Indiana Department of Natural Resources – Division of Forestry
DRAFT
Resource Management Guide

State Forest: Jackson-Washington Compartment: 11 Tract: 8
Forester: Sandy Derringer Date: 2/24/2016
Management Cycle End Year: 2038 Management Cycle Length: 20 years

Location

This 54 acre tract is located in Section 5, T-3N, R-5E in Gibson township of Washington County Indiana. This tract is located about 10 miles south of Brownstown, IN. The tract lies approximately ¼ mile south of Mt. Eden Church. Access to this tract is from Mail Route Road using Fire Access Road 760.

General Description

This tract is made up of gently rolling hills and an unmapped intermittent stream. Old road beds run down many of the main ridges. Timber type is mainly oak-hickory with a few pockets of Virginia pine on the ridge top that lies midway through the tract on the east side.

History

Approximately 15 acres of the tract was acquired from Donald T. and Phyllis Hoffman on March 4, 2008. Approximately 40 acres of the tract was obtained from John W. and Caroline Robinson on November 18, 1964. The acres obtained from Mr. and Mrs. Donald Hoffman was previously harvested. Original property lines were marked with orange carsonite markers in 2005 along with setting property corners Markers should be removed on the west side of the NE 1/4 of the SE ¼ of Section 5 due to the acquisition of the Hoffman property. A wildlife pond is located in the north east portion of the tract. An inventory of the original 40 acre tract was completed in 2007.

Landscape Context

Most of the surrounding landscape is forested on both state and private. There are small private lakes to the northwest and east. Private ownership north, east and southeast of the tract consists of forestland, residential and pasture. Additional state land lies to the west and southwest.

Topography, Geology and Hydrology

This tract is a main ridgetop coming in on the southwest and three large ridges fanning out to the northwest, north, and northeast. It has gently rolling hills and lower valley areas that contain more mesic soils. An unmapped intermittent is located on the east side. A wildlife pond is located within the tract boundary. The bedrock in this area is sandstone.

Soils

Berks-Weikert complex (BhF) 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. 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. The site indexes for hardwood species range from 50 (black oak) to 70 (white oak). Preferred trees to manage for are black oak, chestnut oak, scarlet oak, red oak, and white oak.

Gilpin-Berks loams (GnF) This soil complex is found on side slopes in the uplands. These are moderately steep to very steep, moderately deep, well drained soils. They are about 50 percent Gilpin soil and 35 percent Berks soil. The two soils occur as areas so intricately mixed that mapping them separately is not practical. These soils are fairly well suited for trees. The erosion hazard, the equipment limitation, seedling mortality, and plant competition are concerns in managing the 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. Seedlings survive and grow well if competing vegetation is controlled by cutting, girdling, or spraying. The site indexes for hardwood species range from 70 (black oak) to 95 (tulip poplar). Preferred trees to manage for are black oak, chestnut oak, scarlet oak, red oak, and white oak.

Wellston silt loam (WeC2, WeD) 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, red oak, scarlet oak, shagbark hickory, yellow-poplar, and white oak.

Zanesville silt loam (ZaB, ZaC2) This gently sloping, deep, moderately well-drained or well-drained soil is found on ridge tops on the uplands. The soil is well suited to trees. Plant competition is moderate. Seedlings survive and grow well if competing vegetation is controlled by cutting, girdling, or spraying. The site index for this soil ranges from 70 (white oak) to 90 (yellow-poplar). Preferred trees to manage for are black oak, bur oak, chestnut oak, scarlet oak, red oak, and white oak.

Access

Travel south from Brownstown on St. Rd 135 until you reach Rooster Hill Road. Travel east on Rooster Hill Road until you reach Delaney Park Road. Travel south from this intersection until it reaches Nicholson Hollow Road. Travel east from this intersection until it you reaches West Point Road. Travel north a short distance until it reaches Mail Route Road. You will travel approximately 1.5 miles north on Mail Route Road until you reach the gate for Fire Access Road 760. Tract 8 is located approximately 1 mile from the gate.

Boundary

Most of tract 8 is the NE quarter of the SW quarter of Section 5. The majority of this tracts boundary also serves as state boundary line. A small section in the southwest corner of tract 8 adjoins tract 9. A ravine serves as the boundary line between the two tracts. Orange carsonite posts mark the state boundary lines.

Wildlife

A diverse assortment of wildlife resources are found on this tract conducive to providing habitat for a variety of wildlife species. Habitat includes:

- contiguous oak-hickory canopy
- mixed hardwood stands with varied structure
- small Pine pockets
- riparian areas

Hard mast trees such as oaks, hickories, and American beech provide food source to both game and non-game species. The openings are varied in size but all present similar, dense vegetation that favors wildlife preferring this habitat structure. Such vegetative species include sassafras, grapevine, and other early successional shrubs.

Snags (standing dead or dying trees), are an important wildlife habitat features in Indiana's forests. They are used by a wide range of species as essential habitat features for foraging activity, nest/den sites, decomposers (e.g., fungi and invertebrates), bird perching and bat roosting. Additionally, snags are an important contributor to the future pool of downed woody material. Downed woody debris provides habitat and protection for many species and contributes to healthy soils.

Forest wildlife species depend on live trees for shelter, escape cover, roosting and as a direct (e.g., mast, foliage) or indirect (e.g., foraging substrate) food resource. The retention of live trees of various diameter classes is of particular concern to habitat specialists such as species of conservation need like the Indiana bat.

The DoF has developed compartment level guidelines for two important wildlife structural habitat features. Current assessments indicate the abundance of these habitat features meet or exceed recommended base levels in all diameter classes. The prescribed management will maintain or enhance the relative abundance of these features.

Wildlife Habitat Feature

Snags (all species)	Maintenance Level	Inventory	Available Above Maintenance
5"+DBH	216	1120	904
9"+DBH	162	454	292
19"+DBH	27	75	48

A Natural Heritage Database review was completed for this tract. If Rare, Threatened or Endangered species (RTE's) 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.

Communities

This is mainly an oak-hickory forest with patches of almost pure white oak and a few small patches of Virginia pine on the ridgetops in the south east part of the tract. Scattered patches of multiflora roses are located in the southeast corner near the unmapped intermittent stream as well as at least one American holly. Grapevine was also observed in the tract.

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

2016 INVENTORY SUMMARY			
Forester:	Derringer	Inventory Date:	2/24/16
Forest	54 acres		
SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
White oak	11,540	109,390	120,930
Chestnut oak	13,020	64,140	77,160
Black oak	2,290	35,880	38,170
Northern red oak	3,420	20,070	23,490
Pignut hickory	660	19,020	19,680
Red maple		4,440	4,440
Eastern redcedar		3,170	3,170
Shagbark hickory		2,290	2,290
Yellow poplar		2,180	2,180
Sugar maple		1,390	1,390

American beech		1,300	1,300
largetooth aspen		1,200	1,200
TRACT TOTALS	30,930	264,470	295,400
PER ACRE TOTALS	572.78	4,898	5,470

Previous Cruise Data- 2007

Tract acres: 40	Harvest Stock	Growing Stock	Total Volume
Per Acre totals	1,913	2,927	4,840

The inventory for the current tract showed an estimated total volume of 295,400bd.ft, a harvest volume of 30,930bd.ft. and leave volume of 264,470 bd. ft. The estimated per acre tract volumes are 5,470 bd. ft. per acre total volume, 572 bd. ft. per acre harvest volume and 4,898 bd. ft. per acre leave volume. The top three species by volume in the harvest category are white oak, chestnut oak and northern red oak. The top three species in the total volume are white oak, chestnut oak and black oak. The stocking shows current stocking at 75 %with a reduction to 70 % stocking after the harvest. Current basal area is 88.8sq. ft. per acre with a post-harvest basal area estimated at 81.7sq. ft. per acre. The trees will decrease from 148 trees per acre to an estimated 143 trees per acre after the harvest. The understory in this tract consists of: white oak, chestnut oak, pignut hickory, yellow poplar and sassafras. Regeneration in the tract consists of: Red maple, sugar maple, American beech, pignut hickory and some white and chestnut oak. A small area of Virginia pine was located on a ridge in the southeast area of the tract.
The original tract of 40 (38.4) acres was inventoried in July 2007. It showed tract volume totals of 193,610bd.ft, leave volume of 117,090bd.ft. and harvest volume of 76,520bd.ft. The estimated per acre tract volumes were total 4,840bd.ft. per acre, leave 2,927bd.ft.per acre and harvest volume of1,913bd.ft. per acre.

The 2007 inventory data only included the original 40 acres. Data differences are a result of 15.3 acres of previously harvested forestland being included with the 2016 inventory. This resulted from tract boundary changes required following the land acquisition in 2008 from Mr. and Mrs. Donald Hoffman.

Recreation
Hunting is the main recreational activity in this tract.

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

Tract Subdivision Description and Prescription

Oak-Hickory (15.3 acres in the new part of the tract and 38.4 in old part of tract**) –** This is the main subdivision in this tract. It goes from a chestnut oak mix in the west side of the tract to almost pure white oak in some areas on the north part of the tract. Pockets of trees could be thinned to allow for more growth in better quality trees. Some of the big "wolfy" trees would also be removed or managed as large snags. (Likely holdovers from pastured landscape decades ago). The land acquired from the Hoffman's has had some harvesting done in the past, but the rest of the tract has had no management activity. The management prescription for this subdivision would be to implement an improvement harvest utilizing single tree and group selection openings. The single tree selection will focus on removal of poor quality, competing and overmature trees to release the healthy more vigorous tree present. This will provide more sunlight and nutrient to enhance the development of the oak-hickory forest that remains. Within the regeneration openings species likely to occur in the years following removal of overstory and completion of the openings via post-harvest timber stand improvement are the following: chestnut and white oak, pignut hickory, sugar maple and yellow poplar.

Mixed Bottomland(.8 acres) – This area is on the east side of the tract and is composed of red maple, yellow poplar, eastern red cedar, pignut hickory, black cherry, white ash and some oaks. It is mostly the bottom land and the area of an unmapped intermittent stream. There are pockets of Virginia pine on the ridge line running west that could be removed through a harvest allowing native hardwood species to regenerate.
The management prescription for this subdivision would be to implement an improvement harvest utilizing single tree and group selection openings. The single tree selection will focus on removal of poor quality, competing and overmature trees to release the healthy more vigorous tree present. This will provide more sunlight and nutrient to enhance the development of the forest that remains. Within the regeneration openings species likely to occur in the years following removal of overstory and completion of the openings via post-harvest timber stand improvement are the following: red maple, white ash, yellow poplar and pignut hickory.

Tract Prescription and Proposed Activities

The management prescription is to implement a harvest utilizing single and group selection harvest within the next 5 years. Most of the tract would have some selective harvesting to encourage growth of better quality oaks and hickories with removal of low quality, suppressed, and dying species present in the tract. The pine area will have a group selection harvest to remove the non-native pine in favor of growing native hardwoods. Best management practices will be implemented during and after the harvest to minimize impact on soil and water resources.

Portions of tract 9 could be included with a tract 8 managed harvest due to their shared access. However, most of tract 9 is not prescribed for harvest at this time.

Follow the harvest with TSI to deaden any culls, release any future crop trees and reduce the amount of American beech and Sugar maple competing with the oak regeneration. Another inventory will be performed in approximately 20 years following the harvest.

Proposed Activities Listing

Proposed Management Activities	Proposed Date
Mark, harvest and sell the timber	2017
Post-harvest TSI	2018 – 2020
Regeneration opening monitoring >1acre in size	2021- 2023
Inventory and management guide	2038

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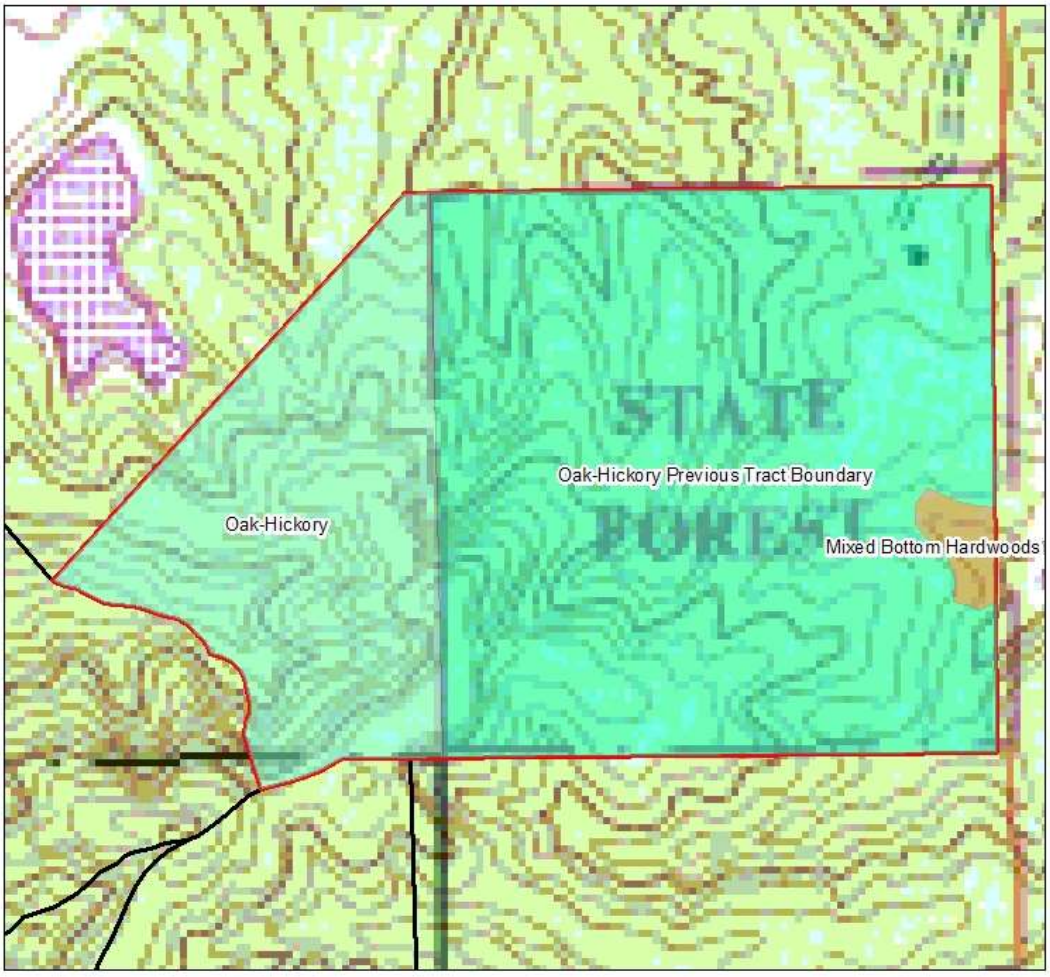
You must indicate the State Forest Name, Compartment Number and Tract Number in the "Subject or file reference" line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered.

Note: Some graphics may distort due to compression.

Jackson-Washington State Forest
Compartment 11 Tracts 08
Forest Cover Type



Legend

Tract_Boundary_6351108

Cover_Type

- Mixed Bottom Hardwoods
- Oak-Hickory
- Oak-Hickory Previous Tract Boundary

0 0.05 0.1 0.2 Miles

N

Jackson-Washington State Forest
Compartment 11 Tracts 08
Forest Cover Type

Legend

Tract_Boundary_6351108

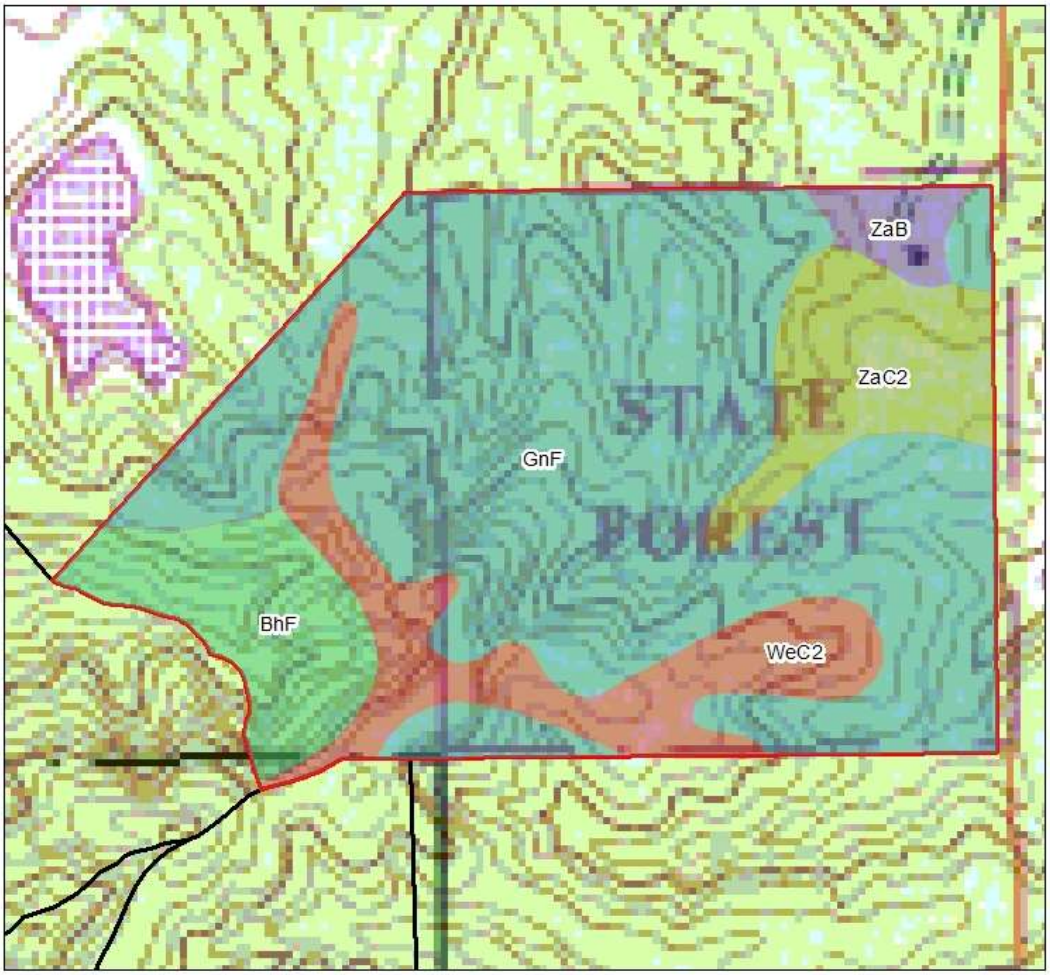
Cover_Type

- Mixed Bottom Hardwoods
- Oak-Hickory
- Oak-Hickory Previous Tract Boundary

0 0.05 0.1 0.2 Miles

N

Jackson-Washington State Forest
Compartment 11 Tracts 08, 09 and 11
Soils



Legend

Tract_Boundary_6351108

Soils

- BhF
- GnF
- WeC2
- ZaB
- ZaC2

0 295 590 1,180 Feet

N