Indiana Department of Natural Resources – Division of Forestry

Draft

RESOURCE MANAGEMENT GUIDE

State Forest: Jackson-Washington	Compartment: 7 Tract: 1
Forester: Sandy Derringer	Date: January 15, 2015
Management Cycle End Year	Management Cycle Length

Location

This tract is located in the south half of the northeast quarter of section 30, T4N, R4E of Washington county. It contains 80 acres. It is located about 9.5 miles south of the intersection of SR 135 and SR 50 off Old HWY135.

General Description

This 80 acre tract consists of a main ridge running southwest with another smaller ridge that spurs off northwest. Both ridge lines have smaller points that spur off as well.. A fire access road runs on the lower edge of the tract along the main ridge line. This fire access road also serves as an easement for an adjacent landowner. This fire access road/easement is also known as N Cheatham Lane and provides direct access to the landowner's residence (10-acre parcel). Part of Old Hwy 135 runs through the northeast corner of the tract. Timber type is mostly mixed hardwoods with some relatively large yellow poplar and pockets of pure American beech.

History

The 70 acre on the north part of the tract was acquired from Palen Jackson and Kathleen M. Jackson on December 24, 1963. The rest was from a parcel acquired from Alice E, Denney, administrate of estate of Mary E. Coffey, on March 31, 1969. Boundary lines have been located several times in the past and some are currently being relocated. Some corner stone information is present within this compartment, but limited. Trash dumping from the roads has been cleaned up in the past, but still continues.

Landscape Context

The area surrounding this tract is mostly wooded and private ownership. To the north lies the Muscatatuck River and its associated agricultural fields. Forestland in a mixture of private and state forest ownership lies to the east, west and south. The tract connect with additional state forest along the southeast edge of the tract. N Cheatman Lane runs through the tract to a private residence, a ten acre parcel, surrounded by the state forest on the north, east, and south sides. A few residential homes are along Old 135, Hwy 135 and Goat Hollow road. There is also a small private lake to the north of the tract. Additional state forest land lies ¾ miles to the west with mostly private forestland separating the two areas. A thin strip of state forest does connect the two areas that make up Compartment 7.

Topography, Geology and Hydrology
This tract contains some very steep slopes in the northeast corner especially right off Old 135. It contains one ridge running to the southwest on the southern edge with a ridge running mostly north off it and a smaller ridge running south off that main ridge. Several small drains are located in the tract. The drain in the northeast part of the tract runs into a small neighboringlake which would drain into the Muscatatuck River to the north. The underlying bedrock is mainly 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.
Burnside silt loam (Bu) 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, and yellow-poplar.

Gilpin silt loam (GID2) 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) 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) 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, 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, persimmon, scarlet oak, red oak, and white oak.

Access

To access this tract go south from the intersection of SR50 and SR 135 for about 9.5 miles, turn right on Old HWY 135 and follow it about ¾ of a mile to N Cheatham Lane on the right. This drive runs through the southeast section of the tract. Old road beds run on all the ridges in the tract.

Boundary

All the tract boundaries except the southeast corner are property lines. The southeast corner is part of an intermittent stream and then it goes up a drain to a northeast corner of the property.

Wildlife

Snags (all species)	Maintenance Level	Optimal Level	Inventory	Available above Maintenence	Available above Optimal
5"+DBH	**320**	**560**	**598**	**278**	**38**
9"+DBH	**240**	**480**	**216**	**-24**	**-264**
19"+DBH	**40**	**80**	**70**	**30**	**-10**

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

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.

Forest Condition

TM 901
RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

		Compartment:	7
State Forest:	Jackson-Washington	Tract:	1
Forester:	Sandy Derringer	Inventory Date:	1/23/15

ACREAGE IN:			
Forest	79		79
Non-Forest			
Water			
Permanent Openings			
Other Uses	1		
TOTAL AREA	80		

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
Yellow poplar	29,660	156,490	186,150
Sugar maple	74,890	26,980	101,870
Chestnut oak	34,710	65,040	99,750
Black oak	15,420	56,280	71,700
Northern red oak	11,080	60,400	71,480
American beech	37,780	22,080	59,860
Pignut hickory		57,230	57,230
Shagbark hickory		27,240	27,240
White ash	20,580	1,270	21,850
White oak	4,830	16,220	21,050
Sassafras	13,520	1,300	14,820
American elm	1,680	1,330	3,010
Virginia pine	2,550		2,550
Black Walnut		2,060	2,060
Hackberry	1,330		1,330
Red maple	760		760
			0
			0
			0
			0
			0
			0
			0
			0
TRACT TOTALS	248,790	493,920	742,710
PER ACRE TOTALS	3,149	6,252	9,401

The inventory for this tract showed an estimated total volume of 742,710bd.ft, harvest volume of 248,790bd.ft and a leave volume of 493,920bd.ft. The estimated per acre volumes are 9,401bd.ft.per acre total volume, 3,149bd.ft.per acre harvest volume and 6,252bd.ft.per acre growing stock. The top three species by volume in the harvest category are sugar maple, American beech, and chestnut oak. The top three species in the tract by total volume are yellow poplar, sugar maple, and chestnut oak. The stocking shows current stocking at 79% with a reduction to 55% stocking after the harvest. Current basal area is 101.3sq.ft.per acre with a post harvest basal area estimated at 68.73sq.ft.per acre. The trees per acre will decrease from 82 to an estimated 62 trees per acre after the harvest. The dominate understory in the tract is sugar maple, American beech with scattered chestnut, black and white oaks.

Recreation
This property is mainly used for hunting.

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 Hardwood (79 acres) The overstory species in this tract consist of yellow poplar, sugar maple, red oak, black oak, white oak, chestnut oak, shagbark hickory, pignut hickory, American beech, and a few white ash. The understory was mainly sugar maple and American beech with scattered oak, hickories and white ash. Regeneration in the stand is mainly sugar maple and American beech. The southeast part of the tract was heavy in American beech in the overstory, understory and regeneration especially next to the drains. Several trees throughout the tract show rot or damage at the base. There are several large yellow poplar, American beech and sugar maple that could be removed to benefit remaining trees.
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 over mature trees to release the healthy more vigorous tree in the remaining stand. 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 (TSI) are the following: sugar maple, American beech, yellow poplar and sassafras.

Tract Prescription and Proposed Activities
The management prescription is to implement a managed harvest utilizing single and group selection harvest within the next five years. Most of the tract would be included in the harvest area to encourage growth of better quality oaks and hickories with removal of low quality, suppressed, and dying species present in the tract. Many of the white ash

need to be removed due to the Emerald Ash borer. Some areas would benefit from a thinning due to a high basal area of 12”-14” DBH trees. Removal of the pockets of almost pure beech would open up the stand promoting the growth of other species such as yellow poplar and sugar maple. Best management practices will be implemented during and after the harvest to minimize impact on soil and water resources.

The harvest will be followed by TSI to deaden culls, release future crop trees and reduce the amount of American beech and sugar maple competing with the oak regeneration. TSI would also focus on removal of the grapevines present in some areas of the tract. Another inventory will be performed in approximately 20 years following the harvest.

Proposed Activities Listing

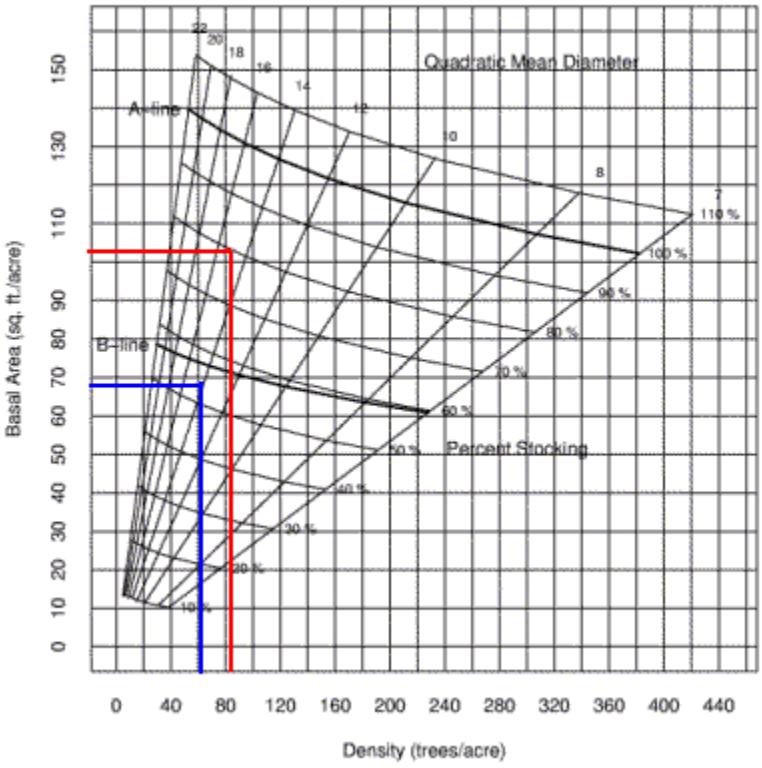
Proposed Management Activities	Proposed Date
Mark and harvest timber	2016 – 2017
Post harvest TSI	2018 – 2019
Regeneration opening monitoring > 1 acre in size	2022 – 2024
Inventory and management guide	2038

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

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.

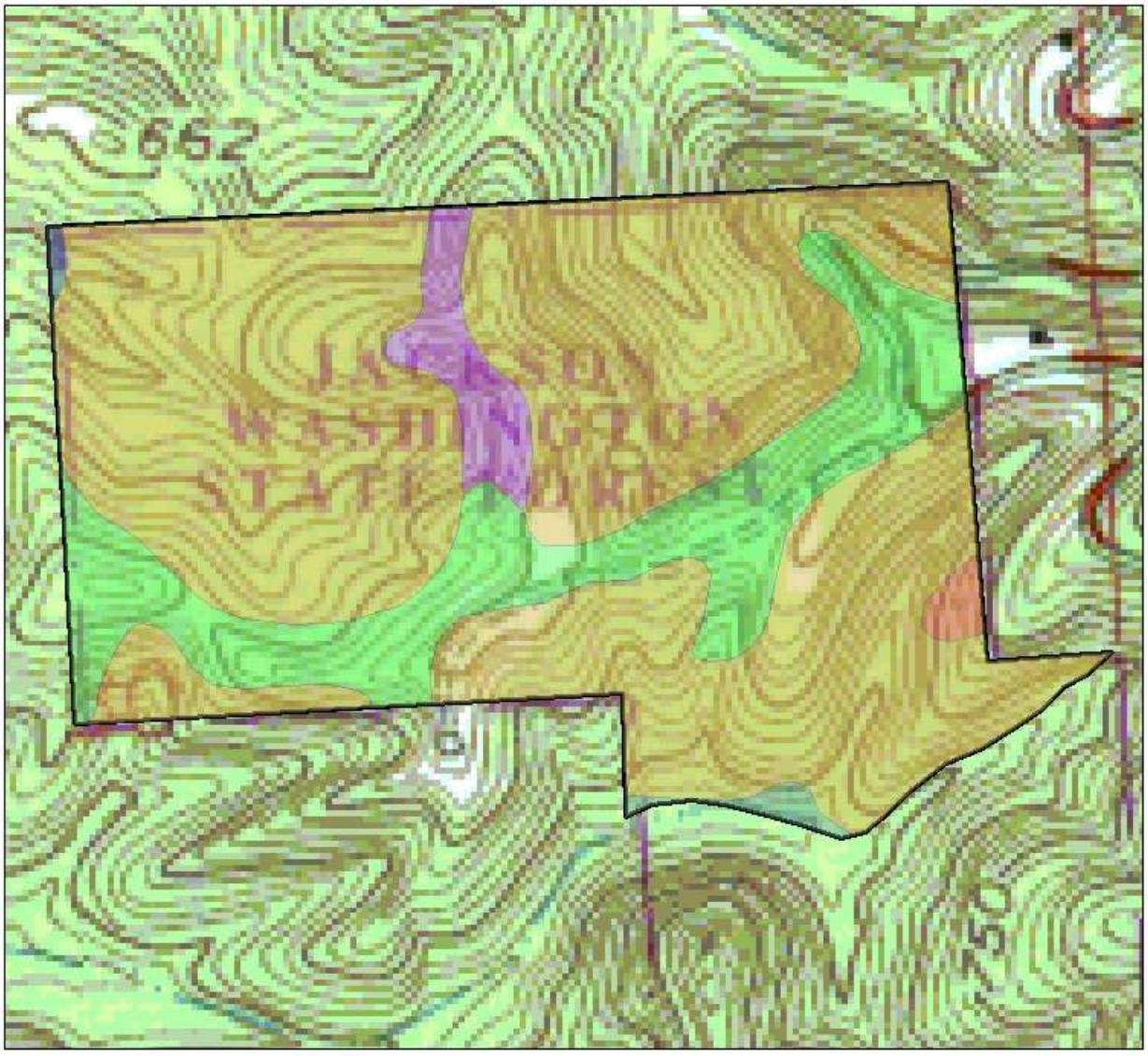
Stocking Guide
Compartment 07 Tract 01
80 acres



Pre-Harvest Inventory Data in Red
(Sub merchantable trees excluded)
Total BA/A = 101.3sq.ft.per acre
Total #trees/acre = 82 trees per acre
Avg. tree diameter = 14.6 inches
Percent stocking = 79%

Post-Harvest Inventory Data in Blue
(Sub merchantable trees excluded)
Total BA/A = 68.7sq.ft.per acre
Total #trees/acre = 62 trees per acre
Avg. tree diameter = 14.1 inches
Percent stocking = 55%

Jackson-Washington State Forest
Compartment 07 Tract 01
Soils Map



Legend

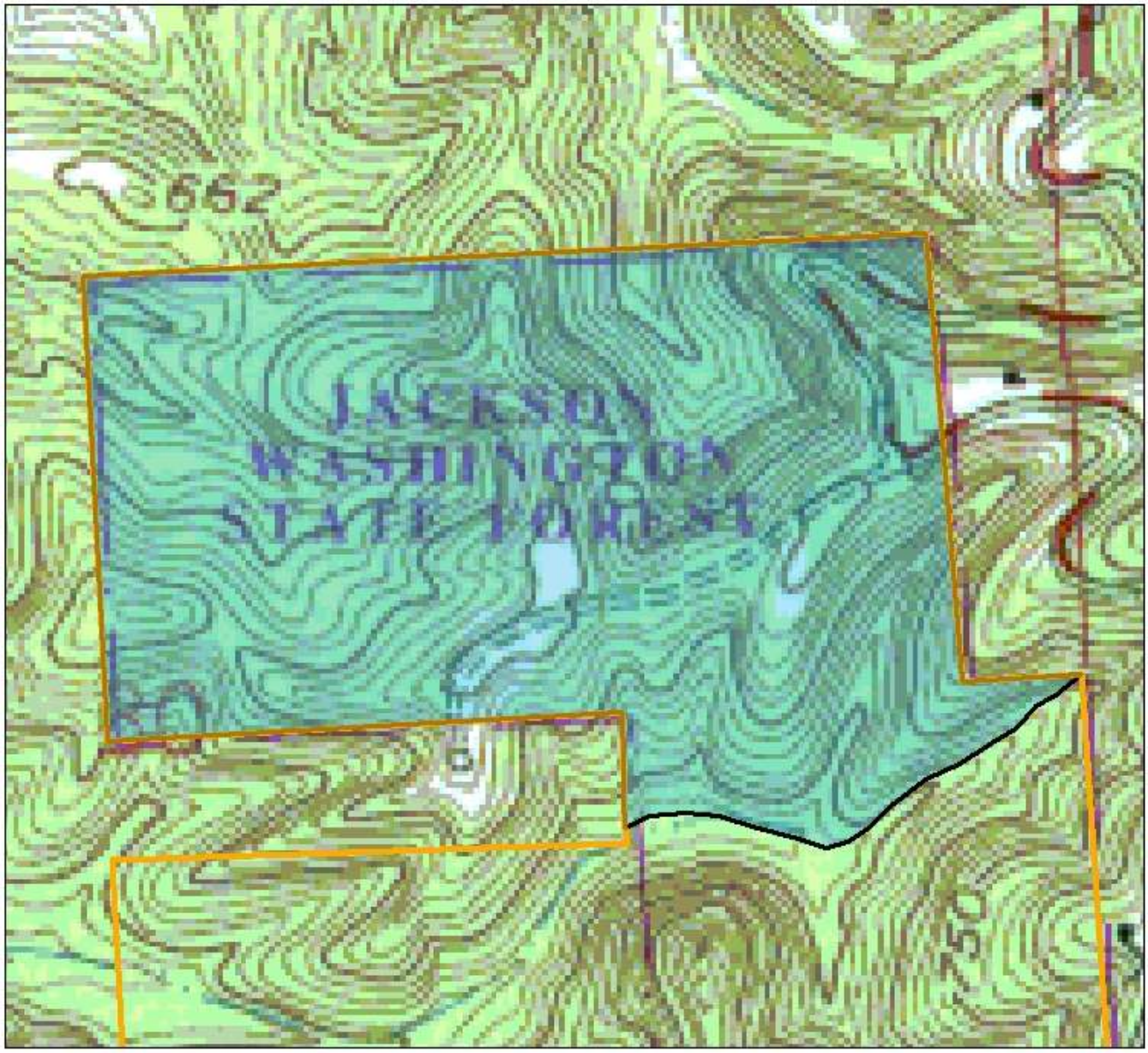
BhF Bu GlD2 GnF WeC2 ZaC2

Tract Boundary

N
W E
S

0 265 530 1,060 Feet

Jackson-Washington State Forest
Compartment 07 Tract 01
Tract Prescription Map



Legend

- Mixed Hardwoods
- Property Boundary

0 280 560 1,120 Feet

N
W E
S