Indiana Department of Natural Resources
Division of Forestry
DRAFT
RESOURCE MANAGEMENT GUIDE

Jackson-Washington State Forest	Compartment 8 Tract 4
Forester Michael Spalding	
Draft Plan Date: December 17, 2012	Inventory Completion Date: July 5, 2012
Management Cycle End Year: 2035	Management Cycle Length: 23 years

Location

This tract is located in Sections 9 and 10, Township 3 North, Range 4 East, Washington County. Salem is approximately 8 miles southeast of this tract.

General Description

This 74 acre tract contains stands of oak-hickory and mixed hardwoods with a small amount of pine. Slopes range from gentle to moderately steep.

History

Four land purchases contributed to the acreage that makes up this tract. Most of the acreage came from the following two purchases: 312 acres from Murrell and Juanita Dorsey on March 10, 1964 and 34.68 acres from William Creviston on October 18, 1990. The following two purchases also contributed a minor amount of acreage to this tract: 77 acres from Bryan Thomas on March 5, 1955 and 69.6 acres from Elva True on November 11, 1967.

The earliest recorded management for this tract is a "Brief Management Summary" from June 1969. Although no board feet numbers are included, it states that 86 square feet of basal area per acre was present, and that the stocking was 75-80%.

Another inventory and management guide was prepared on April 11, 1988. At that time, the tract was 47 acres. A total of 4,418 board feet per acre was present, with 1,261 board feet as harvest stock and 3,156 as growing stock.

A timber sale was then marked and sold on May 19, 1992. By this time, the last land purchase had occurred, increasing the tract acreage to 75. Of that amount, 58 acres were included in the timber sale. The sale included 73,406 board feet in 478 sawtimber trees with an additional 254 culls. Across the harvested acres, this was an average of 1,266 board feet per acre harvested. The top three species by volume were chestnut oak, American beech, and black oak. Irvin Graham of Salem purchased the sale for $11,200.00 ($152.58/MBF).

Landscape Context

The landscape surrounding these tracts contains a wide diversity of land uses including forest, row crop agriculture, pasture, shrublands, grasslands, hay fields, lakes, and single-family residences. This is in part due to a diversity of topography and bedrock influences.

Topography, Geology and Hydrology
The topography of this tract consists of broad gently sloping ridgetops that transition into moderately steep to steep side slopes. The entire tract lies within the watershed of Plattsburg Pond. Best Management Practices will be enforced, as with all state forest timber sales, in order to minimize sediments reaching the pond. After leaving Plattsburg Pond, the water drains into Delaney Creek, which eventually drains into the Muscatatuck River. The underlying geology consists of sandstone, siltstone, and shale.

Soils
Berks-Weikert complex (BhF) (31.5 acres) The site indexes for hardwood species range from 50 for black oak to 70 for white oak. This soil series is steep to very steep, well drained soils are on side slopes in the upland areas. The Berks soil is moderately deep, and the Weikert soil is shallow. They are about 55% Berks soil and 35% Weikert soil. The two soils occur as areas so intricately mixed that mapping them separately is not practical. This soil complex is suited for trees. The erosion hazard, the equipment limitations, seedling mortality, windthrow hazard, and plant competition are concerns in managing the woods. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. Seedlings survive and grow well if competing vegetation is controlled and if livestock are excluded from the area. Because of the windthrow hazard, harvest methods should not isolate the remaining trees or leave them widely spaced. Preferred trees to manage for are black oak, bur oak, chestnut oak, scarlet oak, red oak, and white oak.

Burnside silt loam (Bu) (4.0 acres) The site index is 95 for yellow-poplar. This series consists of deep, well drained soils that formed in 12 to 24 inches of medium-textured alluvium and the underlying loamy-skeletal alluvium. These soils are on flood plains and alluvial fans. It is occasionally flooded for brief periods in the spring. Native vegetation is deciduous hardwoods. This soil is well suited for trees. Plant competition is moderate. Seedlings survive and grow well if competing vegetation is controlled by cutting, girdling, or spraying. Preferred trees to manage for are bitternut hickory, bur oak, pin oak, red maple, shingle oak, and swamp white oak.

Gilpin silt loam (GID2) (24.2 acres) This strongly sloping, moderately deep, and well drained soil is on side slopes in the uplands. This soil is fairly well suited to trees. The erosion hazard, the equipment limitations, and plant competition are the main concerns in the management of wooded areas. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. During wet periods, roads tend to be slippery and ruts form easily. Seedlings survive and grow well if competing vegetation is controlled by cutting, girdling, or spraying. The site indexes for hardwood species range from 80 (red oak) to 95 (yellow- poplar). Preferred trees to manage for are black oak, chestnut oak, scarlet oak, red oak, and white oak.

Wellston silt loam (WeC2) (13.6 acres) This series consists of deep or very deep, well-drained soils formed in silty material from loess and from fine-grained sandstone or siltstone and with bedrock at depths of 40 to 72 inches. Wellston soils are on nearly level

to steep uplands in areas of acid sandstone, siltstone, or shale bedrock; but are most common on ridgetops. Slope ranges from 0 to 50 percent but are dominantly 4 to 18 percent. Native vegetation consisted of oak, hickory, dogwood, tulip poplar, and cherry. This soil is fairly well suited to trees. The erosion hazard, the equipment limitations, and plant competition are the main concerns in the management of wooded areas. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. During wet periods, roads tend to be slippery and ruts form easily. Seedlings survive and grow well if competing vegetation is controlled. The site indexes for hardwood species is 81 (red oak) and 90 (yellow-poplar). Preferred trees to manage for are black oak, chestnut oak, persimmon, red oak, scarlet oak, shagbark hickory, sugar maple, yellow-poplar, and white oak.

Water (.7 acre) This is the small part of the tract that lies within Plattsburg Pond.

Access
This tract is located on Rooster Hill Road 1.0 mile east of State Road 135. Due to the prior harvest in this tract, most of the skid trails should be pre-existing.

Boundary
The northern boundary line of this tract is Rooster Hill Road. The western boundary is an ephemeral drainage that travels from Rooster Hill Road to a mapped intermittent stream. This intermittent stream then forms the southern boundary and then empties into Plattsburg Pond. The eastern boundary follows a ridgetop south down a hill to Plattsburg Pond.

Wildlife
A Natural Heritage Database Review is part of the management planning process. If Rare, Threatened or Endangered species were identified for this area, the activities prescribed in this guide will be conducted in a manner that will not threaten the viability of those species.
Only the largest size class of snags is below the maintenance level for Indiana bat, and the post harvest TSI will create enough snags to make up for this minor deficiency.

Indiana bat habitat guidelines

Snags (All Species)	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
5"+ DBH	296	518	819	523	301
9"+ DBH	222	444	335	113	-109
19"+ DBH	37	74	35	-2	-39

Communities
Ailanthus and stilt grass were both observed during the inventory. The Ailanthus should be treated during the pre-harvest vine control. Stilt grass may be treated where accessible.

Recreation
Due to this tract being along a county road, hunting is a popular use of this tract. The location of Plattsburg Pond on the southern boundary of the tract also makes this a very popular fishing spot.

Cultural
Cultural resources may be present, but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during management or construction activities.

Tract Subdivision Description and Silvicultural Prescription

Mixed Hardwoods (11.0 acres) – This subdivision contains yellow-poplar, American beech, sugar maple, black walnut, American sycamore, white ash, red maple, blackgum, and a variety of oak and hickory species. Size of the trees ranges from pole to large sawtimber. This area should be harvested to favor retention of the healthiest and most vigorous trees. When possible, mixed hardwoods should be harvested to release oak and hickory trees. Trees marked for harvest should include damaged, defective, suppressed, mature, and over-mature trees. Most of the ash trees should be marked in advance of the emerald ash borer, which is already known to exist in Washington County. Droughts in 2007, 2010, 2011, and 2012 have severely stressed many trees as well. These trees should be salvaged when possible.

Oak-Hickory (46.7 acres) – This subdivision is dominated by oak and hickory species, which transition from nearly pure chestnut oak on the driest soils to very high quality shagbark and pignut hickory and white, red, and black oak on the more mesic sites. Other mixed hardwoods are present throughout this subdivision as well and include yellow-poplar, sugar maple, red maple, American beech, and white ash. Size of the trees generally ranges from small to large sawtimber. In order to maintain the oak-hickory forest type in this subdivision, mixed hardwoods should be harvested when possible to release oak and hickory trees. Other trees to harvest should include drought-stressed, damaged, defective, suppressed, mature, and over-mature trees to release healthier and more vigorous residual trees.

Old Field Mixed Hardwoods and Pine (15.6 acres) – This subdivision is dominated by red maple, white ash, black oak, white pine, Virginia pine, blackgum, and yellow-poplar. Due to the history of this area being an old field, the trees are generally smaller, ranging from pole size to medium sawtimber. This area contains some very high quality young black oak, and their release and retention should be the focus of marking in this area. Other trees marked should be lower quality and less vigorous trees to release healthy and vigorous residual mixed hardwoods and any other oak or hickory trees present.

Summary Tract Silvicultural Prescription and Proposed Activities
Prior to a harvest in this tract, grapevine and Ailanthus control should be performed. A timber harvest using single tree and group selection methods should be marked in this

tract and combined with the adjacent tract 5. This harvest should focus on removing wind-damaged and drought-stressed trees, trees with fire and/or grazing damage, and other trees to release higher quality, more vigorous residual trees. Most of the ash trees should be marked in advance of the emerald ash borer, which is already known to exist in Washington County. The end result will be a tract primarily dominated by healthy, vigorous, high-quality oak and hickory trees with a lesser component of healthy, vigorous, high-quality mixed hardwoods. This harvest should remove approximately 2,361 board feet of the estimated 8,272 board feet per acre, for a total estimated harvest volume of approximately 174,710 board feet. This will bring the stocking level down from 89% to 63%, keeping the residual stocking above the B-line. Post-harvest timber stand improvement should be performed following the harvest to deaden any culls not cut by the logger, release any trees not sufficiently released during the harvest, and to complete any group selection regeneration openings created by the harvest. Another inventory should be performed 20 years following completion of the timber harvest.

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Grapevine and Ailanthus Control	2012-2013
Mark and Sell Harvest	2013-2015
Post-harvest TSI	2014-2016
Review any openings greater than one acre for regeneration	2016-2018
Inventory and Management Guide	2034-2036

To submit a comment on this document, click on the following link:
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You must indicate the 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. Note: Some graphics may distort due to compression.

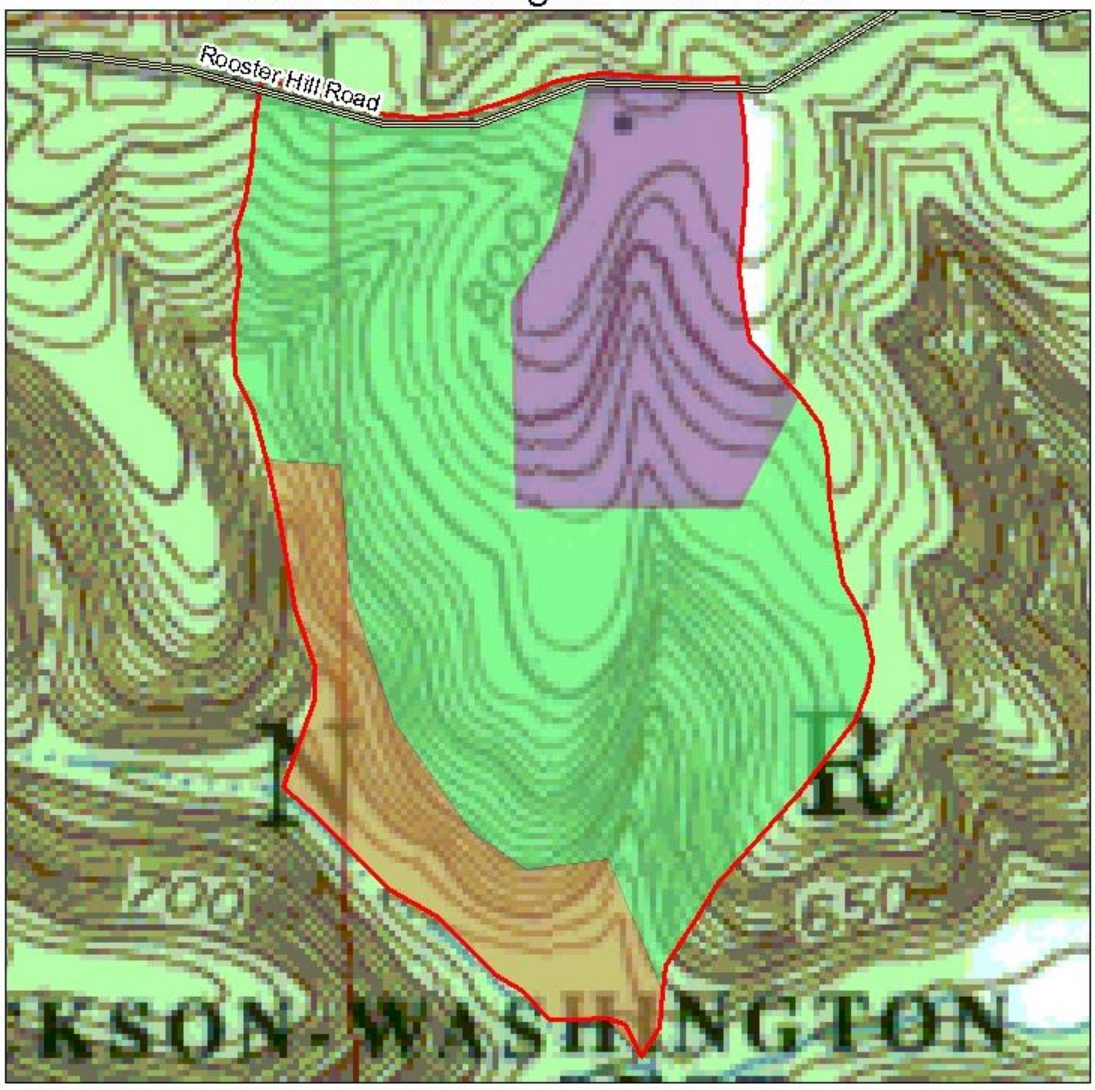
TM 901 RESOURCE MANAGEMENT GUIDE				
INVENTORY SUMMARY				
			Compartment:	8
Jackson-Washington State Forest			Tract:	4
Forester:			Date:	7/5/12

ACREAGE IN:		
	Commercial Forest	74
	TOTAL AREA	74

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
chestnut oak	48,240	129,620	177,860
black oak	7,160	78,690	85,850
yellow-poplar	44,810	25,080	69,890
northern red oak	8,430	50,880	59,310
white oak	2,870	56,410	59,280
pignut hickory	5,780	46,010	51,790
sugar maple	17,500	15,470	32,970
American beech	9,730	13,960	23,690
black walnut	0	12,590	12,590
white ash	12,280	0	12,280
American sycamore	10,130	0	10,130
shagbark hickory	0	7,060	7,060
largetooth aspen	2,740	0	2,740
scarlet oak	2,540	0	2,540
red maple	2,500	0	2,500
blackgum	0	1,660	1,660
TRACT TOTALS	174,710	437,430	612,140
PER ACRE TOTALS	2,361	5,911	8,272

Tract Subdivisions
Compartment 8 Tract 4
Jackson-Washington State Forest



Legend

- Rooster Hill Road
- Tract Boundary

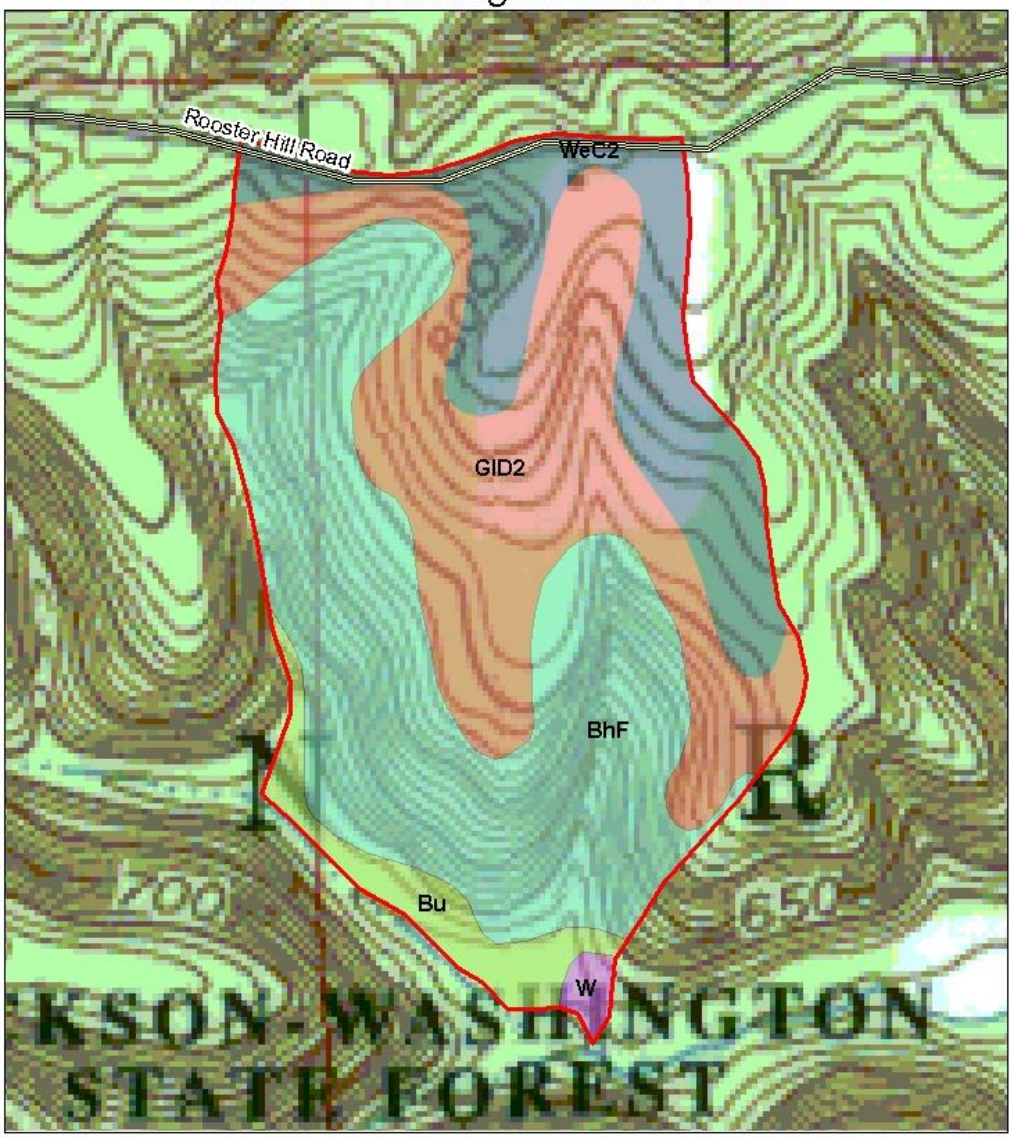
Subdivisions

- Mixed Hardwoods
- Oak-Hickory
- Old Field Mixed Hardwoods and Pine

0 0.05 0.1 0.2 Miles

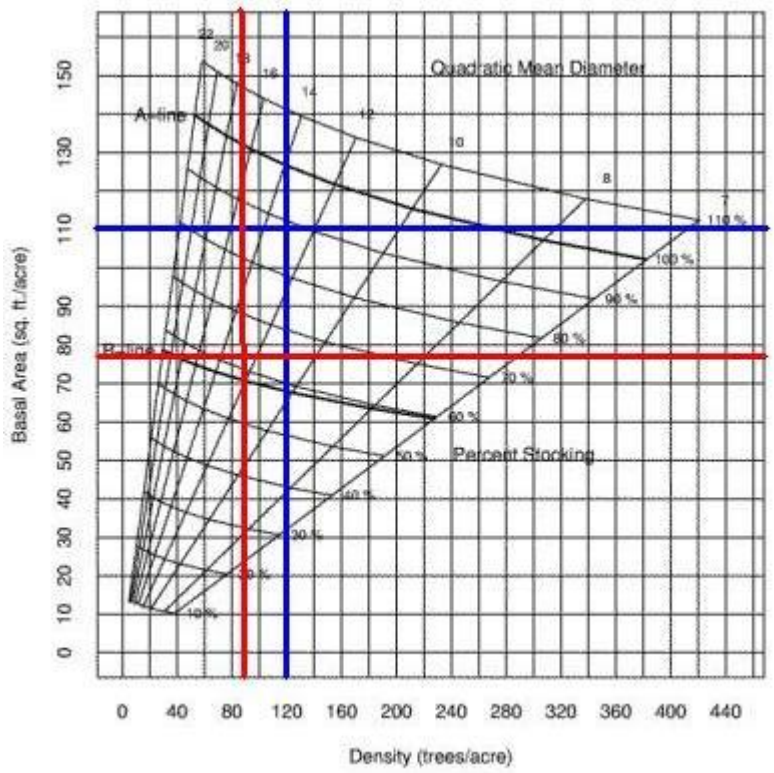
N W E S

Soils
Compartment 8 Tract 4
Jackson-Washington State Forest



Stocking Guide

Compartment 8 Tract 4



Estimated Pre-Harvest Data in Blue

Total Basal Area per Acre = 110.3 square feet per acre

Total Number Trees per Acre = 120

Average Tree Diameter = 13 inches DBH

Percent Stocking = 89%

Projected Post-Harvest Data in Red

Total Basal Area per Acre = 77 square feet per acre

Total Number Trees per Acre = 89

Average Tree Diameter = 12.5 inches DBH

Percent Stocking = 63%