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

Jackson-Washington State Forest — Compartment 8 Tract 5
Forester Michael Spalding
Draft Plan Date: September 21, 2012 — Inventory Completion Date: July 11, 2012
Management Cycle End Year: 2035 — Management Cycle Length: 23 years

Location

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

General Description

This 84-acre tract contains stands of oak-hickory, chestnut oak, and mixed hardwoods. Plattsburg Pond is located within the boundaries of this tract as well.

History

Two land purchases contributed to the acreage that makes up this tract. Most of the acreage came from a 312 acre purchase from Murrell and Juanita Dorsey on March 10, 1964. A smaller amount came from a purchase from William Creviston on October 18, 1990.

A note in the file states that a fire went through this tract in the spring of 1969. A timber sale was then marked and sold on October 15, 1969. The sale covered approximately 33 acres and contained 44,260 board feet in 495 sawtimber trees. The top three species by volume were chestnut oak, sugar maple, and American beech. Willard Reynolds purchased the sale for $1,351.00 ($30.52/MBF).

An inventory and management plan were prepared in January 1973. At that time, the tract was 100 acres. Of that, 10 acres had been planted to corn in 1972, and 33 acres was harvested in the 1969 timber sale. The area was regenerating well and follow-up TSI was recommended for 10 years later. The remaining 57 acres was inventoried. The inventory estimated a total of 1,684 board feet per acre with 550 board feet harvest stock and 1,134 board feet growing stock.

In 1973, 1,000 loblolly pine, 1,500 yellow-poplar, and 100 black walnut seedlings were planted on 7 acres.

A salvage sale was marked in part of this tract, as well as others, to salvage timber where Plattsburg Pond was to be constructed. The sale included 51,303 board feet in 610 sawtimber trees and 258 tons in 2,611 pulpwood trees. The top three sawtimber species by volume were yellow-poplar, sycamore, and sugar maple. The timber was sold to Seymour Manufacturing on July 17, 1980 for $4,015.00 ($78.26/MBF).

In the spring of 1988, 662 black walnut seedlings and 338 northern red oak seedlings were planted on .39 acre and .18 acre. The drought in the summer of 1988 was noted to have caused moderate mortality in the red oak and slight mortality in the walnut. In the spring of 1989, 100 red oak and 50 walnut seedlings were planted to replace those that had died due to the drought. In the spring of 1989 and 1990, water coming through the emergency spillway caused high mortality in the red oak.

On August 6, 2007, thinning was performed in the 1988 black walnut planting. The few red oaks

that were still alive were not worth releasing. Sycamore surrounding the planting were also girdled. Several black walnut trees from the 1973 planting were also released during this work.

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. Part of the tract lies within the watershed of Plattsburg Pond. The rest of the tract drains into the perennial stream that flows out of Plattsburg Pond. Best Management Practices will be enforced, as with all state forest timber sales, in order to mitigate sediments reaching the pond or stream. 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) (45.9 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) (3.0 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) (13.4 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) (14.2 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 (7.5 acres) This is 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 are pre-existing.

Boundary
The northern boundary of this tract is formed by Rooster Hill Road on the western 2/3 and the private property line on the eastern 1/3. The entire eastern boundary is ½ mile of private property line that is posted with orange Carsonite posts. The southern boundary is a combination of Plattsburg pond and a perennial stream. The western 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.

. Wildlife ponds and rock outcroppings will be avoided when possible for the benefit of both wildlife and best management practices. The snag estimate for all size classes of snags is above the maintenance level.

Indiana bat habitat guidelines

Snags (All Species)	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
5"+ DBH	288	504	1156	868	652
9"+ DBH	216	432	557	341	125
19"+ DBH	36	72	57	21	-15

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

Plattsburg Pond and Dam – 11.3 acres – This is the area covered by water and the area that is mowed to maintain the dam for the pond.

Grass - .9 acre – This area lies on the east side of the old plantation area and consists of cool season grasses such as fescue.

Old Plantation – 2.5 acres – This area contains pole-sized trees to small sawtimber. Some of the planted pine, poplar, and walnut are still present as well as many volunteer poplar and sycamore. The walnut released in 2007 appear to have responded very well. This area should receive another TSI thinning following the proposed timber harvest.

Pole-sized Oak-hickory/Chestnut Oak – 16.4 acres – This area is mostly an old regeneration opening from the 1969 timber sale. The stand is dominated by pole-sized oak and hickory, primarily chestnut oak with some scarlet and white oak. Large-tooth aspen and sassafras grew in quite well following the salvage harvest, but most have died from drought stress over the past several years. Near the bottom of the valley on the west end of this subdivision, many fire damaged trees were not harvested and are now culls or have very little volume in them. These trees should either be marked in a harvest or deadened during post-harvest TSI. The pole-sized areas should receive grape vine control prior to the harvest in the rest of the tract. Following the harvest, this area should be thinned with TSI to release the highest-quality and healthiest oak and hickory trees.

Mixed Hardwoods – 26.3 acres – Most of this area received single-tree and group selection harvesting during the 1969 fire salvage sale. Many of the remaining trees have fire damage evidence on them. The stand is dominated by sugar maple with ash, red elm, beech, yellow-poplar, black walnut, black cherry, and red maple mixed in as well. Some oak and hickory trees are also present in the mixed hardwoods area. The trees are primarily small to large sawtimber, with pole-sized trees in the canopy gaps from the salvage harvest. Nearly all of the sugar maple have some form of borer damage as well. Ailanthus is most prevalent in this subdivision in the form of sapling to pole-sized trees and small colonies of saplings. Grapevines are also very dense in this area. Grapevine control should be performed and the ailanthus treated prior to harvesting in this subdivision. Nearly this entire area should be marked as a large group selection opening due to the fire damage present across all species and borer damage present in the sugar maple. TSI should be

performed to complete the regeneration opening to allow this area to return to a healthier stand of mixed hardwoods.

Oak-Hickory – 12.3 acres – This subdivision is dominated by pole to large sawtimber black oak, chestnut oak, white oak, scarlet oak, shagbark hickory, pignut hickory, and red oak. Quality ranges from poor to very good. Many of the larger black oak are showing signs of severe drought stress and should be harvested. This area should receive a single-tree harvest to select for the healthiest and highest quality residual oak and hickory trees.

Chestnut Oak – 14.8 acres – This subdivision is dominated by chestnut oak with lesser amounts of white oak, red oak, black oak, scarlet oak, pignut hickory, and shagbark hickory. There is a small inclusion of beech-maple near the southern part of this subdivision as well. Unlike most chestnut oak areas of Jackson-Washington State Forest, this area contains much larger and higher quality trees. This is most likely due to better soils that are found here. This area should receive a single-tree harvest to select for the healthiest and highest quality residual oak and hickory trees.

Summary Tract Silvicultural Prescription and Proposed Activities
Within the next three years, a timber harvest should be marked and sold in this tract. This harvest should focus on removing fire-damaged, wind-damaged, and drought-stressed trees as well as suppressed, mature, over-mature trees, maple borer damaged sugar maple, and other trees to release high-quality and healthy 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 mixed hardwood stand will have a very large regeneration opening due to the previously mentioned reasons. The top four harvest stock species by volume are estimated to be chestnut oak, sugar maple, black oak, and red maple. The top four growing stock species by volume are estimated to be chestnut oak, sugar maple, pignut hickory, and white oak. The total estimated harvest volume is 123,740 board feet; however, this number could be much higher depending on the size of the large regeneration opening. Prior to the harvest, within the next year, the grapevines and Ailanthus will need to be controlled. Following the harvest, timber stand improvement will need to be performed in order to accomplish the following: thinning the pole-sized trees in the old opening from 1969, releasing the trees planted in 1973 and 1988, completing regeneration openings, deadening any culls not harvested, and releasing other residual trees not sufficiently released during the harvest. In twenty years following completion of the harvest, another inventory should be performed and management guide written. Harvesting will be very limited along the perennial stream on the south end of the tract because the stands located in that area are pole-sized. As indicated by the inventory, all three size classes of snags are well above the maintenance level for Indiana bat habitat. It is expected that with the large number of culls in this tract, the post-harvest TSI will create additional snags as well.

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

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TM 901 RESOURCE MANAGEMENT GUIDE					
INVENTORY SUMMARY					
			Compartment:	8	
Jackson-Washington State Forest			Tract:	5	
Forester:	Michael Spalding		Date:	7/11/12	

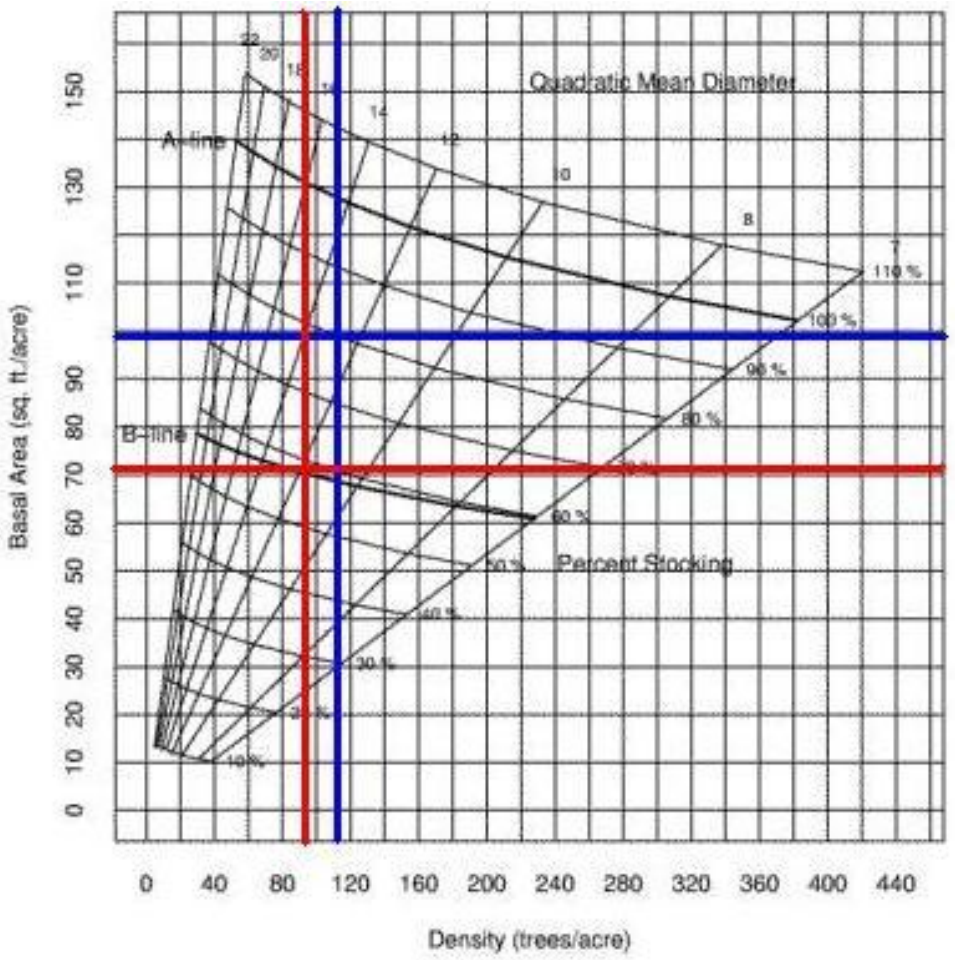
ACREAGE IN:

Commercial Forest	72
Water	7.5
Grass	4.5
TOTAL AREA	84

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
chestnut oak	22,830	88,050	110,880
sugar maple	32,710	49,660	82,370
pignut hickory	6,990	42,230	49,220
white oak	8,420	35,440	43,860
yellow-poplar	8,300	23,520	31,820
black oak	10,660	17,320	27,980
American beech	8,000	14,540	22,540
northern red oak	0	18,750	18,750
red maple	10,580	5,630	16,210
black cherry	4,220	2,710	6,930
white ash	4,820	1,950	6,770
red elm	4,250	0	4,250
shagbark hickory	0	2,400	2,400
mockernut hickory	0	2,050	2,050
American sycamore	1,960	0	1,960
loblolly pine	0	1,960	1,960
scarlet oak	0	1,480	1,480
TRACT TOTALS	123,740	307,690	431,430
PER ACRE TOTALS	1,719	4,273	5,992

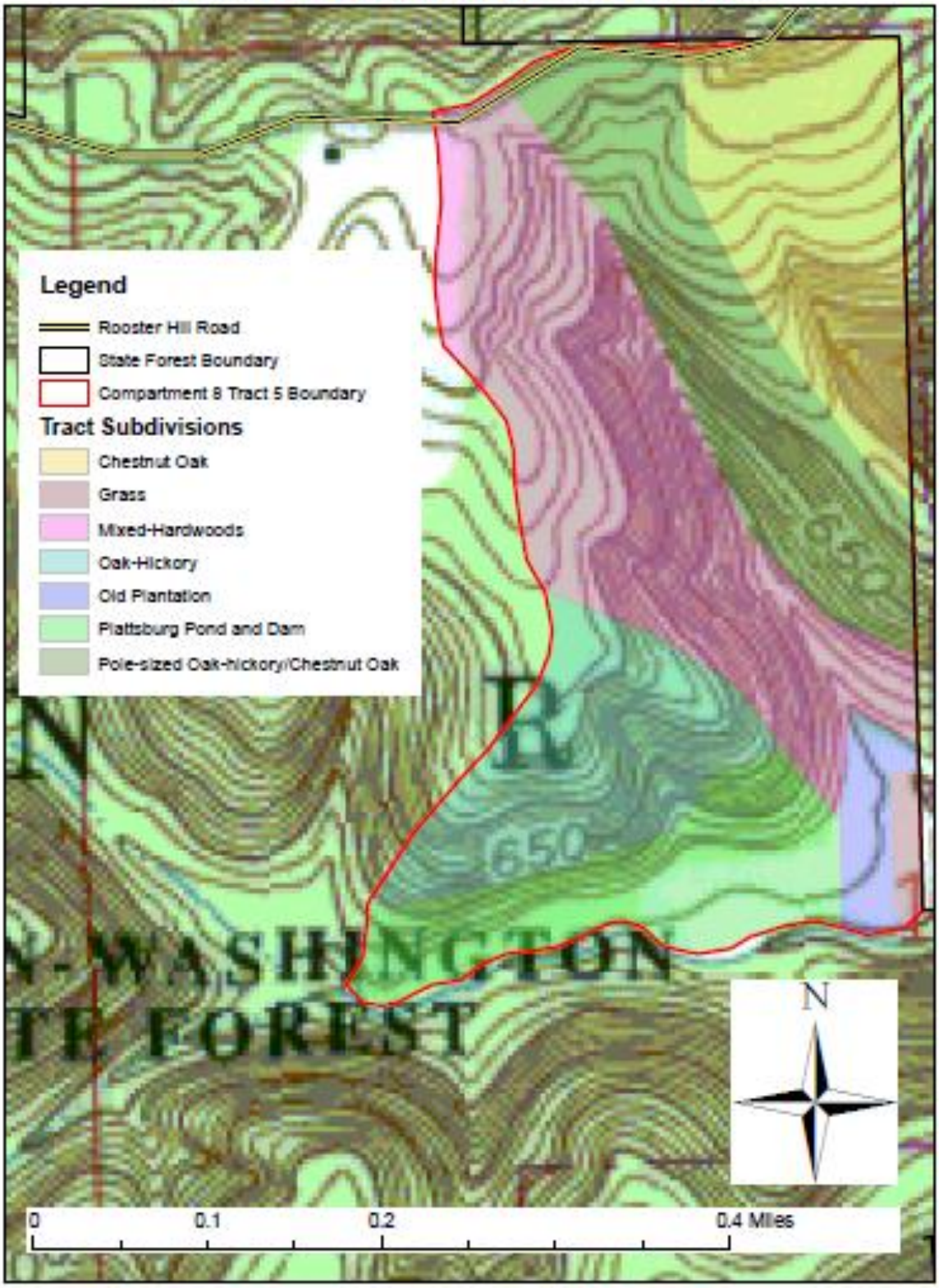
Stocking Guide
Compartment 8 Tract 5



Estimated Pre-Harvest Data in Blue
Total Basal Area per Acre = 99.3 square feet per acre
Total Number Trees per Acre = 116
Average Tree Diameter = 12.5 inches DBH
Percent Stocking = 80%

Projected Post-Harvest Data in Red
Total Basal Area per Acre = 70.3 square feet per acre
Total Number Trees per Acre = 94
Average Tree Diameter = 12 inches DBH
Percent Stocking = 60%

Tract Subdivisions
Compartment 8 Tract 5
Jackson-Washington State Forest



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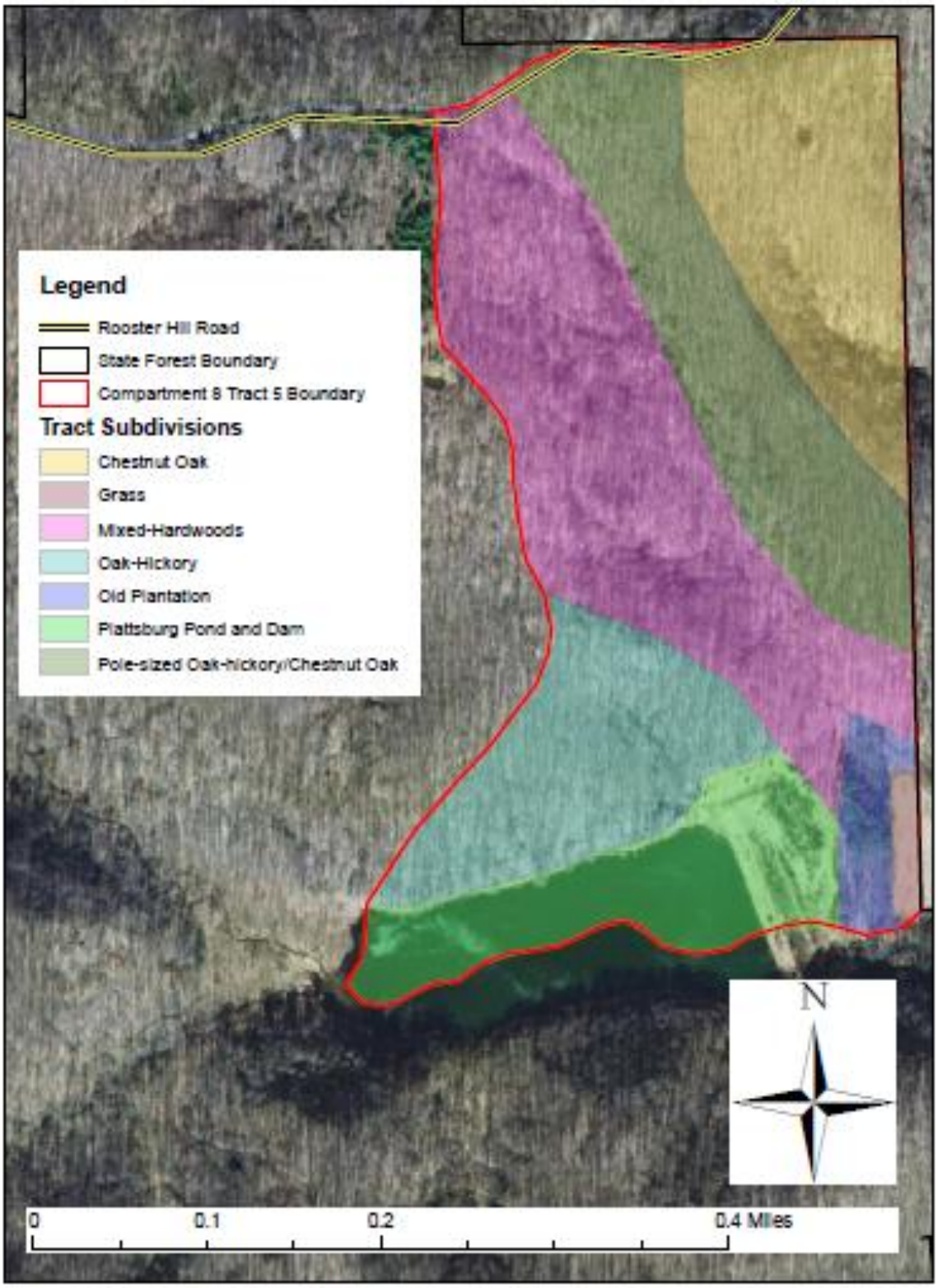

Soils
Compartment 8 Tract 5
Jackson-Washington State Forest