



Compartment Review Presentation

Gwinn Forest Management Unit

Compartment 32055

Entry Year 2019

Acreage: 2,053

County Marquette

Management Area: Chain Lakes Moraine

Revision Date: 2017-08-01

Stand Examiner: Rachel McDonald

Legal Description:

T44N, R26W, part of or entire sections of 6, 7, 8, 9, 10, and 18.

Identified Planning Goals:

Identified goals include providing multiple recreational opportunities such as hunting and off-road vehicle use, a variety of fish and wildlife habitat, and forest products while minimizing user conflict. The Compartment is dominated by lowland conifers, and the cover and prevalence of these types should be maintained. The northern dry-mesic forest should be perpetuated and promoted by regeneration harvests, except the ERA will be protected and studied as an example of natural disturbance and the absence of timber harvesting on this forest type.

Soil and topography:

Upland soils are dominated by sandy loam and well-drained sands, while the lowlands have mucks and peats. Common soils include: upland Longnie and Pasen loams, and Rubicon sand; and lowland Carbondale, Rifle, and Spaulding Peat. The topography overall is gently rolling to flat.

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

This compartment is surrounded by State land with similar cover type.

Unique Natural Features:

The Compartment contains parts of Chandler Brook, a designated trout stream, and the headwaters and parts of Poplar Creek. The extent of lowland conifer cover in this area is valuable moose habitat, and it supports headwaters of local streams and rivers. The western edge of the Compartment features dry mesic conifer forest that is locally unique to the area. Part of this forest is a designated ERA (described below).

Archeological, Historical, and Cultural Features:

Camp 10 Logging Camp was an historical camp in the area, and there is an affiliated archeological site identified in the Compartment.

Special Management Designations or Considerations:

Bryan Creek Ecological Reference Area (ERA) is a designated northern dry-mesic forest featuring a naturally-regenerated, mixed pine stand in the southwestern part of the Compartment. Stands such as these that regenerated after stand-replacing wildfire are locally unique and becoming more rare on the landscape. Refer to the Bryan Creek ERA Management Plan for specific details.

Watershed and Fisheries Considerations:

The southwest region of this compartment borders Bryan Creek which is designated a Gear Restricted trout stream. While Bryan Creek proper is not located within this compartment, ecologically valuable riparian regions are and require consideration in areas susceptible to Aspen regeneration. Poplar Creek (center of compartment) and Chandler Brook (eastern region of compartment) are also in this compartment. Poplar Creek and Chandler Brook are designated Type 1 trout streams less than 50' width which serve as tributaries to the West Branch of the Escanaba River. A 300' buffer is recommended for Bryan Creek, Poplar Creek, and Chandler Brook in riparian areas susceptible to Aspen regeneration. For all other riparian areas Best Management Practices should be followed.

Wildlife Habitat Considerations:

Compartment 055 is found within the Chain Lakes Moraine Management Area; on a Disintegration Moraine in Southwestern Marquette County. The dominant Natural Communities are dry mesic northern forests, poor conifer swamps, and mesic northern forests. This management area offers opportunities to increase diversity and perhaps long-term oak sustainability through under planting white and red pine. Another priority is to maintain or increase wildlife corridors especially along riparian corridors. Wildlife management issues in the management area are: mast (hard and soft); habitat fragmentation; mature forest conditions; mesic conifer; coarse woody debris; and retention or development of large living and dead standing trees (for cavities). This management area represents approximately ¼ of the oak resource on WUP state forest.

The following have been identified as featured species for Chain Lakes Management Area: black bear, gray jay, pileated woodpecker, Northern goshawk, red crossbill.

Mineral Resource and Development Concerns and/or Restrictions

Sections 6-10 & 18, T44N R26W, Marquette County

An abandoned gravel pit is located on state surface in Section 18 and the county road commission has an active lease for another parcel in Sec 18 along Kates Grade Road. No pit currently exists at this location and the CRC has yet to submit a mine and reclamation plan to develop the lease. Abandoned iron mines are located six miles to the northeast. Parcels in section 8 and 18 have been previously leased for metallic mineral exploration but no known exploration activities were conducted on the leases. Metallic mineral potential within the compartment is considered low at this time. There is no economic oil and gas production in the UP. The state currently does not own much of the mineral rights beneath the compartment.

Vehicle Access:

Access is fair from Kate's Grade north, through Camp 10 Road. Miller Creek Road enters from the east side of the Compartment. Snowmobile Trail #32 connects Miller Creek Road and Camp 10 Road, this is seasonal access only across wetlands.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

Many dispersed recreational opportunities exist such as snowmobiling, ATV riding, and hiking; hunting, fishing, trapping, and dispersed camping. Snowmobile trail #32 runs through the Compartment.

Fire Protection:

Fire protection is within the Gwinn Management Unit of fire protection. Naturally-occurring fire within the Bryan Creek ERA will be allowed to burn, following the management plan guidelines of allowing natural disturbance to occur in the ERA.

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**

Report 1 – Total Acres by Cover Type and Age Class

Gwinn Mgt. Unit

Compartment 55

Year of Entry 2019

Rachel McDonald : Examiner

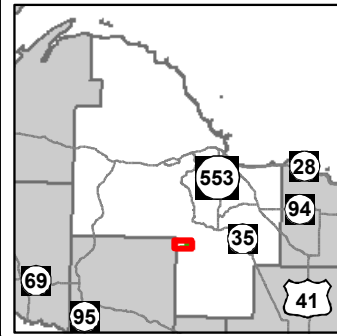


Age Class

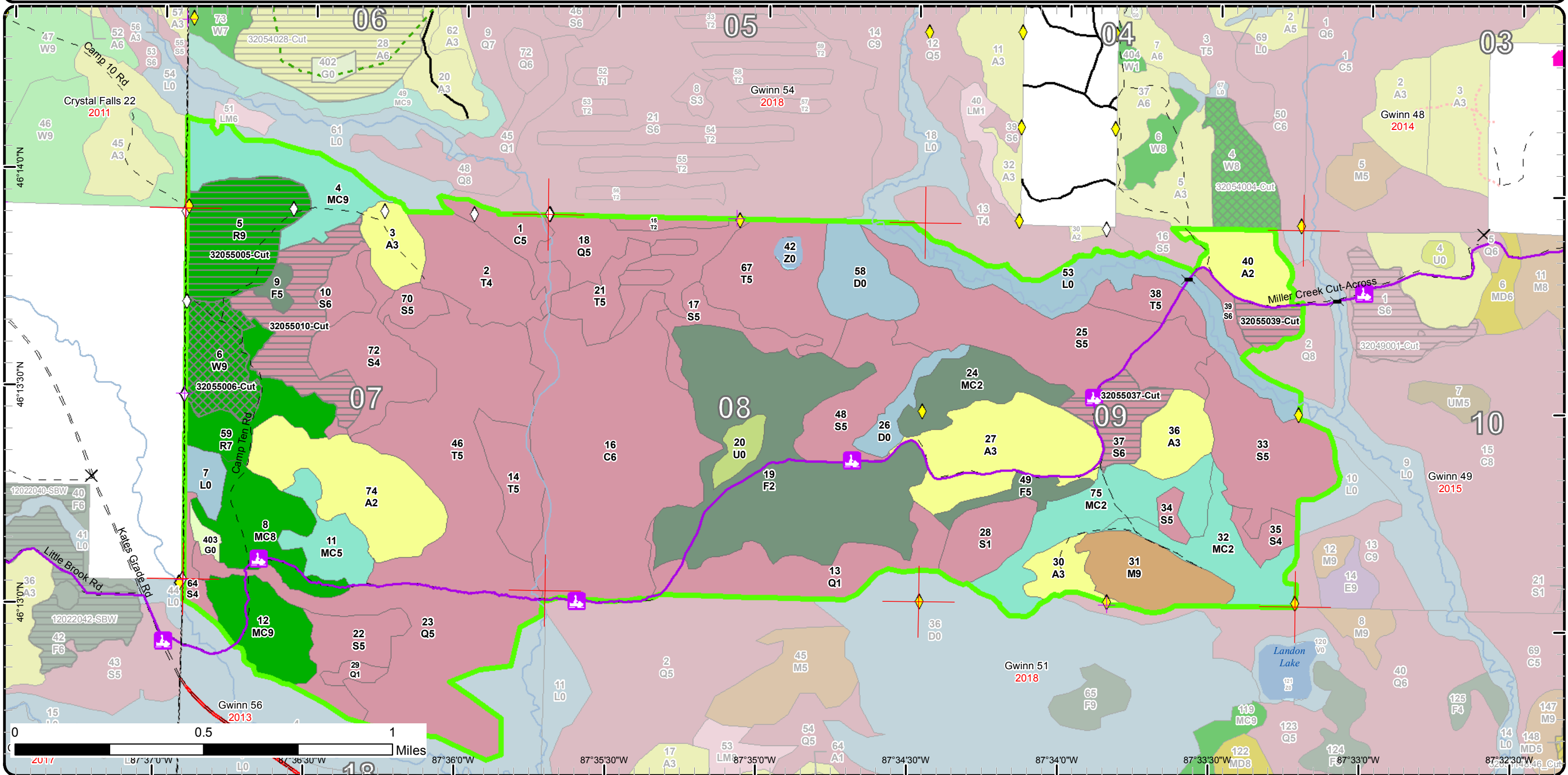
	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	90	55	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	19	176	0	0	0	195
Herbaceous Openland	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Lowland Conifers	0	0	5	54	0	0	0	0	0	0	0	0	0	142	0	0	0	0	200
Lowland Shrub	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
Lowland Spruce/Fir	0	0	0	0	0	0	0	140	17	75	110	29	0	60	9	0	0	0	440
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	35	40	0	0	0	0	75
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
Red Pine	0	0	0	0	0	0	0	0	0	0	0	52	0	29	0	0	0	0	81
Tamarack	0	0	0	12	0	0	71	0	0	0	0	27	0	145	42	0	0	0	297
Treed Bog	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
Upland Conifers	0	0	84	55	0	0	0	0	0	0	0	0	46	0	0	0	0	0	185
Upland Shrub	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Upland Spruce/Fir	0	0	0	174	0	0	0	0	0	5	0	0	0	0	0	0	0	0	179
Water	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	32
Total	125	90	144	361	0	0	71	140	17	80	110	108	113	416	70	176	0	36	2055

Cover Type & Treatments Map

Compartment: 55
 T44N, R26W, Sec: 07, 08, 09
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2019
 Acres: 2053.5 GIS Calculated
 Examiner: Rachel McDonald
 Map Revised: 1/11/2018
 Map Phase: Post-Review

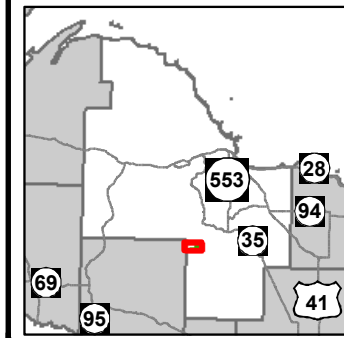


- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
- ✕ Gate
- Bridge
- Structure, Seasonal Dwelling
- Snowmobile Trails
- - - Designated Hiking Trails
- Designated Snowmobile Trails
- Paved Roads
- County Gravel Roads
- Gravel Roads
- - - Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen Types
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 500 - Water
- 622 - Lowland Shrub
- Lakes

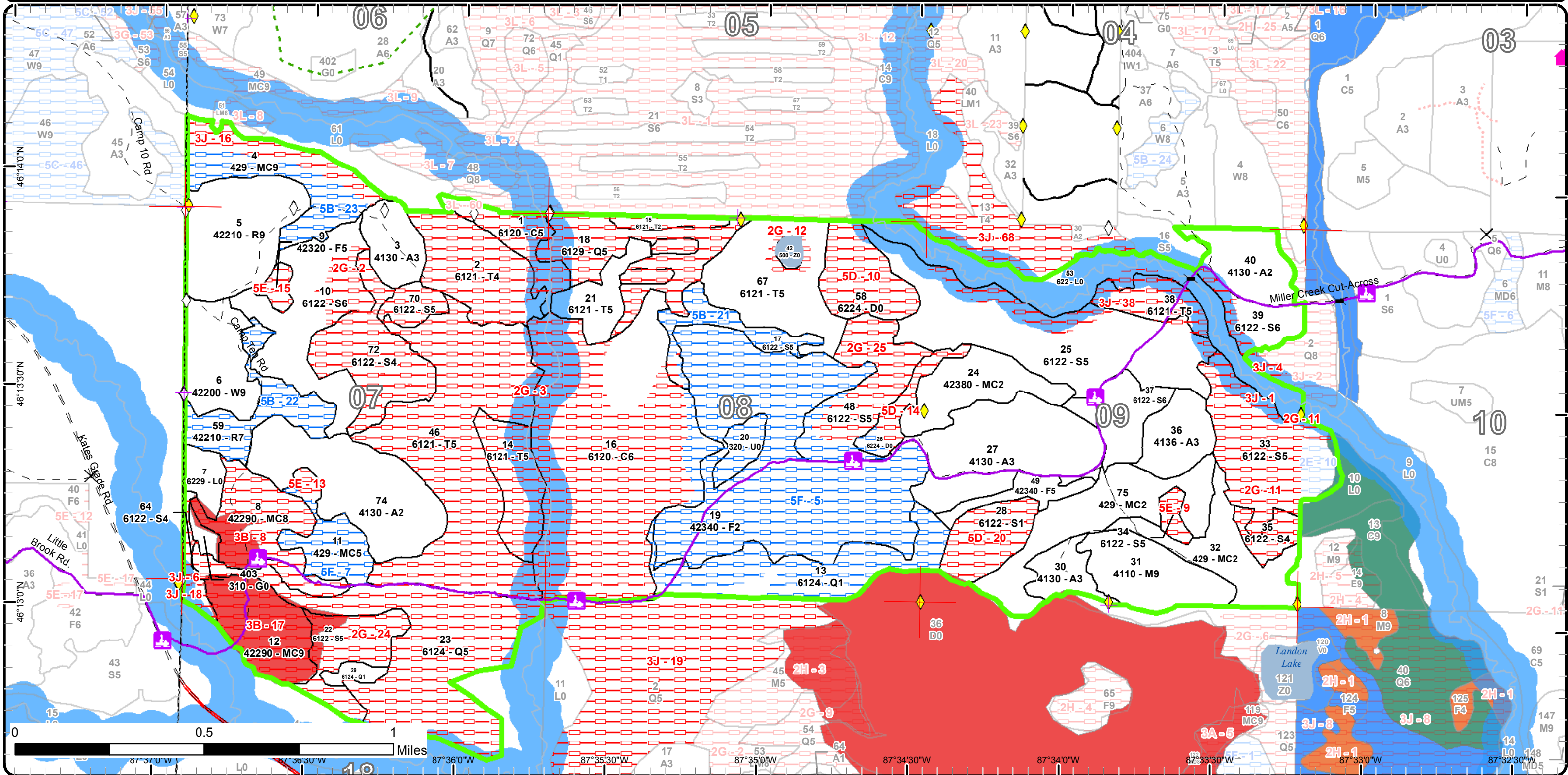


Special Conservation Areas & Site Conditions Map

Compartment: 55
 T44N, R26W, Sec: 07, 08, 09
 County: Marquette
 Unit: Gwinn
 Mgmt Area: Chain Lakes Moraine
 YOE: 2019
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 - Gravel Roads
 - - - Poor Dirt Roads
 - - - Closed
 - Streams
 - Lakes and Rivers All
 - Compartment Boundary
 - Available w/ Constraints
 - Unavailable
 - Stand Boundaries
 - Ecological Reference Areas
 - Cold Water Streams
 - High Priority Trout Stream Buffer
 - Riparian Area
 - Habitat Corridor
 - Other Habitat Area
- 5B: Maintain for regeneration purposes
 2G: Too wet (sensitive soils, does not include access issues)
 3J: Water quality / BMPs (stream, river, or lake)
 5D: Unproductive Forest Land
 5E: Long-Term Retention





Report 2 – Treatment Summary

Gwinn Mgt. Unit

Compartment 55

Year of Entry: 2019

Acres of Harvest

Total Compartment Acres: 2,053

Commercial Harvest - 163
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Lowland Spruce/Fir	79	0	0	0	0	0	0	0	0	79
Red Pine	52	0	0	0	0	0	0	0	0	52
White Pine	0	32	0	0	0	0	0	0	0	32
Total	131	32	0	0	0	0	0	0	0	163

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	163	0	0	0	0	0	0	0	0	163
Next Step	0	104	84	0	52	52	163	0	0	455
Total	163	104	84	0	52	52	163	0	0	618



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
5	32055005-Cut	51.9	42210 - Natural Red Pine	Sawtimber Well	106	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Final harvest of natural red pine stand. Harvest all stems and replant red pine, managing pine on extended rotation (100-150 years). Site index and potential is good for carrying red pine into extended rotation. Look for opportunities for retention patches on perimeter of stand, or around a unique feature. Stand will be roller chopped, trenched, planting. Lay out red line and retention with site preparation in mind.

Next Step Burn, Slash; Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial

Treatments: Regen(1yr)

Acceptable Red pine

Regen:

Other Average BA 120. SBW on fir, but fir is small: large sapling size

Comment: In addition: Most of this stand is (State Game Fund), do not cut over-sized (>24") trees or used pesticide (black bear, red-crossbill, pileated woodpecker).

Summer/non-winter cut only to keep traffic off active snowmobile trail. Camp 10 and Kates Grade access.

Proposed Start Date: 10/01/2018

6	32055006-Cut	32.3	42200 - Natural White Pine	Sawtimber Well	116	141-170	Harvest	Group Selection	429 - Mixed Upland Conifers	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Harvest all stems within approximately 1-acre sized gaps in non-winter harvest to promote scarification and natural pine regeneration, and prevent aspen encroachment on edges. Place gaps over approximately half of the stand. Retain healthy and wind-firm red and white pine on edges of gaps. Supplemental seeding or planting of red pine may have to occur if it is not successfully regenerating. Assess pine regeneration at next entry.

Next Step Monitoring, Natural Regen (Re-Inventory); Planting, Interplant

Treatments:

Acceptable Red pine, white pine, jack pine.

Regen:

Other In addition: Most of this stand is (State Game Fund), do not cut over-sized trees (black bear, red-crossbill, pileated woodpecker).

Comment: Summer/non-winter cut only to keep traffic off active snowmobile trail. Use Camp 10 and Kates Grade access.

Final (overstory removal) cut should be planned based on successful regeneration stocking in gaps. Additional scarification and seeding may have to occur to promote regeneration before final harvest.

Proposed Start Date: 10/01/2018

10	32055010-Cut	45.2	6122 - Black Spruce	Poletimber Well	88	81-110	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all merchantable stems (spruce, tamarack, birch, fir) to regenerate lowland conifers. Create retention patches around patches of younger trees and/or on edges of harvest boundary for stability of retention/seed trees. Leave cedar and any red or white pine. Harvest should skirt low tip-up spot on the northeast side. Exclude wet alder spots as needed for operability.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Black spruce, tamarack, cedar, birch, balsam fir.

Regen:

Other If possible, conduct dry ground and non-winter cut to keep traffic off active snowmobile trail. Use Camp 10 and Kates Grade access. If conditions are too wet and require freezing, limit operations to non-weekend hauling on snowmobile trail.

WLD - Retention should be done in patches of 15 or more trees and on the upper end of the percentage (10%). Be sure to include some large Tamarack and Spruce (leave White Pine and Cedar are in the treatment) (black bear, gray jay and red-crossbill) (State Game Fund)

Proposed Start Date: 10/01/2018



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
37	32055037-Cut	22.6	6122 - Black Spruce	Poletimber Well	91	141-170	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Cut all merchantable stems (spruce, tamarack, birch, fir) to regenerate lowland conifers. Leave cedar and any red or white pine. For retention, use existing patches of advanced regeneration or mature black spruce around harvest boundary for and optimal seed source. Good winter ground.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Black spruce, tamarack, cedar, balsam poplar, birch.

Regen:

Other Swale on east side. Good diameter, 4-5 stick black spruce. Mixed lowland conifer edges.

Comment:

Snowmobile trail goes through the stand. If possible, conduct dry ground and non-winter cut to keep traffic off active snowmobile trail. If conditions are too wet and require freezing, limit operations to non-weekend hauling on snowmobile trail.

WLD - Retention should be done in patches of 15 or more trees and on the upper end of the percentage (10%), I like the retention of mature black spruce for seed source. (gray jay and red-crossbill) (State Game Fund)

Proposed Start Date: 10/01/2018

39	32055039-Cut	11.0	6122 - Black Spruce	Poletimber Well	76	111-140	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all merchantable stems (spruce, tamarack, birch, fir) to regenerate lowland conifers. Create retention patches around patches of younger trees and/or on edges of harvest boundary for stability of retention/seed trees. Leave cedar and any red or white pine.

Timber sale may overlap into the stand to the east if stocking is adequate. Leave riparian buffer (300') for water quality and spruce seed source. Winter or very dry harvest conditions.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Black spruce, tamarack, balsam poplar, birch, cedar.

Regen:

Other Operability may be limited as stand gets wetter to the south. Consider adding portions of Stand 2 to the timber sale (immediately to the east and south) if not too wet to promote tamarack regeneration. If possible, conduct dry ground and non-winter cut to keep traffic off active snowmobile trail. If conditions are too wet and require freezing, limit operations to non-weekend hauling on snowmobile trail.

WLD - Retention should be done in patches of 15 or more trees and on the upper end of the percentage (10%); retention should also include some mature black spruce and tamarack (gray jay and red-crossbill) (State Game Fund)

Proposed Start Date: 10/01/2018

**Total Treatment
Acreage Proposed: 163.0**

Report 4 – Site Conditions

Gwinn Mgt. Unit

Compartment: 55

Rachel McDonald : Examiner

Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Acres Not Available		Dominant Site Conditions											
		With Condition				2E	5B	5F	2G	3B	3J	3L	5D	5E			
210	210	0	0	0	Aspen				0		0						
195	23	8	164	164	Cedar			8	161				3				
4	4	0	0	0	Herbaceous Openland												
200	9	49	142	142	Lowland Conifers			49	41	0	100						
67	64	0	3	3	Lowland Shrub						3						
439	163	35	242	242	Lowland Spruce/Fir	9	15	10	173	2	38		24	5			
75	0	0	75	75	Natural Mixed Pines			0		74	1						
36	36	0	0	0	Northern Hardwood												
81	52	29	0	0	Red Pine		29										
297	68	0	229	229	Tamarack				212		17						
41	0	3	39	39	Treed Bog			3					39				
185	116	48	21	21	Upland Conifers		28	20		0	18					3	
9	0	9	0	0	Upland Shrub			9									
179	11	163	5	5	Upland Spruce/Fir			163								5	
3	3	0	0	0	Water												
32	32	0	0	0	White Pine												
2,053	789	344	920	920	Total Forested Acres	9	73	263	587	76	178	3	63	13			
	38%	17%	45%		Relative Percent												

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Very wet, mostly alder.							

Report 4 – Site Conditions

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Year of Entry: 2019

3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	448	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments: Surrounding area is very wet and deep black muck.							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Available	5F: Evaluated for Forest Health Considerations	243	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was cut in 1992.							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Available	5F: Evaluated for Forest Health Considerations	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand cut in 1992, only 24 years old.							
8	Unavailable	3B: Threatened, endangered, and special concern species	41	3I: Historical / archeological (add locked comments)	Unspecified	Unspecified	Unspecified
Comments: Bryan Creek ERA							

Report 4 – Site Conditions

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9	Unavailable	5E: Long-Term Retention	5	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	5D: Unproductive Forest Land	30	2G: Too wet (sensitive soils, does not include access issues)	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified
Comments:							
11	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	49	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	5D: Unproductive Forest Land	9	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: Stunted tamarack and spruce bog.							

Report 4 – Site Conditions

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15	Unavailable	5E: Long-Term Retention	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Unavailable	3B: Threatened, endangered, and special concern species	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Bryan Creek ERA - draft plan established for treatment guidance.							
18	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Bryan Creek ERA - no plan established for treatment guidance.							
19	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	251	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
20	Unavailable	5D: Unproductive Forest Land	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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21	Available	5B: Maintain for regeneration purposes	16	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wait until next entry to assess for treatment; variable stocking and patches of black spruce regeneration.							
22	Available	5B: Maintain for regeneration purposes	29	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Available	5B: Maintain for regeneration purposes	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	32	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
38	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	34	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gwinn Mgt. Unit

Compartment: 55

Rachel McDonald : Examiner

Year of Entry: 2019

68	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	56	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water 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	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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	Poletimber Medium	19.2	132	111-140	OPIC - FMD: SCA, POT OLD GRWTH, C5S4T4
2	6121 - Tamarack	Poletimber Poor	42.3	131	1-50	OPIC - FMD: POT OLD GRWTH, S5T4F4
3	4130 - Aspen	Sapling Well	18.5	17	Immature	OPIC - FMD: cut in 2000 by Bill Usher, prmt. #13-99-01, A3 is 1/2 to 1" dbh, 5-15 ft tall. A few log sized pine in stand also.
4	429 - Mixed Upland Conifers	Sawtimber Well	46.4	113	81-110	OPIC - FMD: W8R7W6, WAS SELECT CUT 1977-1980, ALSO IN 1990, PRMT# 35-89-01. White pine over aspen, fir, spruce. Initial SBW on fir. BA 60,70, 80, 120; WP approximately half the BA.
5	42210 - Natural Red Pine	Sawtimber Well	51.9	106	111-140	OPIC - FMD: Area treated under timber sale # 035-89-01. There was some wind blown pine in this stand in 1999, it was cleaned up by Gary Gazan in a # 2 sale in Dec. of 1999. Salvage cut #00-50-02
6	42200 - Natural White Pine	Sawtimber Well	32.3	116	141-170	OPIC - FMD: cut in 2000 by Bill Usher, A few dead pine in stand.
8	42290 - Natural Mixed Pine	Sawtimber Medium	40.3	121	111-140	OPIC - FMD: W8R7W4, CUT PRMT # 38-89-1. Manage as stand condition 8 , as an ERA of dry mesic northern forest. There were some wind blown pine in this stand in 1999. It was cleaned up by Gary Gazan in 1999, in a #2 sale. Salvage cut #00-50-02. A few dead white pine in the stand. Cut in summer season when stand is harvested.
9	42320 - Upland Spruce	Poletimber Medium	4.8	85	81-110	Dry, higher knob with jack pine. Transition from black spruce to red pine stand. Keep for retention during this cycle, both adjacent stands to the west and east are being cut.
10	6122 - Black Spruce	Poletimber Well	58.4	88	81-110	OPIC - FMD: S5T4F4, CHK IN 10 YRS, individual dead trees scattered throughout the stand.
11	429 - Mixed Upland Conifers	Poletimber Medium	22.6	29	1-50	OPIC - FMD: CUT UNDER PERMIT #38-89-1 Good rabbit habitat now, diverse mix of upland deciduous and open-growing conifers. Initial SBW on fir. Deciduous (aspen, red maple) component in the east, grades to black spruce and jack pine mix in the western part of the stand. Includes a retention pocket of black spruce left from harvest of aspen stand to the north.
12	42290 - Natural Mixed Pine	Sawtimber Well	34.9	117	111-140	Dry Mesic Forest. Bryan Creek ERA. Nicest natural pine stand in the Gwinn Unit. Large, heavily stocked red and white pine sawtimber with the rare black spruce. Avg. ba wp-54, rp-64, bs-2. CUT 1983, Thinned 2007 (Sanville permit 029-03-01) while requiring logger to eliminate fir understory to mimic natural processes of frequent fire. In MNFI database as a high quality dry-mesic forest. Recommend understory fire in 2-5 years to burn up fir that seeds in after this cutting.
13	6124 - Lowland Spruce- Fir	Sapling Poor	53.5	25	1-50	Part of this stand was harvested with stand to the north, but the majority of it grades to low, wet conifer bog.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	6121 - Tamarack	Poletimber Medium	26.8	107	81-110	Tamarack over cedar and alder. Very wet, stream corridor from the north. Blowdown (shallow soils) on eastside.
15	6121 - Tamarack	Sapling Medium	12.2	25	Immature	OPIC - FMD: S1T1L, CUT, PRMT # 31-88-1
16	6120 - Lowland Cedar	Poletimber Well	175.9	141	111-140	
17	6122 - Black Spruce	Poletimber Medium	17.7	125	51-80	Poor-fair quality black spruce. Variable density, but patches of black spruce regeneration. Wait until next entry for better growth and stocking.
18	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	41.4	123	51-80	OPIC - FMD: S5T4C4, PART OF STD STRIP CUT IN 1992. Wildlife doesn't want stand cut. Reproduction is not good for shelter. 2016: Tamarack and cedar stand, somewhat open-growing. Lots of wet spots. Good lowland conifer habitat.
19	42340 - Upland Spruce/Fir	Sapling Medium	163.3	25	Immature	Patchy density, aspen and spruce, fir, tamarack. 3" dbh. Was cut 1992 # 022-89-1. Initial SBW on fir. No harvestable volume; 1-2 stick fir. Variable stand: aspen clones and fir regeneration with spruce and fir retention, good tamarack regeneration on edges of the stand where it transitions to lower ground and high, grassy spots dominated by cherry, grasses, forbs. Most of stand has good regeneration stocking. Check regeneration in 10 yrs.
21	6121 - Tamarack	Poletimber Medium	18.3	51	51-80	Tamarack dominant, smaller diameter. Logging trails in look very wet.
22	6122 - Black Spruce	Poletimber Medium	27.2	95	Unspecified	Moderately stocked black spruce stand.
23	6124 - Lowland Spruce-Fir	Poletimber Medium	100.4	127	Unspecified	Former potential old growth nomination. Stand varies from tamarack to black spruce. Very wet.
24	42380 - Non Pine Upland Conifer, Mixed Deciduous	Sapling Medium	32.0	25	1-50	
25	6122 - Black Spruce	Poletimber Medium	98.7	61	81-110	Good bog flora in understory. 3-5 stick black spruce on interior higher ground, but 2-4 stick on northeast side 80 BA. Stocking also dwindles on west side. Wait and check next entry.
27	4130 - Aspen	Sapling Well	65.7	25	Immature	OPIC - FMD: P3A1F1, CUT 1992, # 022-89-11/2-3 IN DBH, 5-15 FT TALL, A FEW POLE SIZED BAM, FIR AND ASPEN IN THE STAND.
28	6122 - Black Spruce	Sapling Poor	24.4	101	1-50	TREED BOG
29	6124 - Lowland Spruce-Fir	Sapling Poor	4.5	16	Unspecified	Tornado touchdown area along the edge of a black spruce stand and tamarack stand. Regenerating very well to mixed conifers with a heavy component of 6-12" black spruce seedlings.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	4130 - Aspen	Sapling Well	14.1	13	Immature	OPIC - FMD: A3, Cut prmt. # 14-99-1
31	4110 - Sugar Maple Association	Sawtimber Well	36.1	121	81-110	OPIC - FMD: M6M7, cut prmt. #14-99-1
32	429 - Mixed Upland Conifers	Sapling Medium	33.7	18	51-80	2/2017 field notes: Hardwood (1") and aspen (2") regeneration; browse medium intensity. Patches of older hemlock, cedar, spruce, birch left as retention from previous harvest. Cut prmt. #14-99-1. Some birch were marked to leave for seed trees, but most of them are dead.
33	6122 - Black Spruce	Poletimber Medium	59.5	97	81-110	Patchy black spruce, tamarack, birch with lots of low, wet veins isolating the better timber patches.
34	6122 - Black Spruce	Poletimber Medium	5.2	105	141-170	OPIC - FMD: S5C4W4, Leave forever for cover.
35	6122 - Black Spruce	Poletimber Poor	9.6	85	1-50	Open tag alder with stunted fir and spruce, patches of small poles (4-5") of black spruce with tamarack. Wet.
36	4136 - Aspen, Mixed Conifer	Sapling Well	21.9	13	Immature	02/2017 Field Notes: Aspen sapling stand with decent jack pine component. Cut prmt. #14-99-1.
37	6122 - Black Spruce	Poletimber Well	22.6	91	141-170	OPIC - FMD: S6,CHK IN 10YRS
38	6121 - Tamarack	Poletimber Medium	16.8	124	51-80	Patchy density tamarack over sinuous wet alder and thick fir that's just becoming harvestable diameter. Too sporadically wet to get sizable harvest.
39	6122 - Black Spruce	Poletimber Well	16.8	76	111-140	6-8" Black spruce poles, 3-5 sticks. More upland north, sloping south to lower ground. Alder swales occasional. BA 120, 200, 110. Stand susceptible to wind: signs of wind damage.
40	4130 - Aspen	Sapling Medium	25.9	5	Immature	OPIC - FMD: A6F4W7, CUT THIS TP, Leave all red, white pine, cedar, hemlock, black cherry, and oak. 2012-Cut under contract # 012-09-01 by Minerick. A large chip pile was stored on the landing for a year, monitor to see if regeneration pokes thru the chip map.
46	6121 - Tamarack	Poletimber Medium	127.9	127	51-80	
48	6122 - Black Spruce	Poletimber Medium	41.5	66	51-80	Stocking is patchy in southern part of the stand, and stand is wet in patches. Wait and check next entry for better stocking. Winter harvest only.
49	42340 - Upland Spruce/Fir	Poletimber Medium	10.9	25	Immature	OPIC - FMD: F4A4S4, CUT 1992 # 022-89-1



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	42210 - Natural Red Pine	Sawtimber Poor	29.2	121	1-50	02/2017 Field Notes: Recently cut for aspen and soft wood. Pine retained. Some aspen poles retained on west side of stand too. Sporadic aspen clones in understory. Includes a small, predominately aspen sapling stand to north.
64	6122 - Black Spruce	Poletimber Poor	7.1	86	1-50	OPIC - FMD: See stand 43 comments.
67	6121 - Tamarack	Poletimber Medium	52.5	51	51-80	Decent tamarack and black spruce poles, but variable stocking. Check next entry, likely better stocking and diameters then.
70	6122 - Black Spruce	Poletimber Medium	9.3	131	81-110	OPIC - FMD: POT OLD GRWTH, S5T4F4
72	6122 - Black Spruce	Poletimber Poor	41.5	121	1-50	OPIC - FMD: S4S1
74	4130 - Aspen	Sapling Medium	63.7	4	Immature	OPIC - FMD: SCA, to move this stand to the dry mesic northern forest ERA's condition. F4M4W7, Cut now, in the summer season. LOT OF FIR, SPR. COMING IN, Leave the red and white pine, cedar and hemlock and obvious den trees. ***Stand harvested as "Camp 10 Mix" #011-09-01 (unit 1) - cut January, 2014. Winter logging ended up being best, as stand was very wet. All cedar, hemlock, red and white pine were retained, as well as advanced pine regeneration (pockets noted). Stand 47 was avoided. Allow natural regeneration to establish stand.
75	429 - Mixed Upland Conifers	Sapling Medium	49.9	18	1-50	OPIC - FMD: W7W6, Cut prmt. #14-99-01.



Stand	Cover Type	Acres	Managed Site	General Comments:
7	6229 - Mixed lowland shrub	9.7		OPIC - FMD: S6T4J4, Cut this tp. In the summer. *** Stand harvested as "Camp 10 Mix" #011-09-01 Feb., 2014. Two - 1/4 to 1/2 ac exclusion patches left with spruce, pine within. Also left aspen and paper birch for seed source and diversity, many of which are dead/dying. Marked a few larger spruce, jack pine with green paint for retention. Stand is more of an R7/W7 type at this time.
20	320 - Upland Shrub	9.2		
26	6224 - Treed Bog	11.9	No	Stunted black spruce, tamarack. Dominated by alder.
42	500 - Water	3.1	No	
53	622 - Lowland Shrub	57.5	No	OPIC - FMD: SCA, POT OLD GRWTH
58	6224 - Treed Bog	29.5	No	
403	310 - Herbaceous Openland	3.5		OPIC - FMD: S6T4J4, Cut now,during the summer season. ***Portion of stand harvested (3 acs of original 5 ac stand) as "Camp 10 Mix" #011-09-01 (unit 7). SW portion of stand (near section corner) was not harvested - stand was too small and only contained a few spruce, tamarack, small fir and lots of lowland brush (per old examiner notes at time of sale prep). Now part of stand(s) 64,71. Left all red and white pine. Current stand is now heavier to red pine, but will end up with natural spruce regeneration within.