

<b>TM 901</b>			
<b>RESOURCE MANAGEMENT GUIDE DRAFT</b>			
<b>INVENTORY SUMMARY</b>			
		Compartment:	4
Jackson-Washington State Forest		Tract:	3
Forester:	Brian Bailey	Date:	7/31/07

ACREAGE IN:			
Commercial Forest	102.4	Average Site Index	73
Non-Commercial	10.6	Avg. Annual Growth	82.48
<b>TOTAL AREA</b>	<b>113</b>	<b>Total B.A./per acre</b>	<b>117.1</b>

(Estimated Tract Volumes for Commercial Forest Area-Bd.Ft., Doyle Rule)

SPECIES	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
American Beech	10,470	6,450	16,920
American Sycamore		2,410	2,410
Black Oak	54,880	25,580	80,460
Chestnut Oak	109,190	69,780	178,970
Eastern Redcedar		1,730	1,730
Honeylocust		1,730	1,730
Northern Red Oak	15,860	7,580	23,440
Persimmon	11,770	3,730	15,500
Pignut Hickory	19,210	10,300	29,510
Red Maple	4,470	2,060	6,530
Shagbark Hickory	7,040	2,620	9,660
Sugar Maple	13,580	20,520	34,100
White Ash	4,180	10,450	14,630
White Oak	70,720	33,120	103,840
Yellow Poplar	64,560	40,920	105,480
<b>TRACT TOTALS</b>	<b>385,930</b>	<b>238,980</b>	<b>624,910</b>
<b>PER ACRE TOTALS</b>	<b>3,415</b>	<b>2,115</b>	<b>5,530</b>

PREVIOUS CRUISE DATA				
DATE:	June, 1971	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
PER ACRE TOTALS		1,463	1,493	2,956
DATE:	December, 1984	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
PER ACRE TOTALS		2,593	1,040	3,633

## RESOURCE MANAGEMENT GUIDE DRAFT

### Jackson-Washington State Forest

#### Compartment 04 Tract 03

Date: July 31, 2007

Tract 03 is located 1½ miles east of Vallonia. It contains 113 acres, predominately south facing slopes, ranging from dry ridge tops and steep slopes to a flat, valley bottom. This tract is bordered on the north, east, and south sides by the state, and by private land on the west and on the northeast corner. Bordering tract 03 on the north is tract 01 and tract 02, on the east is tract 04, and on the south is tract 21.

Access to the tract is fair. Tract access is by Skyline Dr. to fire road 250, which runs along the north side of the tract.

#### History

The creation of tract 03 resulted from seven larger land purchases: 40 acres from George Mantz and Rosa Mantz on May 23<sup>rd</sup>, 1940; 60 acres from Emma Gossman and Wacker Gossman on December 21<sup>st</sup>, 1939; 120 acres from Nellie Peters on September 23<sup>rd</sup>, 1963; 301.5 acres from Emil V. Heller and Edna Heller on July 18<sup>th</sup>, 1932; 75 acres from George B. Shelton and Kathleen L. Shelton on December 9<sup>th</sup>, 1953 for nine hundred and sixty seven and 50/100 dollars; and 40 acres from William G. Borcharding and Anna Borcharding on December 19<sup>th</sup>, 1939.

Inventories were conducted in 1971 and 1984 covering part of this tract, as the tract boundaries have changes since then. Inventory numbers indicate there were about 2,956 bd. ft. per acre in 1971, and 3,321 bd. ft. per acre in 1984.

#### Soils

There are ten (10) soil types present: Berks channery silt loam (BeG), Burnside silt loam (Bu), Cincinnati silt loam (CcC2), Coolville silt loam (CoD), Gilpin silt loam (GnF), Kurtz silt loam (KtF), Rarden silty clay loam (RdD3), Stonehead silt loam (SsC2), Tilsit silt loam (TIB2), Tilsit silt loam (TIC2). Each soil type present should support harvesting equipment with certain locations being avoided due to topographical limitations. BeG, GnF, KtF, and RdD3 are listed with severe equipment limitations due to slopes ranging up to 75 percent. Skid trails should run on contours and/or gentle slopes. See map soil type for locations. Site Index ranges from 65 to 90, with an average of 73.

## Wildlife

Wildlife<sup>1</sup> present includes, but not restricted to, the following: white-tailed deer, wild turkey, gray and fox squirrels, chipmunks, raccoons, red fox, coyote, eastern box turtles, hawks, Pileated woodpecker, Wood thrush, Northern Cardinal, Indigo Bunting, and other song birds. An improvement harvest in this tract should benefit both game and non-game species through the creation of additional foraging and nest habitat. Using both single tree and group selection provides habitat for early-, mid- and late-successional wildlife species.

<sup>1</sup> Wildlife listed as present is a result of visual sightings, tracks, fecal matter, etc. by forester personnel or other qualified individuals.

## Indiana Bat Management Guidelines

The following present values were determined from the inventory:

	Live trees:	Present	Goal	Available for Removal
Minimum	11" +dbh	1353*	1017 *	336
	20" +dbh	291*	339 *	-48
	Snags:	Present	Goal	
Minimum	9" +dbh	114	678	-564
	19" +dbh	23	113	-90

\* The present and goal only include the following Desired Live Tree Species: AME, BIH, BLA, BLL, COT, CRA, REO, POO, REE, SAS, SHH, ZSH, SHO, SIM, WHA, WHO

The minimum count for all snag and live tree size classes are below the goal except for the 11"+dbh live tree class. These numbers can be increased for the snags through TSI by deadening the appropriate number of 19"+ trees to achieve the goals. Also, through regeneration openings and single tree selection we can promote the species needed by the bats. By releasing desired species during a harvest and/or TSI, we can accelerate the growth of desired species into the larger diameter class from the smaller size class.

The nature of improvement cuttings lends itself to the known Indiana bat habitat. Removal of single trees will permit light and crown space for the residual trees. This temporary opening in the forest canopy lends itself to ease in movement for bats during flight as they capture their prey. Trees opened up to increased sunlight are able to capture the increased warmth for bats under the exfoliating bark. Regeneration openings also provide pockets within the forest canopy for bats to obtain prey while in flight. It has also been discussed that bats frequently use skid roads and haul roads as flight paths in capturing food and travel routes.

## Recreation

Recreational use of the entire area is minimal. Hunting is the major recreational activity conducted in and around tract 03. During spring and fall hunters seek deer, turkey, squirrel, raccoon, grouse and mushrooms. Management activities conducted in tract 03 will alter the hunting areas during the harvest operations. Signs will be posted to educate the public about current management activities and list areas that are closed to

public access. The tract will reopen once the timber harvest has been completed. Signs to warn of safety concerns related to any TSI work completed on the tract will also need to be posted. These policies are administered to address safety issues.

### **Tract Area Prescriptions**

**Area A** – The basal area of this section is approximately 130 sq. ft. per acre. It is a chestnut oak site stretching along the ridge tops. The understory is predominately sassafras, red maple, and greenbriar. There is healthy chestnut oak regeneration. The chestnut oak overstory also contains black oak, pignut hickory, white oak and white ash. Generalized quality is poor on this dry, thin soil, but there is certainly merchantable timber present, and a harvest to thin out this area and remove mature trees is recommended. Harvesting would also take advantage of the good regeneration and benefit saplings ready for release.

**Area B** – The basal area of this section is approximately 100 sq. ft. per acre. This area contains mature trees, with several dbh > 30". Species include red oak, white oak, black oak, chestnut oak, pignut hickory, yellow poplar and pignut hickory. The site also contains smaller shagbark hickory, sugar maple and red maple. A harvest is recommended to remove mature trees, and large trees at risk for rotting. Steep slopes might limit access to part of this area. The understory is thin but contains a lot of sugar maple. White ash regeneration is the most prevalent. There is little oak regeneration despite being dominated by oak. Selectively thinning trees to open the canopy and encourage oak regeneration is suggested due to the quality oak that the area supports.

**Area C** – These two highlighted areas are openings on the north ridge of this tract. The first on the east site contains a wildlife opening and then a young yellow poplar stand. The poplar is highly stocked, but still mostly within small size classes (dbh <12). The opening on the west was done to replant desired species and is now growing back with yellow poplar and black walnut. The trees are only 1-2" dbh. A plot within this area affected the total volume estimates from the inventory. The regeneration is good however, and it should be given time develop.

**Area D** – The basal area of this section is approximately 110 sq. ft. per acre. This area is on the toe slopes and valley beds of the tract. Large and healthy yellow poplar, white oak, and American beech are abundant. The western strip of state property is sparsely stocked, with little besides the exception of a few nice yellow poplar. The understory is predominately American beech, sugar maple and pawpaw. The stands of white oak would benefit from a thinning, along with the removal of mature yellow poplar to allow canopy openings for release.

### **OVERALL**

The overall recommendation for this tract is to conduct a harvest to remove competing, defective, and mature trees. White oak and red oak should be favored in the

majority of the mixed oak and hardwood stands due to its establishment throughout the tract but need for release and management. When harvesting the southern portion yellow poplar should be favored due to its advanced regeneration and seemingly suitable habitat. This harvest should take place within the next five years because many areas are at maturity and risks like rotting and wind-throw are increasing. TSI after the harvest is recommended to release younger more vigorous crop trees not successfully released during the harvest. The marking objective is to remove mature/over-mature stems, low quality stems and stems of less desire in an effort to improve the overall health, vigor and composition of the stand. The white oak and shagbark hickory should be favored in the benefit of improving the Indiana bat habitat, and should be allowed to grow into the largest dbh classes where our goals are currently unmet. The reduced stocking level throughout the track will provide ample space for pre-selected crop trees to move forward into the next cutting cycle. A healthier, more vigorous stand with desired tree species composition will be less susceptible to insect and disease infestation, a common problem with unhealthy stands. These management techniques will improve the overall health, vigor and quality of the residual stand, while capitalizing on stems dropping out due to natural mortality from overstocking and maturity.

Wildlife will benefit from this harvest as well. Additional sunlight penetrating the forest floor will stimulate the development of new ground flora, subsequently increasing nesting and foraging habitat. This is essential for game and non-game species as well as continued forest development. TSI will increase snags per acre while diversifying diameter distributions of both snags and growing stock trees.

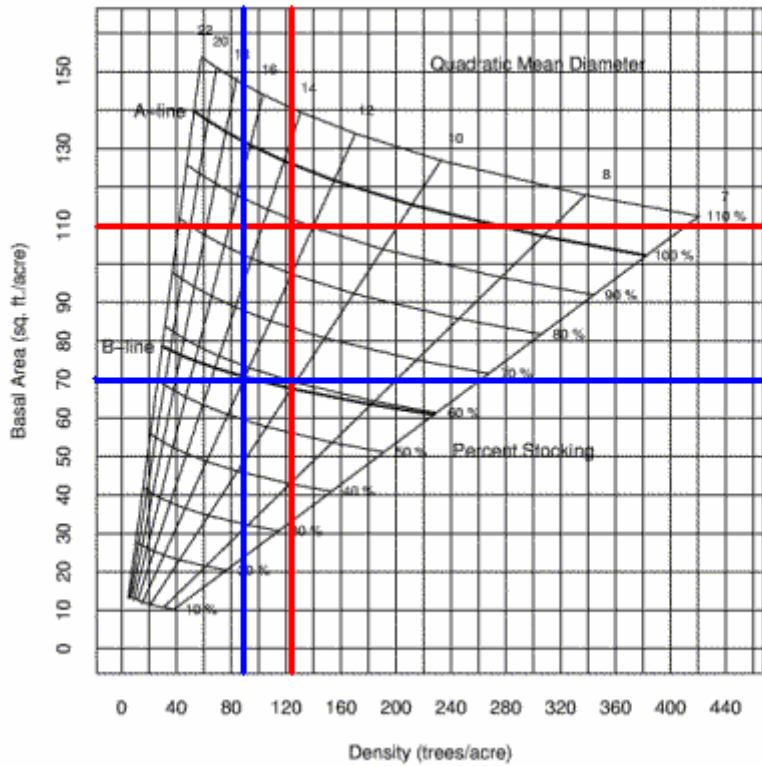
### **Proposed Activities Listing**

<i>Proposed Management Activity</i>	<i>Proposed Date</i>
Mark harvest and sell timber	2010
Post-Harvest TSI	2012
Inventory and Management Guide	2034

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You **must** indicate State Forest Name, Compartment Number and Tract Number in the “Subject or file reference” line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered.



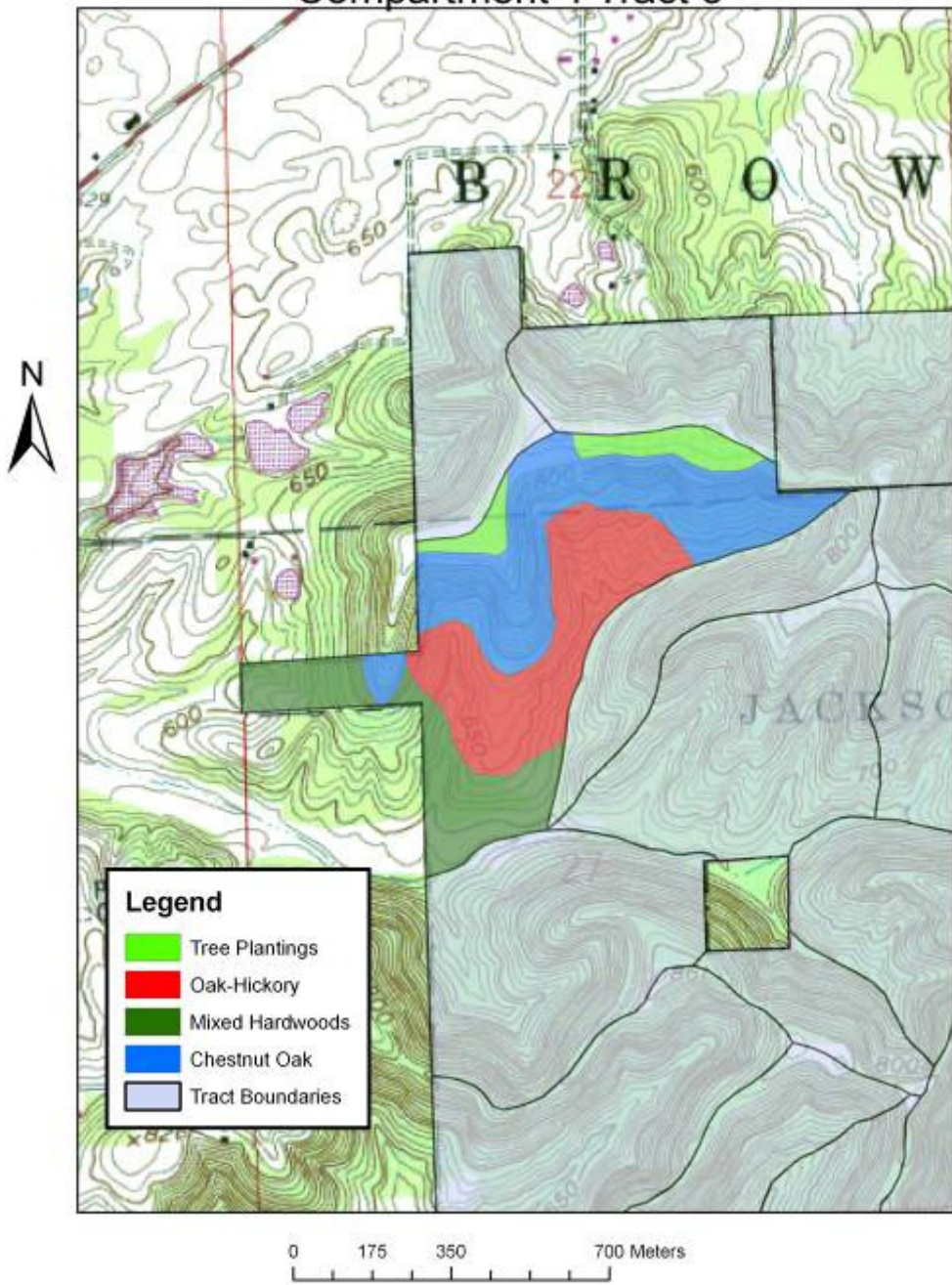
**Pre-Harvest Inventory Data in Red**

Total B.A. per acre = 110.4 sq.ft.  
 Total # trees/acres = 124  
 Avg. tree diameter = 13" DBH  
 Percent stocking = 89%

**Projected Post-Harvest Data in Blue**

Total B.A. per acre = 70.4 sq.ft.  
 Total # trees/acres = 94  
 Avg. tree diameter = 12" DBH  
 Percent stocking = 60%

# Tract Composition Map Compartment 4 Tract 3





Soils Map  
Jackson-Washington State Forest  
Compartment 04 Tract 03

