TM 901

RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

		Compartment:	10
Jackson-Washington State Forest		Tract:	34
Forester:	Scott Funk	Date:	9/10/09

ACREAGE IN:

Commercial Forest	51
Non-Commercial	
Recreation Use	
Permanent Openings	
TOTAL AREA	51

Total B.A./Acre	144.4
B.A. Saplings	21.7
B.A. Poles	22
B.A. Sawtimber	95.3
B.A. Culls	5.4

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
American beech	4,690	4,030	8,720
American sycamore	0	5,220	5,220
basswood	10,350	0	10,350
black cherry	2,500	8,640	11,140
blackgum	1,940	800	2,740
black oak	7,250	16,880	24,130
black walnut	0	4,020	4,020
chestnut oak	22,430	53,830	76,260
largetooth aspen	1,260	0	1,260
northern red oak	1,630	17,770	19,400
pignut hickory	3,800	28,170	31,970
red elm	740	1,430	2,170
red maple	1,500	1,710	3,210
sassafras	2,700	3,710	6,410
shagbark hickory	2,560	8,520	11,080
sugar maple	12,850	36,110	48,960
white ash	10,570	4,220	14,790
white oak	3,100	27,450	30,550
yellow-poplar	11,530	68,200	79,730
TRACT TOTALS	101,400	290,710	392,110
PER ACRE TOTALS	1,988	5,700	7,688

PREVIOUS CRUISE DATA

DATE:	05/01/71	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
PER ACRE TOTALS		787	1,900	2,687

RESOURCE MANAGEMENT GUIDE

Jackson-Washington State Forest — Compartment 10 Tract 34
Forester: Scott Funk — Date: 9/10/09
Management Cycle End Year 2034 — Management Cycle Length 25 years

Location

This tract is located in section 18 and 19 T3N R5E, Gibson Township, Washington County. This tract is located approximately 7.5 miles North of Salem.

General Description

This 51 acre tract has some excellent quality timber, including very large yellow-poplar, chestnut oak, black oak, and white oak. Some young black cherry and black walnut are scattered throughout. Chestnut oak, oak-hickory, and mixed hardwoods dominate the tract. Overall access to the tract is excellent from the previous harvests. An old field in the southeast corner contains warm-season grasses.

History

Approximately 35 acres of this tract originated from a 122-acre land purchase from Jesse and Stella Payne on April 8, 1953. About one acre of this tract originated from a 120-acre land purchase from Thelma Fleenor on October 10, 1953. The most recent land acquisition in this area provided access to this tract and added an additional 15 acres to bring the total tract acreage to 51 acres. This land was from an 80-acre land purchase from Erman Hall on February 7, 1997 for $76,000.00. Prior to the State of Indiana purchasing the land, it received a heavy high-grade harvest.

The original tract, designated Compartment 48 Tract 15, was 115 acres in size. The tract was further sub-divided into Tracts 15A, 15B, and 15C, with respective acreages being 48, 21, and 44. After checking these acreages with GIS, the actual respective acreages should have been 35, 23, and 58. Tract 15 was later divided into two separate tracts. Tract 15A became Tract 34 and Tracts 15B and 15C became Tract 33. In 1997, the Erman Hall purchase added approximately 15 acres to Tract 34 and 14 acres to Tract 33.

The first management documented for this tract is an undated cruise. I believe this was performed in May of 1971 because the cruises for Tracts 15B and 15C were performed at that time. This cruise indicated 2,687 bd. ft. per acre with 1,900 bd. ft. of that as harvest stock and 787 bd. ft. as growing stock. According to the brief management plan written at that time, “A fair percentage of the tract contains small trees (under 12”).” This is likely the reason for the very high proportion of the volume being in harvest stock. The top three species by volume in the tract at the time of the inventory were chestnut oak, hickory, and red oak.

Property Manager and Forester David Pearson completed marking a timber sale November 19, 1973 on the entire Tract 15. The report of timber sale in the tract folder shows a total harvest marked of 132,620 bd. ft., with the top three species by volume being beech, chestnut oak, and sugar maple. The volume per acre given on this form was calculated using 115 acres as the harvest area; however, the management guides for this tract state that 21 acres of this tract was in non-merchantable Virginia pine. This gives an

actual volume per acre removed of 1,411 bd. ft. per acre. This timber was sold to Paul Wheeler on January 22, 1974 for $4,500.00 ($33.93/MBF).
A letter from Forester Bob Koenig dated July 15, 1974 stated that the stand had a residual basal area of 77 sq. ft. in merchantable timber and 24 sq. ft. of culls per acre. The cruise also estimated 1,200 bd. ft. per acre. The emphasis of the TSI recommendation in this letter focused on deadening the cull trees, releasing crop trees, and completing the openings.

Landscape Context
The surrounding landscape is mostly state-owned forestland; the block of state forest that this tract lies within is approximately 6,000 acres. There is some scattered farm land with pasture, crop fields, and old fields on near by private property. There are also several watershed lakes throughout the landscape. Development within the landscape consists of primarily single-family residences, with little increase in growth within the area.

Topography, Geology and Hydrology
The topography in the east section of the tract is moderately steep with slopes averaging from 10 to 20% with a maximum of 30%. The topography on the south to southwest sections of the tract is a gentle slope averaging from 5 to 25%. The north and northwest sections of the tract contain moderately-steep to steep slopes averaging from 35 to 55%. The elevations changes from approximately 700 feet to its highest point at 900 feet. The geology consists of shale and siltstone bedrock with sandstone on the ridge tops. The entire tract drains into one mapped intermittent stream that flows southwest out of the tract into Delaney Creek, which flows into the Muscatatuck River.

Soils
Berks-Weikert Complex (BhF) (32.53 acres) 25 to 75 percent slope; well drained soil on the upland side slopes. Both soils are very much intermixed so they are mapped as one. Berks has a northern red oak site index of 70, Weikert has a northern red oak site index of 64, and both have black oak site index of 50.

Burnside silt loam (Bu) (7.53 acres) occasionally flooded; well drained and bottom land is moderately well drained. Available water capacity and permeability is both moderate. Soil is well suited for trees while plant competition is moderate and seedlings do well if competing vegetation is controlled. Burnside silt loam has a yellow poplar site index of 95 and an eastern cottonwood site index of 105.

Crider silt loam (CoB) (1.33 acres) 2 to 6 percent slopes, well drained with its most restrictive layer at a depth above 60 inches. This soil type is commonly found on uplands. Crider silt loam has a yellow-poplar site index of 98 and a black oak site index of 87.

Gilpin silt loam (GID2) (2.58 acres) 12 to 18 percent slope; eroded, it's a moderately deep soil and well drained found on upland side slopes. Gilpin silt loam has a northern red oak site index of 80.

Wellston Silt Loam (WeC2) (2.34 acres) 6 to 12 percent slopes eroded, very deep well drained soil, depth of bedrock at 40 to 72 inches, moderate permeability. Upper is silt loam, next is silty clay loam, and the lower is channery loam.

Wellston Silt Loam (WeD) (4.37 acres) 12 to 18 percent slopes, very deep well drained soil, depth of bedrock at 40 to 72 inches, moderate permeability. Upper is silt loam, next is silty clay loam, and the lower is channery loam.

Access

The tract can be accessed off of Nicholson Hollow approximately ¼ mile west of Westpoint Church Road. Firetrail #730 begins at this gate and travels .15 mile to the east corner of the tract. Access within the tract is good. Numerous existing skid trails, including some side-hill cuts, provide access throughout the tract.

Boundary

The northern, southern, and eastern boundaries are all surrounded by state owned forest land. The southern boundary follows a ridgetop, and the northern boundary follows an ephemeral stream valley that becomes a mapped intermittent stream as it travels west. The eastern boundary follows Firetrail #730 for 1/8 mile. The west boundary line is adjoined by private property and is marked with carsonite posts.

Wildlife

Wildlife Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	459		1327	868	
20"+ DBH	153		201	48	
Snags (All species)					
5"+ DBH	204	357	265	61	-92
9"+ DBH	153	306	265	112	-41
19"+ DBH	25.5	51	33	7	-18
Cavity Trees (All species)					
7"+ DBH	204	306	691	487	385
11"+ DBH	153	204	658	505	454
19"+ DBH	25.5	51	224	198	173

* Species Include: AME, BIH, BLL, COT, GRA, REO, POO, REE, SHH, ZSH, SIM, SUM, WHA, WHO

All of the size classes for legacy trees, snags, and cavity trees exceed the maintenance level. Post-harvest timber stand improvement (TSI) will also create additional snags. A harvest on this tract would only continue to benefit wildlife in this area. The area of prairie grass at the east end of the tract also provides diversity for wildlife. The Natural

Heritage Database review revealed no endangered or threatened wildlife in or around the tract.

Communities
This tract contains primarily mixed hardwoods due to the north aspect of the tract. Rock outcropping is present around some of the ephemeral drains on the steepest slopes. These areas should remain unaffected by the harvesting due to the inaccessibility due to slope. The exotics found within this tract include siltgrass and multiflora rose. The stiltgrass should be treated in the early summer prior to seeding. The Natural Heritage Database review revealed that mesic upland forest on the tract and reed bent grass and cucumber magnolia on the adjacent tracts.

Recreation
The primary recreational use for this tract is hunting due to the close proximity to Nicholson Hollow Road.

Cultural
There are no cultural sites or evidence found within this tract.

Tract Subdivision Description and Silvicultural Prescription

Mixed Hardwoods (36.64 acres)

Most of this area consists of American beech, American sycamore, basswood, black cherry, blackgum, black oak, black walnut, chestnut oak, Largetooth aspen, northern red oak, pignut hickory, red elm, red maple, sassafras, shagbark hickory, sugar maple, white ash, white oak, and yellow poplar. The understory species consist of blue beech, dogwood, eastern red cedar, ironwood, downy serviceberry, and pawpaw. Most of these areas consist of medium to large sawtimber, very large sawtimber, and some quality and prime poplar and oak. The proposed management for these areas is to harvest the damaged trees (butt rot/cull trees), poor form/low quality, mature trees, and over mature trees to release healthier and higher quality trees. The selection method will be primarily single-tree selection with the possibility of some group selection openings. The average sawtimber basal area for the mixed hardwood forest type is 102 square feet per acre.

Oak-Hickory (10.3 acres)

The major overstory species in this area include chestnut oak, black oak, white oak, northern red oak, pignut hickory, and shagbark hickory. There are some quality black oak, chestnut oak, northern red oak, white oak, and yellow-poplar. There are also several prime white oaks mixed in. These areas are mostly medium to large sawtimber, but a few very large sawtimber trees are present as well. The understory species consist of sugar maple, red maple, and American beech. The proposed management for these areas are to harvest the low quality/poor form, damaged, competing, and overmature trees to release higher quality and healthier oaks and hickories. These areas have some exceptional white oak and yellow-poplar trees. The average sawtimber basal area for the oak hickory forest type is 92 square feet per acre.

Oak-Hickory-Chestnut Oak (3.71 acres)

The major overstory species in this area is chestnut oak, with a minor amount of the following species; white oak, black oak, and pignut hickory. The understory species mainly consist of American beech and sugar maple. These areas contained primarily medium to large sawtimber with a few very large quality chestnut oak. The proposed management for these areas are to harvest the poor form, damaged (heart rot and culls), poor form/low quality, and overmature trees to release the quality chestnut oak for future growth. Any healthy oaks or hickories other than chestnut should be favored in this area to maintain diversity. The average sawtimber basal area for the oak hickory chestnut oak forest type is 77 square feet per acre.

Summary Tract Silvicultural Prescription and Proposed Activities

The inventory concluded in the summer of 2009 estimates the 51 acres of commercial forest on this tract contains a total of 392,650 board feet of volume. Out of that amount, 101,390 board feet was estimated as harvest stock and 290,730 board feet was estimated as growing stock. On a per acre basis, the harvest stock is 1,990 board feet and the growing stock is 5,700 board feet for a combined total of 7,700 board feet per acre. The overall proposed management for this tract is an intermediate selection harvest; harvesting low quality, poorly-formed, damaged, less desirable species, and overmature trees. Some of the mature high-quality trees will be harvested as well to release healthy quality oaks and poplar for future growth. This tract has some very large timber and excellent quality trees growing on it. Following the harvest, timber stand improvement should be done to release any crop trees that did not get released during harvest, to remove any midstory or understory species where there is high potential for oak regeneration, and to complete any regeneration openings. Although the snags exceed the maintenance level, post-harvest TSI will create additional snags. In approximately 20 years following the harvest and timber stand improvement, another inventory should be done on the tract to evaluate the tract at that time.

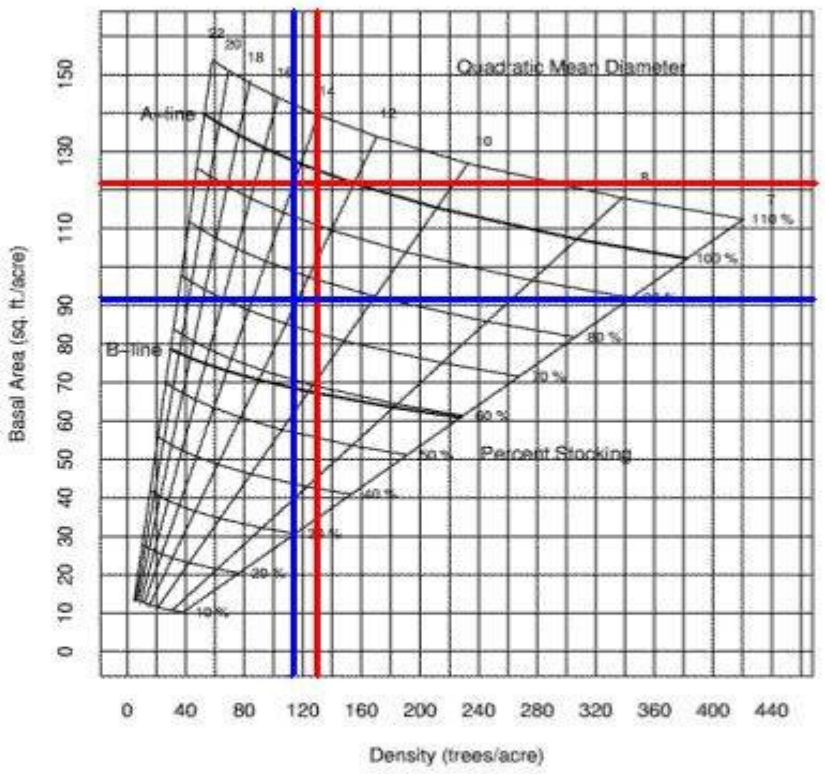
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Mark harvest and sell timber	2010
Post-Harvest TSI	2012
Inventory and Management Guide	2034

To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You **must** indicate "Jackson-Washington C10 T34" 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.

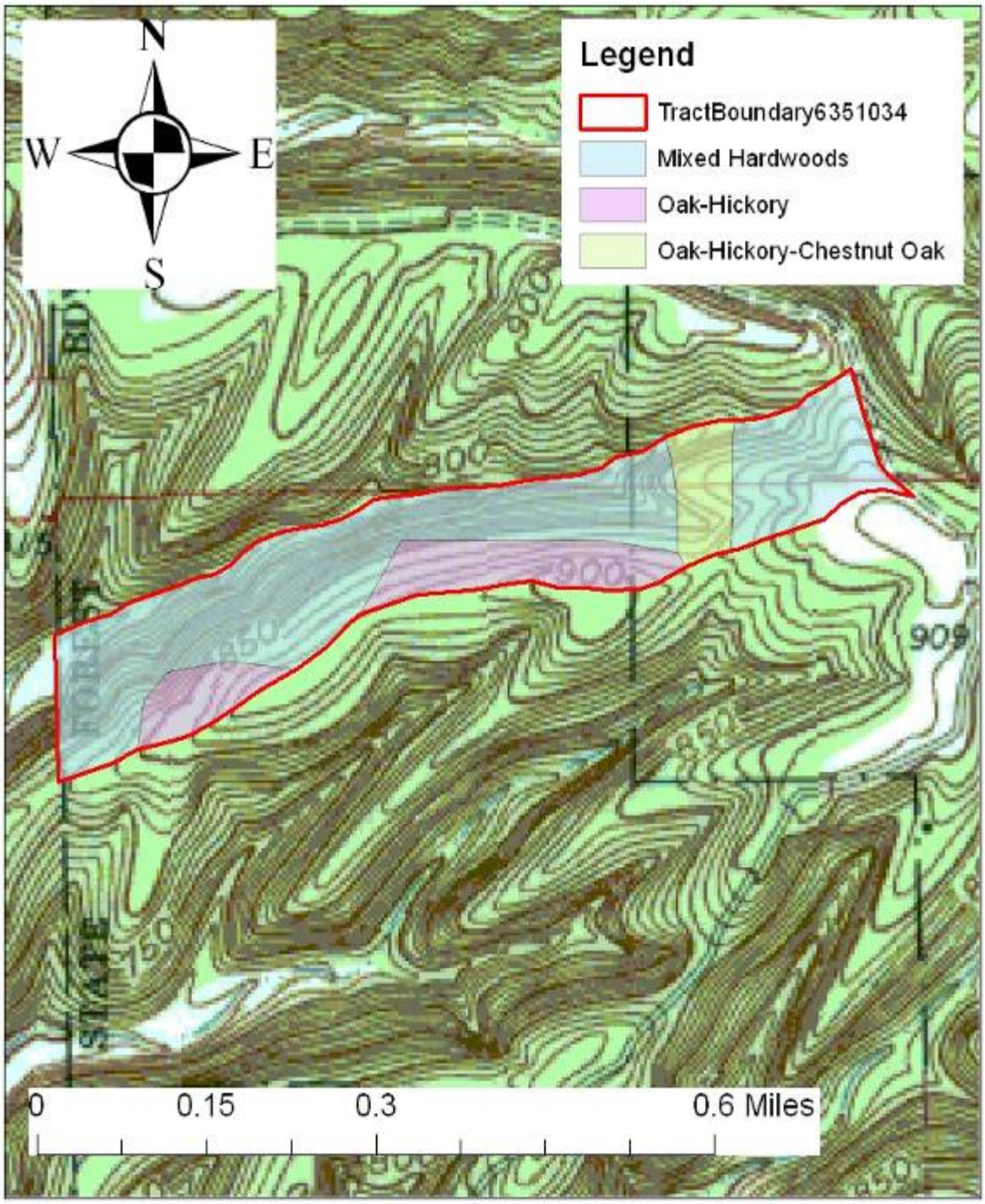
JWSF Resource Management Plan
Compartment 10 Tract 34 Stocking Guide
9/10/09 Inventory
51 acres



Pre-Harvest Inventory Data in Red
Total B.A. per acre = 122.7 sq.ft.
Total # trees/acre = 130
Avg. tree diameter = 13" DBH
Percent stocking = 98%

Projected Post-Harvest Data in Blue
Total B.A. per acre = 92.83 sq.ft.
Total # trees/acre = 112
Avg. tree diameter = 12" DBH
Percent stocking = 75%

Tract Subdivisions
Jackson-Washington State Forest
Compartment 10 Tract 34



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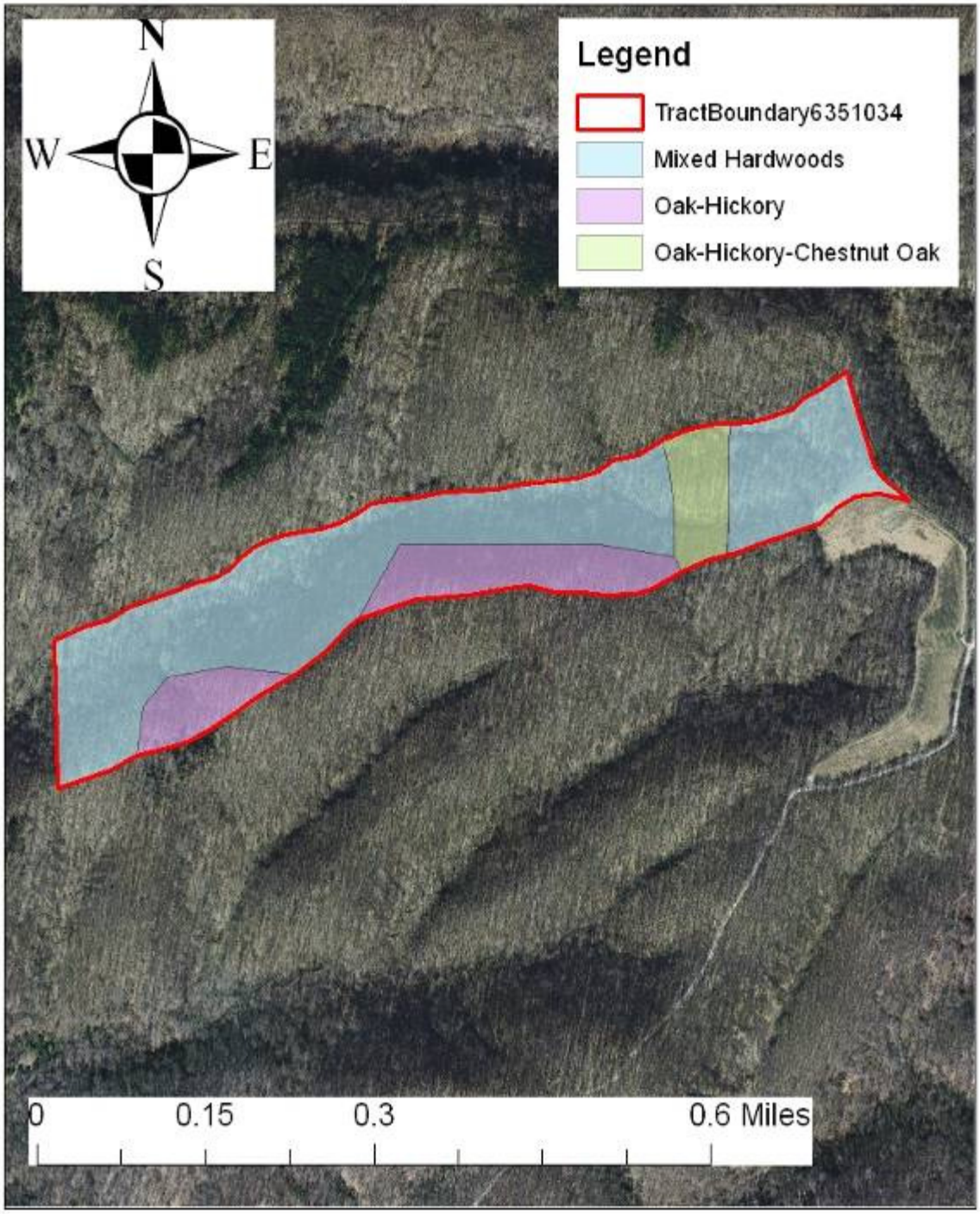

Soils Map
Jackson-Washington State Forest
Compartment 10 Tract 34