Indiana Department of Natural Resources
Division of Forestry

RESOURCE MANAGEMENT GUIDE

State Forest: Jackson-Washington | Compartment: 1 Tract: 12
Forester: D. Potts | Date: January 30, 2013
Management Cycle End Year: 2037 | Management Cycle Length: 24 years

Location
This tract is located in Jackson County in sections 18 and 19 of township 5 N, range 5E. From Brownstown, take State Road 250 southeast for two miles to the entrance of Jackson-Washington State Forest. From the entrance travel northeast for .8 mile to the access road the leads into the tract; it is on the north side of the road, across from the dam.

General Description
The tract is 53 acres and all acres are considered commercial forest. This tract is comprised of stands of oak and mixed hardwoods. Snags abound throughout.

History
The tract is comprised of three separate land acquisitions, all individually purchased in 1931. The first was attained from Charles and Faye Silence totaling 168 acres. Another piece was bought from William H. and Freda Jones and totals 201 acres. The last from Matthias and Annetta Gossman at 40 acres.

The first recorded cruise information was from 1971 (66 tract acres with 42 listed as merchantable) and refers to area as Compartment 04 Tract 09. According to the data, total volume for the tract was 135,492 bd. ft. (3,226 bd.ft./acre), with harvest volume of 70,308 bd.ft. (1,674 bd.ft./acre).

The next recorded activity was an inventory in 1979 that indicated a tract total volme of 219,549 bd.ft. (2,678 bd.ft./acre) with a recommended harvest volume of 42,816 bd.ft. (649 bd.ft./acre).

Landscape Context
The tract is completely surrounded by steep hills and forested lands which are primarily used for timber production, recreation, and hunting. The North-West tract boundary is Lake Pyoca, a privately managed lake, although a portion of the lake is on State property. There is very limited agriculture being practiced within a one mile radius. Development is limited and primarily consists of single-family residences.

Topography, Geology and Hydrology
Proper implementation of Best Management Practices during and after the harvest will minimize impacts to water quality. Parent materials of the soils in this tract are siltstone and shale. This entire tract drains into a mapped intermittent stream to the north, which

drains into Lake Pyoca. Lake Pyoca drains into an unnamed mapped intermittent stream that drains into Hough Creek, which then drains into the East Fork of the White River.

Soils

Beanblossom silt loam (BcrAW) (2.47 acres) This deep, well drained soils that formed in 0 to 24 inches of medium-textured alluvium and the underlying loamy-skeletal alluvium. The Beanblossom soils are on flood plains and alluvial fans below steep and very steep hillslopes. Native vegetation is deciduous forest, dominantly sycamore, elm, hickory, beech, maple, and tulip poplar. This soil is well suited to trees. Plant competition is moderate. Seedlings survive and grow well if competing vegetation is controlled. Preferred trees to manage for are bitternut hickory, white oak, sugar maple, and yellow-poplar.

Coolville silt loam, 12 to 20 percent slopes (CoD) (6.94 acres) This moderately well drained soil has a seasonal high watertable at 1.0 to 2.0 ft. and is on side slopes on uplands. Slopes are 12 to 20 percent. The native vegetation is hardwoods. The surface layer is silt loam and has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is very slow (<0.06 in/hr) in the most restrictive layer above bedrock. Available water capacity is moderate (6.6 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 5.5. Bedrock is at a depth of 40 to 60 inches. This soil type has a site index of 66 for northern red oak.

Gilpin silt loam, 25 to 55 percent slopes (GnF) (3.4 acres) This well drained soil has a water table at a depth greater than 40 inches and is on side slopes on uplands. Slopes are 25 to 55 percent. The native vegetation is hardwoods. The surface layer is silt loam and has moderate organic matter content (2.0 to 4.0 percent). Permeability is moderate (0.6 to 2.0 in/hr) in the most restrictive layer above bedrock. Available water capacity is low (4.8 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 5.5. Bedrock is at a depth of 20 to 40 inches.

Kurtz silt loam (KtF) (38.79 acres) This series consists of deep, well drained soils on hills. They formed in residuum weathered from interbedded soft siltstone and shale bedrock. Slopes range from 20 to 55 percent. Most Kurtz soils are in forest. Native vegetation consists of mixed hardwood with oaks, hickory, beech and yellow-poplar. These soils a well suited to trees. The potential productivity or site index for this soil type is 60 (northern red oak). Preferred trees to manage for are black oak, chestnut oak, persimmon, northern red oak, scarlet oak, shagbark hickory, American beech, sugar maple, and white oak.

Sg--Steff silt loam, rarely flooded (1.06 acres) This moderately well drained soil has a seasonal high watertable at 1.5 to 2.5 ft. and is on flood plains. Slopes are 0 to 2 percent. The native vegetation is hardwoods. The surface layer is silt loam and has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is moderate (0.6 to 2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is high (10.8 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5.

Stonehead silt loam (SsC2) (0.23 acre) This series consists of deep and very deep, moderately well drained soils formed in loess and the underlying residuum weathered from soft shale or soft siltstone bedrock. Slopes range from 4 to 12 percent. Native vegetation is mixed hardwoods with oaks, hickory, beech, maple, and tulip-poplar as the major species. This soil is well suited for trees. Prolonged seasonal wetness hinders logging activities and planting of seedlings. The equipment limitations, seedling mortality, windthrow hazard, and plant competition are management concerns. The potential productivity or site index for this soil type is 90 for northern red oak. Preferred trees to manage for are black oak, chestnut oak, common persimmon, northern red oak, scarlet oak, shagbark hickory, sugar maple, yellow-poplar and white oak.

Access

The main road leading into Jackson-Washington State Forest does not have an official road name, but is labeled as "Camp Road" on Google Maps. The road is paved and provides primary access to the tract, via the fire trail entrance northwest of the Knob Lake dam. It intersects State Road 250 just southeast of County Road 100 E, southeast of Brownstown. Within the tract the topography should not limit equipment access anywhere across the site.

Boundary

The tract is mostly enclosed by Jackson-Washington State Forest property. The northwest boundary of the tract is bounded by Lake Pyoca. To the north the tract boundary is a mapped intermittent drainage. The northeastern boundary is along a ridgetop and is the southwestern boundary of compartment 01 tract 15. The southern tract boundary is a fire lane and portions of trail 10 and 6.

Wildlife/Communities

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Snags (all species)					
5"+ DBH	212	371	1013	801	642
9"+ DBH	159	318	600	441	282
19"+ DBH	26.5	53	114	88	61

Maintenance level and optimal level for the number of snags is exceeded in all DBH classes. No further action is needed on this tract. The snags present on the site provide great roosting habitat and TSI after the harvest should create additional snags.

Fresh deer scrapings and rubs were noted in the tract during the inventory. Single tree selection and group selection openings will create more habitat types, mast and browse for wildlife. Proportions of cover types will slightly change in the short term but will return to current ratios in the future.

A Heritage Database Review was completed for this tract. 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.

Japanese stilt grass, is an exotic plant, and was found on the hiking trails and firelanes near and within the tract. It will be monitored for management impacts and control needs.

Forest Condition
The forest is generally healthy and vigorous. The 2012 inventory shows a total volume of 646,340 bd. ft. for the tract with a harvest volume of 149,410 bd. ft. and a leave volume of 496,930 bd. ft. These numbers translate to per acre volumes of 12,195 bd. ft. total, 2,819 bd. ft. harvest and 9,376 bd. ft. leave. The stocking chart shows current stocking at 95%, with a reduction to 68% stocking post harvest. Currently basal area is 120.7 sq. ft./ acre. Post harvest basal area is estimated to be 89.4 sq. ft./acre. Trees per acre will decrease from 98 to 77 after the harvest. The three top harvest species by volume are chestnut oak, black oak, and northern red oak. Regeneration in the understory is comprised primarily of American beech and sugar maple.

Recreation
The primary recreational use of this tract is by hikers, wildlife viewers, and hunters. This tract contains Hiking Trails 6 and 10. During timber harvest activities, the tract will be closed to the public for safety reasons.

Cultural
Cultural resources may be present on this tract, if present their location is protected. Adverse impacts to significant cultural resources noted will be avoided during any management or construction activities.

Overall Tract Prescription and Proposed Activities

Mixed Oak
The overstory species are mostly chestnut oak, white oak, black oak and northern red oak. Those four species account for 90% of the estimated total volume within the tract. The understory species are mostly chestnut oak, sugar maple, red maple and American beech. Regeneration consisted mostly of sugar maple and American beech, although a small number of chestnut oak seedlings were present.

Silvicultural prescription: single-tree and group selection improvement harvest in 2015, in conjunction with compartment 01 tract 15 (see compartment 01 tract 15 management guide for details). Throughout the rest of the tract harvesting should focus on removing wind damaged and drought stressed trees. An emphasis in the marking should be to favor quality oaks and hickories, those with little decay, good form and

growth characteristics. Within this tract may be areas having low stocking of desired crop trees or experiencing significant decline. In these instances the recommended management prescription is to regenerate the area. The number of regeneration openings and size of openings will vary based on the conditions discovered in the field. Following these recommendations should provide for a tract of well stocked healthy and more vigorous growing trees. Stilt grass should be sprayed where there is ATV access. During and after harvest operations best management practices (BMP's) will be implemented to minimize the impact to soil and water resources. Following the harvest, timber stand improvement should be performed to remove grapevines, reduce American beech and sugar maple saplings that are competing with or hampering oak regeneration, release future crop trees and to deaden (non-merchantable) trees not removed during the harvest. A re-inventory should occur in 20 years, following the harvest.

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Spray stilt grass	2015
Mark harvest and sell timber	2015-16
Post-harvest and TSI	2017-18
Inventory and Management Guide	2038

TM 901 RESOURCE MANAGEMENT GUIDE					
INVENTORY SUMMARY					
			Compartment:	1	
Jackson-Washington State Forest			Tract:	12	
Forester:	D. Potts		Date:	1/30/12	

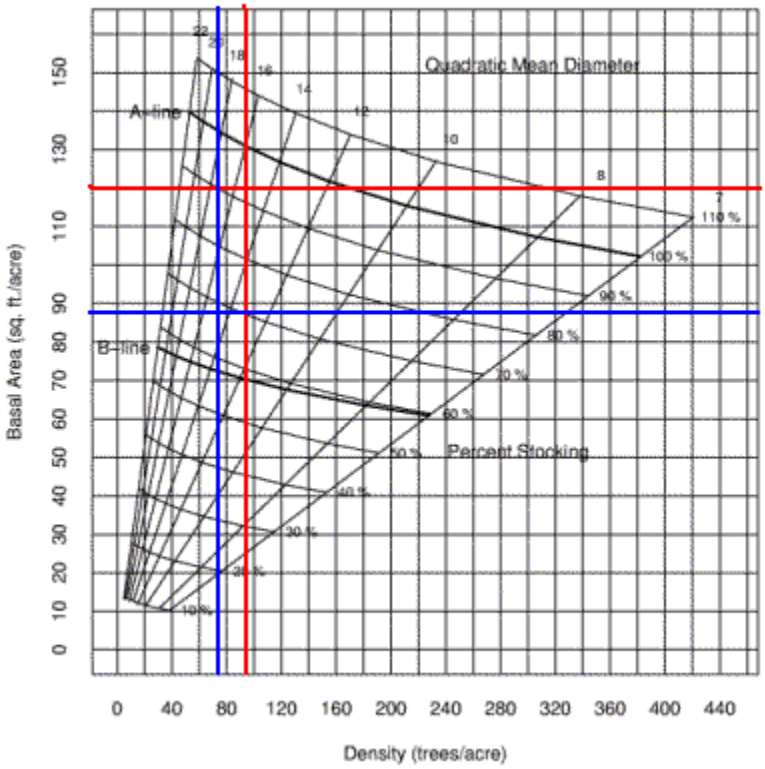
ACREAGE IN:	
Commercial Forest	53
Non-Commercial	0
TOTAL AREA	53

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
chestnut oak	82,160	238,200	320,360
white oak	7,920	170,520	178,440
black oak	17,030	37,940	54,970
northern red oak	12,600	16,410	29,010
red maple	6,530	5,640	12,170
yellow poplar	0	12,080	12,080
pignut hickory	3,920	7,770	11,690
scarlet oak	2,980	3,400	6,380
sweetgum	6,290	0	6,290
sugar maple	5,510	0	5,510
American beech	1,610	2,590	4,200
black cherry	2,860	0	2,860
black willow	0	2,380	2,380
TRACT TOTALS	**149,410**	**496,930**	**646,340**
PER ACRE TOTALS	**2,819**	**9,376**	**12,195**

Stocking Guide

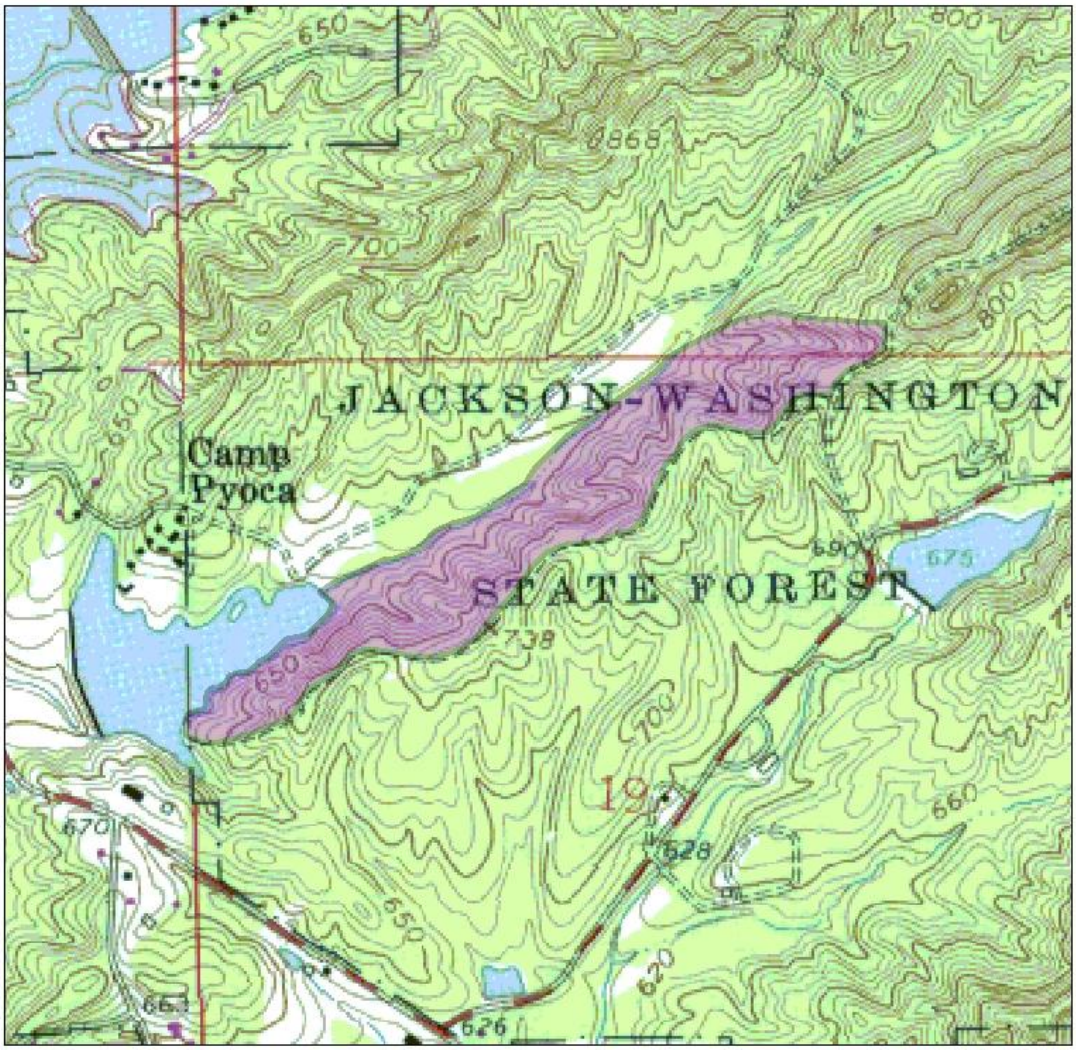
Compartment 04 Tract 09



Pre-Harvest Inventory Data in Red
(Sub merchantable trees excluded)
Total BA/A = 120.7 sq.ft./acre
Total #trees/acre = 98
Avg. tree diameter = 15.3 inches
Percent stocking = 95%

Post-Harvest Inventory Data in Blue
(Sub merchantable trees excluded)
Total BA/A = 89.4 sq.ft./AC
Total #trees/acre = 77
Avg. tree diameter = 14.4 inches
Percent stocking = 68%

Jackson-Washington State Forest
Compartment 1 Tract 12



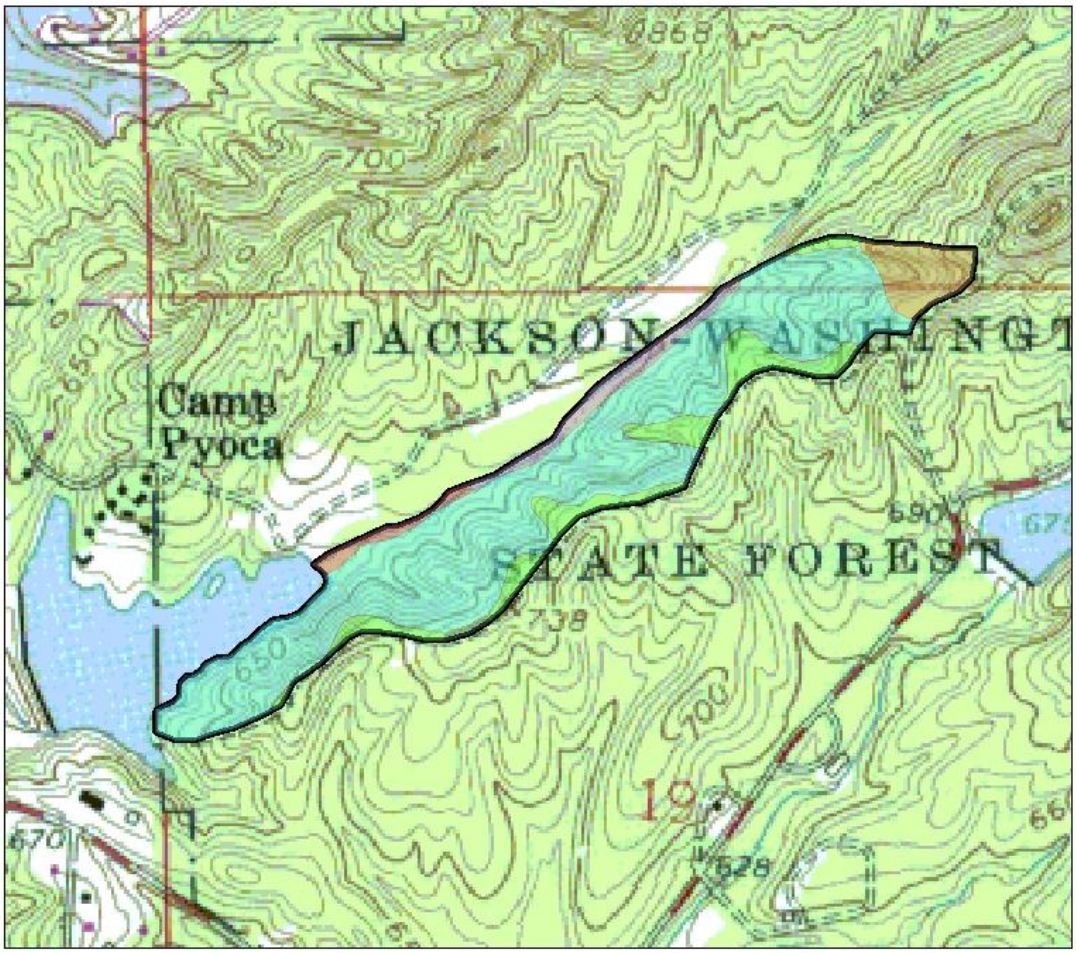
Legend

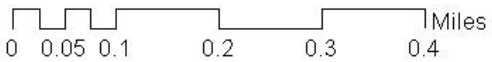
Mixed oak

N
W
E
S

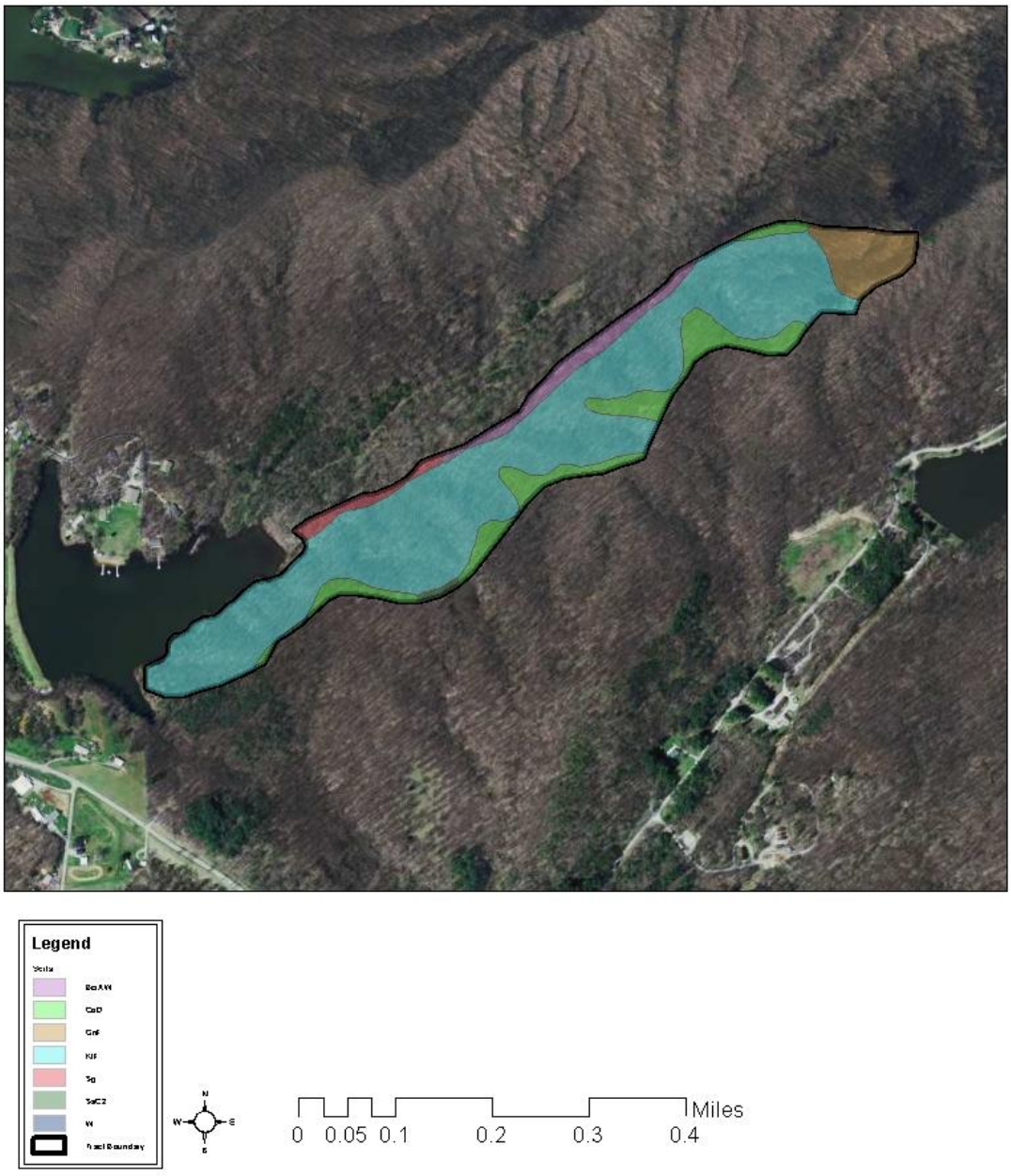
0 0.05 0.1 0.2 0.3 0.4 Miles

Jackson-Washington State Forest
Compartment 1 Tract 12
Soils Map





Jackson-Washington State Forest
Compartment 1 Tract 12
Soils Map



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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.