

# **Compartment Review Presentation**

**Newberry Forest Management Unit** 

Compartment 42060 Entry Year 2021 Acreage: 1,482

**County Chippewa** 

Management Area: Whitefish Vermillion Point

Revision Date: 2019-08-05

Stand Examiner: Amy Douglass

**Legal Description:** 

T50N R06W Sections 19, 20, 29 & 30

#### **Identified Planning Goals:**

Timber and wildlife habitat are the main uses in this area. The goal is to promote and enhance these uses, as well as maintain and improve forest health and productivity. Treatments prescribed will help insure the sustainability of the forest resource and continue to enhance the quality fo the wildlife habitat.

#### Soil and topography:

The compartment is almost entirely Deer Park fine sand on level to rolling ground. Small, level inclusions of Wainola-Kinross-Rousseau complex (southwest corner) and Markey and Carbondale mucks (east side below the bluff/along Shelldrake flooding) exist.

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

The compartment is entirely state land. The land adjacent to the compartment to the north, east and west is all under state ownership. To the south is a mix of both State land and small private parcels. Land use in and around the compartment is primarily for recreational opportunities. Hunting, fishing, ORV riding, hiking and berry picking all occur throughout the area. Development in the area is minimal with the private parcels consisting of small camps and seasonal usage.

#### **Unique Natural Features:**

The potential exists for numerous threatened and endangered flora and fauna.

#### Archeological, Historical, and Cultural Features:

None noted.

#### **Special Management Designations or Considerations:**

None noted.

#### Watershed and Fisheries Considerations:

Fisheries Values: Minimal

Fisheries Division does not actively manage any waters in this compartment. The Betsy River, Shelldrake Flooding and Dead Creek all border this compartment. Standard BMP's should apply to any treatments proposed near surface water or any of the previously mentioned resources. Proposed treatments in this compartment are not near any surface water. Fisheries has no concerns at this time.

#### Wildlife Habitat Considerations:

Compartment 60 lies in northwestern Chippewa County and is in the Grand Marais Sandy End Moraine and Outwash ecological sub-subsection and lies within the Whitefish- Vermillion Management Area with moose, spruce grouse and red crossbill are featured species. The compartment is currently a mix of young and mature jack pine with minimal white or red pine stands, a marsh type and mixed conifer stand along the Shelldrake Flooding which borders the east side of the compartment. Dead creek runs along a portion of the southern boundary of the compartment and provides an excellent wildlife travel corridor. The pine stands have limited species diversity.

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 in harvested stands will help provide food sources, nest and den trees, and improve structural diversity. Leaving understory spruce when it occurs will likewise increase structural diversity as will retaining non-pine species in pine stands. Wildlife species potentially using this compartment include white-tailed deer, black bear, moose, coyote, and possibly fisher, otter and mink.

#### Mineral Resource and Development Concerns and/or Restrictions

No active sand/gravel pits exist in the area, but there may be some sand & gravel potential within the compartment. 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.

#### **Vehicle Access:**

Located 10 miles northwest of Paradise, primary access is via the Widewaters Road (a county maintained sand road). A network of forest roads (two track sand/dirt roads) transects the compartment providing ample vehicle access.

#### **Survey Needs:**

None needed.

#### **Recreational Facilities and Opportunities:**

There are no recreational facilities within the compartment boundary. The snowmobile trail is located approximately one mile to the south. Recreational opportunities include hunting, hiking, berry picking, wildlife/nature viewing, snowmobiling and ORV riding.

#### **Fire Protection:**

The compartment is part of the Whitefish Zone dispatch area. Large fire runs are possible because of continuous hazard fuel types and long response times. Excessively sandy roads could pose access problems for some equipment. Private properties outside the compartment could be at risk to damage from fire.

#### **Additional Compartment Information:**

The following reports from the Inventory are attached:

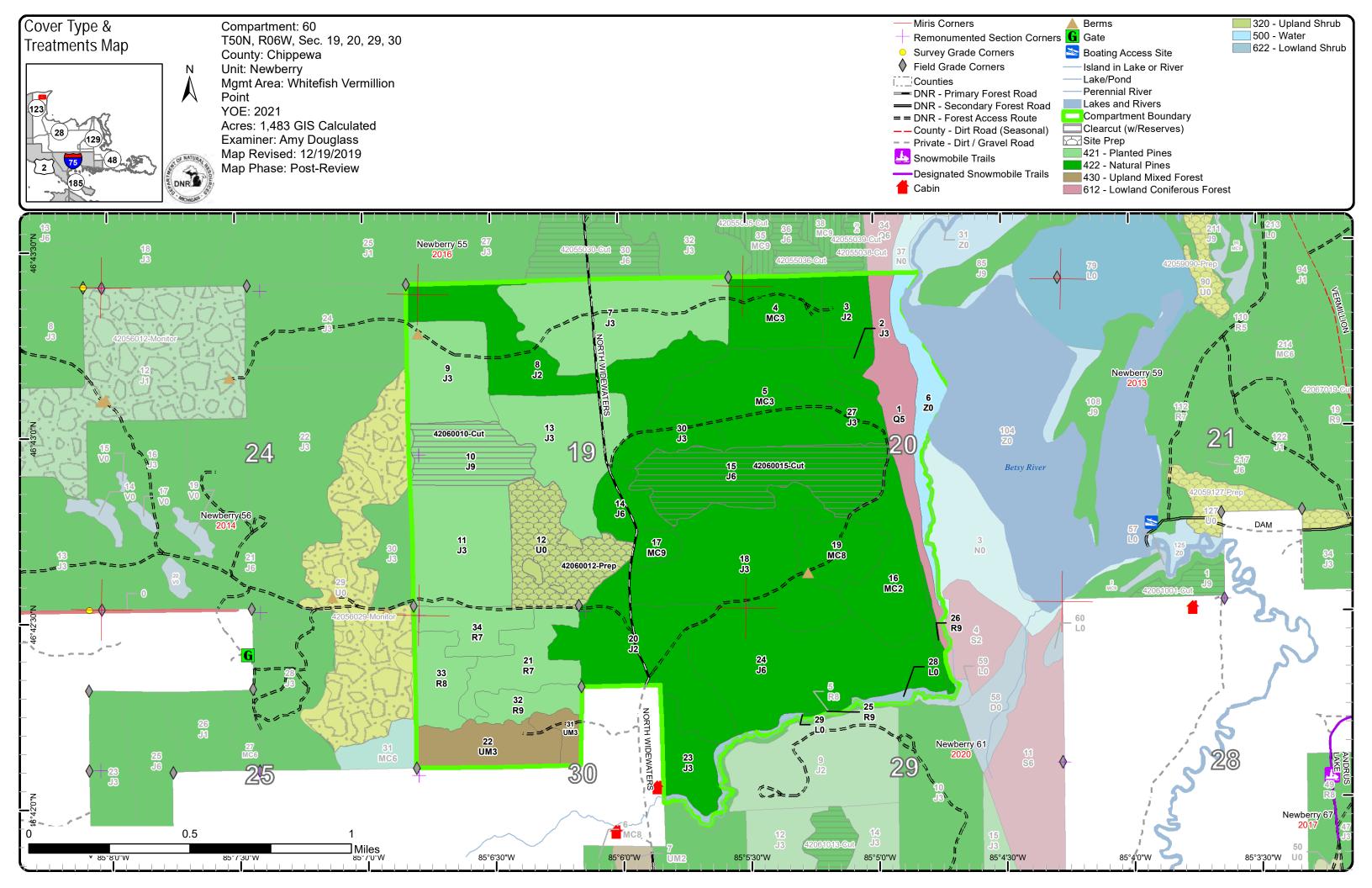
Total Acres by Cover Type and Age Class Cover Type by Harvest Method Proposed Treatments – No Limiting Factors Proposed Treatments – With Limiting Factors Stand Details (Forested and Nonforested) Dedicated and Proposed Special Conservation Areas Site Condition Details

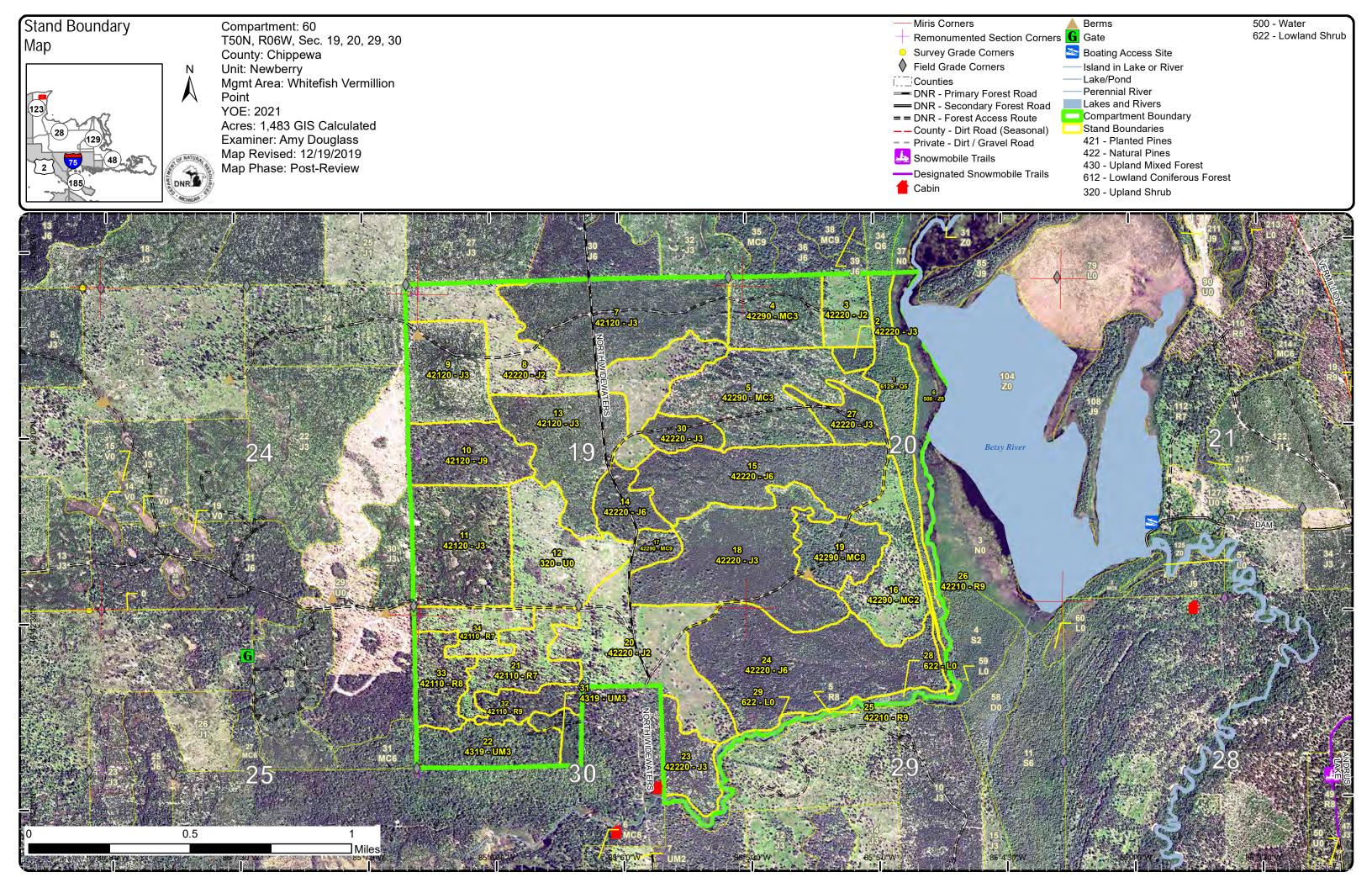
The following information is displayed, where pertinent, on the attached compartment maps:

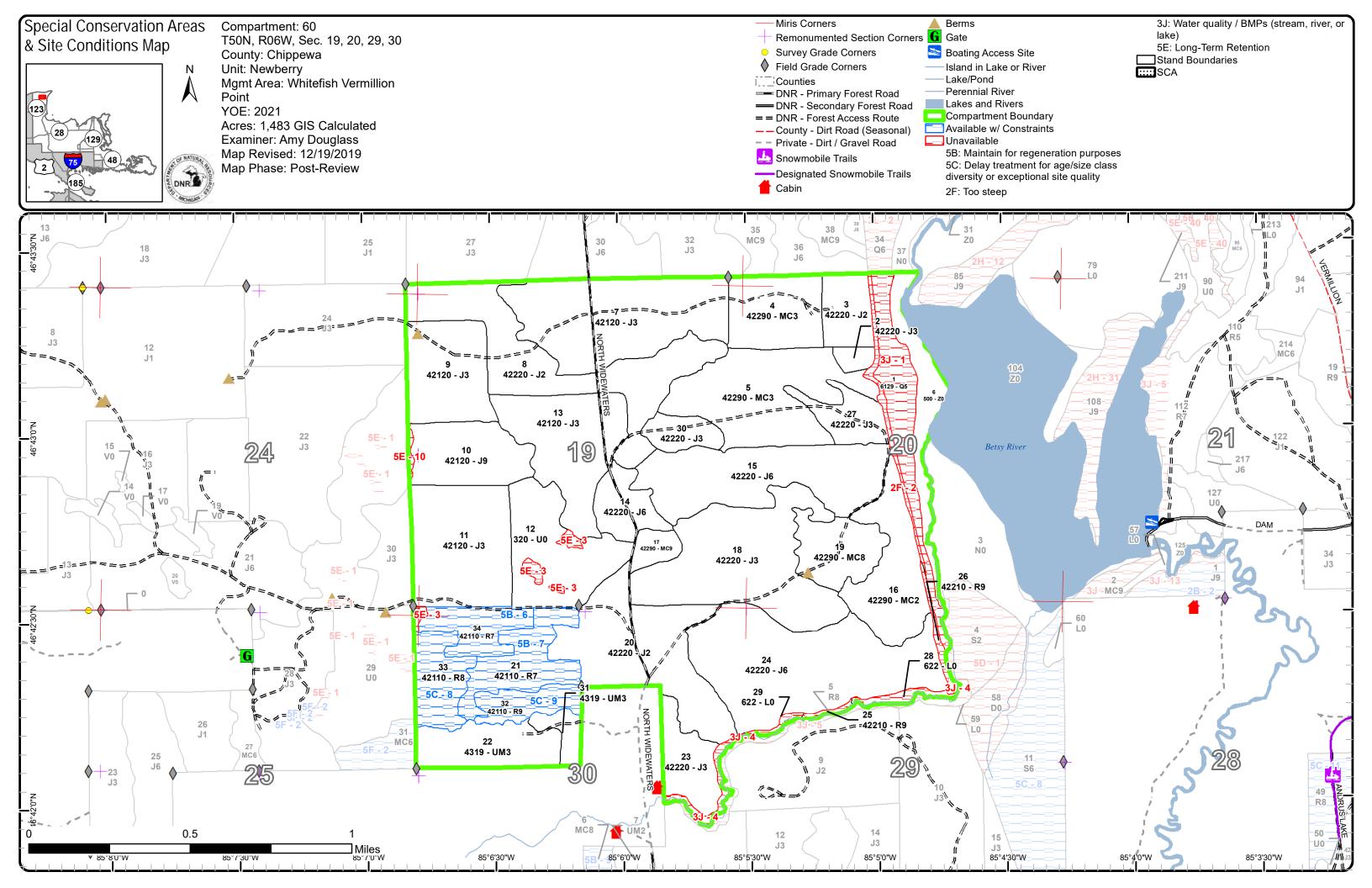
Base feature information, stand boundaries, cover types, and numbers

Proposed treatments Site condition boundaries

Details on the road access system







Compartment 60

Year of Entry 2021

Newberry Mgt. Unit
Amy Douglass : Examiner



### Age Class

		/ » /	/ /	/ /	/ /	/	/	/	/ /	/ /	/ /	/	/ /	/	/ /	/ ,	/ /	/ /		,
			3 /	$\sqrt[8]{2}$	P / &			3 / 8	& / ·	\$\\\ \&		§ /,	& / ¦	& /				* /	EN YOU	,
	/ <del>2</del> 00		, / &	, \ \	/ %	1 1/2	/ &	/ &	<sup>5</sup> / <sup>®</sup>	s / &	\ \ &			1/2	' / '§	\$ / Æ	s / &	St Jue		
Jack Pine	0	182	147	168	320	0	0	0	132	0	0	0	0	0	0	0	0	0	948	
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	45	
Lowland Shrub	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
Natural Mixed Pines	0	0	51	42	84	0	0	33	0	10	0	0	0	0	0	0	0	0	219	
Red Pine	0	0	0	0	0	0	0	0	110	0	0	6	0	0	0	0	0	0	115	
Upland Mixed Forest	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	47	
Upland Shrub	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	
Water	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	
Total	107	182	198	210	451	0	0	33	242	10	0	51	0	0	0	0	0	0	1481	ĺ



## **Report 2 – Treatment Summary**

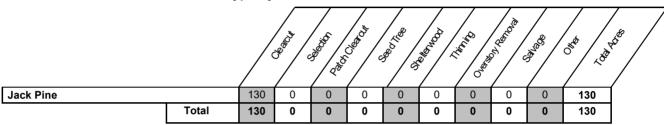
# Newberry Mgt. Unit Year of Entry: 2021

#### **Acres of Harvest**

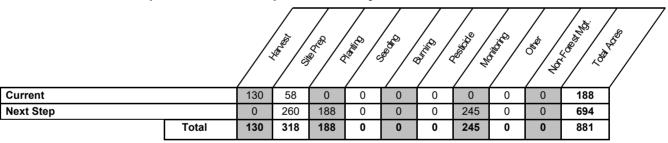
Compartment 60
Total Compartment Acres: 1,482

Commercial Harvest - 130 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

## **Cover Type by Harvest Method**



## **Proposed and Next Step Treatments by Method**



n

d

Compartment: 60 Year of Entry: 2021



**Treatment** Name

Acres

Stand CoverType

Size Stand Density Age

BA Range **Treatment** Type

**Treatment** Method

Cover Type Objective

Age Structure Habitat Cut

#### **Approved Treatments:**

10	42060010-Cut	42.8	42120 - Planted	Sawtimber	79	Unspec	Harvest	Clearcut with	4222 - Natural	Even-Aged	No
			Jack Pine	Well		ified		Retention	Jack Pine		

Prescription Clearcut leaving individual and small clumps of RP and/or WP, so as not to impede scarification/regeneration efforts. Leave all oak. One patch retention needed and will be located on the west side to offset green-up with adjacent compartment/stand (as shown on map). May Specs: need to leave higher residual or retention in SE corner also, for green-up.

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Initial Plant

Treatments:

Acceptable Jack pine with associated red pine, white pine and oak.

Regen:

**Other** Comment:

Site Condition

Proposed Start Date: 10/1 /2020

12 42060012-57.6 320 - Upland Shrub Nonstocked 4212 - Planted Unspec SitePrep Trenching Even-Aged Nο Jack Pine ified Prep

Prescription Trench to prepare site for hand planting of jack pine.

Specs:

Next Step Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Planting, Initial Plant

**Treatments:** 

Acceptable Jack pine with scattered red pine and white pine.

Regen:

This site was never scarified. Current FTP 42-781. Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2019

42060015-Cut 87.4 42220 - Natural Poletimber 78 Unspec Harvest Clearcut with 4222 - Natural Even-Aged No Jack Pine Well ified Retention Jack Pine

Prescription Clearcut leaving individual and small clumps of RP and/or WP, so as not to impede scarification/regeneration efforts. Leave all oak. Patch

retention (5% in 4-5 patches) to include red pine/white pine and understory spruce for structural diversity for wildlife. Specs:

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Initial Plant **Treatments:** 

Acceptable Jack pine with associated red pine, white pine and oak.

Regen:

**Other** Comment:

Site Condition

Proposed Start Date: 10/1 /2020

**Total Treatment** Acreage Proposed:

# **Report 4 – Site Conditions**

Newberry Mgt. Unit

Amy Douglass : Examiner



Availa	ability for	Managemer	nt						
Total	Acres	Acres Avail	Acres		Domina	nt Site	Cond	ditions	s
Acres	Available	With Condition	Not Available		5B	5C	2F	3J	5E
948	947	0	1	Jack Pine					1
45	0	0	45	Lowland Conifers			7	37	
15	2	0	13	Lowland Shrub				13	
220	220	0	0	Natural Mixed Pines					
116	0	109	7	Red Pine	62	47	4	2	1
47	47	0	0	Upland Mixed Forest					
62	58	0	4	Upland Shrub					4
32	32	0	0	Water					
1,484	1,305	109	71	Total Forested Acres	62	47	11	52	7
	88%	7%	5%	Relative Percent					•

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

	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
Unavailable	3J: Water quality / BMPs (stream, river, or lake)	38	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
	luff along Shelldrake flooding	•				
Unavailable	2F: Too steep	11	Unspecified	Unspecified	Unspecified	Unspecified
	Shelldrake Flooding.					
Unavailable	5E: Long-Term Retention	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:						
	Cond Availability Unavailable  Comments: Low ground below b  Unavailable  Comments: Steep bluff down to	Cond Availability Dominant Site Condition  Unavailable 3J: Water quality / BMPs (stream, river, or lake)  Comments: Low ground below bluff along Shelldrake flooding  Unavailable 2F: Too steep  Comments: Steep bluff down to Shelldrake Flooding.  Unavailable 5E: Long-Term Retention	Cond Availability       Dominant Site Condition       Acres         Unavailable       3J: Water quality / BMPs (stream, river, or lake)       38         Comments:       Low ground below bluff along Shelldrake flooding.         Unavailable       2F: Too steep       11         Comments:       Steep bluff down to Shelldrake Flooding.         Unavailable       5E: Long-Term Retention       6	Cond Availability       Dominant Site Condition       Acres       Other Site Condition         Unavailable       3J: Water quality / BMPs (stream, river, or lake)       38       2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)         Comments:       Low ground below bluff along Shelldrake flooding.         Unavailable       2F: Too steep       11       Unspecified         Comments:       Steep bluff down to Shelldrake Flooding.         Unavailable       5E: Long-Term Retention       6       Unspecified	Cond Availability       Dominant Site Condition       Acres       Other Site Condition       Other Site Condition         Unavailable       3J: Water quality / BMPs (stream, river, or lake)       38       2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)       Unspecified         Comments:       Low ground below bluff along Shelldrake flooding.       11       Unspecified       Unspecified         Comments:       Steep bluff down to Shelldrake Flooding.       Unspecified       Unspecified         Unavailable       5E: Long-Term Retention       6       Unspecified       Unspecified	Cond Availability       Dominant Site Condition       Acres       Other Site Condition       Other Site Condition       Other Site Condition         Unavailable       3J: Water quality / BMPs (stream, river, or lake)       38       2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)       Unspecified       Unspecified         Comments:       Low ground below bluff along Shelldrake flooding.       Unspecified       Unspecified       Unspecified         Comments:       Steep bluff down to Shelldrake Flooding.       Unspecified       Unspecified       Unspecified         Unavailable       5E: Long-Term Retention       6       Unspecified       Unspecified       Unspecified

# Report 4 – Site Conditions

Newberry Mgt. Unit
Amy Douglass : Examiner



4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	13	Unspecified	Unspecified	Unspecified	Unspecified
	<b>Comments:</b> Buffer along Dead	Creek.					
6	Available	5B: Maintain for regeneration purposes	25	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
7	Available	5B: Maintain for regeneration purposes	37	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	28	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
10	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Retention strip to h	nelp alleviate green-up issues wi	h adjace	ent compartment/stand.			

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				

Mgt. Unit Compartment:
Year of Entry

# 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.

Conservation Type Description
Area

ERA = Ecological Reference Area

HCVA = High Conservation Value Area

SCA = Special Conservation Area



MICHIGAN	General Comments	1	Managed Si	A Range	Stand Age	Acres	Density	Size D		over Type	d Level 4 Co	Stand
drake Flooding to	Low ground between steep slope to the west and Shell the east.		N/A	81-110	108	m 44.7	oer Medium	Poletimb	owland	oniferous Lo orest	6129 - Mixed Co Fo	1
		Size	Avg. Height	Density	nopy Species	Sub-Ca	BH Age	ass DB	Size Clas	% Cover	Canopy Species	
		Sapling	Variable	Medium	ck Spruce	Blad	4	ole 14	Log/Pol	25	White Pine	
		Sapling	Variable	Low	d Maple	Re	3 108	e 8	Pole	35	Black Spruce	
		Sapling	Variable	Medium	te Spruce	Whi	3 108	Log 8	Pole/Lo	30	orthern White Cedar	No
	Component of young red pine. NW/SE ridges. Some		N/A	mmature	33	5.4	ing Well	Saplir	ine	ural Jack P	42220 - Natu	2
egeneration. Cut	ridges. Residual RP and WP throughout. Some oak reas sale #008-81-01. Scarified in 1986 - FTP 42-096.						BH Age	ass DB	Size Clas	% Cover	Canopy Species	
	as sale #000-01-01. Scarnied in 1900 - FTP 42-090.						_		Sapling/P	95	Jack Pine	
	Very hilly. Regen ~10-20' tall. Stand harvested as "W.		N/A	mmature	14	22.0	g Medium	Sapling	Pine	ural Jack P	42220 - Natu	3
	(42-007-01-01). Completed 6/3/04. Scarification comp (42-542). Some of the steep ridges were not scarified.						BH Age	ass DB	Size Clas	% Cover	Canopy Species	
t each). Stand is	completed $5/29/08 = 124 \text{ t/ac}$ (62 t/ac of both J,R <1' h						1 14	ing 1	Sapling	75	Jack Pine	
	regenerating well. Ridges are more of a mix of species						1	ing 1	Sapling	7	White Pine	
	oak) while the level areas are more JP.						1	ing 1	Sapling	6	Red Maple	
	OPIC - FMD: Cut in 1993 as "Section 20 Jack Pine" #0		N/A	mmature	24	42.1	ing Well	Saplir	Pine	ıral Mixed F	42290 - Natu	4
Scarification	thick jack pine regeneration, especialy along the road. never completed (FTP 42-307). May have had some a						BH Age	ass DB	Size Clas	% Cover	Canopy Species	
icas macinic	planted in 1995 - FTP 42-373, but records are unclear.						3 24	ing 3	Sapling	45	Jack Pine	
							3	ing 3	Sapling	10	Red Pine	
							2		Sapling	20	White Pine	
							2	g 12	Log	10	Red Pine	
							3	e 8	Pole	10	Red Oak	
	Component of young red pine. Lots of terrain - NW/SE		N/A	mmature	33	84.4	ing Well	Saplir	Pine	ıral Mixed F	42290 - Natu	5
ghout. Some oak	residual oak on the ridges. Residual RP and WP throu regeneration. Cut as sale #008-81-01. This portion of						BH Age	ass DB	Size Clas	% Cover	Canopy Species	
the sale does not	appear to have been scarified.								Sapling/P	50	Jack Pine	
	appear to have been esamed.								Sapling	18	Red Pine	
								0	Log	20	Red Pine	
	Edge of Shelldrake Flooding - water to marshy edge.	ing	Managed Ope	nspecified	l	32.4	stocked	Nons		- Water	500 -	6
	Stand harvested in 1988 (030-84-01) and scarified (FTI Stand overall is thick with regeneration. Component of		N/A	mmature	27	100.3	ing Well	<u>'</u>			42120 - Plan	7
	maple regeneration.						BH Age		Size Clas		Canopy Species	
	2019: appears to be planted. Some maps indicate plan of planting or plant date. Old planting map book indica planted in 1992.						3 27	ing 3	Sapling	95	Jack Pine	



Stand	Level 4 C	over Type		Size Density	Acres	Stand Age	BA Range	Managed S	ite	General Comments
8	42220 - Nat	ural Jack P	ine	Sapling Medium	93.9	6	1-50	N/A		Stand harvested via final harvest as sale #010-11-01, Three Part Jack
	Canopy Species	% Cover	Size Class	B DBH Age						Pine. Completed 04/30/2012. Scarification in late fall 2012 - FTP 42-780. Regen 2016: 607 TPA of jack pine. Residual basal area 10 to 20.
	Jack Pine	75	Sapling	1 6						2019: regen looks pretty good through the snow. Rechecked in snow free
	Red Pine	15	Log/Pole	12						conditions - fully stocked JP stand (pushing 75% canopy closure). Regen ~3-6' tall.
9	42120 - Pla	nted Jack F	Pine	Sapling Well	50.9	19	Immature	N/A		Cut as sale "Section 19 Jack Pine", #040-91-01, in 1993. FTP42-322:
	Canopy Species	% Cover	Size Class	B DBH Age						scarification 8/1994 with regen count in 1998. Stocking low at that time, and planting was scheduled for May, 2000 (51,000 JP).
	Jack Pine	95	Sapling							Walk-thru check 7/8/08 - stand fully stocked. Jack pine now 8-12' in height. Fresh evidence of insect activity (spittlebug). 2009 - JP 8-12 ft tall. Pretty thick in spots, fully stocked stand. More open along E and W stand edges. A little budworm damage.
10	42120 - Pla	nted Jack F	Pine	Sawtimber Well	44.3	79	Unspecified	N/A		Mature jack pine with larger diameter RP and WP as well as some
	Canopy Species	% Cover	Size Class	B DBH Age	Sub-Ca	nopy Specie	es Density	Avg. Height	Size	stunted RP. Scattered clumps of white birch and occasional oak.  Pockets of blowdown, SE corner. Jack pine is overmature and showing
	Jack Pine	85	Log/Pole	10 79	Blad	ck Spruce	Low	Variable	Sapling	mortality and decline. Old records indicate that this was planted to
	Red Pine	15	Log	13						Norway pine or Norway/jack pine mix in 1940.
11	42120 - Pla	nted Jack F	Pine	Sapling Well	73.6	19	Immature	N/A		Boggy inclusions. "Swampy Jack Pine" #042-91-01. Cut 1994. FTP42-358: scarified 11/1994. Regen count in June, 1998. Planting scheduled
	Canopy Species	% Cover	Size Class	B DBH Age						for May, 2000 (44,000 JP).
	Jack Pine	60	Sapling							Walk-thru check on 7/8/2008 - stand fully stocked. Jack pine from 10-12'
	Red Pine	10	Sapling	2						in height. Quite an abundance of RP seedlings noted, also (2' ht). Fresh evidence of insect activity (spittlebug).
	Red Pine	20	Log	12						2009 - Nice jack pine regeneration 10-15 ft tall, farily thick with average of 10BA of residual red pine, up to 30-40 BA in spots. Also maple, red pine and oak regeneration.
12	320 - Up	land Shrub		Nonstocked	61.7	0	Unspecified	4212 - Planted	lack Pine	Stand harvested via final harvest as sale #42-009-11-01, Dry Creek Jack
					Sub-Ca	nopy Specie	es Density	Avg. Height	Size	Pine. Completed 12/04/12. Scarification work never completed (FTP 42-781). Red pine residual and small low pocket inclusions left.
					R	ed Pine	Medium	>20 feet	Log	Regen 2016: 342.5 TPA of jack pine, 24.5 TPA of red pine. Residual
					W	hite Pine	Low	>20 feet	Log	basal area around 10. TPA is average between this stand and stand
					Re	ed Maple	Low	5 - 10 feet	Sapling	20/34. 2019: Checked for regen in snow free conditions - little to no JP or RM.
					Pa	per Birch	Low	5 - 10 feet	Sapling	Scattered RP/WP residual.
					Blad	ck Spruce	Low	Variable	Sapling	
					Ja	ack Pine	Low	< 5 feet	Sapling	
13	42120 - Pla		Pine Size Class	Sapling Well  B DBH Age	67.6	27	Immature	N/A		Sale #031-84-01. Cut in 1987. FTP 42-104 for scarification. No records that scarification was complete and area appears to be planted (no records for this either, other than note on a map). Old plantation map
	Jack Pine	95	Sapling	3 27						book indicates this was planted in 1992. Scattered residual oak. Component of red maple stump sprouts.



Stand	I Level 4 C	over Type		Size De	nsity	Acres	Stand Age	BA Range	Managed S	ite	General Comments
14	42220 - Nat	tural Jack P	ine I	Poletimb		22.3	38	Unspecified	N/A		Hilly. Sale #013-77A. Cut in 1978. Scarified in 1980 - FTP 175.  Seeded in 1981 - FTP 42-109. Well stocked stand with scattered red
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	pine residual mainly the southern half of stand.
	Jack Pine	75	Pole/Sapling	g 6	38	Re	ed Maple	Low	Variable	Sapling	
	Red Pine	15	Log	13		Blad	ck Spruce	Low	Variable	Sapling	
	White Pine	10	Log	13							
15	42220 - Nat	tural Jack P	ine I	Poletimb	er Well	87.4	78	Unspecified	N/A		OPIC - FMD: Thick stand, smaller diameters. Very hilly stand, lots of
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	s Density	Avg. Height	Size	topography. Pockets with high % of mortality. Some mortality. Very recent harvest on the east side of the stand. Scattered oak.
	Jack Pine	85	Pole/Log	9	78	WI	nite Pine	Medium	Variable	Sapling	
	Red Pine	10	Log/Pole	12							
16	42290 - Nati	ural Mixed F	Pine S	Sapling I	Medium	51.1	14	1-50	N/A		OPIC - FMD: W Shelldrake Pine (42-007-01-01). Completed 6/3/04.
	Canopy Species	% Cover	Size Class	DBH	Age						Scarification/cultural work completed as of 10/05 (42-542). Regeneration count completed 5/29/08 = 262 t/ac (26 t/ac J <1' ht, 184 W, 52 R).
	Jack Pine	50	Sapling	1	14						Continue to monitor for success. Average residual BA = 20 (up to 60).
	White Pine	15	Sapling	1							2009 - showing some regeneration of JP, RP, and WP, mostly WP. Best
	Red Maple	10	Sapling	1							regen is in areas of skid trails. Regen average 1-3 ft tall. Pockets of residual pine. 2019 - 10-20' tall regen. Occasional oak. Not as much
	Red Pine	10	Log	12	66						regen under heavier residual patches.
	White Pine	10	Log	12							
17	42290 - Nati	ural Mixed F	Pine	Sawtimb	er Well	9.6	87	51-80	N/A		Mainly red pine with white pine logs over jack pine and white pine
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	s Density	Avg. Height	Size	understory. Cut as part of #13-77A (with stand 14 to the north).  Probably scarified in 1980 - FTP 175 and seeded in 1981 - FTP 42-109.
	Red Pine	40	Log	14	87	Blad	ck Spruce	Low	Variable	Sapling	Heavier residual than stand to the north, so jack pine is more stunted, but
	White Pine	30	Log	14		WI	nite Pine	Medium	Variable	Sapling	high density of jack pine sap/pole overall.
	Jack Pine	30	Sapling/Pole	e 3	38						
18	42220 - Nat	tural Jack P	ine	Sapling	y Well	106.0	34	Immature	N/A		Sale #009-81-01. Cut 1985. Scarified in 1985 - FTP 42-098. Nice jack pine regeneration, thick. Residual red pine in west 1/3 of stand (<10 BA)
	Canopy Species	% Cover	Size Class	DBH	Age						pine regeneration, thick. Residual red pine in west 1/3 of stand (< 10 bA)
	Jack Pine	90	Sapling/Pole	e 4	34						
19	42290 - Nati			awtimbei			66	81-110	N/A		Two aged/multi aged pine stand. Mainly red pine with white pine, jack pine. Very thick understory of RP, WP, JP, spruce, and balsam. Lots of
	Canopy Species		Size Class		Age		nopy Species		Avg. Height	Size	structural diversity in the stand. Pockets of larger diameter (pole size)
	Red Pine	45	Log/Pole	12	66		ick Pine	High	>20 feet	Sapling	JP, with areas of sap/pole JP.
	White Pine	45	Log/Pole	13	66		ed Pine	Low	>20 feet	Sapling	
	Jack Pine	10	Pole	8	38		nite Pine	Medium	Variable	Sapling	
						Blad	ck Spruce	Medium	Variable	Sapling	
20	42220 - Nat	tural Jack P	ine S	Sapling I	Medium	88.2	7	1-50	N/A		2019: JP poking up through snow (~3-6' tall). Checked in snow free
	Canopy Species	% Cover	Size Class	DBH	Age						conditions - medium stocked JP overall.  Stand harvested via final harvest as sale #42-009-11-01, Dry Creek Jack
	Jack Pine	78	Sapling	1	7						Pine. Completed 12/04/12. Scarified in 2012 under FTP 42-781.
	Red Pine	15	Log	14	79						Regen 2016: 342.5 TPA of jack pine, 24.5 TPA of red pine. Residual
				1							basal area around 10. TPA is average between this stand and stand 12.



Stand	d Level 4 C	over Type		Size De	nsity	Acres	Stand Age	BA Range	Managed S	ite	General Comments
21	42110 - Pla	nted Red P	ine S	Sawtimb	er Poor	37.4	79	1-50	N/A		Planted in spring 1940 to Norway/jack pine mix.
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Car	nopy Specie	es Density	Avg. Height	Size	Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already
	Red Pine	95	Log	12	79	Re	d Maple	Medium	>20 feet	Sapling	established) - FTP #42-543. Regeneration count completed 5/23/08 =
						Bal	lsam Fir	Low	>20 feet	Sapling	191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings around 1' in overal heights. Average residual of 40 BA.
						Ja	ck Pine	Medium	>20 feet	Sapling	2009 - J2, regen is patchy. North half (2019 - current stand 21) is fairly
						Re	ed Pine	Low	>20 feet	Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - now stand
						Pap	oer Birch	Low	>20 feet	Sapling	32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump
											sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.
22	4319 - Mixed	•		Sapling		36.8	34	1-50	N/A		Sale #027-82-01. Cut in 1985. Most of the hardwoods was removed. All yellow birch and red maple with a 16" or greater stump were cut; WP was
	Canopy Species		Size Class		Age						marked to cut; all other species were cut. Stand is now a large diameter
	Balsam Fir	25	Sapling/Pole		34						white pine stand over low quality M4 and very thick M3 regeneration (WB,
	White Pine	14	XLog/Log	20							RM, Bal, Sp). Lots of white birch regen. Stand 31 was broken out due to being more of a clearcut than the rest of the stand. There are smaller
	Paper Birch	20	Sapling	3	34						pocket clearcuts within this stand.
	Red Maple	25	Pole/Sap/Log	<b>j</b> 6	65						
23	42220 - Nat			Sapling		26.7	32	Immature	N/A		Sale #029-84-01. Cut complete 8/27/87. Full tree harvested. Not scarified (FTP 42-100). J3 stand. Farily thick.
	Canopy Species		Size Class		Age						obalilioa (i 11 42 100). Ob stalia. Falliy tilok.
	Jack Pine	95	Sapling/Pole	4	32						
24	42220 - Nat	ural Jack P	ine F	Poletimb	er Well	125.2	38	Unspecified	N/A		Sale #5-77A. Cut complete 10/16/79. Scarified in 1980 - FTP 172 and seeded in 1981 - FTP 42-110. Thick stand of jack pine.
	Canopy Species	% Cover	Size Class	DBH	Age						seeded III 1901 - FTF 42-110. Thick stand or jack pine.
	Jack Pine	92	Pole/Sapling	6	38						
25	42210 - Na	tural Red Pi	ine S	Sawtimb	er Well	1.7	100	51-80	N/A		Dead Creek corridor.
26	42210 - Na	tural Red Pi	ine S	Sawtimb	er Well	3.9	100	51-80	N/A		Steep slope from upland down to lowland.
27	42220 - Nat	ural Jack P	ine	Sapling	Well	20.2	33	Immature	N/A		Component of young red pine. NW/SE ridges. Some residual oak on the
	Canopy Species	% Cover	Size Class	DBH	Age						ridges. Residual RP and WP throughout. Some oak regeneration. Cut as sale #008-81-01. Scarified in 1986 - FTP 42-096.
	Jack Pine	95	Sapling/Pole	4	33						42 300.
28	622 - Lov	vland Shrub	)	Nonsto	cked	5.3	0	Unspecified	No		Dead Creek corridor.
29	622 - Lov	vland Shrub	)	Nonsto	cked	8.1	0	Unspecified	No		Dead Creek corridor.



Stand	Level 4 C	over Type		Size De	nsity	Acres	Stand Age B	A Range	Managed S	ite	General Comments
30	42220 - Nat Canopy Species Jack Pine		Size Class Sapling	Sapling  DBH		14.5	33	mmature	N/A		Thick regen. Component of young red pine. NW/SE ridges. Some residual oak on the ridges. Residual RP and WP throughout. Some oak regeneration. Cut as sale #008-81-01. Scarified in 1986 - FTP 42-096.
31	4319 - Mixed	d Upland Fo	rest	Sapling	Well	9.7	34	1-50	N/A		Sale #027-82-01. Cut in 1985. Most of the hardwoods was removed.
32	Canopy Species Paper Birch Red Maple White Spruce Balsam Fir Hemlock White Pine	30   15   15   15   8   15   15   15   15		3 2 3 3 2 20 Sawtimbe	34 er Well	18.5		111-140	N/A	Qi	Stand is now a large diameter white pine super canopy over very thick M3 regeneration (WB, RM, Bal, Sp). Lots of white birch regen. Regen ~30'+ tall.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03.
	Canopy Species Red Pine	% Cover	Size Class Log/Pole	<b>DBH</b>	<b>Age</b> 79		nopy Species d Maple	<b>Density</b> Low	Avg. Height Variable	Size Sapling	Scarification of site completed 9/05 (some regen was already
	42140 Pla	ntod Pod Di	ino S	putimbor	Modium	20.1	70	94 440	N/A		2009 - J2, regen is patchy. North half (2019 - now stand 21) is fairly open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.
33	42110 - Pla			awtimber			79	81-110	N/A	Sino	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03.
33	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Car	nopy Species	Density	Avg. Height	Size	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already
33						Sub-Car Rec				Size Sapling Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 = 191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings
33	Canopy Species Red Pine	% Cover	Size Class	<b>DBH</b>	Age	Sub-Car Rec	nopy Species d Maple	<b>Density</b> Low	Avg. Height Variable	Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 =
33	Canopy Species Red Pine Red Oak  42110 - Pla	% Cover 90 10 10	Size Class Log Pole/Log	DBH 12 8	Age 79	Sub-Car Rec Blac	nopy Species d Maple k Spruce	Low Low	Avg. Height Variable Variable N/A	Sapling Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 = 191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings around 1' in overal heights. Average residual of 40 BA. 2009 - J2, regen is patchy. North half (2019 - stand 21) is fairly open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - now stand 32) and west part of stand (2019 - current stand 33) - high residual of RP (up to 60BA). Some red maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free
	Canopy Species  Red Pine  Red Oak  42110 - Pla  Canopy Species	% Cover 90 10 10  nted Red Pi % Cover	Size Class Log Pole/Log	DBH 12 8 Sawtimbe	Age 79 er Poor Age	Sub-Car Rec Blac 25.9 Sub-Car	nopy Species d Maple k Spruce  79  nopy Species	Low Low 1-50 Density	Avg. Height Variable Variable  N/A  Avg. Height	Sapling Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 = 191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings around 1' in overal heights. Average residual of 40 BA. 2009 - J2, regen is patchy. North half (2019 - stand 21) is fairly open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - now stand 32) and west part of stand (2019 - current stand 33) - high residual of RP (up to 60BA). Some red maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions. Includes a couple low boggy pockets.  Stand harvested via final harvest as sale #42-009-11-01, Dry Creek Jack Pine. Completed 12/04/12. Scarification work completed (FTP 42-781). Red pine residual and small low pocket inclusions left.
	Canopy Species Red Pine Red Oak  42110 - Pla	% Cover 90 10 10	Size Class Log Pole/Log	DBH 12 8	Age 79 er Poor Age	Sub-Car Rec Blac 25.9 Sub-Car	nopy Species d Maple k Spruce  79 nopy Species d Maple	Low Low  1-50  Density  High	Avg. Height Variable Variable  N/A  Avg. Height 5 - 10 feet	Sapling Sapling Size Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 = 191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings around 1' in overal heights. Average residual of 40 BA. 2009 - J2, regen is patchy. North half (2019 - stand 21) is fairly open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - now stand 32) and west part of stand (2019 - current stand 33) - high residual of RP (up to 60BA). Some red maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions. Includes a couple low boggy pockets.  Stand harvested via final harvest as sale #42-009-11-01, Dry Creek Jack Pine. Completed 12/04/12. Scarification work completed (FTP 42-781). Red pine residual and small low pocket inclusions left. Regen 2016: 342.5 TPA of jack pine, 24.5 TPA of red pine. Residual
	Canopy Species  Red Pine  Red Oak  42110 - Pla  Canopy Species	% Cover 90 10 10  nted Red Pi % Cover	Size Class Log Pole/Log	DBH 12 8 Sawtimbe	Age 79 er Poor Age	Sub-Car Rec Blac 25.9 Sub-Car Rec Jac	ropy Species d Maple k Spruce  79  ropy Species d Maple ck Pine	Low Low  1-50  Density  High Low	Avg. Height Variable Variable  N/A  Avg. Height 5 - 10 feet < 5 feet	Sapling Sapling Size Sapling Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix.  Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 = 191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings around 1' in overal heights. Average residual of 40 BA. 2009 - J2, regen is patchy. North half (2019 - stand 21) is fairly open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - now stand 32) and west part of stand (2019 - current stand 33) - high residual of RP (up to 60BA). Some red maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions. Includes a couple low boggy pockets.  Stand harvested via final harvest as sale #42-009-11-01, Dry Creek Jack Pine. Completed 12/04/12. Scarification work completed (FTP 42-781). Red pine residual and small low pocket inclusions left.
	Canopy Species  Red Pine  Red Oak  42110 - Pla  Canopy Species	% Cover 90 10 10  nted Red Pi % Cover	Size Class Log Pole/Log	DBH 12 8 Sawtimbe	Age 79 er Poor Age	Sub-Car Rec Blac 25.9 Sub-Car Rec Jac Pap	nopy Species d Maple k Spruce  79 nopy Species d Maple	Low Low  1-50  Density  High	Avg. Height Variable Variable  N/A  Avg. Height 5 - 10 feet	Sapling Sapling Size Sapling	open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - current stand 32) and west part of stand (2019 - now stand 33) - high residual of RP (up to 60BA). Some rem maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions.  Planted in spring 1940 to Norway/jack pine mix. Stand harvested as "Tetris Jack Pine" #008-01-01. Completed 5/7/03. Scarification of site completed 9/05 (some regen was already established) - FTP #42-543. Regeneration count completed 5/23/08 = 191 t/ac (80 t/ac JP 1-2' ht, 32 RP, 16 WP, 16 BF, 47 Sp). Seedlings around 1' in overal heights. Average residual of 40 BA. 2009 - J2, regen is patchy. North half (2019 - stand 21) is fairly open with pockets of regen 1-4 ft tall. Southern 1/3 (2019 - now stand 32) and west part of stand (2019 - current stand 33) - high residual of RP (up to 60BA). Some red maple and oak regen 1-2 ft. Maple stump sprouts and white pine regen where RP BA is high. 2019 - check regen again, in newly split stands (21, 32 & 33) in snow free conditions. Includes a couple low boggy pockets.  Stand harvested via final harvest as sale #42-009-11-01, Dry Creek Jack Pine. Completed 12/04/12. Scarification work completed (FTP 42-781). Red pine residual and small low pocket inclusions left. Regen 2016: 342.5 TPA of jack pine, 24.5 TPA of red pine. Residual basal area around 10. TPA is average between this stand and stand 20/12. 2019: Checked for regen in snow free conditions - adequate variety of