	Medium	< 5 feet	Seeding

Mostly upland stand with log sized hemlock with white pine and red maple associates. Portions of the stand have influence from adjacent wet areas with lower size classes and higher species diversity. Southern portion of the stand contains slightly higher component of maple overstory. Medium to high hemlock regeneration throughout which should be considered if prescribed.

OPIC - FMD: Stand is a mixed bag of species with variable size classes. Stand is mostly hemlock but white pine dominates the supercanopy. Intermittant wet areas throughout stand that seasonally fluctuate. Many portions of the stand have been treated in the past, mostly in the 60's. The north end of stand was last treated in 1982. There are some knobs/ridges in the south end of the stand near Two Hearted Lakes that have no records of treatment.. Soil=Spot/Finch Complex.



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8	4112 - Maple, Beech, Cherry Association	Poletimber Medium	5.1	87	1-50	N/A	Large stand situated between newly acquired parcels from The Nature Conservancy (TNC) in 2019. Some variability in residual trees left from most recent harvest in basal area and species; Southern area of stand are relatively lower BA; Hemlock component protrudes into the stand from the south. Variable regeneration post-seed tree harvest with higher components maple with some areas heavy to beech. Stand was treated via seed tree: sale #42-026-11-01, Compartment 10 Hardwoods. Completed 09/27/2016.OPIC - FMD: Low quality hardwoods. Beech that is in stand has been severely impacted by beech bark disease, many standing dead/dying trees. Stand was treated in 1982, T.sale#020-82A. Residual BA is variable across stand. Plenty of advanced regen. If treated release what is established by removing some of the overstory. 99=04,01. At compartment review it was agreed to possibly plant oak trees in all M9 stands where feasible after the harvest to replace mast trees. Wildlife division would find the necessary funding.																																																	
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9	4112 - Maple, Beech, Cherry Association	Sawtimber Well	74.3	86	81-110	N/A	Moderate to Low quality site with variable BA. High beech mortality in stand as it appears to be either dead and down or heavily infested. Areas of the stand with higher beech concentrations have low BA/ canopy gaps and show recruitment of maple and beech from the sapling/seedling layer. Stand should be considered for treatment next year of entry based on basal area and current and future canopy dynamics, allowing for recruitment into the canopy and sub-canopy. Stand was acquired from The Nature Conservancy (TNC) in 2019 land transaction. A portion of the stand, south of the southernmost road appears to have been recently marked with orange paint.																																																	
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10	4112 - Maple, Beech, Cherry Association	Poletimber Well	89.9	130	81-110	N/A	A more moderate quality hardwood stand than that to the east, with higher component of sugar maple present. Heavier red maple component toward the southern portion of the stand. Edge effect from adjacent stand has hemlock and white pine components. Some scattered large beech within the stand show little resistance to BBD. Majority of stand is pole sized (6-8 inch class) and is direct result of historical management. Good succession of pole class into the sub-canopy and overstory at this point. Stand was acquired from The Nature Conservancy (TNC) in 2019. Stand should be reevaluated and considered being treated next inventory cycle.																																																	
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11	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	6.0	87	1-50	N/A	Variable BA ranging from 20 to 60; average approximately 40 to 50. Good recruitment of maple in canopy gaps with some beech saplings throughout. Edge effect from adjacent stand is diverse conifer. Stand harvested via seed tree, sale #42-026-11-01, Compartment 10 Hardwoods. Completed 09/27/2016. OPIC - FMD: Low quality hardwoods. Beech that is in stand has been severely impacted by beech bark disease, many standing dead/dying trees. Stand was treated in 1982, T.sale#020-82A. Residual BA is variable across stand. Plenty of advanced regen.																																																	
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12	4112 - Maple, Beech, Cherry Association	Sawtimber Well	2.6	125	81-110	N/A	Stand is isolated geographically within the compartment and is small acreage. Since last inventory stream crossing to the east has been improved. Majority of beech now is dead and down and beech regeneration now recruiting from the understory and BBD likely to be reoccurring issue within the stand. Treatments prescription should try to address this issue. Dominant age of stand estimated based on current age measurements within other hardwoods within compartment. Second age estimated based on canopy dynamics. OPIC - FMD: Stand falls on the edge of upland site. Defective and overmature hardwoods. Beech has scale. Stand was last treated in the mid 50's. Beech in stand has scale and is dead and/or dying. Stand is too small to treat by itself, road work would be needed with a possible bridge/culvert to the east ~1/2 mile. Could possibly treat stand if TNC treats their land nearby otherwise is too small to work with. At compartment review it was agreed to possibly plant oak trees in all M9 stands where feasible after the harvest to replace mast trees. Wildlife division would find the necessary funding.																																																						
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13	429 - Mixed Upland Conifers	Sawtimber Well	8.7	150	81-110	N/A	Majority of the stand situated on the north facing slope, leading to lowlands. Stand falls within the Two-Hearted River Zone. Element Occurrence - Hardwood-Conifer Swamp community.																																																						
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14	42390 - Mixed Non-Pine Upland Conifers	Sawtimber Well	13.7	200	111-140	N/A	Diverse lowland stand. Majority of the stand contains large cedar, hemlock and white pine with red maple with elm and birch as associates near central southern portion of stand. No obvious evidence of historical cutting. Element Occurrence - Hardwood-Conifer Swamp community. OPIC - FMD: Stand falls in the Two Hearted River zone.																																																						
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15	6118 - Lowland Deciduous with Cedar	Poletimber Well	3.3	109	81-110	N/A	Isolated small stand adjacent to the Two-Hearted River. Element Occurrence - Hardwood-Conifer Swamp community. OPIC - FMD: Stand falls along the Two Hearted River zone.																																																						



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16	6221 - Fen	Nonstocked	17.1	0	Unspecified	No	Stand includes Beavertown Lakes Fen, EO_ID: 22086. This area was previously included in a 2,000 acre muskeg complex (EO_ID:7430), but it was separated out in 2018. More details in Beavertown Lakes ERA plan (currently pending draft).									
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Sphagnum Moss	Full	Unspecified	Non-Wood													
17	6221 - Fen	Nonstocked	18.1	0	Unspecified	No	Stand includes majority of Beavertown Lakes Fen, EO_ID: 22086. This area was previously included in a 2,000 acre muskeg complex (EO_ID:7430), but it was separated out in 2018. More details in Beavertown Lakes ERA plan (currently pending draft). OPIC - FMD: OI Stand Year Origin was									
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18	6221 - Fen	Nonstocked	9.7	0	Unspecified	No	Stand includes majority of Beavertown Lakes Fen, EO_ID: 22086. This area was previously included in a 2,000 acre muskeg complex (EO_ID:7430), but it was separated out in 2018. More details in Beavertown Lakes ERA plan (currently pending draft). OPIC - FMD: OI Stand Year Origin was									
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19	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Medium	74.3	95	111-140	N/A	Stand is adjacent to the West Branch of the Two Hearted River. Old oxbows from the river seasonally hold water and have fairly open canopy with lowland conifer, aspen and birch. Portions of the stand type out to S type or Q type and upland areas have larger MC types. Lowland portions of the stand have pole and log sized spruce, balsam and some cedar and tamarack. Ridges around oxbows contain largest diameter white pine, birch and red maple. Research plot observed in stand on east side (possibly FIA). Difficult access to the stand through private gated road from the east as well as small private bridge (12,000 GVW). Large portion of the stand was acquired from The Nature Conservancy (TNC) in 2019.									
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20	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	3.4	97	111-140	N/A	Upland stand situated between mixed conifer site to north and lowland spruce/cedar site to south. Stand is dominated by log sized white birch and red maple with white pine and cedar associates. Few birch dead and down currently and expected to increase as birch is at the end of its life expectancy. If accessed, stand could be treated. Site adjacent to private land where the site continues to the northeast. Access issues arise (see OPIC comments below). OPIC - FMD: Difficult stand to treat. The access to this stand is across PVT land where there gated road as well as a bridge crossing the S.Branch Two Heart that does not look like it will hold a log truck.																																																	
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21	4112 - Maple, Beech, Cherry Association	Poletimber Medium	3.6	87	1-50	N/A	Small hardwood stand situated adjacent to the slope that bisects most of the compartment. Variable regeneration post-seed tree harvest with good flush of maple from below. Relatively less beech within this stand than the neighboring site treated at the same time. Stand was treated via seed tree: sale #42-026-11-01, Compartment 10 Hardwoods. Completed 09/27/2016. OPIC - FMD: Low quality hardwoods. Beech that is in stand has been severely impacted by beech bark disease, many standing dead/dying trees. Stand was treated in 1982, T.sale#020-82A. Residual BA is variable across stand. Plenty of advanced regen. If treated release what is established by removing some of the overstory. 99=04,01. At compartment review it was agreed to possibly plant oak trees in all M9 stands where feasible after the harvest to replace mast trees. Wildlife division would find the necessary funding.																																																	
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24	622 - Lowland Shrub	Nonstocked	2.8		Unspecified	No	OPIC - FMD: Tag alder along the bank of the Two Hearted River. Soil=Aquents/histosols.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Tag Alder	Medium	5 - 10 feet	Tall Shrub	
25	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	33.9	90	51-80	N/A	Larger white pine within the central part of the stand. Inclusions from the Two Hearted River into some parts of the stand.OPIC - FMD: Stand falls in the Two Hearted River zone. Very limited access to stand, no roads, low ground, adjacent to river, etc. Soil=Carbondale/Lupton/Tawas Complex.					
								Canopy Species	% Cover	Size Class	DBH	Age
								White Pine	25	Log/XLog/Pole	16	
26	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	13.0	130	111-140	N/A	Diverse lowland stand. Portions of the stand near the river contain large cedar, hemlock and white pine. Pocket of red maple with elm and birch as associates in center of stand. Portion of the stand near the river has no evidence of historical cutting. Element Occurrence - Hardwood-Conifer Swamp community. OPIC - FMD: Stand falls in the Two Hearted River zone.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Northern White Cedar	Medium	Variable	Sapling	
27	6122 - Black Spruce	Poletimber Poor	129.4	89	1-50	N/A	Some variability in site condition across the stand with product size classes ranging from larger sapling size to larger pole sized with seldom small log sized scattered. Stand falls within the Beavertown Lakes Fen ERA. Evidence of old ice roads in the eastern and central portions of stand. OPIC - FMD: Trees are small and suppressed.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Northern White Cedar	32	Pole/Log/XLog	9	130
28	6120 - Lowland Cedar	Poletimber Well	11.1	128	111-140	N/A	HCVA = Two Hearted River - Natural River Zone. South Branch of Two Hearted River forms west boundary of stand. Pockets of pure C6. White pine overstory associates. Fairly steep, long bank separates this stand from hardwood stand to east. Data from 2011 YOE.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Northern White Cedar	Medium	Variable	Sapling	
29	6221 - Fen	Nonstocked	222.4	0	Unspecified	No	Stand includes majority of Beavertown Lakes Fen, EO_ID: 22086. This area was previously included in a 2,000 acre muskeg complex (EO_ID:7430), but it was separated out in 2018. More details in Beavertown Lakes ERA plan (currently pending draft). OPIC - FMD: OI Stand Year Origin was					
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30	622 - Lowland Shrub	Nonstocked	10.7		Unspecified	No																																																							
31	429 - Mixed Upland Conifers	Sawtimber Well	34.2	150	81-110	N/A	Western portion of the stand was acquired from The Nature Conservancy (TNC) in 2019. Portions of the stand have evidence of old beds leading to lowlands to north. Stand species densities vary across the stand. Decent hemlock regeneration in portions with higher hemlock component. OPIC - FMD: Stand falls on a side hill where uplands drop off into lowlands. Mixed bag of hemlock, white pine, spruce, balsam, cedar, red maple, yellow/white birch.																																																						
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32	411 - Northern Hardwood	Poletimber Well	2.1	95	81-110	N/A	HCVA = Two Hearted River - Natural River Zone. On the Northeast section of the stand there are a bunch of trees that are numbered with blue paint but there are no records indicating what these are for. Abundant beech saplings in M2 layer. White spruce and hemlock are overstory components. Section 16. Data from previous YOE.																																																						
33	6239 - Mixed Emergent Wetland	Nonstocked	4.1		Unspecified	No	OPIC - FMD: Stand seasonally holds water, dried up now. Stand is bare dirt with scattered herbaceous plants/grasses growing.																																																						
34	6239 - Mixed Emergent Wetland	Nonstocked	5.5		Unspecified	No	OPIC - FMD: Stand seasonally holds water, dried up now. Stand is bare dirt with scattered herbaceous plants/grasses growing.																																																						
37	4119 - Mixed Northern Hardwoods	Sawtimber Poor	22.2	87	1-50	N/A	Current canopy composition is a good mix of hardwood (mostly sugar maple with red maple, cherry and a few beech as associates) and large conifer (white pine and hemlock). Stand harvested as seed tree, sale #42-026-11-01, Compartment 10 Hardwoods. Completed 09/27/16. Plenty of advanced regeneration and past understory residual will flush and recruit to the canopy by the next inventory cycle. 2009 compartment review it was agreed to possibly plant oak trees in all M9 stands where feasible after the harvest to replace mast trees. Wildlife division would find the necessary funding. This treatment has since been terminated. OPIC - FMD: Low quality hardwoods. Beech that is in stand has been severely impacted by beech bark disease, many standing dead/dying trees. Stand was treated in 1962.																																																						
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38	4115 - Y.Birch, Hemlock NH	Sawtimber Poor	28.7	92	1-50	N/A	<p>Current overstory is composed of various hardwood species with exception of American beech which is now dead and down (DDW). Average basal area throughout the stand is 10 - 40; slightly higher in the central south portion where a conifer dominated swale protrudes into the stand. Since last inventory rigorous recruitment from the seedling layer now is sapling sized and full. At this time no treatment needed to release second age class however, beech has outcompeted maple in places and may need to be addressed for future forest health concerns.</p> <p>OPIC - FMD: Stand was treated in 2003. It was selectively marked and several beech that were left behind as residual have now been severely attacked by beech bark disease and the trees are now dead or dying. There are several blowdowns and snapped off snags on the ground now. Maybe do a delayed removal in future to release regen. Soil=Paquin.</p>																																																															
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98	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	69.3	182	51-80	N/A	<p>OPIC - FMD: Stand is a mixed bag of species with variable size classes. Stand is mostly hemlock but white pine dominates the supercanopy. Intermittant wet areas throughout stand that seasonally fluctuate. Many portions of the stand have been treated in the past, mostly in the 60's. The north end of stand was last treated in 1982. There are some knobs/ridges in the south end of the stand near Two Hearted Lakes that have no records of treatment.. Soil=Spot/Finch Complex.</p>																																																															
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99	6239 - Mixed Emergent Wetland	Nonstocked	5.1		Unspecified	No																																																																
102	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	5.4	105	141-170	N/A	<p>Stand is situated on the north side of the ridge that bisects the compartment. Very large hemlock and white pine with yellow birch associate dominates south eastern portion of the stand. Size classes decreases and species diversity increases as you move northward into more black spruce dominated portions of stand. More species diversity within the overstory and understory compared to adjacent stands. Stand acquired from The Nature Conservancy (TNC) in 2019. Evidence of historic road apparent intersecting the middle of the stand.</p> <p>Portion of the stand currently included within the Beavertown Lakes Fen (previously included in a 2,000 acre muskeg complex (EO_ID:7430), but it was separated out in 2018). Elimination of this stand from the Beavertown Lakes Fen boundary should be considered.</p>																																																															
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104	42390 - Mixed Non-Pine Upland Conifers	Sawtimber Medium	1.1	90	141-170	N/A	<p>Mixed composition within the stand with higher component of conifer (less hardwood influence than that of adjacent compartment stand). Portions of the stand seasonally flood with river fluctuations, affecting canopy composition and closer. Some large white pine and hemlock visible from stand edge. Stand falls within the Two-Hearted River influence zone. BMP's limit treatment.</p>																																																															
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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110 4112 - Maple, Beech, Cherry Association Poletimber Well 21.4 75 81-110 N/A

Stand was acquired from The Nature Conservancy (TNC) in 2019. Low to mid-quality hardwoods. Basal area somewhat variable average between 80-90. Diameter distribution throughout the stand is skewed right with relatively high sapling and pole sized diameter classes within the canopy and sub-canopy. Current conditions indicate previous heavy management. Some beech mortality within the stand but not widespread. Nice component and recruitment of yellow birch within the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	55	Pole/Log	9	75
Sugar Maple	18	Pole/Log	9	
Yellow Birch	8	Pole	7	
Beech	12	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	High	Variable	Sapling
Sugar Maple	Low	Variable	Sapling
Yellow Birch	Low	10 - 20 feet	Sapling

Stand should be considered for single tree selection treatment next inventory cycle following proper q-factor distribution, giving time for size classes to increase within the stand.

114 500 - Water Nonstocked 1.4 Unspecified No