TM 901

RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

			Compartment:	13
Jackson-Washington State Forest			Tract:	10
Forester:	Scott Funk		Date:	8/13/09

ACREAGE IN:

Commercial Forest	72	Total B.A./ Acre	132.7
Water	6	B.A. Saplings	17.4
Open Field	2	B.A. Sawtimber	98.9
		B.A. Poles	13.2
		B.A. Culls	3.2
TOTAL AREA	80		

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
American beech	11,670	8,320	19,990
black oak	22,700	69,320	92,020
black walnut	0	1,530	1,530
chestnut oak	50,890	109,690	160,580
northern red oak	6,200	23,180	29,380
pignut hickory	3,260	25,910	29,170
red maple	2,210	0	2,210
scarlet oak	7,700	2,120	9,820
shagbark hickory	0	3,550	3,550
sugar maple	4,560	20,100	24,660
white oak	16,080	150,330	166,410
yellow-poplar	7,750	5,460	13,210
TRACT TOTALS	133,020	419,510	552,530
PER ACRE TOTALS	1,848	5,827	7,674

PREVIOUS CRUISE DATA

		GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
DATE:	07/13/78			
PER ACRE TOTALS		2,889	1,201	4,090

RESOURCE MANAGEMENT GUIDE

Jackson-Washington State Forest — Compartment 13 Tract 10
Forester: Scott Funk — Date: 8/13/09
Management Cycle End Year 2032 — Management Cycle Length 23 years

Location

This tract is located in section 21&28 T3N R5E, Gibson Township, Washington County. This compartment is located approximately 9 miles North of Salem. This was a straight line measurement from center to center on Arc Gis.

General Description

This 79.8 acre tract contains approximately 50 acres of oak hickory to oak hickory chestnut oak. A lot of prime and quality white oak along with some other nice quality oaks are found within this tract. This tract was hit fairly hard by the summer 2004 and 2005 outbreak of linden looper and storm damage from hurricane Ike in September 2008, but there is still high volume on this tract, even after the damage. Knobstone trail runs through the tract from North West through the middle portions of the tract.

History

Approximately 91 acres was purchased from Thomas and Grace Bane on June 24th, 1952, but only 38.8 acres is contained within the current tract boundary. Approximately 40 acres was purchased from Mary and Hiram Smith and Jack and Ethel Lewis on December 1st, 1958, all of this is contained in the current tract boundary. On April 29th, 1963 Thomas, Grace, Eugene, Jewel Bane sold approximately 170 acres but only 1 acre is contained in the current tract. On July 13th, 1978 a resource management guide was done on compartment 52 tract 14 which became compartment 13 tract 10. At that time the tract was a total of 46 acres excluding the lake at approximately 8 acres dropping the commercial forest to 38 acres. The inventory found a total volume of 155,402 bdft and a harvest stock of 45,623 bdft. The leading volume species was white oak, red oak, and hickory. On 5/27/01 Eric Johnson changed the tract boundary and updated the tract acreage on GIS.

Landscape Context

The surrounding landscape is mostly state owned forestland and the block the tract lies within is approximately 1,620 acres. The block of state forest land to the west is approximately 1,020 acres according to Arc Gis. There are a lot of farmland, pasture and crop fields to the east, northeast, and southwest of the tract. There are several watershed protection lakes, stock ponds, and wildlife ponds. There are several single family homes and farms in the area. There hasn't been much expansion near this tract within the last ten years, but approximately 10 miles southwest, Salem has seen a lot of growth and expansion.

Topography, Geology and Hydrology
The topography in the west section is moderately steep finger ridges with slopes averaging from 5 to 20% with a max of 30%. Topography in the middle sections is flat ridge tops with moderately steep finger ridges with slope averaging from 5 to 25% with a max of 35%. Topography in the east section is flat to rolling finger ridges with slope averaging from 5 to 15% with a max of 25%. The elevation changes from 650 feet to its highest point at 750 feet. The geology is shale stone bedrock in the bottoms while siltstone and sandstone lie along the ridge tops. The hydrology is a mapped intermittent stream that flows out of the southeast corner of the tract into Apple Lake, which flows into Elk Creek, which flows north into the Muscatatuck River.

Soils
Berks-Weikert Complex (BhF) (30.47 acres) 25 to 75 percent slope; well drained soil on the upland side slopes. Both soils are 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.

Cuba Silt Loam (Cu) (0.26 acres) frequently flooded; slopes range from 0 to 3 percent. Very acidic soil and is formed mainly along streams and waterways, mainly suited for crops such as corn and soybeans. Native vegetation is mixed hardwoods and permeability is moderate with very little runoff. No site index was found.

Cuba Silt Loam (CW) (0.45 acres) occasionally flooded; no slope or site index found, permeability is somewhat modeate with little runoff and is mainly suited for crops, soybeans and corn. Somewhat acidic and found near waterways.

Gilpin silt loam (GID2) (9.41 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.

Gilpin silt loam, (GnF) (23.37 acres) 25-55 percent slope, a very steep, moderately deep, well drained soil on the side slopes. Permeability is moderate with a low water capacity. This soil is fairly well suited for trees with moderate soil erosion. The depth to bedrock is 20 to 40 inches. Gilpin silt loam has a northern red oak site index of 80 and a yellow poplar site index of 95, indicating productive soils.

Steff silt loam (Sf) (3.81 acres) frequently flooded; moderately well drained soil is found in the bottom land, usually flooded during winter and spring. Available water capacity is very high and the permeability is moderate. This soil is well suited for trees, but plant competition is severe, they grow well is vegetation is controlled. Steff silt loam has a yellow poplar site index of 107, black oak 88, and sweetgum 100.

Water (W) (2.79 acres) always flooded by water, wetland area, its found in the Gleysolic, Organic, and Cryosolic soil types.

Wellston Silt Loam (WeD) (6.19 acres) 12 to 18 percent slopes with very deep well drained soils, depth of bedrock found at 40 to 72 inches and moderate permeability.

Zanesville Silt Loam (ZaC2) (2.97 acres) 6 to 12 percent slopes; eroded, very deep to deep soil, well drained to moderately drained, slow permeability and soils are found on ridgetops and upper side slopes.

Access

This tract can be accessed off of State road 39 onto Rutherford Hollow road to the junction with Bane Hollow road, head west on Bane Hollow approximately 2 miles to a gravel parking lot on the southside of the road. Fire access road #930 heads uphill out of the gravel lot to the top of the ridge. Follow the old logging road off of the left till it forks and that is the beginning of the tract. The Knobstone Trail also goes through the track and would have to be re-routed for harvesting operations. Access within the tract is okay, re-use the old skid trails that were used for the past harvest and they usually ran down the ridge spines.

Boundary

The west to south west tract boundaries is surrounded by state owned forest land, while the north and east tract boundaries are adjoined by private land. They are marked by other logging roads and fiber glass sign posts stating beyond this point is state land.

Wildlife

Wildlife Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	648		1569	921	
20"+ DBH	216		416	200	
Snags (All species)					
5"+ DBH	288	504	1146	858	642
9"+ DBH	216	432	567	351	135
19"+ DBH	36	72	105	69	33
Cavity Trees (All species)					
7"+ DBH	288	432	1470	1182	1038
11"+ DBH	216	288	1206	990	918
19"+ DBH	36	72	485	449	413

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

This tract exceeded the maintenance level in all three categories, mainly because of the linden looper outbreak in summer of 2004 and 2005. It was mainly chestnut oaks, but there were other dead oaks and hickories. I saw a few deer on this tract, a lot of dense thick green bier for cover and browse, plus the Apple Lake at the south east corner makes for a water source and good wildlife habitat. There is also a beaver living in the lake, I saw its cut off tree stumps and part of its lodge. The Natural Heritage Database review found no endangered wildlife within or near this tract.

Communities
This tract is mostly dry upland oak-hickory and oak-hickory-chestnut oak with some mixed hardwoods near the bottoms. In the east to south east corners is wet mesic bottom land that nears Apple Lake. Invasive species include siltgrass in the road beds and multiflora rose bush mixed within the green bier. The Natural Heritage Database review found no endangered plant species within or near this tract.

Forest Condition
The overall forest condition of this tract is good. There were a lot of snags within this tract due to the linden looper out break in summer of 2004 and 2005, but that makes good nesting sites for the Indiana bat as the wildlife report showed. There should have been an attempt to salvage the trees before they became too decomposed, but the tract is still fully stocked. The inventory information is a total of 552,520 bdft, 419,510 bdft of growing stock, and 133,010 of harvest stock. The per acre volumes are a total of 7,670 bdft, growing stock is 5,830 bdft, and harvest stock of 1,850 bdft per acre. The pre-harvest stocking is 90% and the projected post-harvest stocking level is 66%.

Recreation
The primary recreational use for this tract is hunting, walking, and hiking because the Knobstone trail runs through the west to middle to east of the tract.

Cultural
There were no cultural sites found within this tract.

Tract Subdivision Description and Prescription

Oak Hickory/ Chestnut Oak (22.9 acres)

The major overstory species within these areas is mainly chestnut oak with a few scattered white oak, black oak, scarlet oak, and pignut hickory. These areas consisted of sawtimber and quality sized oak trees. Several of these areas had high rates of oak regeneration, some 1 to 3 feet tall. The proposed management for these areas are to harvest poor formed, damaged (heart rot), and over mature oaks to release the healthy crop trees for future growth. The past harvest on this tract has made a noticeable difference in stand condition; there are several large diameter trees within the area and a lot of oak regeneration occurring from the extra sunlight to the forest floor. The average sawtimber basal area for the oak hickory chestnut oak forest type is 132 sq. ft. per acre.

Oak Hickory (36.75 acres)

The major overstory species consisted of black oak, chestnut oak, scarlet oak, northern red oak, white oak, chestnut oak, pignut hickory, and shagbark hickory. Most of these areas consisted of sawtimber sized trees with some quality/prime white oaks, quality northern red oaks, chestnut oaks, and black oaks within the tract. Several of these areas also had high rates of oak regeneration occurring on the forest floor. The proposed management for these areas are to harvest poor formed, damaged (heart rot), competing vegetation, and over mature oaks to release the desired crop trees. Also within the white oak stands I'd propose removing unwanted species to make them pure white oak stands. The past harvest has made a difference in the tree growth and the white oak stands are very nice. The average sawtimber basal area for the oak hickory forest type is 95 sq. ft. per acre.

Mixed hardwoods (12.44 acres)

Most of this area consists of a few sawtimber trees including American beech, blackgum, black walnut, black cherry, red maple, sugar maple, yellow poplar, eastern red cedar, white oak, chestnut oak, northern red oak, black oak, pignut hickory, and shagbark hickory. The proposed management for these areas is to harvest poor formed, damaged trees, and competing trees to release the healthy vigorous crop trees. Thinning these mixed hardwood stands should help retain the more high quality tree species within these areas. The average sawtimber basal area for the mixed hardwood forest type is 73 sq. ft. per acre.

Tract Prescription and Proposed Activities

The inventory conducted in the summer of 2009 estimates the 72 acres of commercial forest on this tract contains a total of 613,910 board feet of volume. Out of that amount, 147,790 board feet was estimated as harvest stock and 461,010 board feet was estimated as growing stock. On a per acre basis, the harvest stock is 2,053 board feet and the growing stock is 6,403 board feet for a combined total of 8,456 board feet. The overall proposed management for this tract is an intermediate thinning with a regeneration opening in the north central area where advanced oak regeneration was evident. An opening from the previous timber sales should be expanded to allow for more light to the dense stand of scarlet oak regeneration. Harvesting over mature, damaged (heart rot or storm), competing, and poorly formed trees to release the desirable crop trees. Following the harvest, timber stand improvement should be done to release any crop trees that did not get released during harvest. Finish opening up the regeneration opening that did not occur during harvest. Remove any midstory or understory species where there is high potential for oak regeneration. There are several dead snags on this tract due to the linden looper outbreak, so wildlife and the Indiana bat have a lot of good nesting sites. There is also a lake at the south east end of the tract with a lot of dead snags nearby, which is very beneficial for wildlife. In approximately 20 years following the harvest and timber stand improvement, another inventory will be done on the tract to see if another harvest is possible.

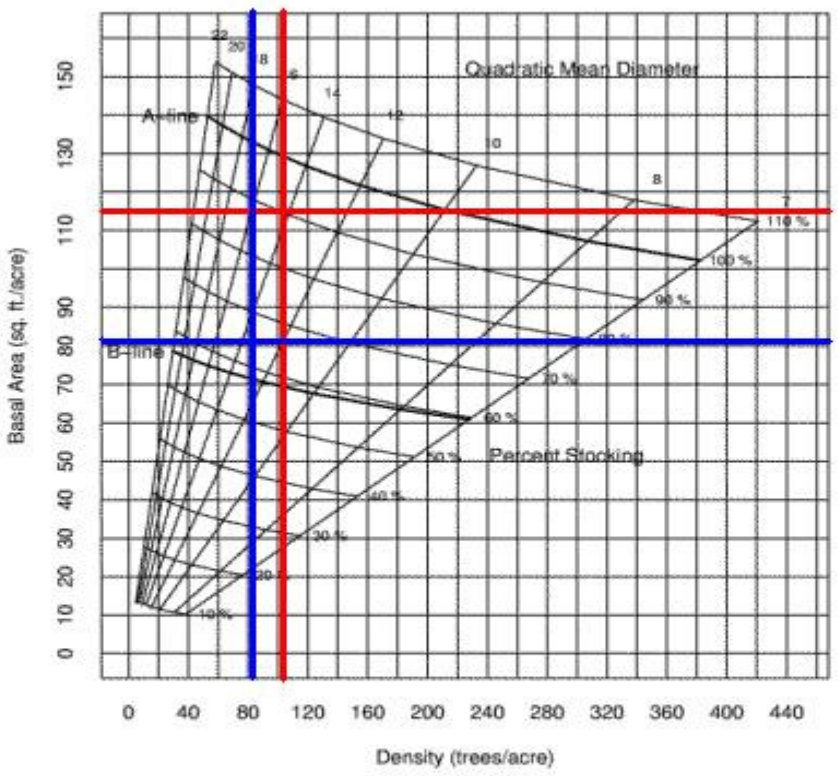
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Mark harvest and sell timber	2010
Post-Harvest TSI	2012
Inventory and Management Guide	2032

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 C13 T10" 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.

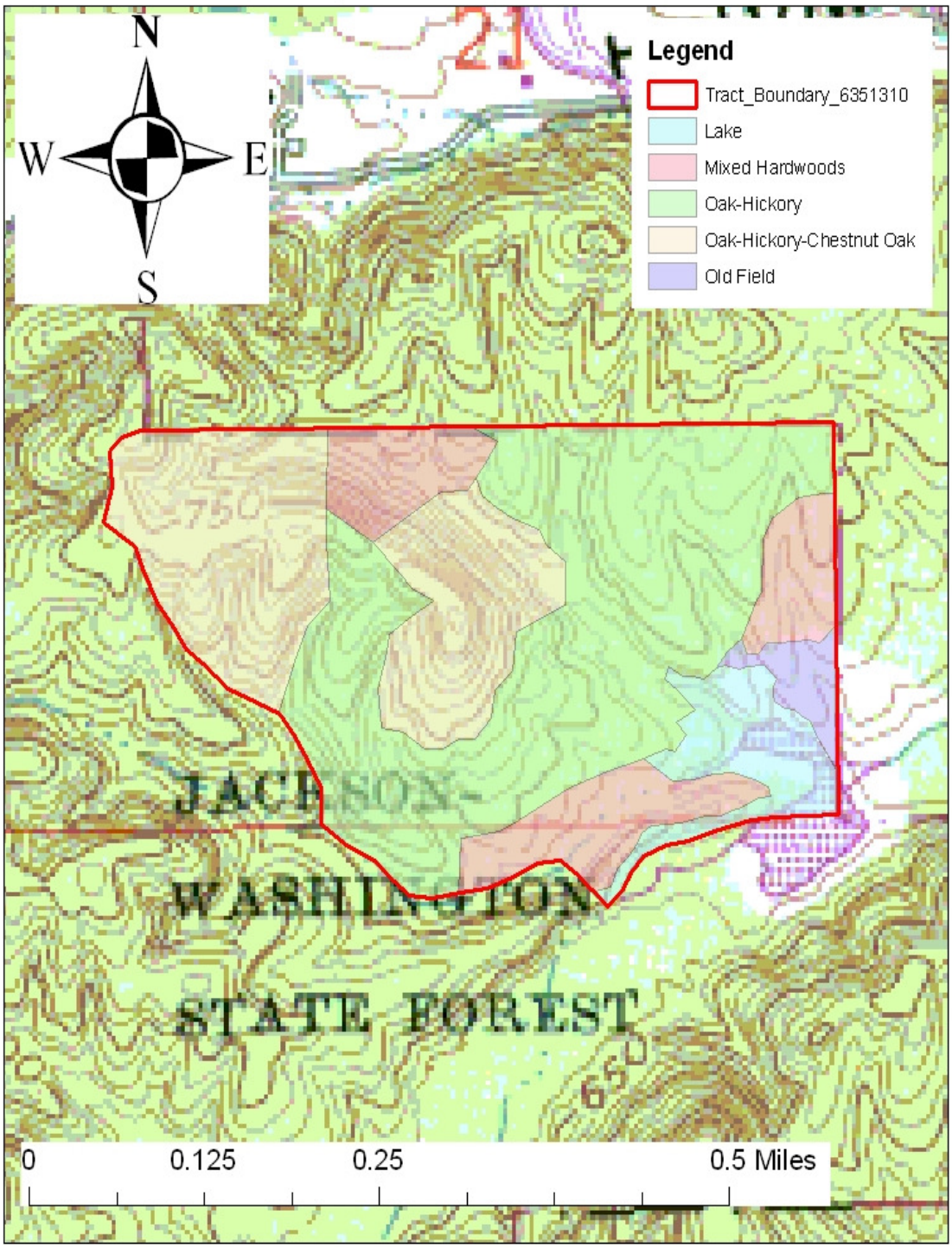
JWSF Resource Management Plan
Compartment 13 Tract 10 Stocking Guide
8/13/09 Inventory
72 acres



Pre-Harvest Inventory Data in Red
Total B.A. per acre = 115.3 sq.ft.
Total # trees/acre = 104
Avg. tree diameter = 14" DBH
Percent stocking = 90%

Projected Post-Harvest Data in Blue
Total B.A. per acre = 82.52 sq.ft.
Total # trees/acre = 81
Avg. tree diameter = 13.5" DBH
Percent stocking = 66%

Tract Subdivisions
Jackson-Washington State Forest
Compartment 13 Tract 10



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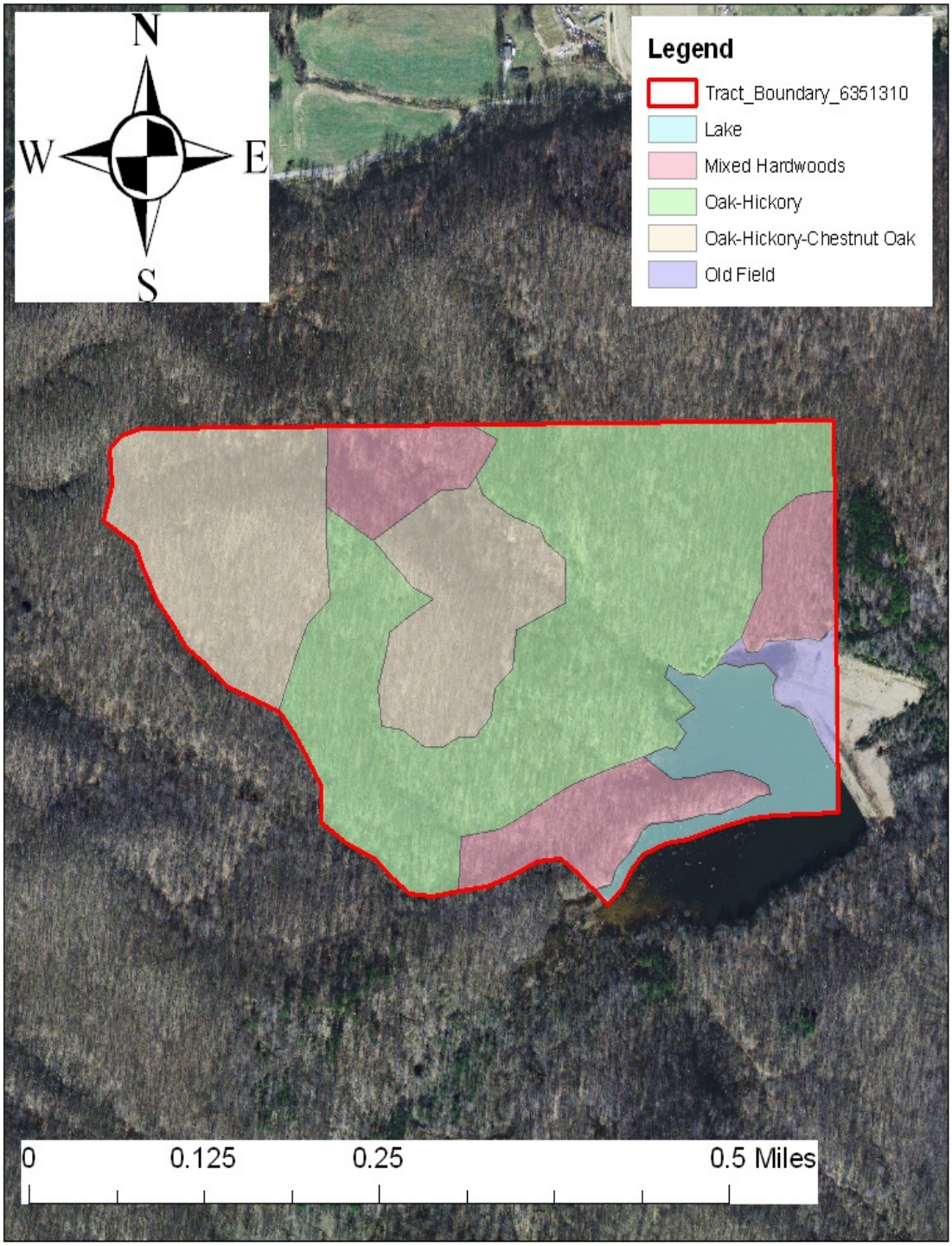

Soils Map
Jackson-Washington State Forest
Compartment 13 Tract 10