



**GRAYLING FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW RESENTATION**

COMPARTMENT # 21 ENTRY YEAR: 2011

GIS Compartment Acreage: 2,440 County: Oscoda

Revision Date: August 12, 2009

Stand Examiner: Joan Charlebois

Legal Description: T28N R1E Sections 7, 18, 19, 20, 30, 31
Greenwood Township

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management. In addition, to maintain a healthy habitat for the endangered species *Dendroica kirtlandii* (Kirtland's warbler), taking into account warbler management plan directives, species diversity, and visual management.

Soils and Topography: The terrain varies from outwash plains on Grayling Sand to swamp and lowland floodplains on organic soils with seasonal high water tables.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is bordered primarily by other state land, along with USFWS ownership that was inventoried as part of this compartment the previous YOE. There is a small amount of private interface, including the Consumers Power ROW. The compartment is part of the Big Creek Kirtland's Warbler Management Unit.

Unique, Natural Features: In addition to Kirtland's warbler habitat, the Middle Branch of Big Creek is part of a designated Natural Rivers system. Kirtland's warbler and dry prairie plants associated with pine barrens have been found within the compartment. In addition, there is the potential for rare insect species to be found within the pine barrens types, and for rare reptiles to occur along the riparian corridors.

Archeological, Historical, and Cultural Features: Old railroad grades cross through the compartment and turn-of-the century logging era pine stumps are common.

Special Management Designations or Considerations: The compartment is part of the Big Creek Kirtland's Warbler Management Unit, a High Conservation Value Area (HCVA). In addition, the Middle Branch of Big Creek's corridor is within another HCVA.

Watershed and Fisheries Considerations: The Middle Branch of Big Creek, part of the AuSable's Natural River designation, runs through the compartment's northwest and southwest edges. A fenced water access point is located on the creek across from the Walsh Road Trail Camp. A part of Pickerel Lake is located within the compartment.

Wildlife Habitat Considerations: Habitat management for the Kirtland's warbler not only benefits that species, but also provides habitat for other opening-dependent songbirds, and white-tailed deer. Four maintained wildlife openings occur within the compartment. The compartment's aspen and lowland type interface provide habitat for grouse, woodcock and hare. Bear also frequent the area.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Coldwater Shale. There is not a current economic use for the Coldwater Shale. Gravel pits are not located in the area, but there could be potential on the uplands. The whole compartment is leased for oil and gas development. An Antrim Shale UA is being developed in Section 7.

Vehicle Access: Most of the compartment is accessible by county roads, including Pickerel Lake, Williams, Henning, Farrington and Walsh Roads. The snowmobile trail, gas well access roads and two-tracks along utility corridors provide additional access.

Survey Needs: None

Recreational Facilities and Opportunities: Part of the Roll Snowmobile trail (#4) runs through the compartment, in addition to the entrance drive for the Walsh Road Trail Camp. Fishing and backcountry camping opportunities exist on Pickerel Lake and the nearby Pickerel Lake Impoundment. The compartment's diversity of habitat types provides good opportunity for deer, bear, grouse, woodcock and hare hunting.

Fire Protection: Gas wells and buried pipelines occur within the compartment. Wide cleared utility corridors serve as fuel breaks. Water access points include small ponds adjacent to Pickerel Lake Road and the watering hole on the Middle Branch of Big Creek.

- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
 - ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**
 - ◆ **Suggested potential old growth**

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

OSCODA COUNTY

COMPARTMENT: 21

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not Coded	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	150-159	All Aged	Total
Aspen		59	36		90	228		2	29										444
Black Spruce					5														5
Cedar											113								113
Grass	52																		52
Jack Pine			353	472	14	87	173	55	55		9								1218
LowInd Brush	104																		104
LowInd Poplr					26		17												43
Marsh	50																		50
Mx Swmp Cnfr						10					13		77						100
Oak			4							12	28								44
Red Pine			23			15	43				15								96
Spruce Fir							16												16
Swamp Hrdwds			28									37							65
Treed Bog										6									6
Upland Brush	20		7	10	35														72
Water	12																		12
Total	238	59	451	482	170	340	249	57	84	18	178	37	77						2440

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

OSCODA COUNTY

COMPARTMENT: 21

Table 3A

(acres shown in boxes)

MANAGEMENT OBJECTIVE TYPE

COVER TYPE	A	S	V	C	G	H	J	I	L	P	N	Q	X	O	B	R	K	Y	F	E	T	D	U	M	Z	W	Total
A Aspen	444																										444
S Black Spruce		5																									5
C Cedar				113																							113
G Grass					52																						52
J Jack Pine	9						1165							44													1218
L LowInd Brush									104																		104
P LowInd Poplr										43																	43
N Marsh											50																50
Q Mx Swmp Cnfr												100															100
O Oak														44													44
R Red Pine																96											96
F Spruce Fir																			16								16
E Swamp Hrdwds																				65							65
D Treed Bog																						6					6
U Upland Brush																								72			72
Z Water																									12		12
Total	453	5		113	52		1165		104	43	50	100		88	96			16	65			6	72		12	2440	

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

OSCODA COUNTY

COMPARTMENT: 21

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	4670 Cds	Hardwood	1564 Cds
Hardwood	391 Mbf	Hardwood	75 Mbf
Softwood	6659 Cds	Softwood	1684 Cds
Softwood	529 Mbf	Softwood	177 Mbf
Sum TotVol	13169 Cds	Sum CutVol	3752 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	
2440		284	

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 21

Entry Year: 2011

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
4	J5	19	53	49	oak	old growth (potential or actual)	final harvest	2	natural regeneration	
comnts Fmd : Big Creek KW management unit, HCVA. JP poletimber with small amount of RP, NPO, WO & TA mixed in. Nice oak saps. Remove merch JP to release oak. Used previous SI.										
11	J6	19	56	50	oak	old growth (potential or actual)	final harvest	2	natural regeneration	
comnts Fmd : Big Creek KW management unit, HCVA. Fairly uniform, self-pruned poles. Nice oak regen (mostly WO). Previous notes: "Did not cut last time; hold until stands 3 and 6 are cut". The stand isn't likely to hold (in terms of maintaining health/volumes) for 30 years. If compatible with the KW plan, consider final harvesting now.										
27	A6	27	42	50	aspen (upland)	immature	final harvest	2	natural regeneration	
comnts Fmd : Old notes indicate the stand was KG bladed 1966. Variable stocking, TA on ground close to the water table. Higher ground with JP on the N end near the WL openings, then grading down to the swamp, with L/Q inclusions, and seasonally-flooded areas. Aspen makes up roughly half the volume, with balsam fir, RM, JP, WP and RP making up the rest. Some nice oak poles. Hypoxylon present. Woodcock brood. Final harvest 2" and up except the oak and few large RP & WP saw. Winter cut, maximize horizontal cover, leave tops, fell marked boundary line trees into adjacent stand 38. See locked comments regarding where not to put landing. Used previous SI.										
40	A5	90	45	65	aspen (upland)	immature	final harvest	2	natural regeneration	
comnts Fmd : Ownership cards show that the area has a long, varied treatment history (portions treated by salvage/removals in the 50's & 60's, KG blading in the mid '60's, manual cutting by Wildlife FTP in '72). Aspen with RM, PB, WP & RP on mostly dry ground with L/Q/P mixing in along the stand's wide transition zone with adjacent lowland types. Dense large sap/small pole balsam fir in the understory across much of the stand, with inclusions of majority fir coverage. Far southwest corner is on a dry ridge, with bigtooth aspen, oak and RP. Two intermittent drains cross through the type west of Pickerel Lake Rd. The stand is on ground close to the water table, with parts experiencing seasonal flooding during snowmelt. The increasing balsam fir component is a concern in maintaining the aspen management objective. Harvest all stems 2" and up. Leave the super-canopy WP & RP trees that occur in small clumps along Pickerel Lake Road. If prescription approved, harvest stand 50 at the same time. Winter cut, maximize horizontal cover, leave tops, fell marked boundary line trees into adjacent stand 16. Retention priority is along drains. Used previous SI. See locked comments regarding where not to put landing.										
42	J5	6	53	46	oak	old growth (potential or actual)	final harvest	2	natural regeneration	
comnts Fmd : Big Creek KW management unit, HCVA. Two-aged JP, mortality in the older stems. Nice oak saps (mostly WO). Remove the merch JP, releasing the oak regen.										
43	J5	14	29	49	jack pine	immature	improvement	2		
comnts Fmd : Dry ground grading down to swamp. Heavy lg sap/small pole BF just below the short JP poles. Some TA along PL Rd., few SCRP. Final harvest patches/strips near the swamp (stand 16) in conjunction with the adjacent aspen harvest (stand 40) and/or by WLD FTP. Winter cut, maximize horizontal cover, leave tops, and drop marked boundary line trees into the adjacent swamp (stand 16).										
46	A9	29	68	59	aspen (upland)	mature	final harvest	1	natural regeneration	
comnts Fmd : The stand has two narrow black ash/NWC swales cutting through it along the intermittent streams, but other than that, it is relatively dry. While typed Aspen, there is about equal parts TA, RM & RP, with somewhat lesser components of paper birch and JP. The aspen and RM saw is largely cull. There is thick BF in the stand's east half, between the two drains. The west half is more upland, with inclusions of RP in the NW. Final harvest in order to maintain the aspen, leaving the scattered oak, and focusing retention along the intermittent drains. Mark some RP to leave for visual along the two-track down to Pickerel Lake. Aspen core difficult to age. Previous age was 1920 on the aspen. Averaged current SI with previous.										
50	J9	9	89	48	aspen (upland)	two aged	final harvest	2	natural regeneration	
comnts Fmd : Small stand near flooding and pond. J7 in very overmature JP saw above A/M/O5 (some larger cull RM along with younger poles, TA, and some nice large sap/small pole oak). Previous notes indicated allowing the JP die out and letting the RM & oak take over, out of concern for damaging the residual. I think there is enough room to work around & protect the oak component, which would benefit from the overstory release. Harvest at the same time as the adjacent aspen stand 40. Cut all JP, aspen & RM. Leave all oak, and buffer the wetland interface. Regen will be a mixture of aspen & RM along with the residual oak. Used previous SI.										

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 21

Entry Year: 2011

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
61	J5	71	48	45	jack pine	old growth (potential or actual)	final harvest	2	planting	
comnts Fmd : Two-aged JP stand bordering the Middle Branch of Big Creek (Natural River, HCVA), on high ground dropping down a couple terraces to the floodplain. Variable stocking, J6 to J4, with a second age class of overmature JP saw, U inclusions, old fire plow lines, scattered RP, and aspen along the floodplain and at the far south end. Set stand age to younger majority pole component. Survey corner BT's at S end. Entrance to Walsh Road Trail Camp crosses through, along with an access road down to the creek. Final harvest that part of the type east of Walsh Road. In addition to the Natural River's set-back, leave retention pockets along access road to water hole. Leave all RP or WP. See locked comments										
403	G0	4		52	grass	nonstocked		0	opening maintenance	
comnts Fmd : Maintained WL opening, a handful of oak. Some clumps of big blue stem. Areas with thin grass coverage are being colonized by spotted knapweed. Previous notes indicate it was planted to rye grass.										
404	G0	2		52	grass	nonstocked		0	opening maintenance	
comnts Fmd : Maintained WL opening. Spotted knapweed colonizing thin areas. Old notes indicate it was planted to rye grass.										
406	G0	4		56	grass	nonstocked		0	opening maintenance	
comnts Fmd : Maintained WL opening, handful of oak. Small amount of purple vetch. Bracken fern moving in from edges, spotted knapweed getting a foothold. Old notes indicate it was planted to rye grass.										
407	G0	2		56	grass	nonstocked		0	opening maintenance	
comnts Fmd : Maintained WL opening, small amount of purple vetch. Spotted knapweed colonizing thin areas. Old notes indicate it was planted to rye grass.										
409	G0	1			grass	nonstocked		0	opening maintenance	
comnts Fmd : Former wellpad. Within KW unit. No plumbing. Mostly grass, some knapweed. Convert to maintained WL opening.										
Total Acres.....		297								

**Proposed Treatments
With Limiting Factors**

Compartment: 21

Entry Year: 2011

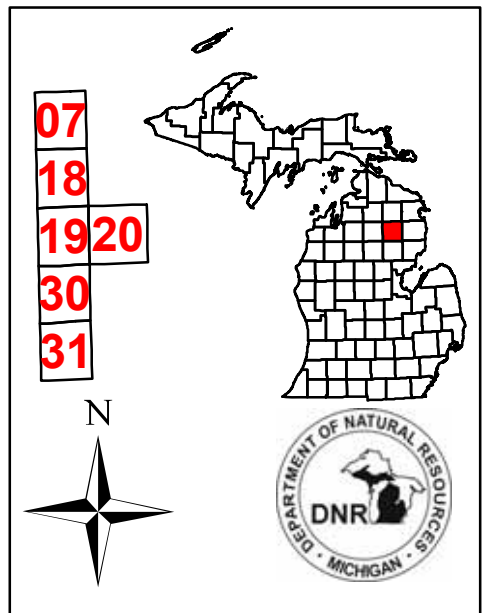
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

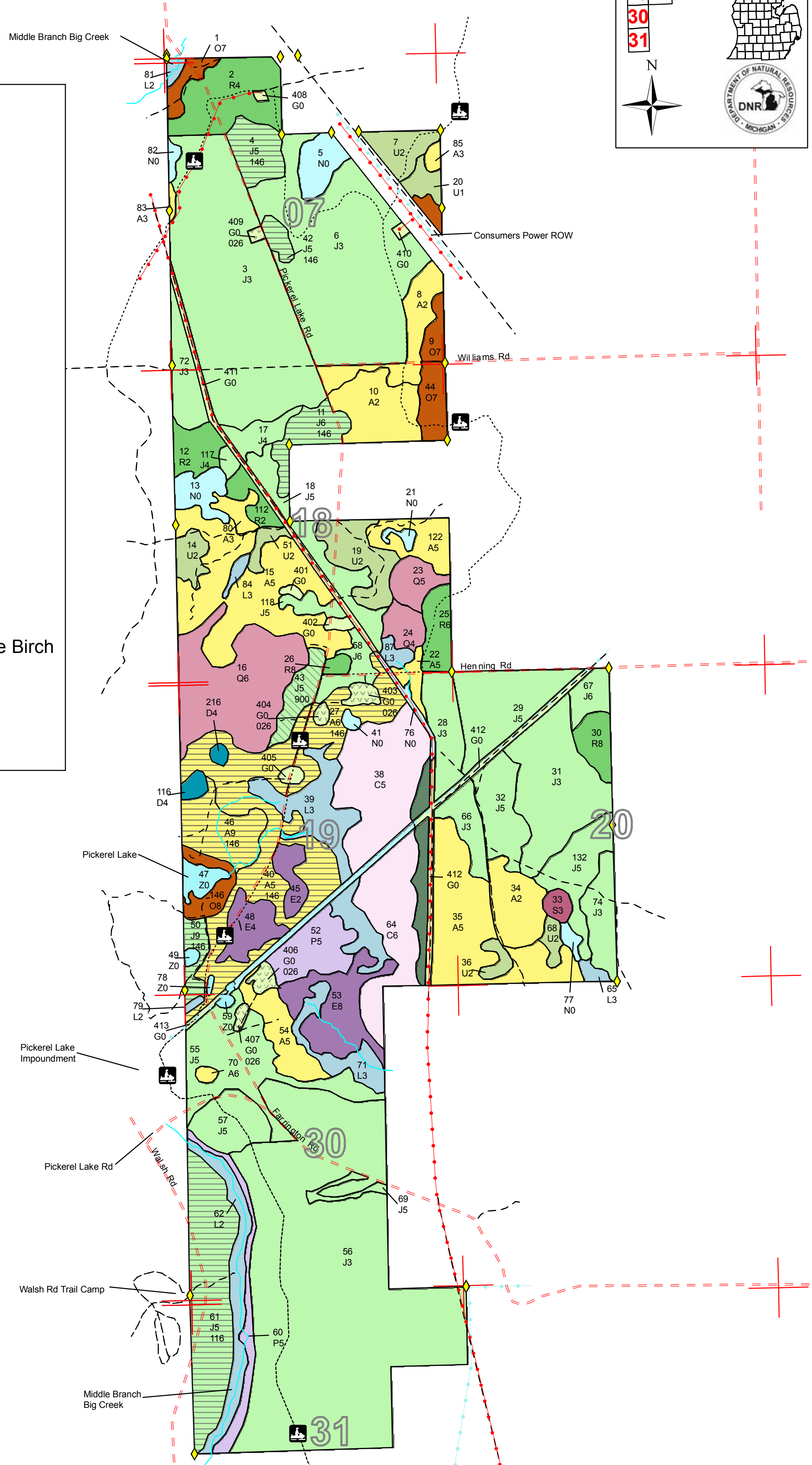
Total Acres..... 0

Covertypes & Treatment Map

Compartment 21
 T28N, R01E, Sec. 7, 18, 19, 20, 30, 31
 County: Oscoda
 Unit: Grayling
 YOE: 2011
 Acres: 2,440 GIS Calculated
 Stand Examiner: Joan Charlebois
 Map Revised: 9/09/2009
 Map Phase: Pre-review



- Legend**
- ◆ RIs Corners
 - Miris Corners
 - - County Gravel Roads
 - Pipelines
 - - Poor Dirt Roads
 - Powerlines
 - ⋯ Snowmobile Trails
 - ☒ Snowmobile Trails
 - Water Features
 - ☐ Stand Boundary
 - ▨ 026 - Opening Maintenance
 - ▨ 116 - Final Harvest/Planting
 - ▨ 146 - Final Harvest/Natural Regeneration
 - ▨ 900 - Improvement
 - A - Aspen
 - C - Northern White Cedar
 - D - Treed Bog
 - E - Swamp Hardwoods
 - F - Upland Spruce or Fir
 - G - Grass
 - J - Jack Pine
 - L - Lowland Brush
 - N - Marsh
 - O - Oak
 - P - Balsam Poplar, Swamp Aspen, Swamp White Birch
 - Q - Mixed Swamp Conifers
 - R - Red Pine
 - S - Black Spruce Swamp
 - U - Upland Brush
 - Z - Water

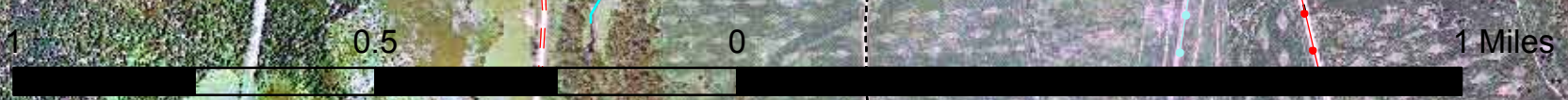
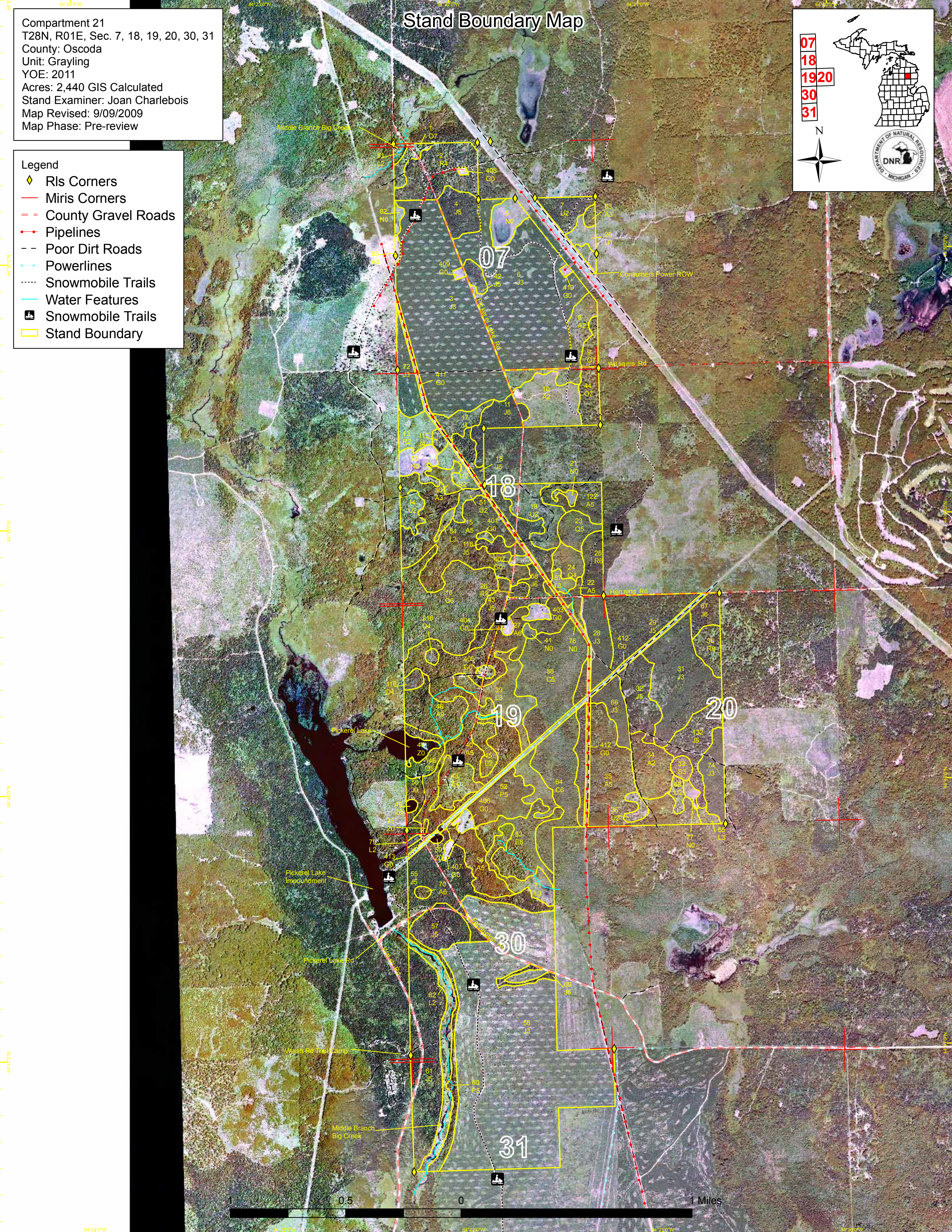
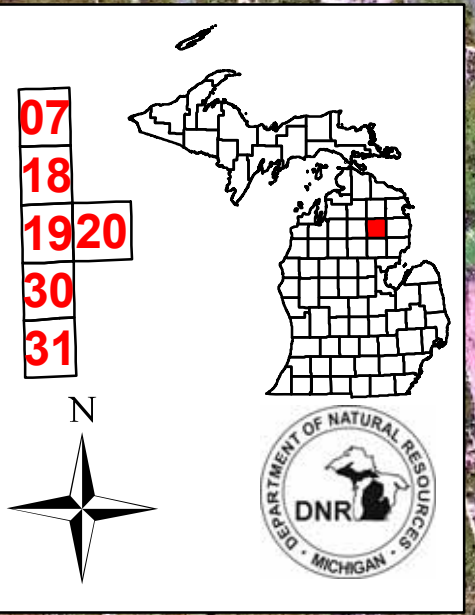


Stand Boundary Map

Compartment 21
T28N, R01E, Sec. 7, 18, 19, 20, 30, 31
County: Oscoda
Unit: Grayling
YOE: 2011
Acres: 2,440 GIS Calculated
Stand Examiner: Joan Charlebois
Map Revised: 9/09/2009
Map Phase: Pre-review

Legend

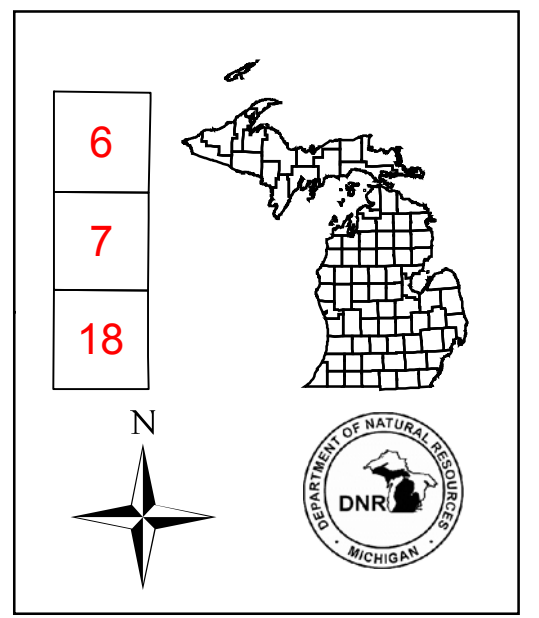
- ◆ Rls Corners
- Miris Corners
- - County Gravel Roads
- Pipelines
- - Poor Dirt Roads
- Powerlines
- Snowmobile Trails
- Water Features
- 🚙 Snowmobile Trails
- ▭ Stand Boundary



84°24'07W 44°48'00N 44°48'00N 44°48'00N 44°48'00N 84°24'07W 84°24'07W 84°24'07W 84°24'07W

Dedicated & Proposed Special Conservation Area Map

Compartment 21
 T28N, R01E, Sec. 7, 18, 19, 20, 30, 31
 County: Oscoda
 Unit: Grayling
 YOE: 2011
 Acres: 2,440 GIS Calculated
 Stand Examiner: Joan Charlebois
 Map Revised: 9/09/2009
 Map Phase: Pre-review

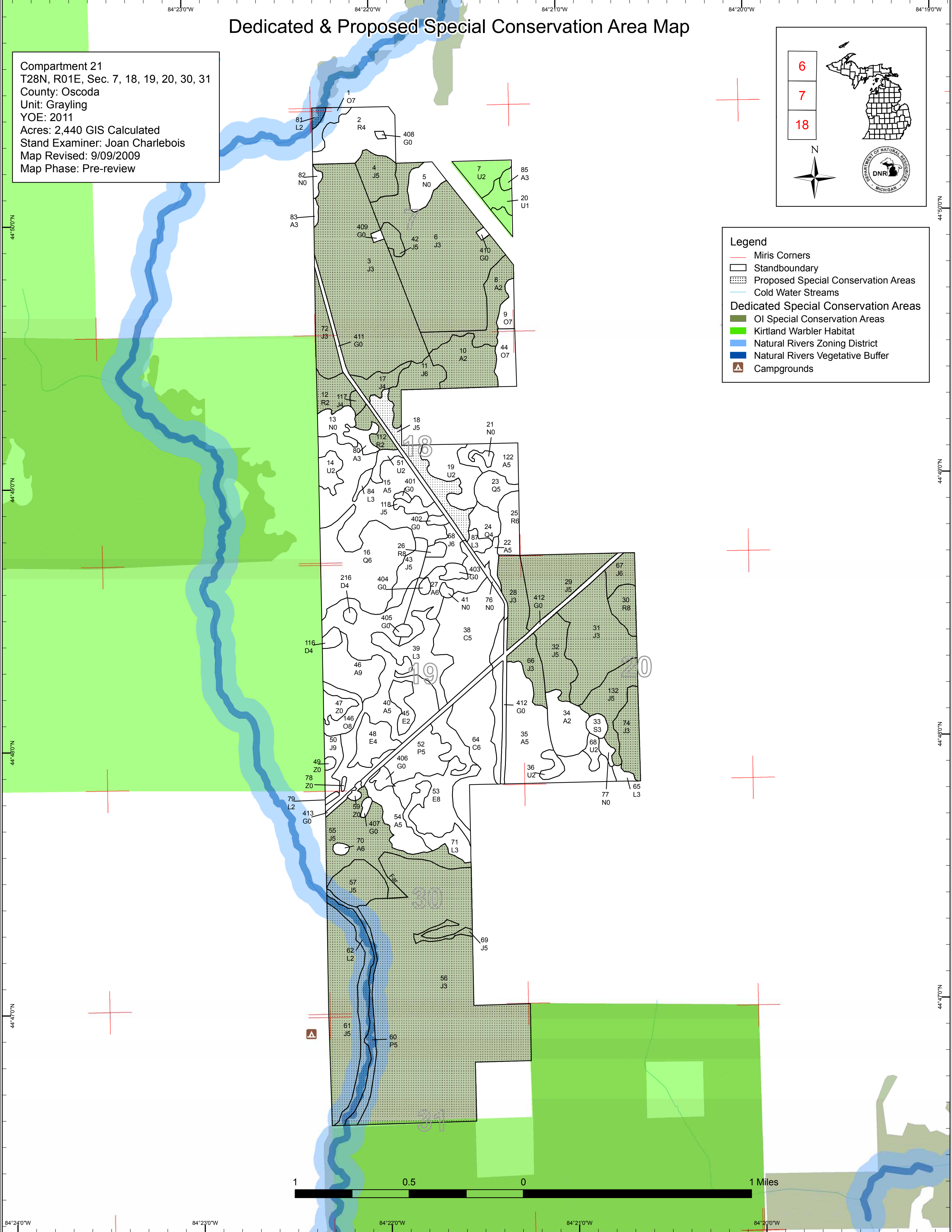


Legend

- Miris Corners
- Standboundary
- Proposed Special Conservation Areas
- Cold Water Streams

Dedicated Special Conservation Areas

- OI Special Conservation Areas
- Kirtland Warbler Habitat
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer
- ▲ Campgrounds



84°23'0"W 84°22'0"W 84°21'0"W 84°20'0"W
 44°50'0"N 44°49'0"N 44°48'0"N 44°47'0"N



DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

Conservation Area	Type	Description
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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.
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.
SCA	Potential Old Growth Areas	This category contains stands were identified for a broad range of reasons and were coded in the OI database as stand condition 8 as potential old growth (POG). Approximately 310,000 acres have been identified through the Operations Inventory (OI)/Compartment Review process. For stands in Year of Entry 2008 and forward, potential old growth is managed for the identified objective until it is: 1) vetted through the Biodiversity Conservation Planning Process (BCPP) and given a specific designation and objective (as an ERA, HCVA, or other type of SCA) and is released from the potential old growth designation; or 2) it is released from the potential old growth designation via the Compartment Review process.