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

State Forest: Jackson-Washington | Compartment: 13 Tract: 1
Forester: Sandy Derringer | Date: 11/18/2015
Management Cycle End Year: 2042 | Management Cycle Length: 20 years

Location
Tract 01 is located in Township 3N, Range 5E, Section 17 in Washington County.

General Description
This tract is approximately 89 acres of hardwood forest. The main ridge follows the county road with fingers running mostly southeast. An intermittent stream makes up the southern boundary. The Knobstone trail is located in this tract- running parallel along the eastern boundary of the tract. An old road bed runs down a finger on the west side of the tract. This is mostly an Oak-hickory forest.

History
This tract comes from two different ownerships. The northwest corner of the tract comes from part of the 40 acres acquired from Jerry Couch and Jerry Lynn Couch (tenants in common) on November 21, 1996. The rest of the tract was acquired on March 27, 1963 from Willard B. and Ruby E. Lykins. The State boundary lines have been located on the east side, along private line and along newer tract purchased. Possible trespasses were noted and survey requests were made in 1991 and 2000. A parking lot was established in 2000.

Landscape Context
Tract 1 is located about 4.5 miles west of Little York on the south side of E. Pull Tight Rd. Private residential land borders the tract on both the east and west sides. The northern tract boundary line is E. Pull Tight Rd. the southern tract boundary is a mapped intermittent stream. Land use has changed very little from the time of acquisition.

Topography, Geology and Hydrology
The topography in this tract ranges from steep hill sides in the north and northwest to flat bottoms along the southern boundary and eastern boundary. This tract is comprised primarily of one ridge following E. Pull Tight Rd along the northern boundary and extending south on the western boundary. The entire tract is accessed through this ridge top. The slopes from the ridge are generally south and/or east facing. One mapped intermittent stream is the south boundary. One unmapped ephemeral runs northwest southeast on the east side and runs near the Knobstone trail. The underlying bedrock in this tract is siltstone.

Soils

Berks-Weikert complex (BhF) 38.6 acres~ 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.

Burnside silt loam (Bu) 7.7 acres~ This series consists of deep, well drained soils that formed in 30 to 61 centimeters (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. The site index for hardwood species is 95 for yellow-poplar. Preferred trees to manage for are bitternut hickory, white oak, red oak, black walnut, sugar maple, and yellow-poplar

Gilpin silt loam (GID2) 7.2 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.

Gilpin-Berks loams (GnF) 14 acres~ 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 tree. 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) 21.6 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.

Access
This tract has access from E. Pull Tight Road which serves as the entire northern border of the tract. Follow SR 39 south from the intersection of SR39 and SR250 approximately 2.5 miles, turn west on East Powerline Road, go to North Short Cut Road and follow it through Pumpkin Center then turn west on East Pull tight Road and the property will be approximately 2.5 miles on the south side of the road.

Boundary
East Pull Tight Road is the northern boundary of this tract. The east and west boundaries are private property. The southern boundary is a mapped intermittent stream.

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

- mixed hardwood stands with varied structure
- 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 and characteristics 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 wildlife structural habitat features. Current assessments of the wildlife snag habitat feature indicates recommended snag maintenance levels are met or exceeded in all diameter classes. The prescribed management will maintain or enhance the relative abundance of these features.

Snags(all species)	Maintenance level	Inventory	Available above Maintenance
5"+DBH	356	638	282
9"+DBH	267	638	371
19"+DBH	44.5	67	23

Communities

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.

Grapevines are present in the tract but don't seem to be a big problem. Multi flora rose and Privet are on the northwest side of the tract just below a private house. Multi flora rose is also on the south east part of the tract. Rose is common throughout the county, but will be monitored for problem populations. Privet control is recommended during management operations.

Forest Condition

TM 901 RESOURCE MANAGEMENT GUIDE			
INVENTORY SUMMARY			
		Compartment:	13
State Forest:	Jackson-Washington	Tract:	1
Forester:	Sandy Derringer	Inventory Date:	11/19/2015

ACREAGE IN:	
Forest	89
Non-Forest	
Water	
Permanent Openings	

Other Uses	
TOTAL AREA	89

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
Chestnut oak	47,070	160,570	207,640
White oak	0	87,320	87,320
Northern red oak	7170	53000	60,170
Black oak	5,920	30,600	36,520
Pignut hickory	0	30,780	30,780
Yellow poplar	0	30,770	30770
Red maple	3,820	16,320	20140
Eastern red cedar	0	17,470	17,470
Sugar maple	0	16,050	16,050
Shagbark hickory	0	12, 870	12,870
White ash	2,520	8,920	11,440
American beech	1,480	7,280	8,760
Scarlet oak	0	7,550	7,550
Hackberry	0	6,250	6,250
American sycamore	2,640	0	2,640
Black cherry	0	2,190	2,190
Black gum	0	2,120	2,120
Virginia pine	0	1,870	1,870
TRACT TOTALS	**70,620**	**491,930**	**562,550**
PER ACRE TOTALS	**793**	**5,527**	**6,320**

The inventory for this tract showed an estimated total volume of 562,550 bd. ft, a harvest volume of 70,620 bd. ft. and a leave volume of 491,930 bd. ft. The estimated per acre tract volumes are 6,320 bd. ft. per acre total volume, 793 bd. ft. per acre harvest volume and 5,527 bd. ft. per acre leave volume. The top three species by volume in the harvest category are chestnut oak, northern red oak and black oak. The top three species in the total volume are chestnut oak, white oak and northern red oak. Current basal area is 85.4 sq. ft. per acre with a post-harvest basal area estimated at 76.9 sq. ft. per acre. The dominate understory in the tract is: sugar maple, chestnut oak, and American beech. Besides sugar maple and American beech, there was a lot of oak regeneration including chestnut oak, black oak and northern red oak.

Recreation

The Knobstone trail runs through the eastern side this tract. Other activities in this tract might include hunting and mushroom hunting. Trail interaction and impacts to be given due consideration during planning and implementation of any resource management activities.

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 –(~67 acres) This subdivision makes up a majority of the tract. It has a large component of chestnut oak and white oak in the subdivision. The quality of most of the chestnut oak is poor. Many trees are double stemmed, and some have butt rot. The health and vigor of other oaks, especially the white oak, in the stand would benefit by the removal of the chestnut oaks that are suppressing them.
The management prescription is to implement a harvest utilizing single and group selection harvest. This subdivision should be harvested to encourage growth of better quality oaks and hickories with removal of low quality, suppressed, and dying species present in the tract. Regeneration within this subdivision following post-harvest TSI might include sugar maple, American beech, chestnut oak, and black oak.

Mixed hardwoods – (~22 acres) this area is located mostly in the area of the intermittent stream and lower slopes on the east side of the tract. It is composed of sugar maple, red maple, white ash, yellow poplar, American beech, hickory and oak. Eastern red cedar was also present. This area has large poor quality trees prescribed for removal during the next managed harvest to release the pole sized stand that would remain. 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 trees present. This will provide more sunlight and nutrient to enhance the development of the oak-hickory forest that remains. Much of the white ash will be removed due to Emerald Ash Borer infestations. 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: sugar maple, ash, American beech, chestnut oak and black oak.

Tract Prescription and Proposed Activities

There are areas that would benefit now from a managed harvest to remove select large and poor quality tree removal. However, the management prescription for this subdivision would be to delay a harvest for 5 years and then 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 trees present. This will provide more sunlight and nutrients to enhance the development of the oak-hickory forest that remains. The regeneration openings will focus on the removal of poor quality chestnut oak. 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: sugar maple,

American beech, and oaks. There is a large amount of oak regeneration present in the stand now.

Treatment of the privet should be performed prior to a harvest to prevent further spread. The multiflora rose should be monitored.

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.

Recreational use of the area is to be considered in the design and implementation of any resource management activities on this tract.

Prescription and Proposed Activities

Proposed Activities Listing

Proposed Management activities:	**Proposed Date**
Privet treatment	2017 -2020
Mark, harvest and sell timber	2021-2022
Post harvest recreation trail rehab as needed	2023-2024
Post-harvest TSI	–2023-2024
Regeneration monitoring>1 acre in size	2023 - 2025
Inventory and management plan	2042

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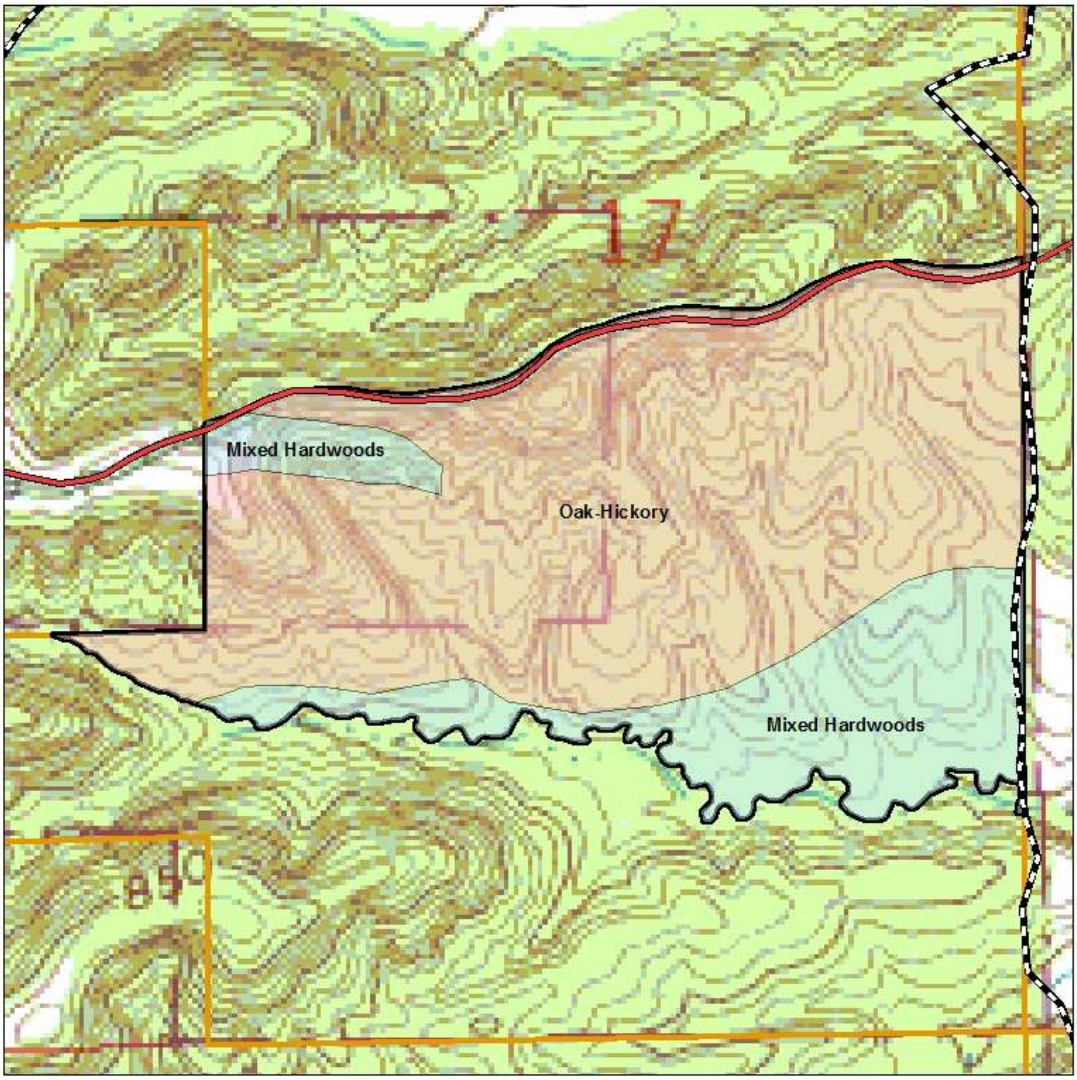
Jackson-Washington State Forest
Compartment 13 Tracts 01
Tract Subdivision



Jackson-Washington State Forest
Compartment 13 Tracts 01
Soils Map