TM 901

RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

		Compartment:	10
Jackson-Washington State Forest		Tract:	33
Forester:	Scott Funk	Date:	8/27/09

ACREAGE IN:

Commercial Forest	94
TOTAL AREA	94

Total B.A./Acre	123.2
B.A. Saplings	15.9
B.A. Sawtimber	79.6
B.A. Poles	24
B.A. Culls	3.7

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
American beech	10,130	14,590	24,720
black cherry	0	1,570	1,570
blackgum	1,050	2,040	3,090
black oak	0	5,930	5,930
chestnut oak	44,510	124,680	169,190
largetooth aspen	0	2,420	2,420
northern red oak	8,710	8,150	16,860
pignut hickory	4,880	37,980	42,860
red elm	0	2,800	2,800
red maple	7,360	23,800	31,160
sassafras	0	2,670	2,670
scarlet oak	4,420	2,750	7,170
shagbark hickory	900	6,940	7,840
sugar maple	3,350	30,880	34,230
Virginia pine	38,360	0	38,360
white ash	18,860	1,280	20,140
white oak	10,970	52,060	63,030
yellow-poplar	0	25,120	25,120
TRACT TOTALS	153,500	345,660	499,160
PER ACRE TOTALS	1,633	3,677	5,310

PREVIOUS CRUISE DATA

DATE:	May 1971	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
PER ACRE TOTALS		1,307	910	2,217
DATE:	July 15, 1974	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
PER ACRE TOTALS		1,200	0	1,200

RESOURCE MANAGEMENT GUIDE

Jackson-Washington State Forest	Compartment 10 Tract 33
Forester: Scott Funk	Date: August 27, 2009
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 compartment is located approximately 8 miles North of Salem.

General Description
This tract is approximately 94 acres and has moderately-steep to steep slopes with some areas of rock outcroppings. The tract contains a poor Virginia pine stand as well as some better oak-hickory and chestnut oak stands. Access to and within the tract is excellent.

History
Approximately 11 acres of this tract originated from a 122-acre land purchase from Jesse and Stella Payne on April 8, 1953. About 69 acres 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 14 acres to bring the total tract acreage to 94 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 a May 1971 cruise. Area 15B has no tree data given with the cruise because it contained all sub-merchantable Virginia pine. Area 15C contained a total of approximately 2,217 board feet per acre with 1,307 bd. ft. as growing stock and 910 bd. ft. as harvest stock. The top three species by volume were chestnut oak, hickory, and American beech.

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 northwest, north, and northeast is fairly flat to gently sloping with slopes averaging from 5 to 20% with a max of 25%. The topography in the southwest, south, and southeast is semi steep to steep slopes averaging from 30 to 45% with a maximum of 65%. The elevation changes from approximately 700 feet to its highest point at 910 feet. The geology consists of shale and siltstone with some sandstone and limestone on the ridges. 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) (45.40 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) (10.52 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.

Gilpin silt loam (GID2) (0.19 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) (36.76 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.

Zanesville Silt Loam (ZaC2) (1.17 acres) 6 to 12 percent slopes; eroded, very deep to deep soil, well drained to moderately drained, slow permeability and soils are found on ridge tops and upper side slopes.

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 ¼ mile to the southeast corner of the tract. Firetrail #730 then continues along a ridge on the northern boundary of the tract for approximately ¾ mile. Access within the tract is good. Numerous existing skid trails, including some side-hill cuts, provide access throughout the tract.

Boundary

The northern and southern boundaries are surrounded by state owned forest land. The west boundary line is adjoined by private property and is marked with carsonite posts. The northern and southern boundaries converge at the east end of the tract; therefore, there is no eastern boundary. The northern boundary of the tract is on a ridgetop and follows Firetrail #730. The southern boundary starts as an ephemeral stream valley on the eastern end and becomes a mapped intermittent stream as it travels west.

Wildlife

Wildlife Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	846		1912	1066	
20"+ DBH	282		257	-25	
Snags (All species)					
5"+ DBH	376	658	1324	948	666
9"+ DBH	282	564	468	186	-96
19"+ DBH	47	94	17	-30	-77
Cavity Trees (All species)					
7"+ DBH	376	564	1042	666	478
11"+ DBH	282	376	921	639	545
19"+ DBH	47	94	289	242	195

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

There are two habitat features that were estimated below the maintenance level, the 20"+ legacy trees and the 19"+ snags. Smaller diameter legacy trees that are left as residual crop trees will grow into the larger size class more quickly after being released by a

harvest and post-harvest TSI. Post-harvest TSI will create some snags, which will help to meet the maintenance level for 19"+ snags. The Natural Heritage Database review states no endangered or threatened wildlife on this tract or within this area.

Communities
This tract is primarily dominated by Virginia pine and oak-hickory and chestnut oak stand types. It's mostly dry upland forest type with green bier on the forest floor. Exotics on the tract are multiflora rose and siltgrass. The stiltgrass on accessible trails should be treated prior to seeding. The Natural Heritage Database review shows mesic upland forest on compartmen10 tracts 33, 34, and 41.

Recreation
The primary recreational use for this tract is hunting due to the close proximity to public access.

Cultural
No cultural features where found on this tract.

Tract Subdivision Description and Silvicultural Prescription

Virginia Pine (27.48 acres)
This stand type consists of non-native Virginia pine with some red maple and yellow poplar mixed within the stand. The understory species consist of red maple, American beech, and sugar maple. Black oak, pignut hickory, and white ash are present in the regeneration layer. This stand is in very poor condition and contains low vigor and poor quality trees. Most of it is pole size trees with a few sawtimber size trees mixed within. The proposed management for this area is to create one opening by harvesting everything within this stand type including all Virginia pine and any hardwoods. This will allow the area to regenerate to native hardwood trees. The average sawtimber basal area for the Virginia pine forest type is 38 square feet per acre.

Oak-Hickory (21.64 acres)

The major overstory species in this area include chestnut oak, black oak, scarlet oak, white oak, northern red oak, pignut hickory, and shagbark hickory. Most of the trees are medium to large sawtimber in size. Some quality chestnut and prime white oak are present in this area. The understory species include red maple, sugar maple, American beech, sassafras, blackgum, and dogwood. The proposed management for these areas is to harvest the low quality, overmature, and damaged trees to release the quality sawtimber size trees for future growth and to thin overstocked areas of similar size and quality trees. This will maintain and increase the vigor of the residual trees. The average sawtimber basal area for the oak hickory forest type is 89 square feet per acre.

Oak-Hickory-Chestnut Oak (22.87 acres)

The major overstory species in this area is chestnut oak, with a mixture of the following species; scarlet oak, white oak, black oak, and pignut hickory. The understory mainly

consists of red maple with a few chestnut oak poles. Most of the trees are sawtimber size trees, with a few high quality chestnut oak. The proposed management for these areas is to harvest the poor form, damaged, and overmature trees to release healthier and higher quality chestnut oak for future growth. The average sawtimber basal area for the oak hickory chestnut oak forest type is 118 square feet per acre.

Mixed Hardwoods (22.06 acres)

Most of this area consists of red elm, Largetooth aspen, blackgum, sugar maple, red maple, American beech, white ash, yellow-poplar, scarlet oak, white oak, chestnut oak, northern red oak, black oak, pignut hickory, shagbark hickory, black walnut, black cherry, sassafras, and Virginia pine. Most of this stand type consists of medium to large sawtimber, except for some quality chestnut oak and prime white oak. The proposed management for these areas is to harvest all Virginia pine and thin the remainder of the area by harvesting low quality, poorly- formed, mature, and overmature trees. The average sawtimber basal area for the mixed hardwoods forest type is 69 square feet per acre.

Summary Tract Silvicultural Prescription and Proposed Activities

The inventory concluded in the summer of 2009 estimates the 94 acres of commercial forest on this tract contains a total of 499,160 board feet of volume. Out of that amount, 153,500 board feet was estimated as harvest stock and 345,660 board feet was estimated as growing stock. On a per acre basis, the harvest stock is 1,630 board feet and the growing stock is 3,680 board feet for a combined total of 5,310 board feet per acre. This harvest would reduce the stocking from 85% to 66%. The overall proposed management for this tract is to conduct an intermediate selection harvest. Single-tree selection will focus on removing overmature, damaged trees, low quality, poorly-formed trees, and mature trees. This will create stand of healthy growing hardwoods within the tract. One large opening will be created by harvesting all Virginia pine and any hardwoods in the middle of the opening. Following the harvest, timber stand improvement should be done to release any crop trees that did not get released during harvest, to complete any regeneration openings, and to remove any midstory or understory species where there is high potential for oak regeneration. Smaller diameter legacy trees that are left as residual crop trees will grow into the larger size class more quickly after being released by a harvest and post-harvest TSI. Post-harvest TSI will create some snags, which will help to meet the maintenance level for 19"+ snags. In approximately 20 years following the harvest and timber stand improvement, another inventory will be done on the tract.

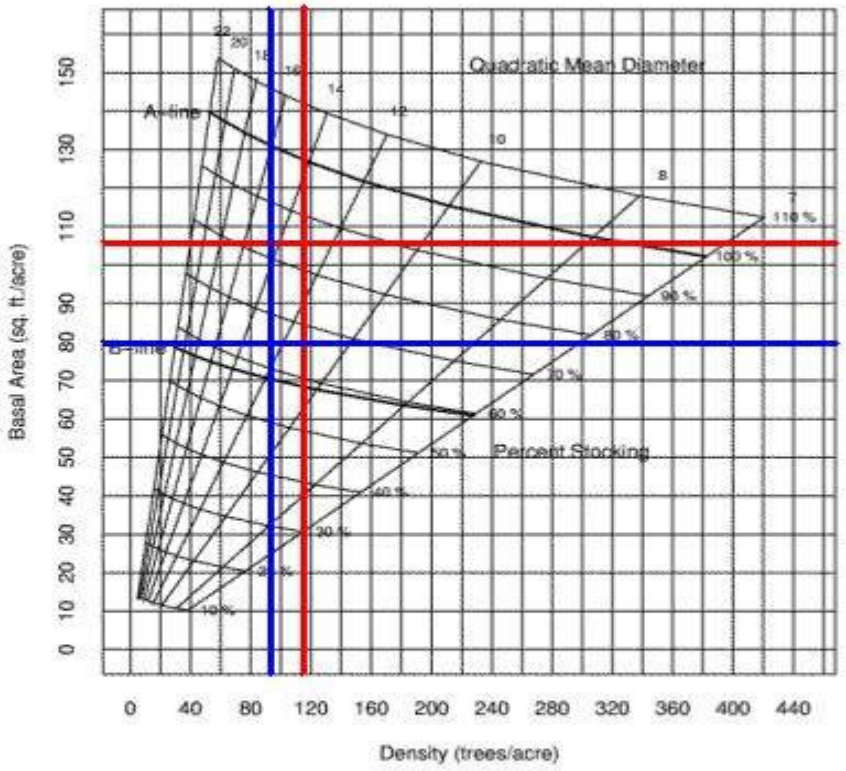
Proposed Activities Listing

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 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.

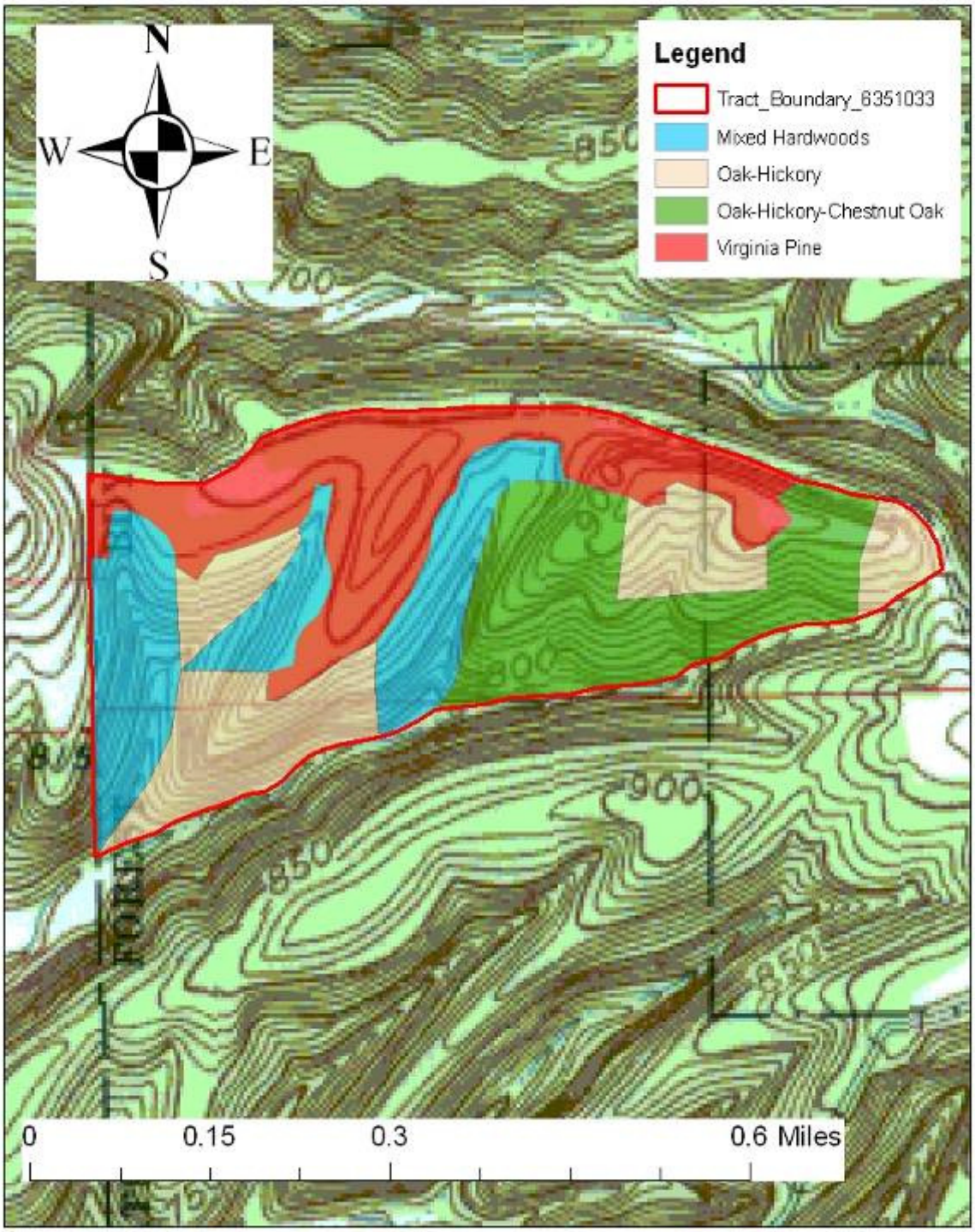
Compartment 10 Tract 33 Stocking Guide
8/27/09 Inventory
94 acres



Pre-Harvest Inventory Data in Red
Total B.A. per acre = 107.3 sq.ft.
Total # trees/acres = 117
Avg. tree diameter = 13" DBH
Percent stocking = 85%

Projected Post-Harvest Data in Blue
Total B.A. per acre = 79.97 sq.ft.
Total # trees/acres = 96
Avg. tree diameter = 12.5" DBH
Percent stocking = 66%

Tract Subdivisions
Jackson-Washington State Forest
Compartment 10 Tract 33



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Jackson-Washington State Forest
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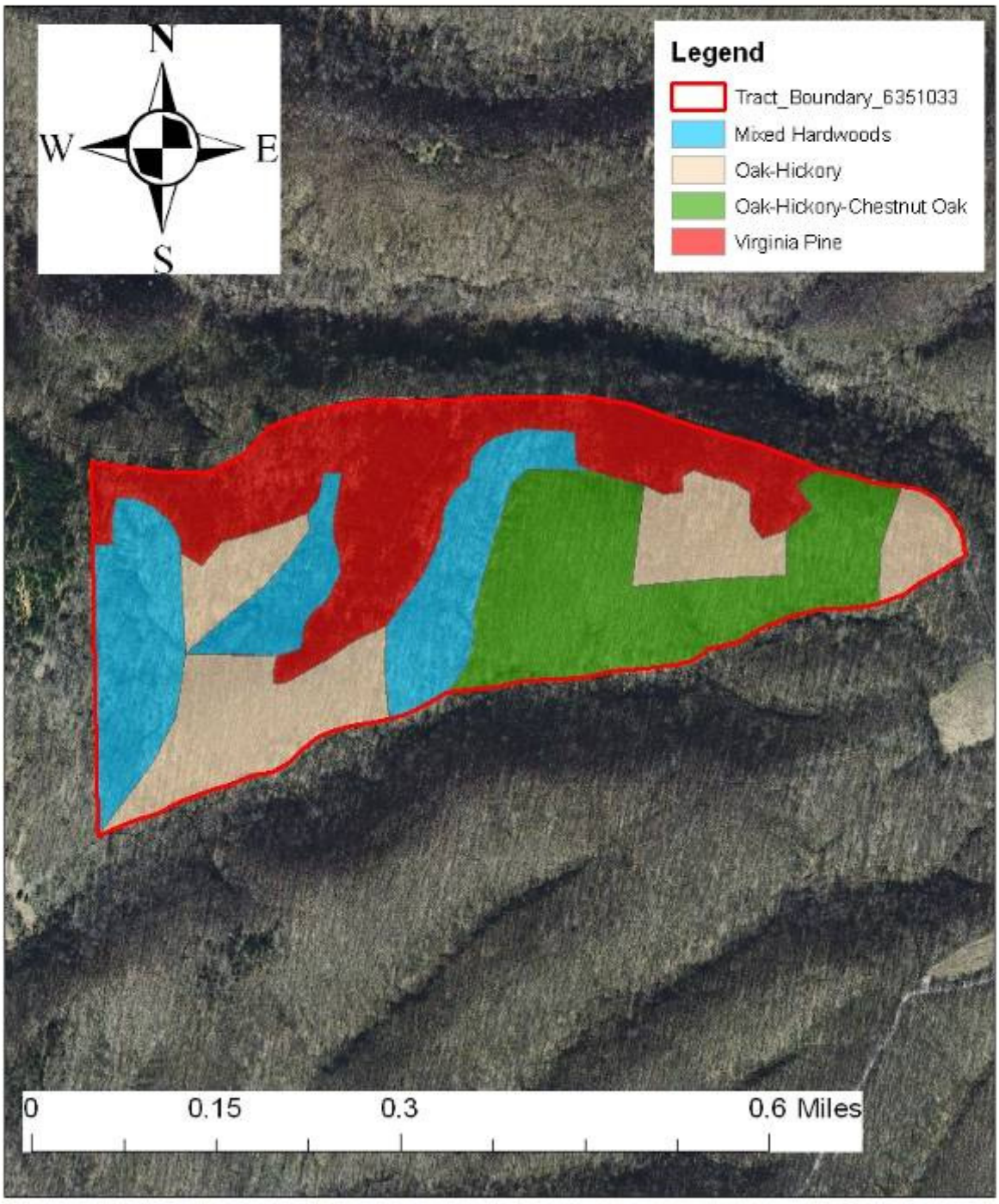

Soils Map
Jackson-Washington State Forest
Compartment 10 Tract 33