RESOURCE MANAGEMENT GUIDE

Jackson-Washington State Forest
Forester Michael Spalding

Compartment 3 Tract 13
Date: September 26, 2013
Final Date: September 4, 2014

Management Cycle End Year: 2040
Management Cycle Length: 27 years

Location

This tract is located in Section 25, Township 5 North, Range 4 East, Brownstown Township, Jackson County.

General Description

This 52 acre tract is influenced by a southerly aspect for about half of the tract and a northerly aspect for the other half of the tract. The south-facing aspect is dominated by a chestnut oak overstory, and the north-facing aspect is dominated by mixed hardwoods, primarily yellow-poplar and chestnut oak.

History

The land that makes up tract 13 was acquired through three separate acquisitions. The first was an 80 acre purchase from John and Hannah Brandt on December 16, 1932. This purchase contributed nearly all of the acreage to this tract. The second was a 25 acre purchase from Benton and Albertine Miller on January 3, 1941. The third was a 15 acre purchase from Ralph Michael on April 19, 1999.

The first recorded management of this tract is an inventory and brief management guide from February 1968. The only number recorded that was associated with the inventory is a total estimated harvest volume of 80,000 board feet. The recommendation for the slopes was to harvest the mature trees. The recommendation for the bottom was to regenerate the entire bottom area. The forester noted "Most of the present growing stock appears to be the residual stand of a previous cut and the quality and vigor is poor."

Another inventory and management guide was completed on August 21, 1979. The inventory estimated 4,598 board feet per acre for a total of 275,700 board feet on the 60 acre tract. The harvest volume was estimated to be 1,949 board feet per acre for a total potential harvest of 116,940 board feet. The recommendation was to harvest the mature yellow-poplar and to thin some of the chestnut oak areas.

A timber sale was sold on December 22, 1982. The tract acreage was listed as 62 acres; however, the entire tract was not marked for harvest. The upper south-facing slope on the north end of the tract and the flat ridge top on the south end of the tract were both excluded from the harvest area. The primary objective of the harvest was to salvage dead trees killed by the linden looper epidemic of 1978 to 1980. Also, single trees selection and two regeneration openings were marked throughout the rest of the tract. The sale was purchased by Darrel Wright of English for $6,100.00 ($79.86/MBF)

Landscape Context

This tract lies near the center of the Skyline Drive area of Jackson-Washington State Forest, and is therefore heavily forested. Moving out from this block of forested hills the

landscape becomes dominated by other agricultural uses, primarily corn and soybean production. Brownstown is the most heavily populated area in the landscape and is 2 ½ miles from the tract.

Topography, Geology and Hydrology
The topography in this tract is moderately steep. Only some small areas within the tract may require longer cable or tracked equipment to skid trees. The underlying geology is made up of sandstone, siltstone, and shale bedrock. The entire tract is located in the uppermost end of the Starve Hollow Lake watershed.

Soils
Berks channery silt loam (BeG) (22.7 acres) 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) (4.3 acres) 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) (22.8 acres) 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.

Stonehead silt loam (SsC2) (.1 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.

Tilsit silt loam (TlB2) (2.5 acres) 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. Native vegetation is primarily oak, hickory, red and sugar maples, blackgum, yellow-poplar, dogwood, beech, 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
This tract can be directly accessed from Skyline Drive. From the intersection of US 50 and State Road 250 in Brownstown, travel east 1 ¾ miles on State Road 250. Turn right (south) onto County Road 100 East and travel for ¼ mile to Skyline drive. Turn right (west) on Skyline Drive and travel 1 ¼ miles to the tract.

Boundary
The northern boundary is Skyline Drive. The eastern boundary is a ridge top for the northern 1/3 and a private property boundary for the southern 2/3. This property line is marked with orange Carsonite posts. The southern boundary is a ridge top. The western boundary is an ephemeral drainage for the northern 1/3 and a private property boundary for the southern 2/3. This property line is also marked with orange Carsonite posts.

Wildlife
The Natural Heritage Database review returned two occurrences of timber rattlesnakes and one occurrence of an Indiana bat near this tract. None of these occurrences were located in this tract.
According to The Center for Reptile and Amphibian Conservation and Management, female timber rattlesnakes prefer open canopy and sparsely forested areas while they are pregnant *. By creating regeneration openings and utilizing single-tree selection, we can create these canopy gaps preferred by the very important pregnant female snakes.
According to *Indiana State Forests: Environmental Assessment 2008 – 2027*,written by the Indiana DNR Division of Forestry, Indiana bats often roost in trees along forest edges, in canopy gaps, and openings where they receive abundant solar exposure; and they typically forage along forest edges, within semi-open to closed-canopy forest, or in open habitats. Foraging habitats for this species include grazed woodlots, riparian corridors, open forest, forest openings and canopy gaps, closed-canopy forest, field-forest edges, old fields, ponds, and recently logged areas. These types of habitats will be created by a proposed timber harvest in this tract.

*"Timber Rattlesnake: Identification, Status, Ecology, and Conservation in the Midwest." The Center for Reptile and Amphibian Conservation and Management. http://herpcenter.ipfw.edu/outreach/accounts/reptiles/snakes/Timber_Rattlesnake/TimberRattlerFactSheet.pdf December 2003.

The number of snags estimated by the inventory for the 5"+ and the 9"+ size classes far exceed both the maintenance level and the optimal level. The 19"+ size class is only slightly deficient. Post-harvest timber stand improvement will create additional snags in this size class. Recent droughts are causing significant mortality in areas as well and will likely contribute new snags not tallied during the inventory.

Indiana Bat Habitat Snag Guidelines					
				Available	**Available**
Snag	**Maintenance**	**Optimal**	**Inventory**	**Above**	**Above**
Size Class	**Level**	**Level**	**Estimate**	**Maintenance**	**Optimal**
5"+ DBH	208	364	591	383	227
9"+ DBH	156	312	489	333	177
19"+ DBH	26	52	21	-5	-31

Communities

The south facing slopes in this tract are dominated by chestnut oak, with lesser amounts of scarlet and white oaks as well as pignut hickory. The understory of this area has a stand of extremely dense beech saplings with greenbrier below. The north facing slopes are dominated by mixed hardwoods, and much of the area has a very dense stand of pawpaw in the understory. The Natural Heritage Database search identified five siltstone glades near this tract. No glades were observed within this tract during the inventory.

Forest Condition

The inventory estimated a total of 476,390 board feet of timber on this tract. Of the estimated 9,161 board feet per acre, 2,497 is considered harvest stock and 6,665 is considered growing stock. The total potential harvest is estimated to be 129,820. This harvest would reduce the basal area from 115.8 square feet per acre to 84.2 square feet per acre. The stocking level would drop from 92% to 67%, which is still well above the b-line.

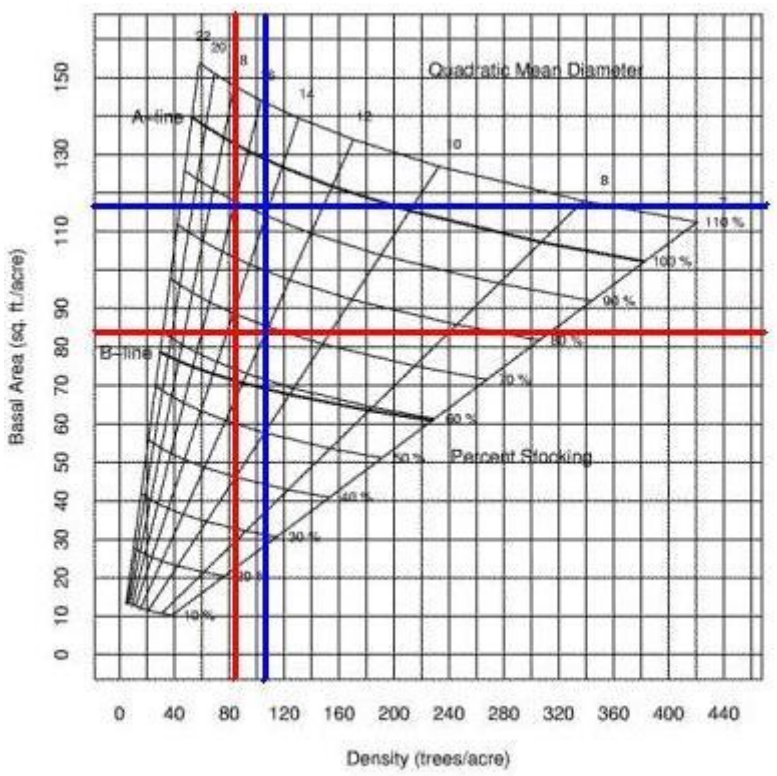
TM 901 RESOURCE MANAGEMENT GUIDE			
INVENTORY SUMMARY			
		Compartment:	3
State Forest:	Jackson-Washington	Tract:	13
Forester:	Michael Spalding	Inventory Date:	January 29, 2013

ACREAGE IN:	
Forest	52
Non-Forest	0
TOTAL AREA	52

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

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
chestnut oak	45,050	155,990	201,040
yellow-poplar	46,010	32,080	78,090
northern red oak	1,470	41,230	42,700
white oak	0	37,740	37,740
black oak	8,070	18,840	26,910
shagbark hickory	0	25,790	25,790
pignut hickory	3,380	16,630	20,010
white ash	14,450	3,460	17,910
sugar maple	5,090	7,490	12,580
scarlet oak	2,510	3,290	5,800
American sycamore	0	4,030	4,030
red maple	2,140	0	2,140
American beech	1,650	0	1,650
TRACT TOTALS	129,820	346,570	476,390
PER ACRE TOTALS	2,497	6,665	9,161

Stocking Guide
Compartment 3 Tract 13



Estimated Pre-Harvest Data in Blue
Total Basal Area per Acre = 115.8 square feet per acre
Total Number Trees per Acre = 103
Average Tree Diameter = 14 inches DBH
Percent Stocking = 92%

Projected Post-Harvest Data in Red
Total Basal Area per Acre = 84.2 square feet per acre
Total Number Trees per Acre = 82
Average Tree Diameter = 13.7 inches DBH
Percent Stocking = 67%

Recreation
The primary recreational use within this tract is hunting. Skyline Drive, which follows the northern boundary of this tract, is a very popular route for fall foliage viewing. During harvest of the timber, spotters will be necessary along Skyline Drive to avoid any potential hazards to pedestrians or motorists.

Cultural
No cultural sites were discovered during the inventory of this tract. If any are found during the marking or harvest of timber, the area will be avoided and the archaeologist notified.

Tract Subdivision Description and Prescription

Oak-Hickory (40.6 acres)
This subdivision is dominated by primarily chestnut oak. The oak-hickory area on the north-facing slope features medium to large sawtimber chestnut, white, red, and black oaks. The timber is good to excellent quality and should receive a thinning harvest to maintain the health and vigor of the residual trees. Where possible, mixed hardwoods should be marked to release oak and hickory trees. The oak-hickory area on the south-facing slope transitions from very poor form and poor quality chestnut oak mixed with scarlet, black, and white oaks near the top of the slope to good quality white and chestnut oaks near the bottom of the slope. Some pignut hickories are scattered throughout as well. The understory in this area has a very dense layer of American beech with a greenbrier layer below that. The lower portion of the slope is in need of a thinning harvest to release the higher quality and healthier oak and hickory trees. The upper slope is in need of a thinning. The forester marking the timber harvest can make a thorough assessment of whether to thin through harvesting or timber stand improvement. This assessment can best be made while laying out access to the lower portion of this south-facing slope. Once thinned, this area will be a fully stocked stand of healthy oak and hickory trees.

Mixed Hardwoods (11.7 acres)
As the name indicates, this area is dominated by mixed hardwoods; however, there are pockets of oak-hickory that are not large enough to delineate separately. Yellow-poplar and chestnut oak are the two most prevalent trees in this subdivision. The timber in this area is generally good to excellent, with a few lower quality stems present as well. The overstory trees range from pole to large sawtimber, with most being medium to large sawtimber. The understory is heavily dominated by pawpaw. Much of this subdivision is in need of single-tree selection to release the more vigorous, better quality trees. Also, when possible, mixed hardwood trees should be marked to release oak or hickory trees. Most of the ash trees should be marked in advance of emerald ash borer reaching this block of forest. Many of the yellow-poplar trees are declining in health and vigor in this subdivision as well. A few areas throughout the subdivision are in need of small to moderate-sized regeneration openings between ½ and 5 acres in size, with most of the openings being in the one to three acre range. These areas contain mature, overmature, dying, and dead yellow-poplar, ash, and other damaged, mature, overmature, and defective trees of other species. One are in need of an opening is on the ridge top at the sound end of the tract. This area was an old field or orchard at one time. There is a large amount of wind damage in this area as well as many mature and defective trees. The prescribed regeneration openings in this subdivision will likely be dominated in the future by mixed hardwoods including yellow-poplar and cherry.

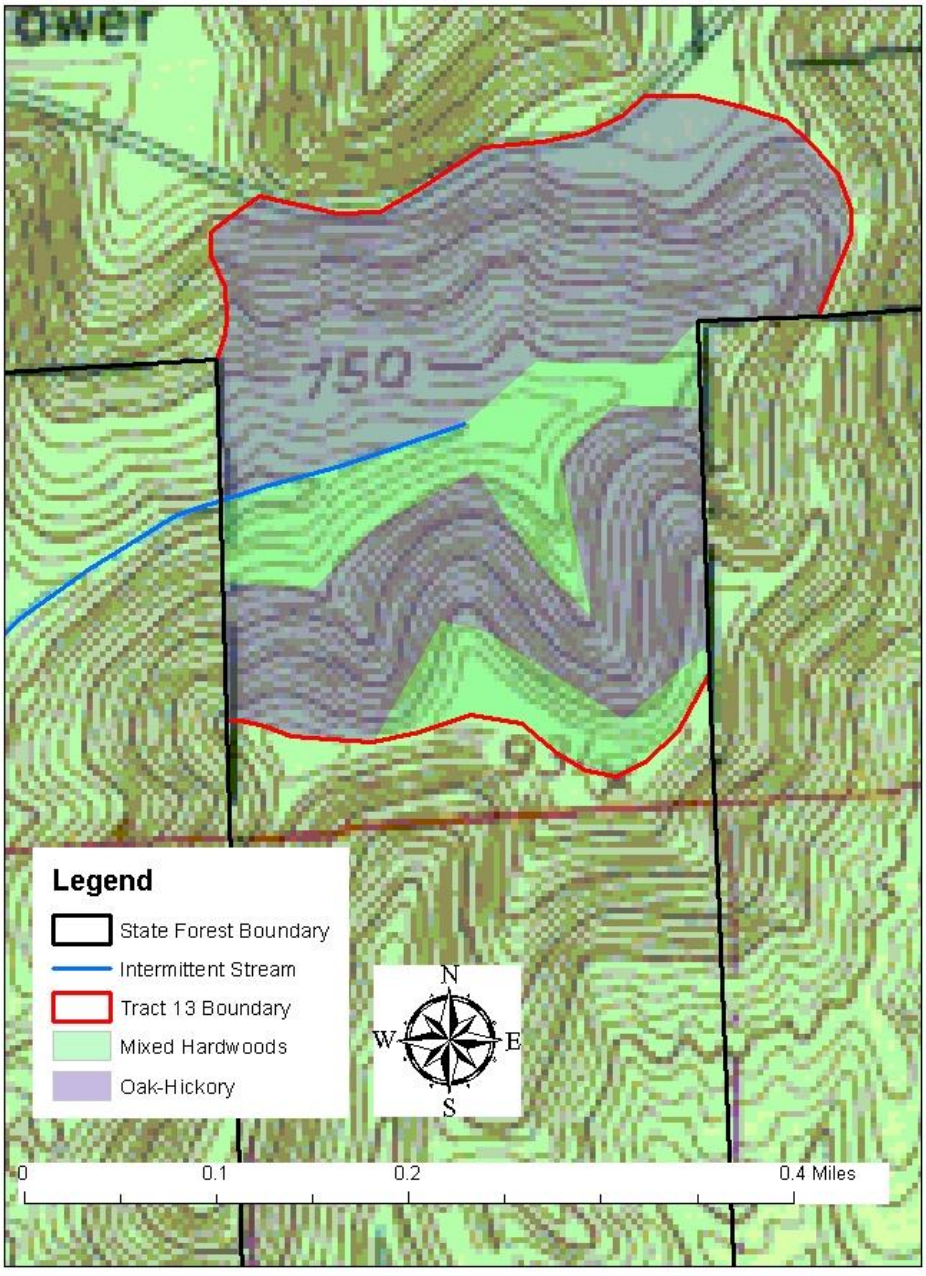
Tract Prescription and Proposed Activities
This tract should be marked for a timber harvest in the next three to five years. This harvest should focus on releasing the healthier and higher quality oak and hickory trees through a thinning harvest as well as incorporating regeneration openings to harvest high-

risk, damaged, defective, mature, over-mature, and drought-stressed trees. Within two years following the harvest, post-harvest timber stand improvement should be performed to release trees not sufficiently released through the harvest, deaden any culls not harvested by the logger, and to complete any regeneration openings. Additional large snags will likely be created through post-harvest timber stand improvement. Best management practices will be implemented on this harvest as required on all State Forest timber sales to minimize the impacts of sediment reaching streams and to protect the soil. Twenty years after completion of the harvest, another inventory should be performed and a management guide written.

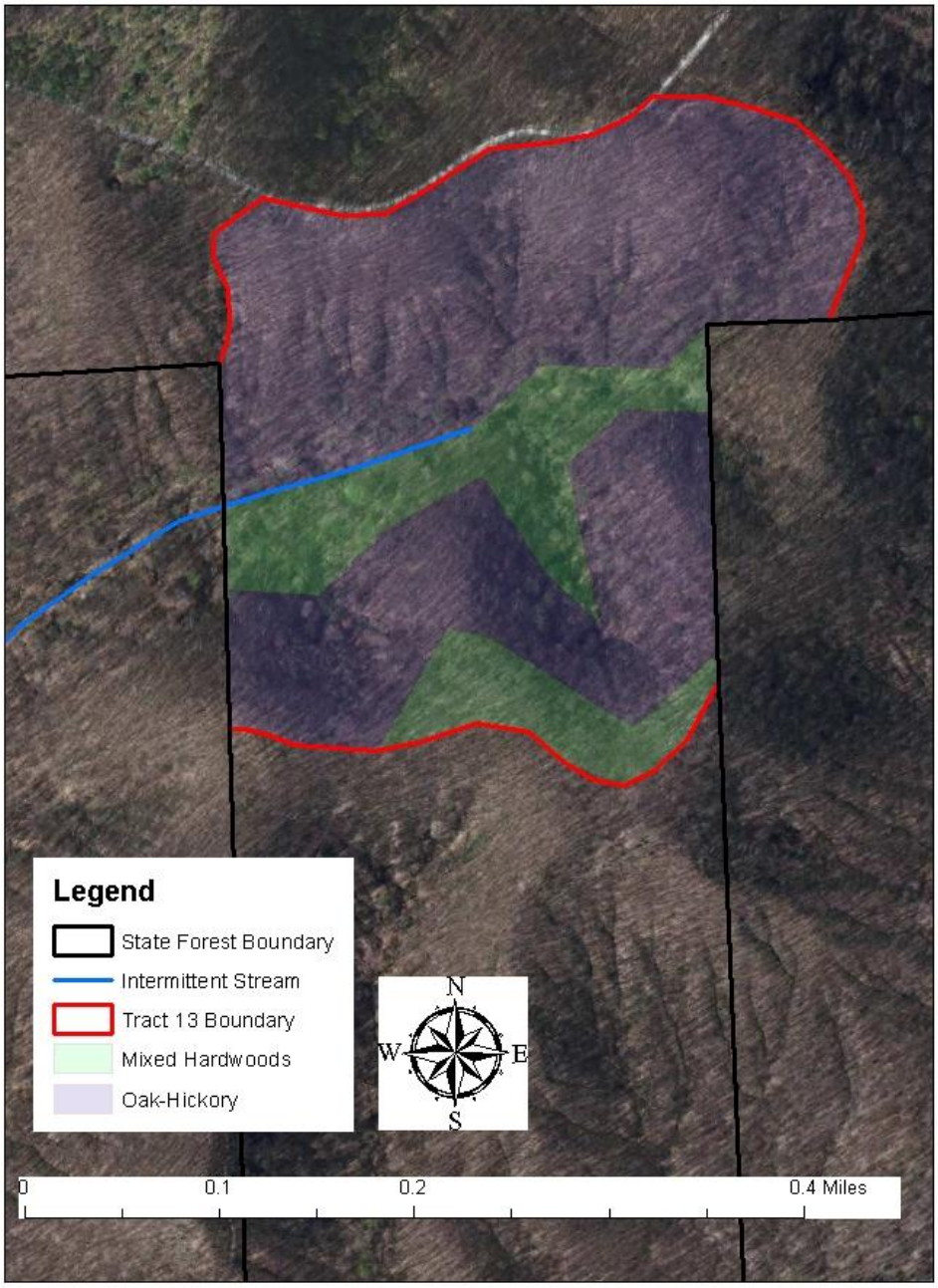
Proposed Activities Listing

Mark and sell harvest	2015-2018
Post-harvest timber stand improvement	2016-2018
Review any openings greater than one acre for regeneration	2018-2020
Inventory and management guide	2037-2040

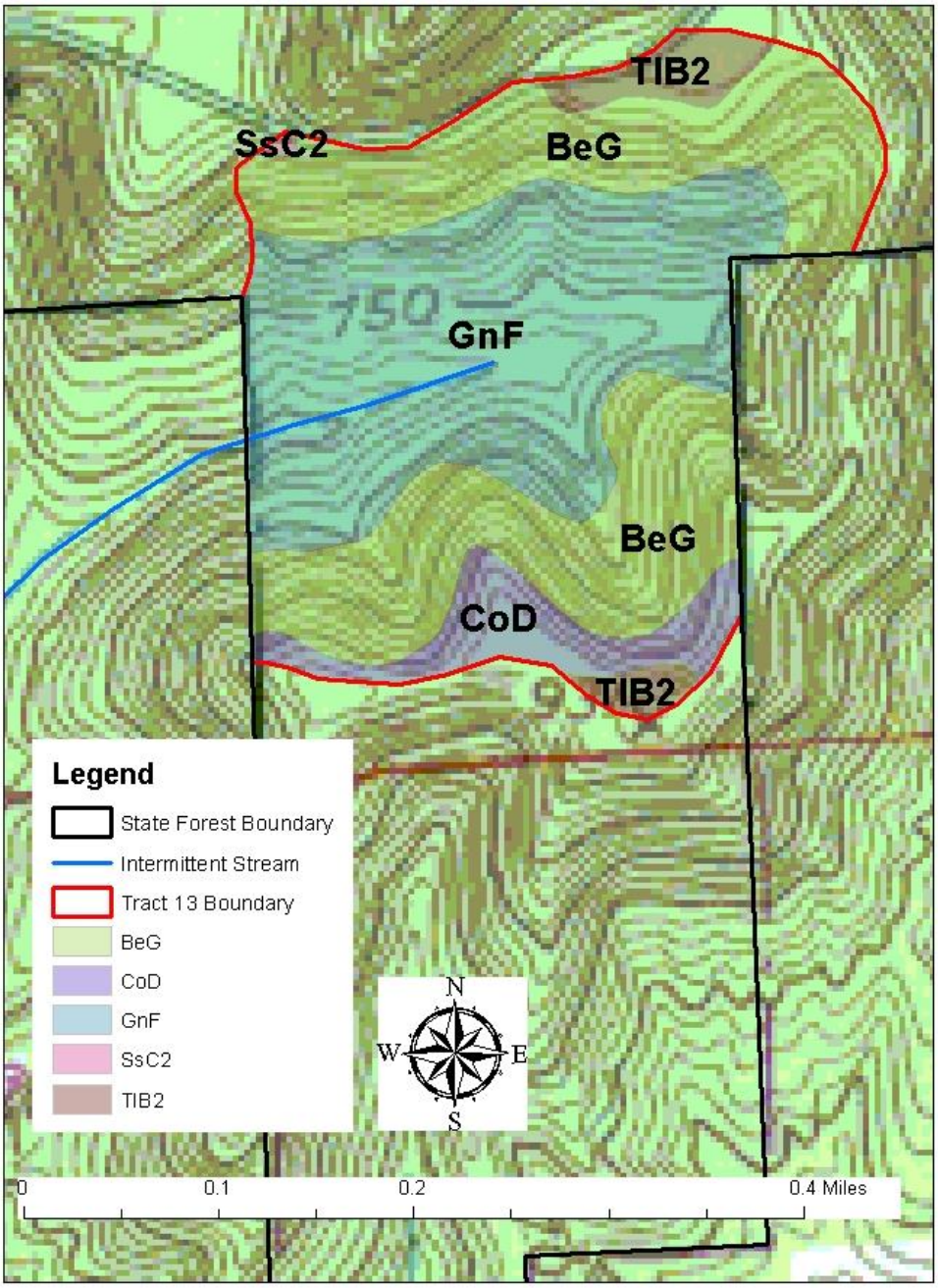
Tract Subdivisions
Compartment 3 Tract 13
Jackson-Washington State Forest



Tract Subdivisions
Compartment 3 Tract 13
Jackson-Washington State Forest



Soils Map
Compartment 3 Tract 13
Jackson-Washington State Forest



Public Comment: This plan was posted on the IDNR website on December 17, 2013. A comment was received within 30 days and a response was issued by the DoF. No changes to the guide are necessary. The plan may be implemented as written.

Indiana Department of Natural Resources
Division of Forestry
Resource Management Guide

State Forest: Jackson-Washington
Forester: Quentin Beahrs
Management Cycle End Year: 2043

Compartment: 3 Tract: 14
Date: May 29, 2018
Management Cycle Length: 25

Location

The tract is located in Jackson County, Indiana, more specifically Township 5 North Range 4 East, Section 36 of Brownstown Township. This area is located approximately 3.5 miles south of Brownstown off Skyline Drive.

General Description

The tract is approximately 73 acres and the general cover type is Oak-Hickory with pockets of mixed hardwoods.

History

In 1932, an 80 acre parcel was purchased from John and Hannah Brandt. Approximately 13 acres of this tract came from this purchase area.

In 1970, the remaining 60 acres of this tract was purchased from William and Ida Stahl.

In 1994, the tract was inventoried. The inventory indicated an estimated harvest volume of 1,016 Bd.Ft. per acre with a total estimated volume of 4,092 Bd.Ft. per acre.

In 2007, the tract was inventoried again. The inventory indicated an estimated harvest volume of 1,714 Bd.Ft. per acre with a total estimated volume of 5,709 Bd.Ft. per acre.

Landscape Context

The land north and southwest of the tract is Jackson-Washington State Forest. However the land adjacent to the tract to the south, west, and east is private property. Much of this land is forested but there are also agricultural fields, open grass areas, ponds, and single family residences within one mile.

Topography, Geology and Hydrology

This tract consists of one major ridge running east and west across the northern boundary of the tract. The parent material of the tract consists of sandstone, siltstone, and shale.

Soils

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 (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.

Kurtz silt loam (KtF) This series consists of deep, well drained soils on hills. They formed in residuum weathered from interbedded soft siltstone and shale bedrock. Slopes can range from 20 to 55 percent. Native vegetation consists of mixed hardwood with oaks, hickory, beech and yellow-poplar. This soil is well suited to trees. The site index for this soil type is 60 for 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.

Rarden silty clay loam (RdD3) This moderately well drained soil has a seasonal high water table 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 silty clay loam and has moderately low organic matter content (0.5 to 2.0 percent). Permeability is slow (0.06 to 0.20 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 6.5. Bedrock is at a depth of 20 to 40 inches. This soil type has a black oak site index of 71. Tree species to manage for include bitternut hickory, northern red oak, American beech, sugar maple, and white oak.

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.

Wellston silt loam (WeD2) This well drained soil has a water table at a depth greater than 40 inches and is on flood plains. Slopes are 12 to 18 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 2.0) in the most restrictive layer above bedrock. Available water capacity is moderate (7.3 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 72 inches.

Access

Access to this tract will be off Skyline Drive and fire trail 214. From Skyline Drive turn southeast onto fire trail 214 and follow it for approximately a third of a mile to the north east tract corner. This fire trail crosses private property for a short section before returning to state property. This will require permission from the private landowner if used for management activities. Public access to this tract will be to travel due south from the trail head of fire trail 214 following the property line down slope then back up slope to the northeast tract corner.

Boundary

The tract boundaries are defined by a ridge top to the north, and property line to the west, south, and east. See attached map.

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 pockets 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.

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 but the 19"+ diameter classes, which is at 88% of the target. The prescribed management will maintain or enhance the relative abundance of these features, including the larger diameter class.

Snags (All Species)	Maintenance Level	Inventory	Available Above Maintenance
5"+ DBH	292	678	386
9"+ DBH	219	608	389
19"+ DBH	36.5	32	-5

A Natural Heritage Database review was completed for this tract. If Rare, Threatened or Endangered species (RTE's) were identified or encountered 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
The tract is primarily an oak-hickory forest. Grapevine, multiflora rose, and ailanthus were observed throughout the tract. These species are common and prevalent throughout the county. Priority control should be given to ailanthus and bush honeysuckle. These would be treated as soon as practical, with individuals and smaller areas being targeted as needed. A broader and/or situational approach should be taken with the other species noted above. Control measures for these species could be warranted for larger scale road & trailside treatment projects, planned regeneration openings, pre or post-harvest TSI projects, etc.

Forest Condition

INVENTORY SUMMARY	
	3
State Forest:	14
Forester:	5/29/2018

ACREAGE IN:	
Forest	73
Non-Forest	
Water	
Permanent Openings	
Other Uses	
TOTAL AREA	73

SPECIES	TOTAL VOLUME
Chestnut Oak	268,050.00
White Oak	58,320.00
Sugar Maple	35,700.00
Black Oak	31,120.00
Pignut Hickory	30,480.00
Northern Red Oak	16,540.00
Shagbark Hickory	7,440.00
American Beech	5,960.00
White Ash	5,720.00
Yellow Poplar	3,310.00
Scarlet Oak	2,140.00
American Sycamore	1,880.00
Blackgum	1,400.00
Bitternut Hickory	600.00
TRACT TOTALS	468,670.00
PER ACRE TOTALS	6,420.00

The 2018 inventory estimated a total volume of 6,420 bd. ft. per acre. Total basal area was estimated at 108.4 sq. ft. with 146 trees per acre. These values indicate current stocking for the tract is 89%. The preliminary harvest tally proposed the removal of 1,340 bd. ft. per acre bringing the basal area to 89 sq. ft. per acre and 244 trees per acre. The leave tally projects post-harvest stocking at about 75%, excluding culls. Actual harvest volume is projected at 1,200-2,000 bd. ft./acre.

Recreation
The major recreational use of this tract is hunting. There are no hiking or horse riding trails in this tract. During any management activity, specifically a timber harvest, access into this tract will be restricted due to safety concerns. Following the management activity the tract will be re-opened to the public.

Cultural
No known archaeological sites have been reported within this tract. If any cultural sites are found, adverse impacts will be avoided during management or construction activities.

Tract Subdivision Description and Prescription
Oak-Hickory (51 acres)
The oak-hickory subdivision makes up the largest portion of the tract. The dominant overstory species in this subdivision is chestnut oak. The inventory estimates 3,672 bd.ft. of chestnut oak sawtimber/acre. The remainder of the overstory is comprised of white oak, black oak, northern red oak, scarlet oak, pignut hickory, and shagbark hickory. The main understory species in this subdivision are white oak, chestnut oak, northern red oak, pignut hickory, sugar maple, white ash, and American beech. The prescribed management activity is to conduct an improvement harvest that would remove poorly formed and declining trees, which would release more resources to the healthier, more vigorous trees with good form. The top species for removal in this subdivision are chestnut oak and black oak. This harvest would still result in chestnut oak being the dominant overstory species, followed by white oak and black oak. The improvement harvest will utilize single tree selection to release the residual stand. The harvest should be preceded by invasive species treatment targeting ailanthus. Grapevine should also be treated in areas of the tract close to planned regeneration openings. Timber stand improvement (TSI) should follow the harvest to further release the residual crop trees and control problem occurrences of invasive species. This work will also provide habitat benefits through the creation of snag trees of various diameters.

Mixed hardwood (22 acres)
The mixed hardwood subdivision makes up a small portion of the tract. The dominant overstory species in this subdivision is sugar maple. The inventory estimates 489 bd.ft. of sugar maple sawtimber/acre. The remainder of the overstory is comprised of white oak, chestnut oak, northern red oak, American sycamore, yellow poplar, white ash, shagbark hickory, pignut hickory, persimmon, black cherry, sassafras, and American beech. The main understory species in this subdivision are chestnut oak, sugar maple, white ash, and American beech. The prescribed management activity is to conduct an improvement harvest that would remove poorly formed and declining trees, which would release more resources to the healthier, more vigorous trees with good form. The top species for removal in this subdivision are white ash and Blackgum. This harvest would still result in sugar maple being the dominant overstory species, followed by white oak and black oak. The improvement harvest will utilize single tree selection to release the residual stand. The harvest should be preceded by invasive species treatment targeting ailanthus. Grapevine should also be treated in areas of the tract close to planned regeneration openings. Timber stand improvement (TSI) should follow the harvest to further release

the residual crop trees, create wildlife snag trees and control problem occurrences of invasive species.

Tract Prescription and Proposed Activities

The proposed management activity is to conduct an improvement harvest to promote the overall health, resiliency and quality of the stand. This improvement harvest is recommended to occur within the next 10 years utilizing single tree selection and group tree selection. The purpose of the harvest is to remove mixed hardwoods that release oak or hickory, drought stressed or wind damaged trees, declining ash from Emerald ash borer, mature and over-mature trees and other intermediate trees needed to release residual crop trees. Within two years of the timber harvest, a TSI operation should follow to release crop trees that were not adequately released during the harvest. Additionally, TSI should be utilized to control targeted invasive species in the stand, and deaden a small percentage of low value trees to create snags for wildlife, such as the Indiana bat. During and after completion of the proposed management activity BMP's will be implemented in order to minimize soil erosion. This tract should receive another inventory and management guide 20 years following the completion of the timber harvest. The proposed management activity should have little to no adverse impact on wildlife communities, including the Indiana bat, within or near the tract.

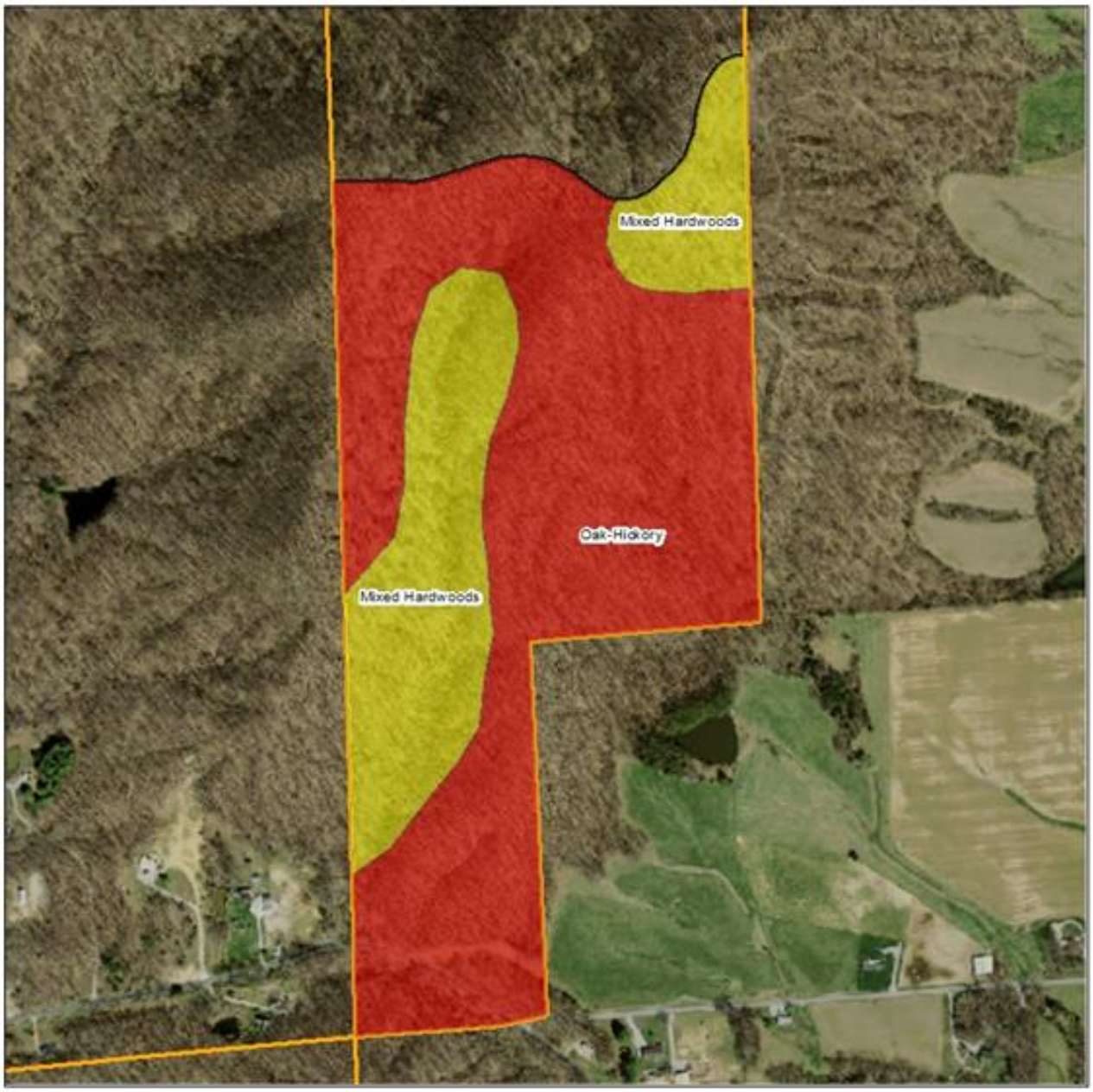
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Pre-Timber Stand Improvement	2019-2020
Mark and Sell Timber Sale	2020-2021
Post-harvest Timber Stand Improvement	2021-2023
Forest Growth and Periodic Monitoring	2023-2043
Inventory and Management Guide	2043

To submit a comment on this document, go to: www.in.gov/dnr/foresty/8122.htm

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 3 Tract 14
Forest Cover Type Map



Legend

Forest Cover Type

Property Boundary

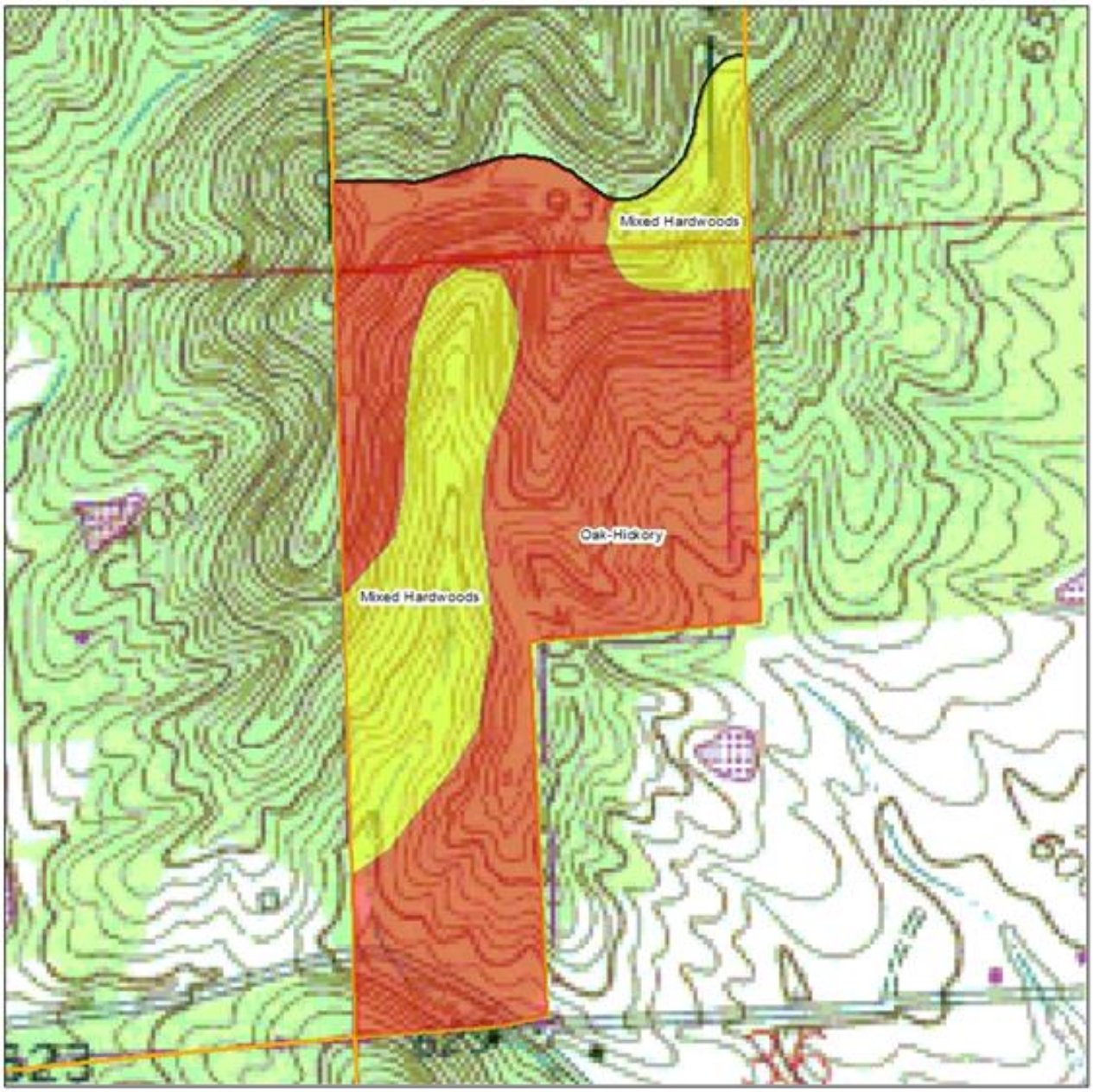
Mixed Hardwoods

Oak-Hickory

0 0.1 0.2 Miles

N

Jackson-Washington State Forest
Compartment 3 Tract 14
Forest Cover Type Map



Legend

Forest Cover Type

Mixed Hardwoods

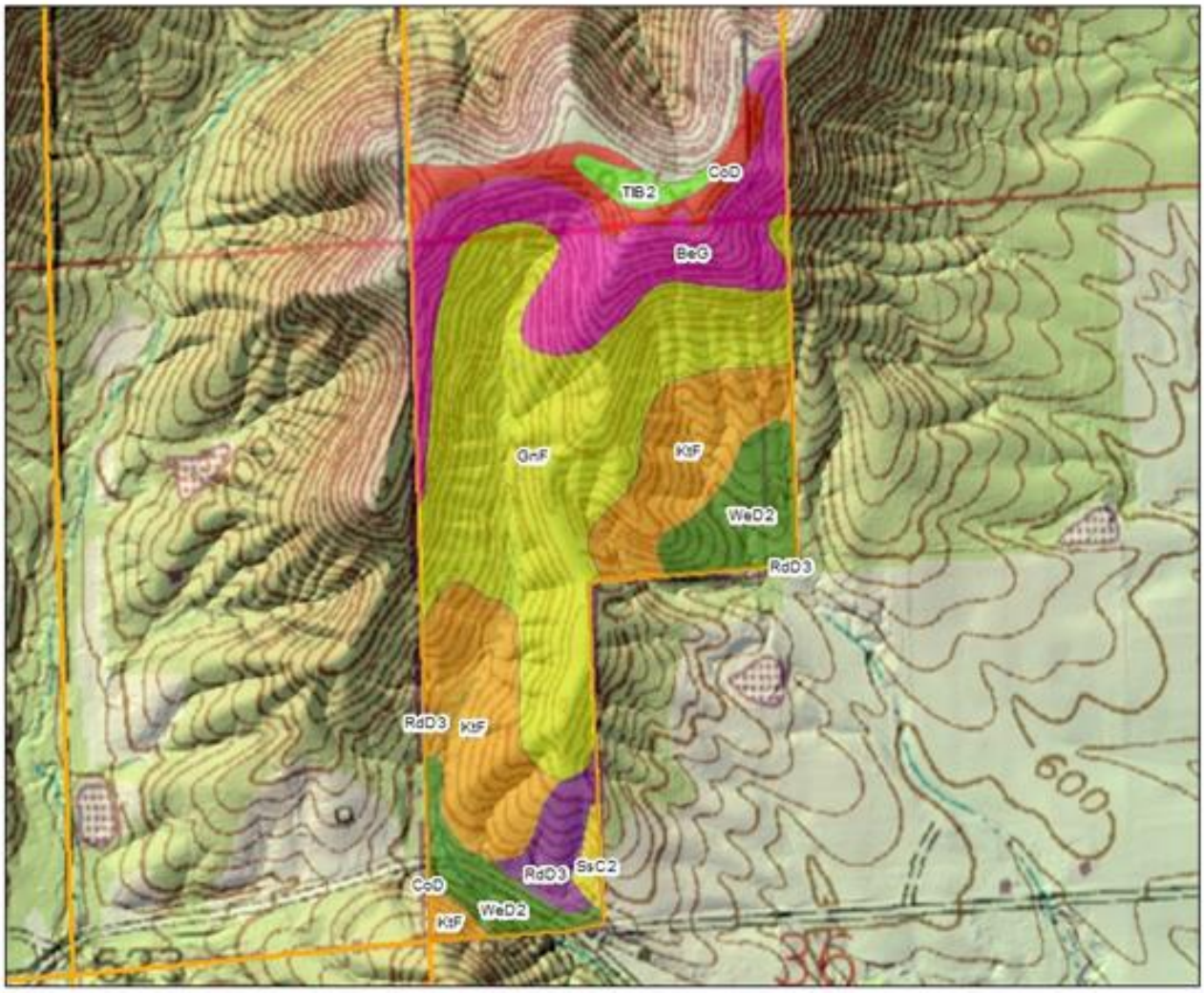
Oak-Hickory

Property Boundary

0 0.1 0.2 Miles

N

Jackson-Washington State Forest
Compartment 3 Tract 14
Soils Map



Legend

Soils

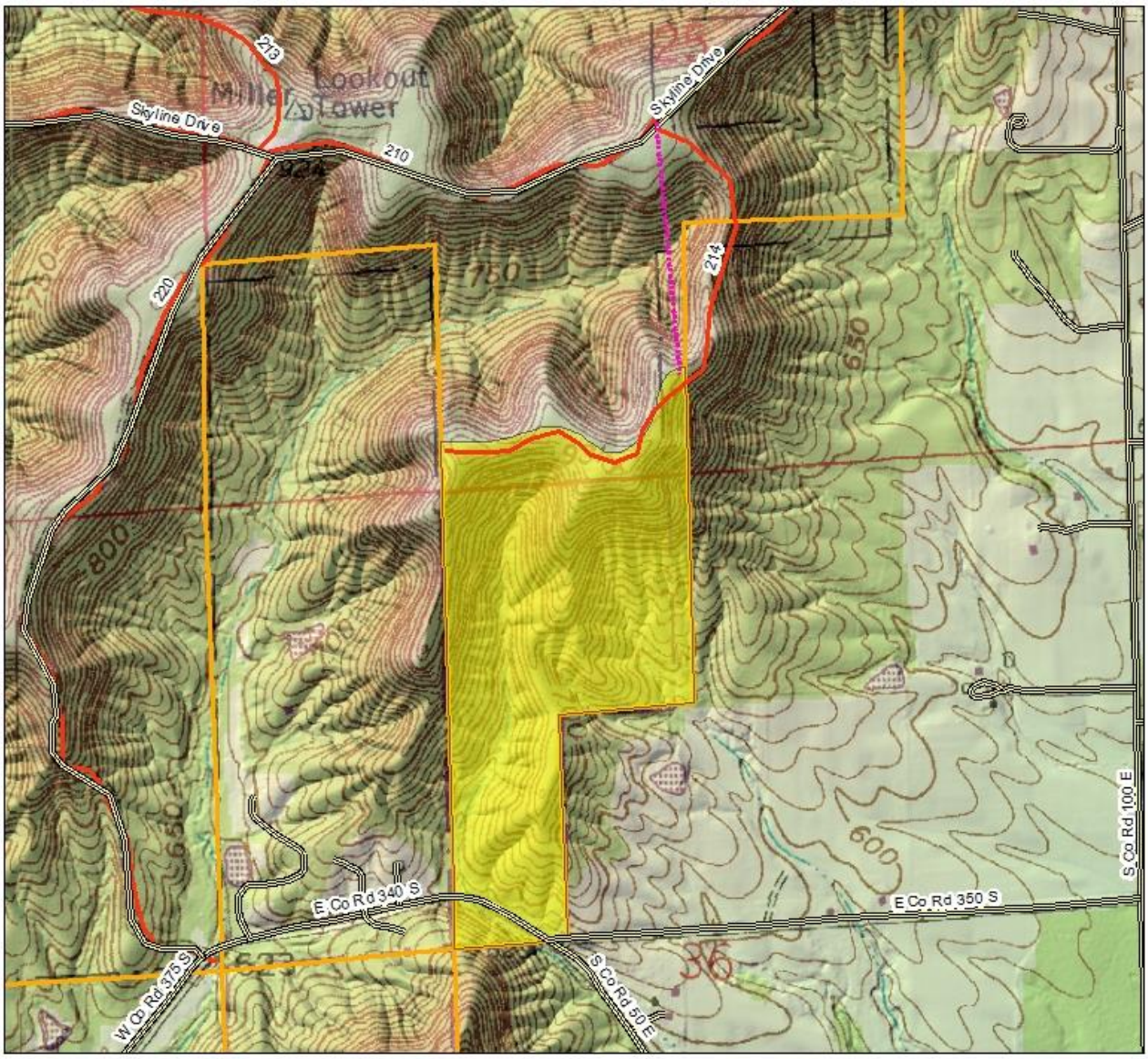
- BeG
- CoD
- GnF
- KtF
- RdD3
- SsC2
- TlB2
- WeD2

Property Boundary

0 0.175 0.35 Miles

N

Jackson-Washington State Forest
Compartment 3 Tract 14
Tract Access Map



Legend

- Roads
- Firetrail Access
- Public Access
- Property Boundary
- Tract Boundary

0 0.2 0.4 Miles

N