Indiana Department of Natural Resources

Division of Forestry

Draft Resource Management Guide

State Forest: Jackson-Washington
Forester: Beahrs, Danson, Jasowicz
Management Cycle End Year: 2041
Compartment: 05 Tract 08
Date: December 31, 2017
Management Cycle Length: 25 years

Location

The area is located in Jackson County, Indiana in Township 4 North, Range 4 East, and Section 3 of the Driftwood Township. This area is located 2.5 miles south of Brownstown, Indiana off of Starve Hollow Road.

General Description

The tract is approximately 54 acres and the general cover type is mixed hardwood forest and oak-hickory forest.

History

The tract was inventoried in 1987, and boundaries modified in 1989. Two timber sales, both partially in tract 8 and 10 of the same compartment, were marked in 1990. The first, comprised of 11 prime trees with an estimated 5,222 board feet (bdft) from both tracts, was sold in 1990 and completed in 1991. The second harvest comprised of 889 trees and 301 culls with an estimated 163,665 bdft in tract 8 alone, was sold in 1991 and completed in 1992. The tract boundaries were changed once again in 2001. TSI was performed in 2006. The northern portion of the tract had ash removed as part of an ash salvage sale in 2015. This salvage covered several tracts along the fire access road located on the main ridge top.

Landscape Context

Tract 8 is located south of Starve Hollow Road. The tract is surrounded primarily by State Forest land. This area is currently made up of mature forests with closed canopies. Surrounding this large block of State Forest lands are scattered agricultural fields, watershed lakes, and single-family residences.

Topography, Geology and Hydrology

A ridge follows the north end of this tract, while the southern portion and bottom third of the west side is a flat valley of less slope. Between the ridge and less sloped valley is a small south- southeast facing slope. The underlying parent material is sandstone. An intermittent creek can be found on much of the western border and the entire southern border. A siltstone glade can be found west of the tract, on the western border of tract 10.

Soils

Beanblossom silt loam (BcrAW) this is a deep, well-drained soil 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. Preferred trees to manage for are bitternut hickory, white oak, sugar maple, and yellow-poplar.

Berks channery silt loam (BeG) This steep and very steep, moderately deep, well-drained soil is on side slopes and knolls in the uplands. Slopes can range from 25 to 75 percent. The native vegetation is hardwoods. It is fairly well suited to trees. The equipment limitations, seedling mortality, and the erosion hazard are management concerns. Building logging roads and skid trails on the contour and constructing water bars help to control erosion. North aspects generally are more productive than south aspects. The site indexes for hardwood species range from 70 (white oak) to 90 (yellow-poplar). Preferred trees to manage for are black oak, chestnut oak, scarlet oak, red oak, and white oak.

Coolville silt loam, 12 to 20 percent slopes (CoD) This moderately well drained soil has a seasonally high water table at 1.0 to 2.0 ft. and is on side slopes on uplands. Slopes can range from 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 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) This well drained soil has a water table at a depth greater than 40 inches and is on side slopes on uplands. Slopes range from 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 3.5 to 5.5. Bedrock is at a depth of 20 to 40 inches.

Hickory loam (HrE) This well drained soil has a water table at a depth greater than 40 inches and is on side slopes on uplands. Slopes are 15 to 45 percent. The native vegetation is hardwoods. The surface layer is loam and has moderate organic matter content (2.0 to 4.0 percent). Permeability is moderate (0.6 to 2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is high (10.1 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) 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.

Tilsit silt loam (TlB2, TlC2) The Tilsit series consists of deep and very deep, moderately well drained soils with a slowly permeable fragipan in the subsoil. Slope ranges from 0 to 15 percent. The potential for surface runoff is negligible to medium. Permeability is moderate in horizons above the fragipan and slow or very slow in the fragipan. About half of the areas are used for corn, small grains, tobacco, truck crops, and hay and pasture. The remainder is in woodland or idle. Native vegetation is primarily oak, hickory, Virginia pine, maple, gum, poplar, dogwood, beech, ironwood, persimmon, and sassafras. These soils are 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. Seedlings survive and grow well if competing vegetation is controlled. The site indexes for hardwood species range from 90 (black oak) to 100 (tulip poplar). Preferred trees to manage for are black oak, bur oak, chestnut oak, scarlet oak, red oak, and white oak.

Access

From Brownstown, take 135 South for approximately 3.5 miles. Turn south and take Lake Road for approximately 1.5 miles. Turn east and take Starve Hollow Road for approximately 1.3 miles, then turn south onto fire trail 310. Follow the fire trail south and east for approximately .25, where the trail changes to fire trail 320. Continue on fire trail 320 for .65 miles to the northern corner of the tract.

Boundary

The northern tract boundary follows a main ridgetop. When the ridgetop forks, the tract's eastern border loosely follows the Turkey Roost Hiking Trail. Near the southern end of the tract the trail turns southwest while the tract boundary continues south to a mapped perennial stream. The perennial stream serves as the tract's southern border. This stream is joined further west by a mapped intermittent stream that serves as the tract's western border. This stream can be followed three-quarters of the way north where it becomes an ephemeral drain which leads to the main ridgetop.

Wildlife

A diverse assortment of wildlife resources are found on this tract conducive to providing habitat for a variety of wildlife species. Habitat includes:

- Contiguous mixed hardwood canopy
- Oak-hickory stands with varied structure
- Riparian areas

Hard mast trees such as oaks, hickories, and American beech provide food source to both game and non-game species. The openings are varied in size but all present similar, dense vegetation that favors wildlife preferring this habitat structure. Such vegetative species include sassafras, grapevine, and other early successional shrubs.

Snags (standing dead or dying trees), are an important wildlife habitat features in Indiana's forests. They are used by a wide range of species as essential habitat features for foraging activity, nest/den sites, decomposers (e.g., fungi and invertebrates), bird perching and bat roosting. Additionally, snags are an important contributor to the future pool of downed woody material. Downed woody debris provides habitat and protection for many species and contributes to healthy soils.

Forest wildlife species depend on live trees for shelter, escape cover, roosting and as a direct (e.g., mast, foliage) or indirect (e.g., foraging substrate) food resource. The retention of live trees within various diameter classes is of particular concern to habitat specialists such as species of conservation need like the Indiana bat.

The Division of Forestry has developed compartment level guidelines for two important wildlife structural habitat features. Current assessments indicate the abundance of these habitat features meet or exceed recommended base levels in all diameter classes. The prescribed management will maintain or enhance the relative abundance of these features.

Wildlife Habitat Feature Tract Summary

				Available	Available
Snags	**Maintenance**	**Optimal**		**Above**	**Above**
(all species)	**Level**	**Level**	**Inventory**	**Maintenance**	**Optimal**
5"+ DBH	218	381.5	555	337	174
9"+ DBH	163.5	327	277	114	-50
19"+ DBH	27.25	54.5	61	33	6

A Natural Heritage Database review was completed for this tract. If Rare, Threatened or Endangered species (RTE's) 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.

Communities

A Natural Heritage Database review was completed for this tract. If Rare, Threatened or Endangered species (RTE's) 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.

Forest Condition

TM 901 RESOURCE MANAGEMENT GUIDE			
INVENTORY SUMMARY			
		Compartment:	5
State Forest:	Jackson-Washington	Tract:	8
Forester:	Beahrs, Danson, Jasowicz	Inventory Date:	June 14th, 2016

ACREAGE IN:	
Forest	54.5
Non-Forest	0
Water	0
Permanent Openings	0
Other Uses	0
TOTAL AREA	54.5

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
Chestnut Oak	7,880.00	111,660.00	119,540.00
Yellow Poplar	7,380.00	69,130.00	76,510.00
White Oak	2,570.00	72,050.00	74,620.00
Northern Red Oak	15,910.00	25,130.00	41,040.00
Black Oak	6,250.00	26,310.00	32,560.00
Pignut Hickory	0.00	25,570.00	25,570.00
Red Maple	0.00	11,800.00	11,800.00
White Ash	0.00	11,760.00	11,760.00
Sugar Maple	0.00	11,230.00	11,230.00
American Sycamore	4,630.00	3,050.00	8,460.00
American Beech	4,780.00	3,050.00	7,830.00
Sweetgum	0.00	7,710.00	7,710.00
Shagbark Hickory	0.00	3,670.00	3,670.00
Black Cherry	1,930.00	0.00	1,930.00
TRACT TOTALS	51,330.00	382,120.00	434,230.00
PER ACRE TOTALS	941.83	7,011.38	7,967.52

The 2016 inventory shows an average volume of 7,967 board feet and an average basal area of 97.1 sq. ft. per acre in this tract. There is an average of 164 trees per acre. These values indicate that current stocking for this tract is at 83%. The prescribed harvest is expected to be in the 50-100 MBF range. Portions of the tract may not be accessed due to steepness.

Much of the tract is composed of mixed hardwood forest. Oaks, maples, yellow poplars, and hickories are the most common species in these areas. Though the overstory and regeneration show a wide variety of species, the understory is primarily composed of sugar maple and beech. In the oak-hickory subdivision, chestnut oak is most common along the ridgetops, though white oak and pignut hickory grow along ridgetops, as well. Most of the chestnut oak has poor form. Other species such as white ash, maple, and beech are found less commonly in the understory. The most commonly regenerating species are chestnut oak, hickory, maple, white ash, and sassafras.

Recreation
The Turkey Roost Hiking Trail leads down the eastern tract border and cuts through the tract near the south. Hunting and hiking are the main recreational activities in this tract.

During proposed management activities, specifically timber harvesting, public access into the tract will be restricted for safety reasons. Access into the area will be permitted following the completion of the harvest. Parts of the Turkey Roost Hiking Trail may be re-routed for safety reasons while the timber harvest is occurring. Following the completion of the timber harvest the trail will be re-opened to the public.

Cultural
Cultural resources may be present but their location(s) are protected. Adverse impacts to significant cultural resources noted will be avoided during management or construction activities.

Tract Subdivision, Description, and Prescription
Mixed Hardwood: 40.1 Acres. Much of the tract is composed of mixed hardwood forest. The average basal area is around 72 sq. ft. Common trees in this subdivision includes American beech, sugar maple, pignut hickory, white oak, black oak, and yellow poplar. American sycamore is common in the bottomlands at the south of the tract. Though the overstory and regeneration are both diverse, the understory is primarily composed of sugar maple and American beech. Generally, trees are healthy, but a light harvest is recommened to remove trees with poor form or signs of decline. This will provide more light to healthy trees and promote natural regeneration. In the northern corner of the tract there is a stand of declining yellow poplar. Group selection silviculture is recommended in this area to remove declining stems from recent droughts and EAB. TSI is recommended throughout the subdivision to reduce beech competition with other desired mast producing species such as oak and hickory.

Oak-Hickory: 14.5 Acres. This subdivision runs along the ridge on the eastern border of the tract. The average basal area is around 67 sq. ft. closer to the ridgetops, chestnut oak is prevalent and white oak, pignut hickory, and black oak are common, while black oak is more common downhill. Though a wide variety of trees can be found regenerating, most of the understory is composed of oaks and beeches. Areas with a large basal area should be thinned. Some areas of chestnut oak have many trees in poor form and health, and these trees could be removed to provide more light to other trees and promote natural regeneration. TSI should be performed in areas where beech dominates the understory.

Tract Prescription and Proposed Activities

In general, trees in this tract are healthy, but a light improvement harvest is recommended in the next 3-5 years to remove trees with poor form or signs of decline to provide light to healthier trees and to promote new growth. The declining yellow poplar stand in the north corner of the tract would be removed to create an opening for regeneration of mixed native hardwoods. TSI should be performed within two years after the harvest, particularly to prevent beech from outcompeting more desirable species such as oak and hickory as they are already common in the understory. Problem occurrences of Japanese stiltgrass, multiflora rose, ailanthus, and grape vines noticed should be treated prior to the harvest. Following the harvest BMPs will be implemented to reduce soil erosion. The proposed management activity should have little or no impact on wildlife communities, including the Indiana bat, within or near the tract. During management activities, public access will be restricted and hiking trail closed or rerouted for public safety. Following the harvest the tract will be reopened to the public. The tract should be inventoried 20 years following the completion of the timber harvest.

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Treat invasive species	2018-2019
Mark, sell and harvest timber	2018-2022
Post-harvest Timber Stand Improvement	2021-2023
Regeneration opening monitoring >1 acre in size	2023-2025
Inventory and management guide	2041
Trail maintenance	ongoing as needed

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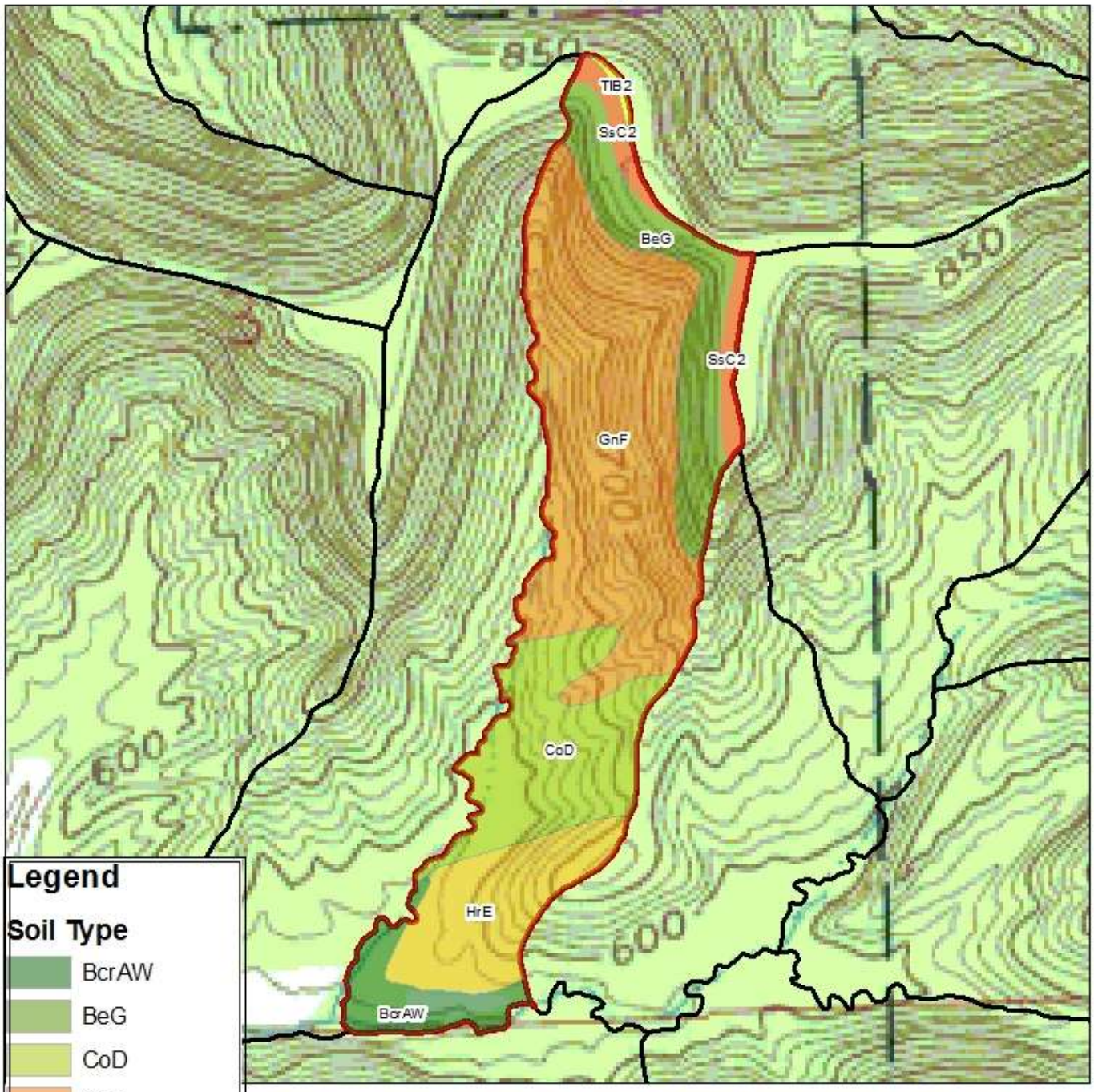
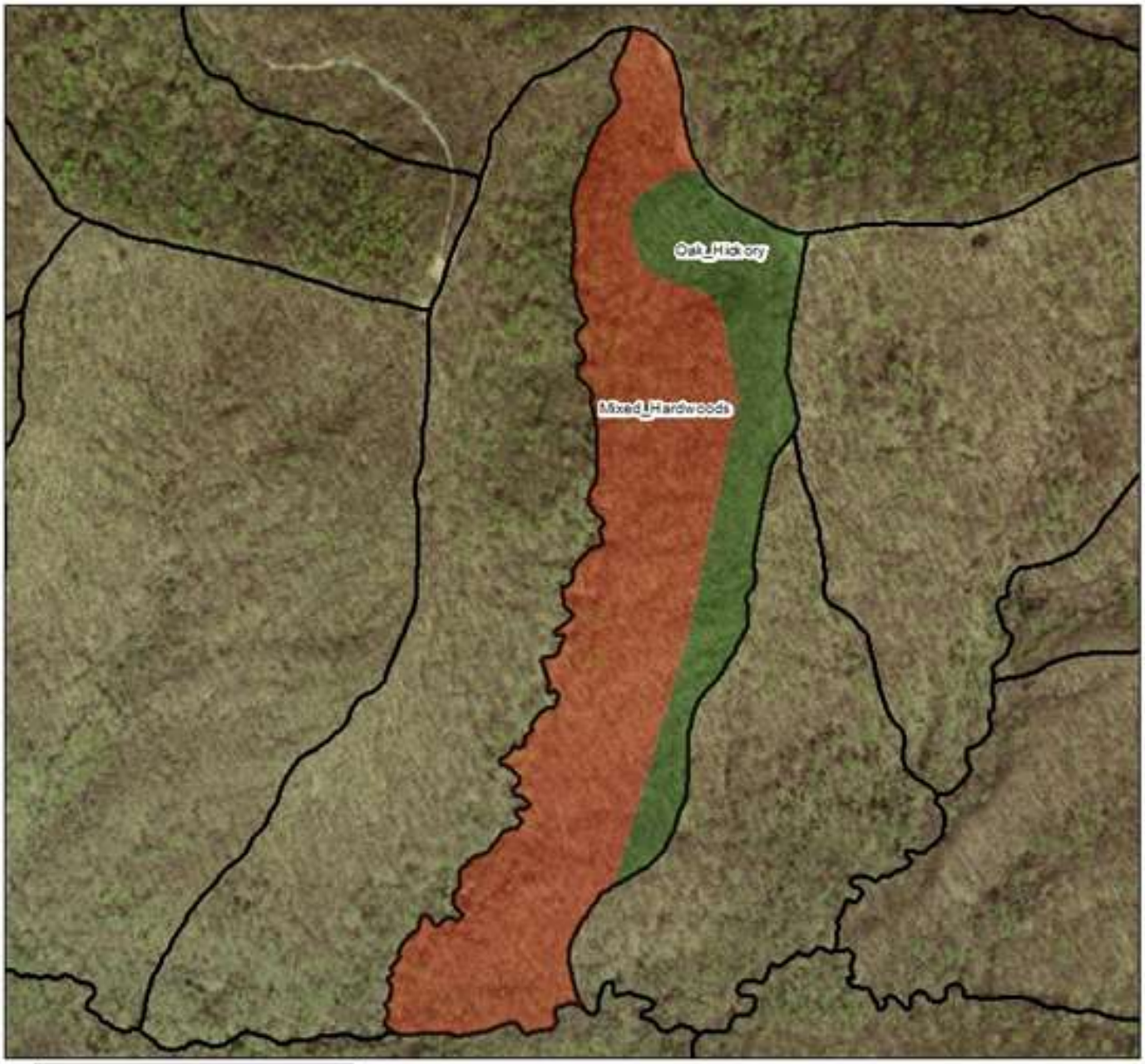
You must indicate the State Forest Name, Compartment Number and Tract Number in the "Subject or file reference" line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered and posted at http://www.in.gov/dnr/forestry/3634.htm. Note: Some graphics may distort due to compression.

Jackson-Washington State Forest
Compartment 05 Tract 08
Soils Map



Jackson-Washington State Forest
Compartment 5 Tract 8
Tract Subdivision



Legend

6350508 Forest Cover Type

Cover_Type

- Mixed_Hardwoods
- Oak_Hickory

0 0.1 0.2 0.4 Miles

N W E S