



**NEWBERRY FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 30 ENTRY YEAR: 2008

Compartment Acreage: 2106 (GIS Calculated) County: Luce

Revision Date: 10/17/2006

Stand Examiner: Jason Tokar

**Legal Description: T49N R09W Sections 7 & 18
T49N R10W Sections 1, 10-15**

RMU (if applicable):

Management Goals:

Timber management, wildlife habitat, and recreation are the main uses of the compartment. The overriding goal is to maintain or improve the forest health, productivity and diversity of the area to promote and enhance these uses. Treatments prescribed will help ensure the sustainability of the forest resource and continue to enhance the quality of the wildlife habitat. The jack pine stands prescribed for treatment have suffered damage from Jack Pine Budworm outbreaks. Management of these stands should be a high priority before additional decline and mortality occurs. All jack pine stands will be scarified for natural regeneration and followed by planting if necessary. Additional upland timber management (hardwoods and red pine) will continue with the current sustainable level of management, promoting an array of both age class and structural diversity in the cover types. Any timber management adjacent to the Two Hearted River will follow the guidelines set forth in the Two Hearted River natural River Plan.

Soil and Topography:

The dominant soil type of the compartment is Rubicon sand. The main cover type found on this soil is jack pine, with some areas of red pine and/or white pine. Lesser components of Wallace sand are found in the western portion of the compartment, supporting a cover type of northern hardwoods. Carbondale, Lupton and Tawas muck soils are found within the Two Hearted River corridor. The overall topography of the compartment is level to slightly rolling, with a slight increase in topographical change adjacent to the Two Hearted River.

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

The majority of the compartment is comprised of State land. There are 2 large blocks of private property within the compartment, each of which is subdivided into smaller individual parcels. State land borders the compartment to the south, and east, while a mixture of State land and private land borders to the north and west. Development in and around the compartment is low to moderate due to the large amount of State land in the vicinity. Several small camps are located within and around the compartment boundary. The main types of land use in the area are camping (Reed and Green SF Campground) hunting, fishing, canoeing, ORV and snowmobile riding, and berry picking.

Unique, Natural Features (include only non-site specific and non-sensitive information):

MNFI lists occurrences of American shore-grass and Moor rush within the compartment. There is the potential for numerous unique plants such as false violet, pine drops, climbing fumitory and Canada rice-grass in the pines, black crow berry, sweet coltsfoot, moor rush, round-leaved orchid and English sundew. Kirtland's warbler, prairie warbler, moose, wolves, eagle, osprey, goshawk and red-shouldered hawk are potential wildlife in the area.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information):

The Bureau of History does not list any historical features within the compartment.

Special Management Designations or Considerations:

The Two-Hearted River has been designated as a Natural River, and thus has special management guidelines to follow. The Two Hearted River Natural River Plan is in place and management guidelines have been established for timber management within this zone. Stands within the boundaries of the Natural River Zone have been designated as a High Value Conservation Area (HCVA). Management decisions shall be dictated by the promotion and enhancement of the desired characteristics associated with the natural river zone. Any prescribed treatments that take place near the Two Hearted River will also incorporate BMP guidelines.

Watershed and Fisheries Considerations**Fisheries Values**

Excellent. The Two-Hearted River is classified as FQCW, which is "as good as it gets". In addition, it is a designated Natural River, with special zoning requirements. The East Branch also supports an excellent brook trout fishery. We have documented lots of natural steelhead reproduction in the main branch, and habitat is good in the East Branch, so we assume the same for it. Steelhead fishing after September 30 and before the last Saturday in April is limited to the main stem between Lake Superior and the Co Rd 410 bridge. Any additional sand bedload will reduce successful fish spawning far into the future.

Wildlife Habitat Considerations:

Compartment 30 lies in the far northern portion of Luce County and is in the Grand Marais Sandy End Moraine and Outwash ecological sub-subsection. The vegetation is primarily jack pine with a mixture of white pine, hardwood and red pine stands scattered throughout the compartment. Diversity of tree species in jack pine stands is relatively low but the remainder of the compartment has fair to good species diversity. Overall, pre-settlement vegetation patterns appear to have been similar to the current landscape of this compartment.

In a predominantly pine forested ecosystem, maintaining a variety of age and size classes and maintaining as much structural diversity as possible in managed stands will be important to achieving wildlife objectives. For example, retaining soft and hard mast producing species where they occur and red and white pine in jack pine final harvests will provide food sources, nest and den trees, and improve stand diversity. Conifer components of hardwood stands are commonly retained during harvest to increase stand diversity. White-tailed deer, black bear, spruce grouse, otter, mink, gray wolves, coyote and fox are noteworthy wildlife species using this compartment.

Mineral Resource and Development Concerns and/or Restrictions:

Sections 1, 10 – 15, T49N-R10W & Sections 7 & 18, T49N-R9W, Luce County

Surface sediments consist of lacustrine (lake) sand and gravel. There is insufficient data to determine the glacial drift thickness. The Precambrian Jacobsville Sandstone subcrops below the glacial drift. The Jacobsville was used as a building stone in the past. There are no gravel pits in the area, but there may be some potential. There is no economic oil and gas production in the UP.

Vehicle Access:

The compartment is approximately 25 miles north of Newberry along County Road 410. There is substantial vehicle access to the compartment. County Roads 410 and 414 provide maintained county road access through the compartment. Several forest roads, including High Banks Trail and Harrison Trail, run through the compartment. Several sand two track roads transect the area providing additional access to all parts of the compartment.

Survey Needs:

For management activities to occur, the following survey needs are required: The ¼ corner between sections 11 & 14 need to be reconfirmed (location possibly altered). Confirm the accuracy of the private corner locations for the Center and S1/16 of Section 12. Establish the N1/16 of Section 12. Confirm accuracy of private corner locations for the SW1/16, S1/16 and SE1/16 of Section 14 as well as the S1/16 between Sections 13 and 14.

Recreational Facilities and Opportunities:

Recreational facilities within the compartment include the Two Heart ORV Trail and the groomed snowmobile trail (Trail #8). There is a canoe livery launch site (Rainbow Lodge) on the western boundary of the compartment. The Reed and Green State Forest Campground is just across the Two Hearted River from the compartment. Other recreational opportunities include hunting, fishing, canoeing, hiking, berry picking and wildlife viewing. There are a few remote “unofficial” camping sites along the Two Hearted River that people use also. A number of hunting camps are located within and around the compartment boundary.

Fire Protection:

This compartment is part of the Two Hearted Zone Dispatch Area. The continuous Pine fuel types and response time could lend to larger fire runs. Private ownerships with structures in this compartment poses wildland urban interface concerns. Generally upland sandy soils will allow normal fire suppression activities

Additional Compartment Information:

- **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

LAKE SUPERIOR STATE FOREST

NEWBERRY FOREST MGT UNIT

LUCE COUNTY

COMPARTMENT: 30

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not	STAND AGE CLASS																Total	
	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
Bog or Marsh	1																		1
Grass	2																		2
Jack Pine		319	220		232	9		251	216	87									1334
Lowlnd Brush	76																		76
Mx Swmp Cnfr							7		7	10									24
Non Stocked	17																		17
Red Pine								13		3	90	12							118
Spruce Fir																		24	24
Treed Bog	5																		5
Upland Hdwds				12					6									124	142
Water	7																		7
White Pine											30	21						305	356
Total	108	319	220	12	232	9	7	264	229	100	120	33						453	2106

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

LAKE SUPERIOR STATE FOREST

NEWBERRY FOREST MGT UNIT

LUCE COUNTY

COMPARTMENT: 30

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
V Bog or Marsh			1																								1
G Grass					2																						2
J Jack Pine							1334																				1334
L Lowlnd Brush									76																		76
Q Mx Swmp Cnfr												24															24
X Non Stocked													17														17
R Red Pine																118											118
F Spruce Fir																			24								24
D Treed Bog																							5				5
M Upland Hdwds																									142		142
Z Water																									7		7
W White Pine																										356	356
Total			1		2		1334		76			24	17			118			24			5		142	7	356	2106

LAKE SUPERIOR STATE FOREST

NEWBERRY FOREST MGT UNIT

LUCE COUNTY

COMPARTMENT: **30**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	4199 Cds	Hardwood	967 Cds
Hardwood	125 Mbf	Softwood	11130 Cds
Softwood	25036 Cds	Softwood	310 Mbf
Softwood	2303 Mbf	Sum CutVol	12717 Cds
Sum TotVol	34091 Cds		
Total Cmpt Acres		Acres Proposed For Cut.....	471
2106			

NEWBERRY FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 30

Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
3	J6	19	81	50	jack pine	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : HCVA = Two Hearted River - Natural River Zone. Nice tall jack pine. Stand has substantial budworm damage, visible from stand 17 to the south. Dead tops, browning needles, etc. Level topography. Stand needs to be salvaged this entry year. Lots of areas with heavy budworm damage, some from multiple years. Prescribe for a final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Follow the guidelines of the Two Hearted Natural River Plan. Use care to avoid exposed steep banks along the river (50 ft minimum buffer?). **Per Fish comments at the pre-review - minimum of 150 ft buffer along the Two Hearted River.</p>										
5	J6	27	72	47	jack pine	old growth (potential or actual)	final harvest	1	natural regeneration	
<p>comnts Fmd : HCVA = Two Hearted River Natural River Zone - norther portion of the stand. Mature jack pine. Light to moderate budworm damage. Good heights, 4-5 sticks. Some mortality, red needles. Stand should be managed this entry year along with stands 3, 7, and 9. Prescribe for final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Access to the area is recommended via old abandoned road from the west through stands 6 and 17. North/south fire lane is too steep and sandy. Management objective is jack pine. Follow guidelines for Two Hearted River Plan when harvested.</p>										
7	J6	30	74	47	jack pine	old growth (potential or actual)	final harvest	1	natural regeneration	
<p>comnts Fmd : HCVA = Two Hearted River - Natural River Zone. Mature jack pine with areas of heavy budworm damage. Lighter budworm damage than stand 9, but still present. Some mortality. Stand should be treated this entry year along with stands 3, 5 and 9. Prescribe for final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Management objective is jack pine. Access is recommended via old road from the west through stand 6. Two Hearted Natural River Plan - follow guidelines. Rubicon sand. ***Per fish comments at the pre-review - minimum of 150 ft buffer along the Two Hearted River.</p>										
9	J6	14	64	55	jack pine	old growth (potential or actual)	final harvest	1	natural regeneration	
<p>comnts Fmd : HCVA = Two Hearted River - Natural River Zone. Mature jack pine. Heavy budworm damage, both current and from previous years. Mortality and dead tops. Many trees with "red needles". Good diameters, tall trees. Stand is in bad shape. Stand recommened for harvest along with stands 3, 5, and 7. Prescribe for final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Management objective of jack pine. Scattered oak within the stand. Leave oak and any red pine as residual when harvested. North and south ends of the stand follow the east and west running ridges. Access for harvest should be via the old abandoned road from the west through stands 5 and 6 Follow guidelines of the Two Hearted Natural River Plan when stand is managed. Care should be taken with respect to the high, steep banks of the river with exposed soil to prevent adding to the problem. ***Per Fish Div Comments at the pre-review - minimum of 150 ft buffer along the Two Hearted River.</p>										
16	J6	48	78	45	jack pine	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : Mature jack pine with substantial jack pine budworm damage, especially on the north end. Open areas. 4-5 stick trees. Some mortality. Blowdown in the northern portions of the stand. Thicker (higher BA) pockets. Stand should be treated this entry year along with stand 73 as one sale. Prescribe for final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Management objective of jack pine. Leave any oak and up to 10 BA of red pine as residual. Private corners along west side of the stand need to be confirmed by DNR surveyors. Rubicon sand.</p>										
24	J6	63	58	52	jack pine	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : Jack pine with areas of high white pine component. Jack pine is mature. Most of white pine is limby, pulp quality. Light mortality, some evidence of recent budworm damage. Pockets of higher mortality. Pockets of thicker white pine. Treat the stand this entry year. Prescribe a final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, then plant to jack pine. When harvested, remove all but 10 BA of white and red pine to promote better jack pine regeneration. Very north end (north 1/3) of the stand falls within the Two Hearted River Natural River Zone (440 ft to 1/4 mile zone). Manage this portion of the stand according to the guidelines in the plan. Old notes (1994?) state that the stand was cut over in the early 1960's.</p>										
36	M6	47		48	northern hardwood	unevenaged	thinning	1		
<p>comnts Fmd : Upland hardwoods stand. Lots of variability in the size classes throughout the stand. Pockets of M6 pole size timber and also areas of large diameter, overmature maple and yellow birch. Lower quality in the large diameter trees. Clumps of hemlock. Areas with a lower BA (90-100). Prescribe the stand for a thinning to release the good quality pole size timber along with the M3 that is established in the understory. Mark to a residual of 80-85 sq ft. Management objective of northern hardwoods. Favor good quality pole size and small sawlog trees as the residual crop trees. Remove some but not all of the large overmature maple. Leave some large yellow birch, all white pine and some spruce for wildlife considerations. Access will be from High Banks Trail and not Co Rd 410. Rubicon sand.</p>										

NEWBERRY FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 30

Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
47	J6	6	76	53	jack pine	old growth (potential or actual)	final harvest	1	natural regeneration	
<p>comnts Fmd : HCVA = Two Hearted River Natural River Zone. Mature, tall jack pine. Showing some mortality. Some red pine and white pine mixed in. Some blowdown. Stand should be treated this entry year along with stands 53 and 54 as one sale. Prescribe stand for a final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Management objective of jack pine. Maintain 10 BA of white pine for residual, remove all other species. Follow Two Hearted River plan guidelines when harvested.</p>										
53	R9	42	92	50	red pine	immature	shelterwood-seed	1	natural regeneration	
<p>comnts Fmd : Nice, good quality red pine with a good white pine component. Healthy red pine. Some mortality in the white pine. Some top dieback in the white pine. Open areas with advanced W2 understory 10-20 ft tall. Scattered red pine regeneration. Lots of oak seedlings 1-2 ft tall. Treat the stand this entry year along with stands 47 and 54 (one sale). Prescribe a shelterwood harvest for the stand, residual BA of 50-60 sq ft. Mark for the best tree in place regardless of species. Try to release smaller, better quality red and white pine. Remove all miscellaneous species. Leave oak as residual. Follow the sale with a prescribed burn to promote better red pine regeneration. Management objective of red pine. Alternative management objective of red pine mixed with white pine and some oak.</p>										
54	J6	44	74	53	jack pine	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : Mature, tall jack pine with red pine, white pine and some oak and aspen. Scattered white birch. Understory of M2/R2/W2 is variable. No real budworm problems in the stand at the time of inventory. Light damage. Some mortality. Treat stand this entry year with stands 47 and 53 (one sale). Prescribe a final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Management objective is jack pine. Cut all trees except for oak and 10 BA of red pine/white pine for residual (diversity). Rubicon sand. Two illegal blinds and illegal ORV trail from private property to the north.</p>										
73	J6	69	72	48	jack pine	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : Nice, tall jack pine. Some light budworm damage throughout. More budworm damage in northern portion of the stand. Thick stand, high BA. Slight mortality. Treat the stand this entry year along with stand 16 (one sale). Prescribe the stand for final harvest, followed by scarification for natural jack pine regeneration. If scarification fails, plant to jack pine. Management objective of jack pine. Leave red pine as residual when harvested, very scattered.</p>										
76	J6	62	65	46	jack pine	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 3-5 stick jack pine, some 5 stick trees. Eastern side of the stand is semi-open. Pockets of budworm in western half of the stand. Heavier budworm damage and mortality in the eastern half of the stand. Heavy damage and mortality along Co Rd 414. Scattered red pine and oak. Stand needs to be managed this entry year. Losing a lot of jack pine to mortality from the budworm damage. Final harvest the entire stand. Leave red pine and white pine and oak (if any). Shouldn't interfere with regeneration (less than 10 BA). Follow the harvest with scarification to promote natural jack pine regeneration. If scarification fails, plant the site to jack pine. Management objective is jack pine. Rubicon sand. ***Pre-review discussion - Snag retention - evaluate the number of snags (standing dead) when timber sale prep work is completed and the appropriate measures to take for retention versus visual impacts of high number of snags along high use road.</p>										

Total Acres..... 471

**Proposed Treatments
With Limiting Factors**

Compartment: 30

Entry Year: 2008

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

