

**Indiana Department of Natural Resources – Division of Forestry**  
***Draft***  
**Resource Management Guide**

State Forest	Jackson-Washington	Compartment 10	Tract 32
Forester	D. Potts/M. Vogel	Date	October 28, 2014
Management Cycle End Year	2038	Management Cycle Length	20 years

**Location**

The tract is located Washington County, Indiana approximately nine miles northeast of Salem, IN . More specifically in Section 11, Township 3N and Range 4E.

**General Description**

This tract is approximately 56 acres. The general cover type is hardwood forest. All acres are considered commercial forest.

**History**

This tract is comprised of two separate land acquisitions, one occurring in 1954, and the other in 1996.

A portion of this tract is from an acquisition in 1954 containing approximately 928.5 acres, from Elvin Nolan and Alice Nolan, his wife, Tony Nolan and Lissie Nolan, his wife, Sherman Nolan and Bessie Nolan, his wife.

The second land acquisition occurred in 1996 from Evelene Nicholson, containing approximately 180 acres.

According to the tract history file, the first recorded management activities were two separate management plans that occurred in 1971. The two plans were for different tracts, Compartment 48 Tract 4 (15 acres) and Compartment 48 Tract 3 (22 acres), both of which covered areas in what is now Compartment 10 Tract 32. The old tract 3 plan indicated the total volume per acre was estimated at 2,668 bd.ft. and the old tract 4 plan 1,513 bd.ft./acre. The recommendation for the area covered by the old tract 3 plan was to recruise in 5-10 years for a possible “cut.” Written in the old tract 4 plan is this one sentence, “Tract 4 is a chestnut oak slope and no current management is recommended.”

The next recorded management activity was a Resource Management Guide from September 27, 1985; the tract was 30 acres. That management guide indicated the estimated total volume per acre for the area was 5,341 bd.ft. Doyle, with the harvest volume per acre 1,673 bd.ft., and the growing stock volume per acre 3,668 bd.ft.. Further, the guide recommended that “...this tract could be considered for a sale as the estimated cut volume per acre is 1,673 board feet.”

In 1988, 118,530 bd.ft. was sold to Adkins Sawmill, Inc. for \$12,777.00 from a timber sale that was on 115 acres and included three different tracts, Compartment 10 Tracts 30, 31, and 32. In Tract 32, 36,407 bd.ft. was sold from an estimated 21 acres.

In 1991, a timber trespass occurred on the State, where 23 trees were cut.

In 1998 trees were planted in the eastern portion of the tract.

Approximately 28 acres of the tract (NW section) are part of the State Forest backcountry recreation designation established in 1979.

### **Landscape Context**

The area surrounding this tract to the north, east and south is primarily Jackson-Washington State Forest. To the west agricultural land dominates the flat bottomlands. Sparse residential housing can be found in the area as well. Land use has changed very little in the past ten years, with exception to the area surrounding Salem, IN, which has experienced some growth and expansion.

### **Topography, Geology and Hydrology**

The topography within this tract ranges from flat on the ridgetops, to very steep on the slopes. A main east to west ridge essentially splits the tract in half, with the north half being a north facing slope (about 15 acres) the south half a south facing slope (about 26 acres). The underlying geology consists largely of siltstone and shale. The eastern portion of this tract is a flat ridgetop and encompasses about 8 acres. A portion of the southern tract boundary is a mapped intermittent drainage, which flows to the west, leaving State Property at the western tract/property boundary. A small manmade wildlife pond is located in the northwest corner of the tract. Another manmade wildlife pond is located south of the main access road, which has an easement through private property for about 1,900 feet from Delaney Creek Road, east of the State Forest property boundary with private property. The mapped intermittent drainage and the ephemeral drainages flow in a westerly direction, eventually leading into Delaney Creek. Delaney Creek flows north to the Muscutatuck River, which then flows westerly into the East Fork White River. Following Best Management Practices (BMP's) will minimize potential impacts to the mapped intermittent drainage, ephemeral drainages, and wildlife ponds from prescribed management activities.

### **Soils**

**Berks-Weikert complex (BhF)** (~41 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)** (~3 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)** (~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.

**Stendal silt loam (Sf, So)** (~< 1 acre) This soil series consists of very deep, somewhat poorly drained soils that formed in acid, silty alluvium. These soils are on flood plains and flood-plain steps. Slopes range from 0 to 2 percent. Used mainly for growing corn and soybeans. Some areas are in forest. Native vegetation is dominantly hardwood forest. This soil is well suited to trees. The equipment limitations and plant competition are concerns in managing the woods. Equipment use should avoid wet periods. Dry periods or when the ground is frozen is preferred. Seedlings survive and grow well if competing vegetation is controlled and if livestock are excluded from area. The site indexes for hardwood species range from 85 (sweetgum) to 90 (pin oak). Preferred trees to manage for are bur oak, overcup oak, red maple, hickory, swamp chestnut oak, and swamp white oak.

**Wellston silt loam (WeC2, WeD)** (~4 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.

**Zanesville silt loam (ZaB, ZaC2)** (~6 acres) 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, persimmon, scarlet oak, red oak, and white oak.

**Access**

This tract can be accessed on foot from adjacent tracts. Vehicle access is via a main access road from Delaney Creek Road, this road crosses two private properties, both with legal easements for State personnel and contractors. This main access road intersects the ridgetop that provides access to and within the tract, approximately 0.80 mile from Delaney Cree Road. Within this tract access is via the main east to west ridge in the middle of the tract, this main ridge provides access to all areas of the tract.

**Boundary**

This tract is surrounded by State Forest Property on three sides, the north, east and south. West of the tract is private property, which runs along a north-south line along the entire western tract boundary. The southern tract boundary begins in the west at the intersection of the western tract/property boundary and follows a mapped intermittent drainage east. This drainage continues east to southeast and transitions to an unmapped ephemeral drainage, this drainage eventually feathers out to the ridgetop, which is the tract's eastern boundary. The eastern boundary of the tract follows a line along the ridgetop north for approximately 2,400 feet at which point it abruptly takes a turn to the west and becomes the northern tract boundary, this turn occurs just past a manmade wildlife pond. The northern tract boundary is an unmapped ephemeral drainage that flows west to where it intersects the western tract/property boundary.

**Wildlife**

<i>Wildlife Habitat Feature Tract Summary</i>					
	<b>Maintenance level</b>	<b>Optimal level</b>	<b>Inventory</b>	<b>Available above maintenance</b>	<b>Available above optimal</b>
<b>Snags (all species)</b>					
<b>5"+ DBH</b>	228	399	583	355	184
<b>9"+ DBH</b>	171	342	404	233	62
<b>19"+ DBH</b>	28.5	57	62	34	5

A Natural Heritage Database review was completed for the 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. Many snags and blown-down trees were observed throughout the tract during the inventory. The number of snags in all diameter classes exceeds the optimal level.

### **Communities**

A Natural Heritage Database review was completed for the 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. Small patches of ailanthus and paulownia are growing near the top of the slope in the north half of the tract by the west boundary and in the southeast corner. Ailanthus should be treated prior to the start of harvest or other activities that expose soil and opens stand to increased sunlight..

### **Forest Condition**

The inventory report shows a total basal area of 103.6 sq. ft and 94 trees per acre. Total volume per acre is 9,386 bf. These values place current stocking for the tract at 80%, excluding sub-merchantable trees and culls. The proposed harvest would remove 2,443 bf per acre, bringing the basal area to 78.2 sq. ft per acre and the number of trees per acre to 78. Post-harvest stocking would be 62%, excluding sub-merchantable trees and culls.

The north-facing slope in the north half of the tract is characterized by mixed hardwoods. Medium to large sawtimber-size American beech, sugar maple, white ash, and tuliptree make up the overstory. A small number of basswoods and large American elms, including culls and snags, can be found in the drainage near the tract boundary at the center of the north edge. Sassafras, sugar maple, American beech, pawpaw, and tuliptree grow in the understory. The mixed hardwood type transitions to oak-hickory on the flat ridgetop surrounding the field and to a tree planting on the east side of tract. The purpose of the tree planting was to reforest the site and was funded by the Hardwood Forestry Fund. Chestnut oaks and a small number of scarlet oaks occupy the overstory near the top of the slope and on the ridgetop. Oak and hickory regeneration is abundant in this area. The south-facing slope in the south half of the tract is predominantly oak-hickory forest extending down to the drainage, but mixed hardwood species American beech and tuliptree are mingled in the overstory. Many large sawtimber-size chestnut oak, white oak, northern red oak, black oak, pignut hickory and shagbark hickory make up the canopy. A small number of medium to large sawtimber-size blackgum and black cherry trees grow in the midstory with sassafras, sugar maple, and American beech. Pole-size white oak occurs particularly in the southeast corner of the tract. The composition in the drainage near the south tract boundary on the west side shifts back to predominantly mixed hardwoods, including American elms. Cut stumps from the 1988 harvest are visible near the field on the east side of the tract. Grapevines are abundant near and along the ridge both in the center of the tract and in the southeast corner.

### **Recreation**

This tract most likely receives limited recreation use do to the difficulty in accessing the area. Dedicated mushroom hunters, deer hunters and turkey hunters will find this remote

tract full of possibilities. Currently there are no developed recreation facilities within this tract. Access to this tract will be restricted during the proposed timber harvest, due to safety concerns. Following harvest operations the tract will once again provide free and unlimited access to the general public.

### **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**

**Mixed hardwoods:** The mixed hardwood cover type is particularly concentrated in the northwest corner and on the southwest-facing portion of the slope approaching the south boundary. Sugar maple is the dominant species. The inventory shows 10.4 sq. ft of basal area and 1,107 bf of sawtimber-size sugar maple per acre. The proposed harvest would remove trees exhibiting poor vigor and form, reducing the basal area to 8.6 sq. ft and the volume to 971 bf per acre. This would serve to release trees in the midstory and understory. American beech accounts for 8.6 sq. ft of basal area and 1,028 bf per acre in sawtimber. Many of the culls and snags observed during the inventory were large hollow American beech. Some of these trees may provide suitable dens for wildlife. The proposed harvest would reduce the basal area to 5.4 sq. ft and the volume to 632 bf per acre. There are about 492 bf of tuliptree and 441 bf of white ash per acre. Blown-down trees identified during the inventory were mainly white ash, sassafras, tuliptree, and elm. White ash should be harvested in order to slow the spread of emerald ash borer in the forest and capture mortality where possible. Tuliptrees not likely to survive through to the next harvest cycle should be harvested in order to release new growth in the understory and capture mortality. In areas where basal area is low, many trees are dead and dying and/or areas where white ash is the dominant overstory species the most appropriate management prescription is a regeneration opening.

Approximately half of this tract lies within the backcountry area and half is outside of the backcountry area. Therefore, regeneration openings, if utilized, would be limited to the 28 acres that lies outside of the backcountry area, the southeast portion of the tract. Species likely to occur within regeneration opening(s), several growing seasons after the harvest, are yellow poplar, red maple, sassafras, and blackgum.

**Oak-hickory:** The oak-hickory forest type is concentrated at the top of the slopes and along the ridgetop. It surrounds the tree planting and extends south from the east side of the tract.

This subdivision contains a reforestation planting of white oak and walnut trees planted in 1998. The trees are between two and seven inches in diameter and would benefit from a thinning. Medium to large sawtimber-size chestnut oak dominates in the overstory near the top of the slopes and along the flat ridge where it runs east and west. White, scarlet, and black oak are more common on the east side of the tract around the planting and

extending south. The basal area of sawtimber-size chestnut oak is 37.5 sq. ft per acre, with a volume of 3,670 bf per acre, for the whole tract. The proposed harvest would remove trees that are unsound and/or exhibiting poor vigor in order to release crop trees, bringing the basal area per acre to 22.5 sq. ft and the volume per acre to 2,487 bf. The inventory found 5.7 sq. ft of basal area and 728 bf of volume per acre in sawtimber-size white oak. Some large mature white oaks near the field on the east side of the tract show signs of decline. Pignut hickory accounts for 563 bf per acre and 433 bf per acre are in northern red oak, for the tract.

### **Tract Prescription and Proposed Activities**

The management prescription for the tract is to conduct a harvest utilizing single tree and group selection openings (where permitted) within the next two years to promote new growth in both the oak-hickory and mixed hardwoods stand types. Harvest activities in tract 32 should take place in conjunction with those in adjacent tracts 30 and 31, if possible. Pre-harvest timber stand improvement measures include treating grapevines, ailanthus, and paulownia. Post harvest timber stand improvement includes girdling non-merchantable trees left behind after harvest, completion of regeneration openings, and additional invasive species and grapevine control. The use of regeneration openings are limited to areas outside of the Backcountry Area. Selection of trees within the backcountry acres will be of lower intensity than generally applied on other areas JWSF. Additionally, retention of larger diameter trees in the backcountry area will be higher in keeping with the backcountry recreational designation.

### **Proposed Activities Listing**

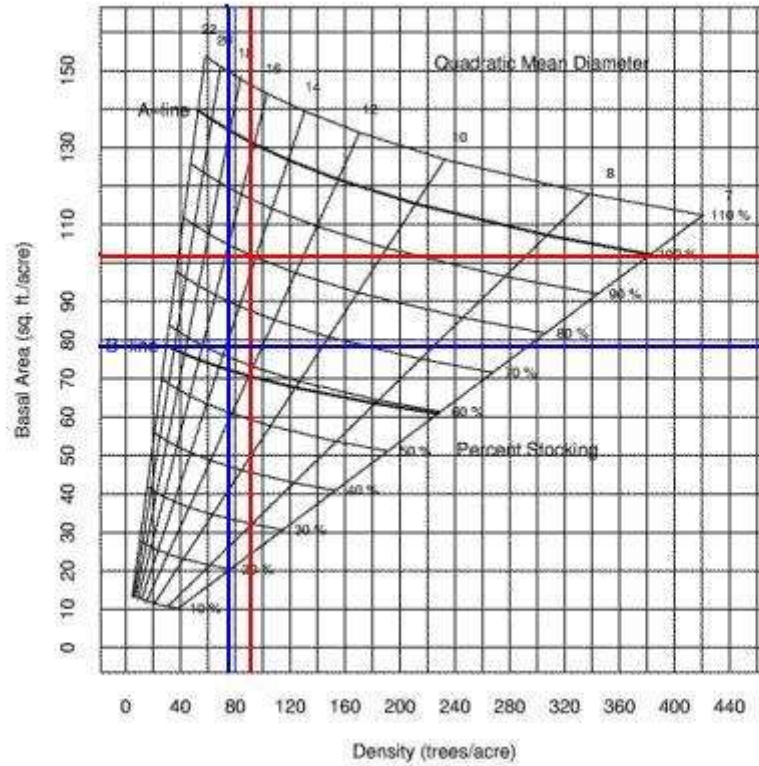
<u>Proposed Management Activity</u>	<u>Proposed Date</u>
Mark harvest and sell timber	2015-2016
Pre-harvest TSI (invasive species control)	2015-2017
Post-harvest TSI	2018-2019
Regeneration opening monitoring >1acre in size	2019-2022
Inventory and Management Guide	2038

### **Use the link below to submit a comment on this document:**

[www.in.gov/dnr/forestry/8122.htm](http://www.in.gov/dnr/forestry/8122.htm)

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.

**Stocking Guide**  
Compartment 10 Tract 32  
57 acres



**Pre-Harvest Inventory Data in Red  
(Sub merchantable trees excluded)**

Total BA/A = 103.6 sq.ft. per acre  
Total #trees/acre = 94 trees per acre  
Avg. tree diameter = 14.2 inches  
Percent stocking = 80%

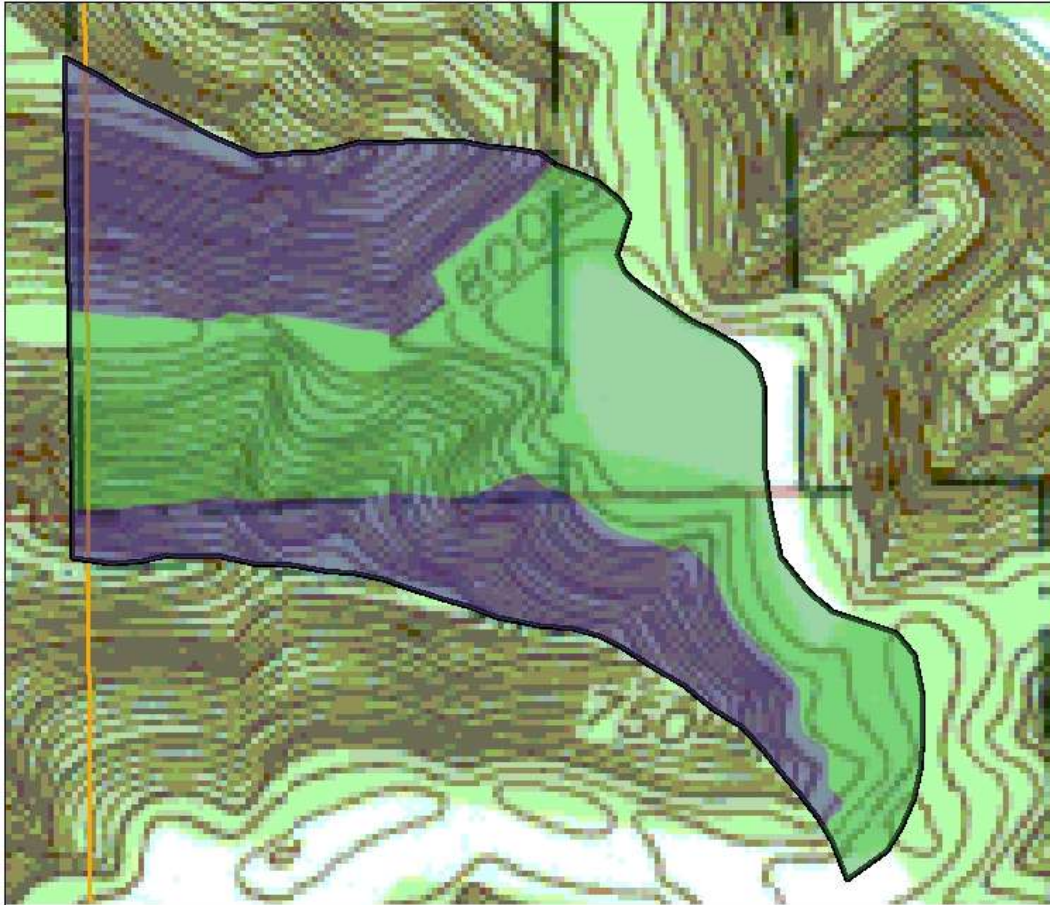
**Post-Harvest Inventory Data in Blue  
(Sub merchantable trees excluded)**

Total BA/A = 78.2 sq.ft. per acre  
Total #trees/acre = 78 trees per acre  
Avg. tree diameter = 13.9 inches  
Percent stocking = 62%



Attachments

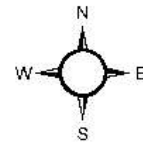
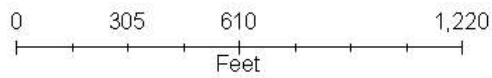
# Jackson-Washington State Forest Compartment 10 Tract 32 Tract Subdivision Map



**Legend**

**Tract Subdivision**

-  Mixed Hardwoods
-  Oak-Hickory
-  Tract Boundary
-  Property Boundary



# Jackson-Washington State Forest Compartment 10 Tract 32 Soils Map

