

**Resource Management Guides
Pike State Forest
30-day Public Comment Period (December 27, 2023 – January 25, 2024)**

The Indiana State Forest system consists of approximately 160,251 acres of primarily forested land distributed across the state. These lands are managed under the principle that we're stewards of this land for the future. This work is guided through legislation and comprehensive scientific national and international forest certification standards which are independently audited to help insure long-term forest health, resiliency, and sustainability.

Resource management guides (RMGs) are developed to provide long-term, scientific forest management planning tailored to each forest compartment (300-1,000 acres in size) and tract (10 - 300 acres in size). There are 1,590 tracts across the state forest system statewide. Annually, 50-100 tracts are reviewed, and these guides are developed based on current assessments. Through science-based management practices, we prescribe management actions on select tracts every 15-25 year, diversifying the forested landscape and sustaining ecosystems.

The RMGs listed below and contained in this document are part of the properties annually scheduled forest inventories under review for Pike State Forest.

Compartment 12 Tract 5
Compartment 12 Tract 6

To submit a comment on this document, go to:

<https://www.in.gov/dnr/forestry/state-forest-management/public-comment/submit/>

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 review posted at:

<https://www.in.gov/dnr/forestry/state-forest-management/public-comment/>

Note: Some graphics may distort due to compression.

Pike State Forest
Forester: Jamie Winner
Management Cycle End Year 2043

Compartment: 12 Tract: 05
Date: 10/10/2023 Acres: 166
Management Cycle Length 20 years

Location

This tract, also known as 6311205, lies within Marion Township in Pike County approximately 4 miles southeast of Winslow, Indiana. More specifically, the tract is located within Sections 14, Township 3 South, and Range 3 West.

General Description

The tract contains ridges and moderate slopes generally running north and south. There are several small ephemeral streams that have been created due to past land practices. Most of the tract consists of a mixed-hardwood cover type. The southern most portion of the tract is a mine reclamation area with a generally open condition. Scattered pockets of pine plantings can still be found although most have extensive past windthrow damage.

History

- Several land acquisitions over a 60-year period account for the acreage of this tract. The first acquisition was from the Board of Commissioners of Pike County in 1935.
- In 1951 the second parcel was purchased from Herbert Cook.
- In 2003 the additional parcels to complete the now 166-acre tract were purchased from the Ellis Estate.

Landscape Context

The landscape north, east, and west of the tract is all forested with varying degrees of topography. The only non-forested landscape is to the south which is a previously reclaimed coal mine area.

Topography, Geology and Hydrology

Compartment 12 Tract 5 has varied topography with ridgetops, bottomland areas and slopes that can range from zero degrees up to 30 degrees. The tract consists of a primary ridge trending southeast to an easterly direction with finger ridges running north to south. Most of Pike State Forest does not have exposed bedrock except in areas that were previously mined.

Soils

There seven soil types across the tract, including Belknap silt loam (Bg), Fairpoint-Bethesda complex (FbC), Gilpin silt loam (GnE), Wellston silt loam (WeE), Zanesville silt loam (ZaB), Zanesville silt loam (ZaC3), Zanesville silt loam (ZaD3)

Belknap silt loam, frequently flooded (Bg)

This is a deep, somewhat poorly drained soil located on broad flood plains. It is flooded for long periods during winter and spring. Available water capacity is very high. Permeability is

moderate, and surface runoff is slow. Most areas of this soil type are used for cultivated crops but are also well suited to trees. Capability class is IIw and woodland ordination symbol is 6A. All woodland management concerns for this class are “slight” and the site index is 75.

Fairpoint-Bethesda complex, 8-15% slopes (FbC)

These are moderately to strongly sloping, deep, well drained soils. They occur as mine spoil in surface mined areas on uplands that have been shaped and smoothed. Available water capacity is low, permeability is moderately slow, and surface runoff is medium or rapid. These soils are suitable for grasses and legumes. The soils are also suited to trees as long as suitable tree species are selected for the growing conditions. The soils have a capability class of VI_s but do not have a woodland ordination symbol. No site index is available.

Gilpin silt loam, 15-30% slopes (GnE)

This is a strongly sloping, moderately deep, well-drained soil located on side slopes on uplands. Available water capacity is high, permeability is moderate, and surface runoff is rapid. The soil is fairly well suited to trees with primary management concerns being hazard of erosion, equipment limitation, and plant competition. The soil has a capability class of VI_e and the woodland ordination symbol is 4R. Management concerns are moderate for erosion and equipment limitation, and slight for seedling mortality and windthrow hazard. Site index is 80.

Wellston silt loam, 15-30% slopes (WeE)

This is a strongly sloping to steep, deep, well-drained soil located on side slopes in uplands. Available water capacity is high, permeability is moderate, and surface runoff is rapid. The soil is fairly well suited to trees with primary management concerns being hazard of erosion, equipment limitation, and plant competition. The soil has a capability class of VI_e and the woodland ordination symbol is 4R. Management concerns are moderate for erosion and equipment limitation, and slight for seedling mortality and windthrow hazard. Site index is 71.

Zanesville silt loam, 2-6% slopes (ZaB)

This is a gently sloping, deep, moderately well drained soil located on ridgetops in uplands. Available water capacity is moderate, permeability is moderate above the fragipan and slow in the fragipan, and surface runoff is medium. A fragipan is located at a depth of about 24 to 36 inches. This restricts the downward movement of water and creates a perched water table above the fragipan in winter and early spring. The soil is fairly well suited to trees. It has a capability class of II_e and a woodland ordination symbol of 4A. All woodland management concerns for this class are slight. Site Index is 68.

Zanesville silt loam, 6-12% slopes (ZaC3)

This is a moderately sloping, deep, moderately well drained soil located on side slopes in uplands. Available water capacity is moderate, permeability is moderate above the fragipan and slow in the fragipan, and surface runoff is rapid. A fragipan is located at a depth of about 24 inches. This restricts the downward movement of water and creates a perched water table above the fragipan in winter and early spring. The soil is fairly well suited to trees. It has a capability class of IV_e and a woodland ordination symbol of 3D. Management concerns are moderate for seedling mortality and slight for erosion hazard, equipment limitation, and windthrow hazard. Site Index is 60.

Zanesville silt loam, 12-18% slopes (**ZaD3**)

This is a moderately sloping, deep, moderately well drained soil located on narrow side slopes in uplands. Available water capacity is moderate, permeability is moderate above the fragipan and slow in the fragipan, and surface runoff is rapid. A fragipan is located at a depth of about 24 inches. This restricts the downward movement of water and creates a perched water table above the fragipan in winter and early spring. The soil is fairly well suited to trees. It has a capability class of IVE and a woodland ordination symbol of 3D. Management concerns are moderate for seedling mortality and slight for erosion hazard, equipment limitation, and windthrow hazard. Site Index is 60.

Access

C12T5 has generally good access. The public can access the tract via County Road 650 East. The tract can also be accessed for management purposes using Fire Lane 6 or Fire Lane 10. These fire lanes have a locked gate at the entrance.

Boundary

The tract boundary is almost entirely internal boundaries based upon geographic features such as ridges and valleys, as well as human created divisions such as fire lanes. The northern boundary of the tract follows a county road and a fire lane. The southeast portion of the tract boundary follows an old reclamation access road and a portion of an old railroad grade. The southwest portion of the boundary follows a significant drainage. There is also approximately 3/8-mile boundary shared with private property in the northwest portion of the tract. There are wooden posts and signs on the two corners shared with our boundary. The signs are old and in very poor condition and need replaced.

Ecological Considerations

Wildlife noted included deer, turkey, box turtles, mice, and songbirds. The habitat within the tract should be suited for a wide variety of species. Habitat includes mature closed canopy forest, some planted pine stands, open reclaimed mine ground, and early successional forest created by previous storm salvage of pine within this tract.

The Division of Forestry has developed compartment level guidelines for important wildlife structural habitat features such as snags and legacy trees. Snags are standing dead or nearly dead trees. Snags provide value to a stand in the form of habitat features for foraging activity, den sites, decomposers, bird perching, and bat roosting. Snags eventually contribute to the future pool of downed woody material, which provides habitat for many ground-dwelling species and contributes to healthy soils. Legacy trees are live trees of a certain species and diameter class, that have potential future value to various wildlife species, if retained in the stand. Current assessments indicate the abundance of these habitat features meet or exceed recommended maintenance levels. Invasive species are present in a lower quality area of timber in the northwestern portion of the tract and in the reclaimed mine area in the southeastern portion. Species include multiflora rose, sericea lespedeza, phragmites, and callery pear. Japanese stiltgrass is also present along the fire

lanes in this tract and roadsides adjacent. Some control work has been completed on the callery pear previously.

A formal Ecological Review process, which includes a search of Indiana's Natural Heritage Database, is part of the management planning process. If Rare, Threatened, or Endangered species were found to be associated with this area, the activities prescribed in this guide will be conducted in a manner that will not threaten the population viability of those species or communities.

Recreation

There are no designated recreational trails within this tract. However, the fire lanes are likely used for hiking, bird watching, and hunting. The public can access the tract boundary from County Road 650 East. Fire Lane 10 has been previously used as an access lane for disabled hunters. Fire Lane 6 also allows for easy access into the tract.

Cultural

Cultural resources may be present, but their location(s) is protected. Adverse impacts to significant cultural resources will be avoided during any activities.

Tract Subdivision Description and Silvicultural Prescription

Mixed Hardwood Stratum/cover type

This stratum is the largest stratum found in the tract and covers 71 acres. Inventory data is showing 83 trees per acre, 72.1 basal area per acre, and 5,864 board feet per acre in these areas. This corresponds to a stocking level of about 60%. Forest conditions vary greatly in these areas. Toward the northwest portion of the tract near CR 650 E, the forest is generally of low quality with little sawtimber, and more invasive species. Much of this area included ash timber which is dead from emerald ash borer, and the extra sunlight has allowed for additional herbaceous growth. These areas need invasive species control work. Any prescribed timber harvest would likely exclude these areas. The more interior portions of the tract contain some areas of quality sawtimber with good stocking. Some areas even include scattered advanced oak regeneration that could benefit from release. Poplar is the primary sawtimber species in these areas, but can include some oak, hickory, pine, maple, and beech. During the inventory, most plots in the stratum were prescribed a light to moderate thinning. The understory is composed of the typical beech and maple mix in many areas. Inventory data indicated residual stocking reduction to approximately 40% on the Gingrich Stocking Chart, which is considered understocked and low for a residual stocking level. However, the total and residual stocking levels are being affected by the currently non-merchantable timber areas previously mentioned and likely also from ash mortality. Some areas in the inventory were identified as no harvest due to this, with other areas having a higher stocking level and in need of management.

Mesic Oak-Hickory Stratum/cover type

This stratum covers 43 acres of the tract. This area included the typical mature sawtimber oak-hickory species mix seen elsewhere on the forest. Inventory data indicates 121 trees per acre, 103.9 basal area per acre, and 8,258 board feet per acre in these areas. This corresponds to a

stocking level of about 84%. White oak was the primary sawtimber species in this area, but other common species included black oak, red oak, pignut hickory, bitternut hickory, and shagbark hickory. There were many opportunities for moderate thinning and release observed in these areas. A few areas contain advanced oak regeneration as with the mixed hardwood areas, so these areas should be targeted to release the regeneration. Due to the mature age of the sawtimber, some salvage will need to take place where dieback and decline was noted in the inventory. Due to the lack of widespread advanced oak regeneration, these areas will need treatment to encourage regeneration if oak and hickory are to be retained for the future. Disturbance such as removal of mid-story combined with prescribed fire would be needed to encourage oak and hickory regeneration. The understory is composed of the typical beech and maple mix in many areas. Inventory data indicated residual stocking reduction to about 64% in these areas.

Non-Forested Stratum/cover type

This stratum covers approximately 38 acres of the tract. This area includes all the reclaimed mine ground in the southeastern portion of the tract. The actual ground cover varies but includes herbaceous grasses and plants, seedling to pole sized natural tree regeneration, and open water. The inventory points collected in this stratum showed tree regeneration that is currently too scattered to be reclassified into forestland at this time. Some tree plantings are planned for nearby tracts, and this may be an option in the future for some of the areas currently unforested.

Pine/Conifer Stratum/cover type

This stratum covers about 14 acres of the tract. Inventory data is showing 188 trees per acre, 106.1 basal area per acre, and 7,075 board feet per acre in these areas. Virginia and eastern white pine were the two species noted during the inventory. Some of the pine was previously salvaged in 2012 due to storm damage. The remaining pine has varying amounts of windthrow damage and hardwood succession. Regeneration or patch cut openings could be created in areas of primarily pine to accelerate the conversion from pine to native hardwoods.

The current forest resource inventory was completed on 10/10/23 by Jamie Winner. A summary of the estimated tract inventory results are located in the table below.

Tract Summary Data (trees >11"DBH):

Species	# Sawtimber Trees	Total Bd. Ft.
Yellow poplar	687	230,730
White oak	1,260	229,300
Black oak	539	89,990
Sugar maple	545	46,580
American beech	370	44,770
Northern red oak	93	31,140
American sycamore	111	26,410
Bitternut hickory	288	25,270
Pignut hickory	217	25,180
Eastern white pine	122	24,940
Shagbark hickory	200	18,340
Blackgum	159	17,310
Pin oak	65	16,560
Virginia pine	199	13,420
Black cherry	134	9,670
Red maple	73	6,480
Scarlet oak	78	6,290
Chinkapin oak	39	4,060
White ash	30	3,910
Total:	5,209	870,350

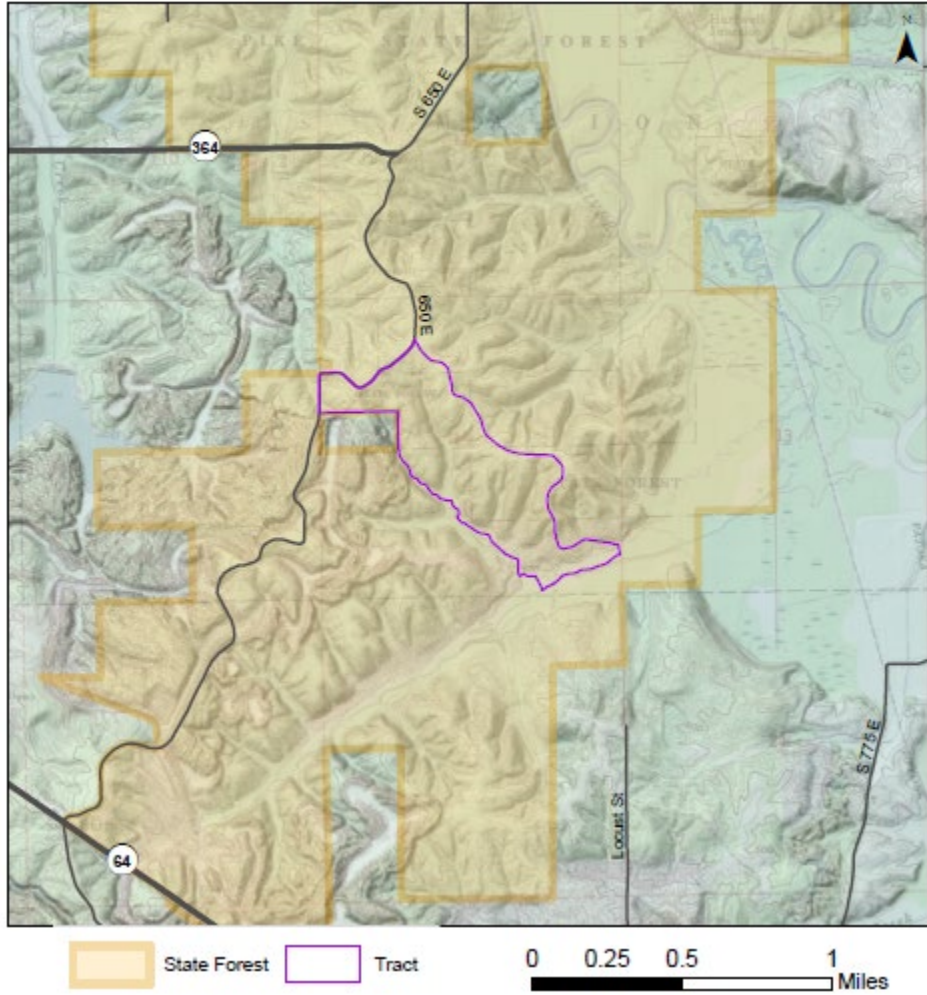
Summary Tract Silvicultural Prescription and Proposed Activities

A timber harvest is prescribed for this tract, to include portions of the mixed hardwood, oak-hickory, and pine stratum/cover types. Estimated harvest volume would be approximately 400MBF according to inventory data. Details of management are described in the tract subdivision descriptions above. This harvest should be combined with C12T6 (6311206) and C12T7 (6311207) if practicable due to the adjacent location and common fire lane for access. The fire lane is in good shape but could use some vegetation clearing and additional gravel to improve sections for all-weather access.

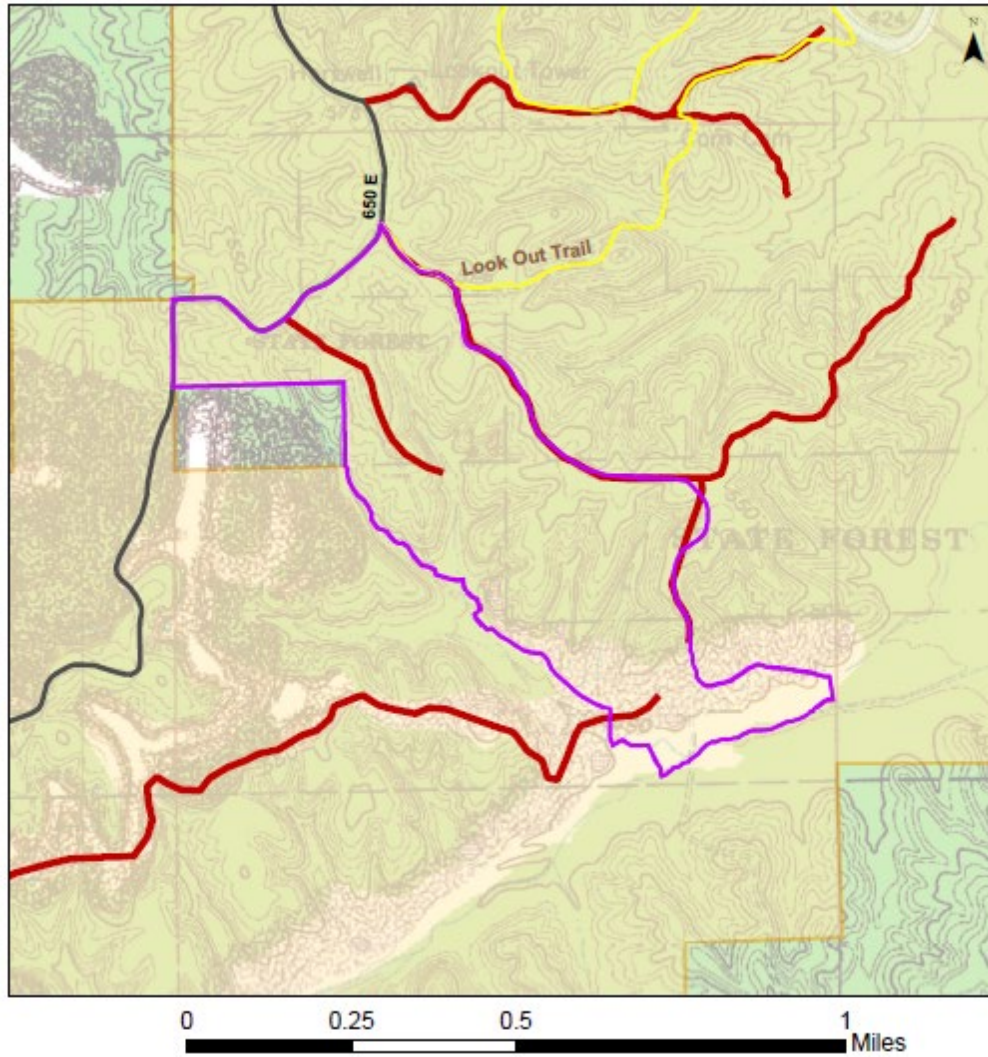
Proposed Activities Listing

<i>Proposed Management Activity</i>	<i>Proposed Date</i>
Road improvement work to FL10	2024
Timber sale C12T5 with C12T6 & C12T7	2024-2028
Invasive species control	2024+
Timber Stand Improvement	Post-harvest
Prescribed fire	Post-harvest
Re-inventory	2043

Pike State Forest
Location Map
Compartment 12 Tract 5

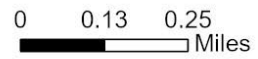
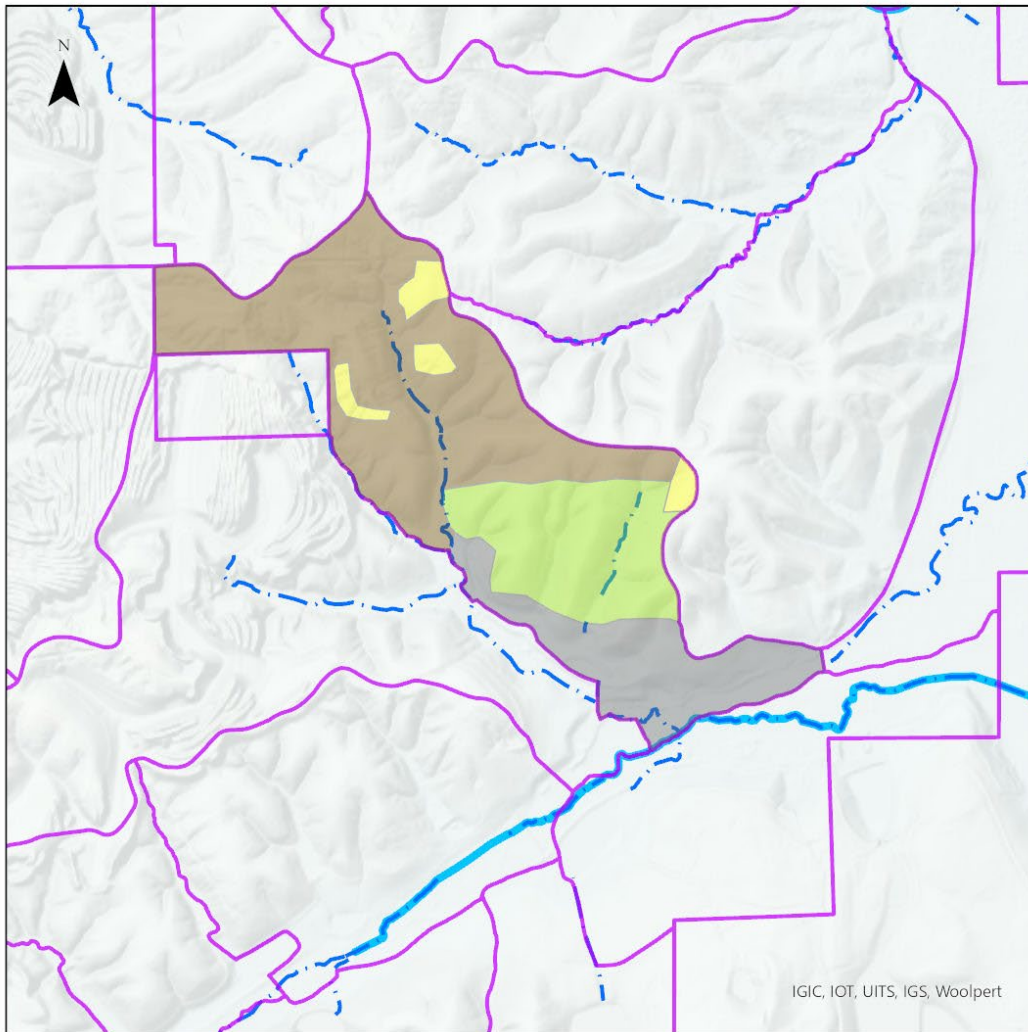


Pike State Forest Compartment 12 Tract 5 Tract Map



- Recreation Trail
- Fire Lane
- Tract boundary
- State Forest

Pike State Forest Compartment 12 Tract 5 Cover Types Map



Pike State Forest
Forester: Jamie Winner
Management Cycle End Year 2043

Compartment: 12 Tract: 06
Date: 12/4/2023 Acres: 197
Management Cycle Length 20 years

Location

Compartment 12 Tract 6, otherwise known as 6311206, is in Pike County, Sections 13 and 14, Township 2 South, Range 7 West. It is approximately 4 miles southeast of Winslow, Indiana.

General Description

Compartment 12 Tract 6 consists of 197 acres in various hardwood cover types/stratums. Stratums identified included mixed hardwood and oak-hickory. There is a small amount of pine in the tract, but not sufficient to assign as a separate stratum in any inventory plot. The same is true for a small amount of reclaimed mine area along the southern boundary of the tract. There is a small amount of open area, but species classified as oak-hickory fell within the closest plots.

History

Tract purchase history includes portions of the following:

- 409-acre parcel from Pike County Commissioners in 1935
- 60-acre parcel from William and Hettie Risley in 1935
- 248-acre parcel in 2002 from James C Ellis Estate Trust
- 250-acre parcel in 2004 from James C Ellis and Bruce Yombry

Management history includes:

- Documents reference wildfires covering portions of the tract between 1956-1961.
- Forest inventory and management guide completed in April 1971.
- Timber sale in April 1971 harvesting 29,000 board feet (bdft) in 210 trees on 33 acres.
- Timber stand improvement (TSI) completed over timber sale area in 1972.
- Forest inventory and management guide completed in February 1976.
- Prior to state ownership, extensive harvesting of Ellis Estate properties in 1978.
- Forest inventory and management guide completed by Doug Brown in October 1987.
- Forest inventory and management guide completed by Jamie Winner in July of 2008.
- Storm damage to portions of the tract in February 2011.
- Salvage timber sale in June 2011 harvesting 136,680 bdft and 748 cords over 23.5 acres.
- TSI followed the salvage harvest in 2011.

Landscape Context

Surrounding landscape is in a rural setting. Cover types consist of forested, open water, wetlands, farmland, or open and early successional reclaimed mined areas. The town of Winslow, IN, is approximately 4 miles to the northwest.

Topography, Geology and Hydrology

The tract has varied topography with ridgetops, bottomland areas, and slopes up to 30%. The tract consists of a primary ridge trending east and northeast, with finger ridges coming off this primary ridge. The bottomland areas tend to be near the tract edges, particularly the east tract boundary. A mapped intermittent stream flows along the northern boundary of the tract, and a wetland area is nearby in adjoining C12T7 (6311207). Pike State Forest tends to not have

exposed bedrock except in mined areas, and there were only a few instances of minor exposed rock which appeared to be sandstone.

Soils

Soils within the tract include the following (also refer to attached soils map):

Belknap Silt Loam (Bg), frequently flooded- This soil is a nearly level, deep and somewhat poorly drained soil on flood plains. The soil is flooded for brief or long periods of time during the winter and spring. The soil has a very high available water capacity. Surface runoff is slow and a seasonal high water table at 1 to 3 feet in the winter and spring. Organic matter content is moderately low. This soil is well suited for trees. The land capability subclass is IIw, the woodland ordination symbol is 6A and the site index 90.

Fairpoint-Bethesda complex (FbC) - These moderately sloping and strongly sloping, deep, well drained soils occur as mine spoil in surface-mined areas on uplands that have been shaped and smoothed. Also included are some abandoned haul roads. The subsoil is 60" thick. Available water capacity is low and permeability is moderately slow. Surface runoff is medium or rapid. The abandoned haul roads and mine dumps cannot support vegetation unless major reclamation measures are applied but they are fairly well suited to a wide variety of grasses and legumes for hay or pasture. The organic matter content is very low in the surface layer. The land capability class is VI_s. No woodland ordination symbol is assigned. No sight index is given.

Gilpin Silt Loam (GnE), 15-30% slopes- This is a strongly sloping to steep, moderately deep and well drained soil on side slopes in uplands. The subsoil is 29" thick and fractured sandstone bedrock occurs at 35 inches. The soil's available water capacity is low, permeability is moderate and surface runoff is rapid. Organic matter content in the surface layer is moderate. Erosion is a major hazard. The soil's land capability is VI_e, the woodland ordination symbol is 4R and the site index is 80.

Wellston Silt Loam (WeE), 15-30% slopes- This soil is found on strongly sloping to steep hills. It is a deep, well drained soil on side slopes in uplands. There is sandstone bedrock at 60 inches. The available water capacity is high, permeability is moderate and surface runoff is rapid. Organic matter is moderately low. The major hazard for this soil is erosion. The soil has a land capability classification of VI_e, has a woodland ordination symbol of 4R and a site index of 71.

Zanesville Silt Loam (ZaB), 2-6% slopes- This soil is found on gently sloping, deep, and moderately well drained soil on ridgetops in uplands. Sandstone bedrock is found at 78 inches. The soil has moderate available water capacity and permeability is moderate above the fragipan and slow in the fragipan. Surface runoff is medium. There is a firm and brittle fragipan at 24-32 inches and a perched seasonal high-water table is in or above this fragipan during winter and early spring. Organic matter content is moderately low. Erosion is the major hazard for this soil. The soil has a land capability classification of II_e, a woodland ordination symbol of 4A and a site index of 68.

Zanesville Silt Loam (ZaC3) 6-12% slopes, severely eroded- This soil is found on moderately sloping, deep and moderately well drained soils. The Available water capacity is moderate. Permeability is moderate above the fragipan and slow in the fragipan. Surface runoff is moderate

in cultivated areas. There is a slowly permeable fragipan at a depth of about 2 feet. The perched seasonal high-water table is above the fragipan during winter and early spring. Organic matter content is low. The land capability class is IVe, it has a woodland ordination symbol of 3D and a site index of 60.

Zanesville Silt Loam (ZaD3), 12-18% slopes, severely eroded.-This is a strongly sloping, deep and moderately well drained soil on narrow side slopes. The available water capacity is moderate. There is a slowly permeable, brittle fragipan at 2 feet restricts roots and downward movement of water. Surface runoff is very rapid. There is a perched seasonal high-water table in or above the fragipan in winter and early spring. Organic matter content is low. Erosion is a hazard. The land capability classification is VIe, it has a woodland ordination symbol is 3D and a site index of 60.

Access

There is excellent access to and within this tract. Fire Lane 10, which previously served as a county road, provides access through the primary ridge of the tract. The fire lane has some gravel with previous improvement work, but still has some potholes and soft areas that could benefit from additional gravel. Also, some of the roadside vegetation needs to be trimmed back as part of any future improvements.

Boundary

The tract is generally shaped like a triangle, and the boundaries of this tract are internal. The northern boundary consists of a mapped intermittent stream. The eastern boundary follows an old rail grade, and the southern boundary follows a combination of a rail grade and fire lanes. The southern and northern boundaries meet at a point on the west edge of the tract.

Ecological Considerations

Wildlife noted included deer, turkey, box turtles, mice, and songbirds. Habitat includes mature closed canopy forest, a minor amount of pine, and open reclaimed mined ground.

The Division of Forestry has developed compartment level guidelines for important wildlife structural habitat features such as snags and legacy trees. Snags are standing dead or nearly dead trees. Snags provide value to a stand in the form of habitat features for foraging activity, den sites, decomposers, bird perching, and bat roosting. Snags eventually contribute to the future pool of downed woody material, which provides habitat for many ground-dwelling species and contributes to healthy soils. Legacy trees are live trees of a certain species and diameter class, that have potential future value to various wildlife species, if retained in the stand.

Inventory data for Compartment 12 Tract 6 indicates 9"+ DBH snags exceed maintenance levels, while 5"+ and 19"+ DBH snags are below target maintenance levels. It is important to note that these are compartment guidelines and that even though the estimated tract data does not quite meet all target levels, it is likely that suitable levels are present for these habitat features in the surrounding landscape. The prescribed management will maintain or enhance the relative abundance of these features.

Invasive species are present in a northern portion of the tract and in the reclaimed mine area in the southern portion. Species include autumn-olive and multiflora rose in the northern section, and callery pear in the southern reclaimed area. Japanese stiltgrass is present on the fire lanes within this and adjacent tracts. *Serecea lespedeza* is present within the reclaimed mined area. The forest interior species are not extensive infestations, so they should be reasonably easy to control. The stiltgrass will require use of a higher capacity vehicle mounted spray unit.

A formal Ecological Review process, which includes a search of Indiana's Natural Heritage Database, is part of the management planning process. If Rare, Threatened, or Endangered species were found to be associated with this area, the activities prescribed in this guide will be conducted in a manner that will not threaten the population viability of those species or communities.

Recreation

There are no designated recreational trails in this tract. A couple hunting stands (i.e., tree stands) were observed within the tract during the inventory. Hunting is likely the primary active that occurs in the tract. Fire Lane 10 provides easy access for foot traffic, and a portion of the fire lane is shared with a horse trail beyond the tract boundary. Although the horse trail does not extend into tract 6, horse riders have been encountered on the fire lanes. Previous management guides mention illegal ATV use on the old rail grade, which seems to have ceased.

Cultural

Cultural resources may be present, but their location(s) is protected. Adverse impacts to significant cultural resources will be avoided during any activities.

Tract Subdivision Description and Silvicultural Prescription

Mixed Hardwood Stratum

Forestland classified into this stratum covers approximately 128 acres. Much of the stratum is in the northern half of the tract, which corresponds to some of the more recent state land acquisitions. These areas were harvested heavily prior to state ownership. There remains good stocking in many of these areas, although it is variable across the stratum. Inventory data indicates 141 trees per acre, 111 Basal Area per acre, and 7,700 bdf t per acre. This corresponds to a stocking level of 90%.

Several inventory plots make note of chest-high to pole size oak regeneration, which presents an excellent opportunity to release some of this oak from the competing hardwoods. The oak in this condition is likely due to the heavy harvesting (i.e., disturbance) prior to state ownership.

In addition to the limited number of invasive species observed, there are some areas that could benefit from vine control. Species breakdown for the tract is listed below, but major species in this stratum included yellow poplar, white oak, black oak, sweetgum, sugar maple, and American beech. The larger sweetgum and maples tend to have visible defects, and some of the black oak and yellow poplar had noticeable crown decline.

Prescribed fire would likely be of benefit in several areas of this stratum as well as the oak-

hickory stratum. Overstory white oak seed source is present in many areas, so fire combined with a good acorn crop would help create condition favorable for promoting and sustaining the diversity of species in the tract. Inventory data shows the typical story of almost entirely beech and maple in the smaller size classes across the tract. Disturbance will be needed to disrupt the transition to shade-tolerant species.

Most of the area in this stratum was recommended for a single tree selection harvest with light to moderate thinning. Inventory data indicated reduction of stocking to approximately 64% after a harvest. There are several reasons for the recommendations. In some areas, stocking is relatively high and should be reduced. There are numerous instances of trees needing some release from competition, as well as a few instances of opportunity to salvage declining timber. Some poor formed trees could be removed to benefit other trees nearby. Other areas include opportunity to release already present oak in the mid-story or understory, as mentioned above. A few areas will need no treatment and were recommended to simply let grow until the next cutting cycle.

Mesic Oak-Hickory Stratum

Forestland classified into this stratum covers approximately 69 acres. Much of the stratum is in the southern half of the tract, which corresponds to original state ownership in this area. Inventory data indicates 156 trees per acre, 110 Basal Area per acre, and 7,500 Board Feet per acre in these areas. This corresponds to a stocking level of 90%.

A couple common themes in this stratum included larger sawtimber oaks and hickories transitioning to mixed hardwoods, especially beech and maple in the understory. Oak mortality was limited, but also noted in some inventory plots. Prescribed fire is recommended. Fire would benefit areas where white oak is present in the overstory, reducing the presence of beech and maple in the understory. A few inventory plots included already present pole size oak to release, and one area in the southeastern portion of the tract noted a recommendation to create a small group selection opening to release chest-high oak regeneration.

Invasive species and vines are similar in this stratum as described in the mixed hardwood stratum. There is some opportunity for treatment of some vines and invasives, but nothing major.

Most areas within this stratum were prescribed a single tree selection harvest as noted during the inventory, although one area recommended a group or patch cut opening and others included no harvesting. Inventory data indicated reduction of stocking to approximately 64% after a harvest. Throughout the inventory plots, a light thinning was recommended, removing non oak and hickory species to release and perpetuate the oak and hickory. Nevertheless, long term planning will need to include some type of more significant disturbance to initiate the kind of regeneration in the understory needed to create a new stand in the future. Fire and targeted mid-story removal treatments are good silvicultural tools to accomplish this objective.

The current forest resource inventory was completed on 11/16/23 by Jamie Winner. A summary of the estimated tract inventory results are located in the table below:

Tract Summary Data (trees >11”DBH):

Species	# Sawtimber Trees	Total Bd. Ft.
Yellow poplar	2,147	413,940
White oak	1,787	316,380
Black oak	701	141,200
Northern red oak	725	103,100
Sweetgum	802	84,200
Sugar Maple	892	71,130
Pignut hickory	511	69,810
Shagbark hickory	670	68,840
Scarlet oak	493	65,280
American sycamore	218	50,860
American beech	338	44,740
Blackgum	342	22,110
Northern pin oak	60	19,100
Red maple	51	10,930
Red elm	17	7,690
Black cherry	112	7,070
Chinkapin oak	106	5,750
White Ash	30	4,520
Total:	10,002	1,506,650

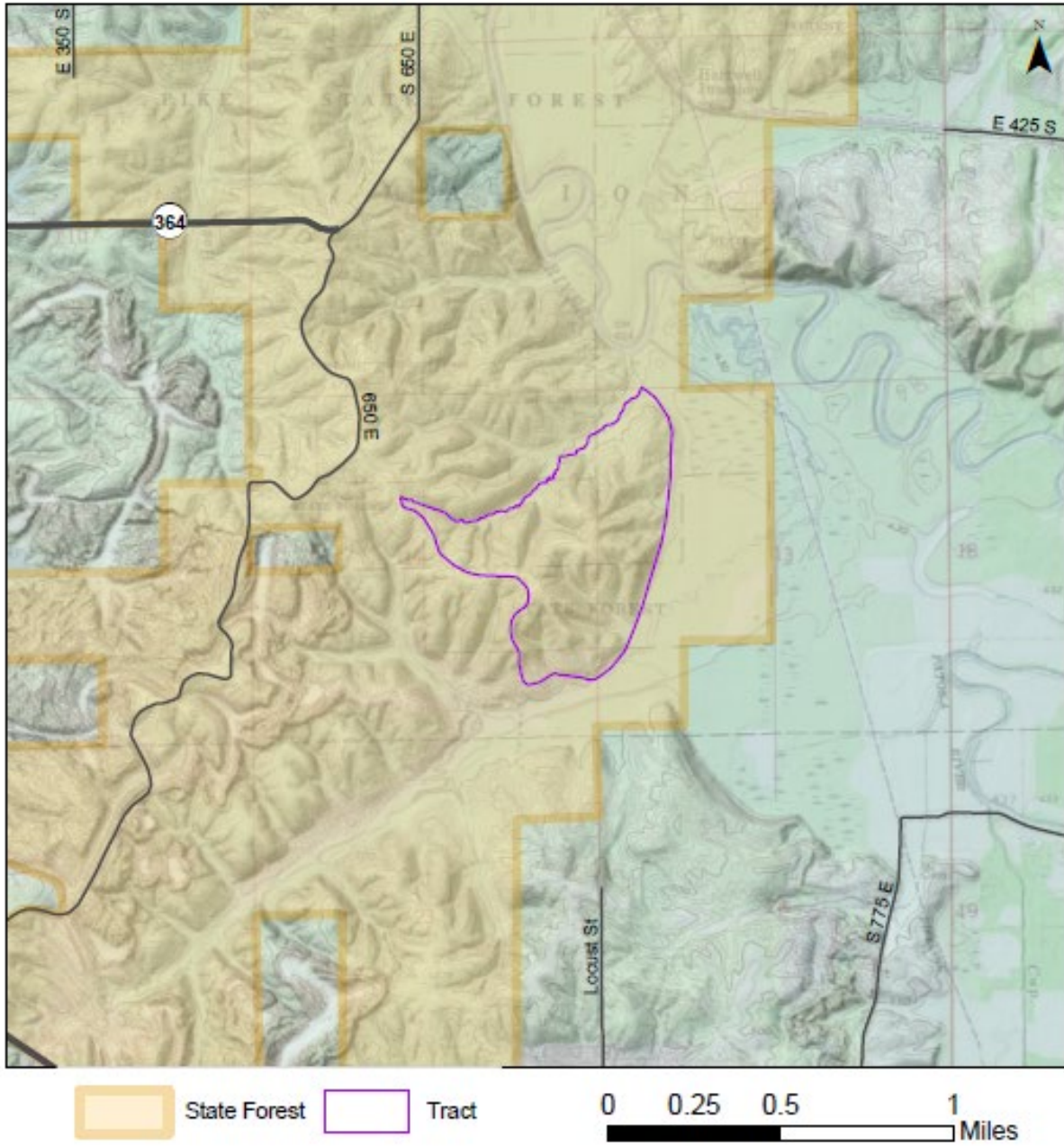
Summary Tract Silvicultural Prescription and Proposed Activities

As outlined in the tract subdivision descriptions, a harvest is prescribed across most of this tract. A timber harvest can be expected to remove 700-800MBF. There will be variability in the marking to include single tree selection, group and patch cut selection openings, and no harvesting in areas depending on current conditions and stocking. Objectives will include removal of poor form and declining timber, reduction of high stocking where needed, release of higher value trees from competition, release of oak regeneration already present, and maintenance and release of oak and hickory species where present. This will include planning for a prescribed fire to promote the long-term species diversity of the tract and continued presence of oak and hickory. Pre-harvest activities will include limited vine control and invasive species control.

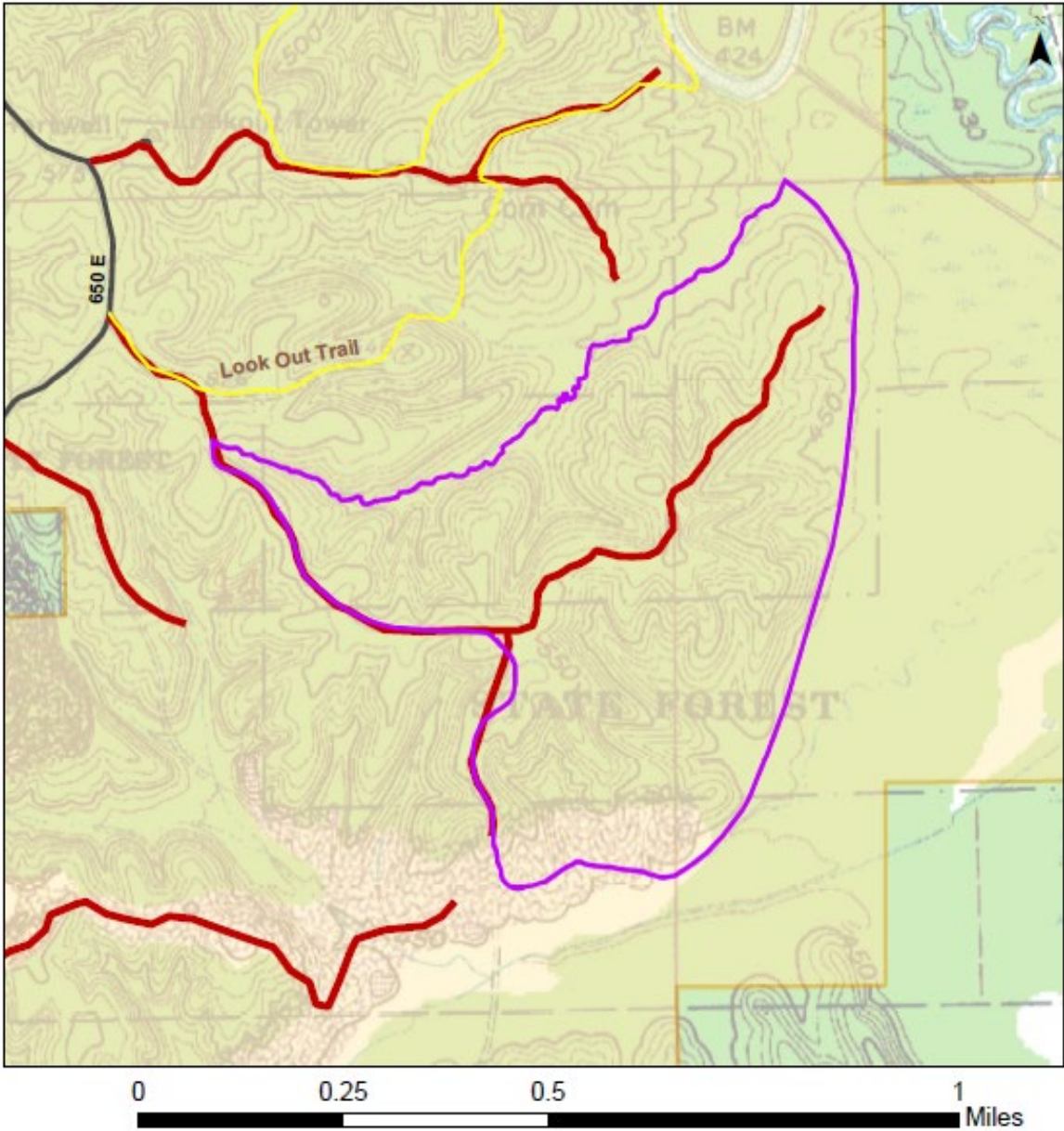
Proposed Activities Listing

<u>Proposed Management Activity</u>	<u>Proposed Date</u>
Limited Vine TSI	2023-2024 (winter)
Treat invasive species	2023-2024 (ongoing)
Timber harvest	2024-2025
Regeneration opening review	3 years post-harvest
RX burn	2025-2030
Re-inventory	2043

Pike State Forest Location Map Compartment 12 Tract 6

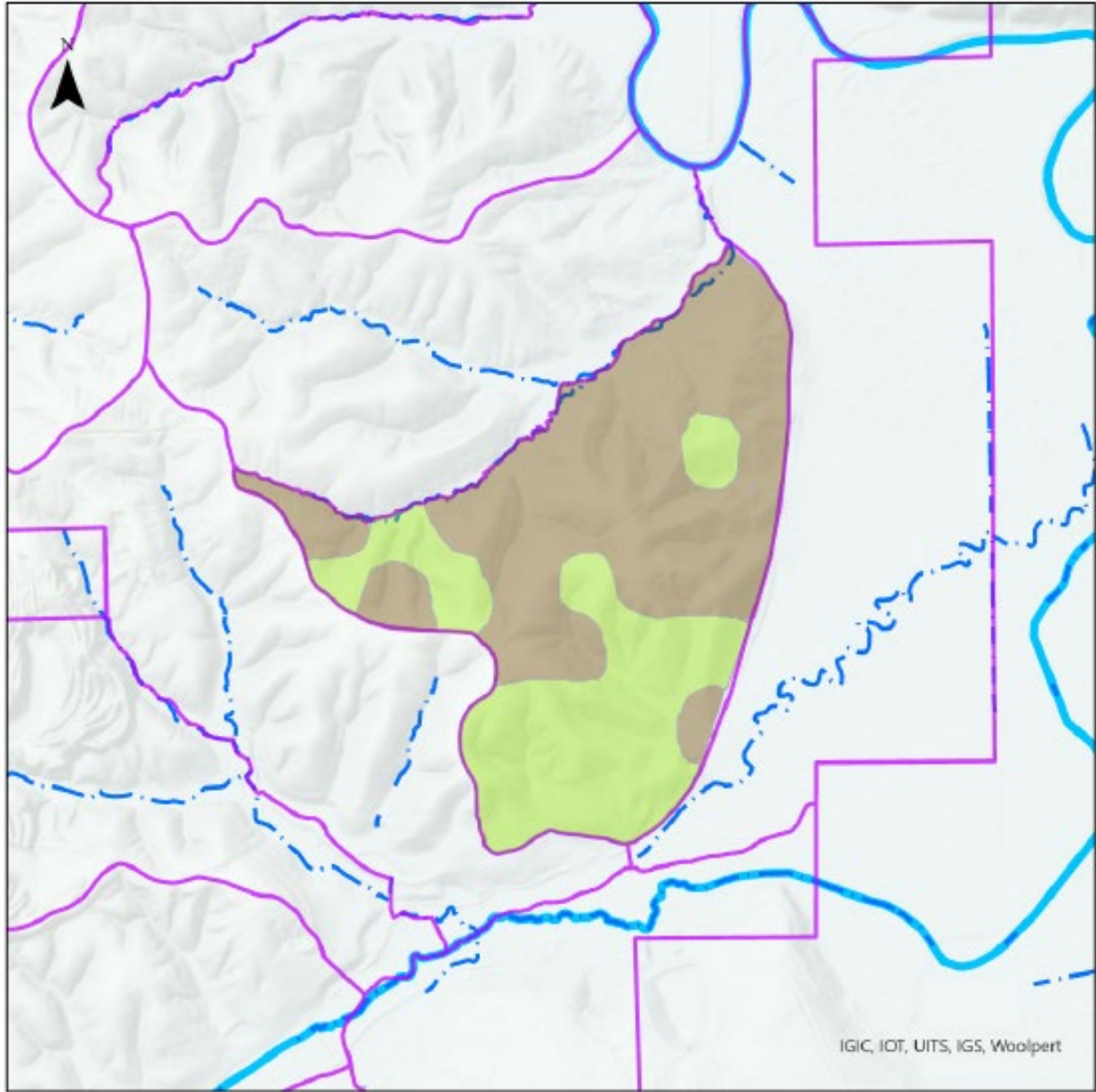


Pike State Forest
Compartment 12 Tract 6
Tract Map



- Recreation Trail
- Fire Lane
- Tract boundary
- State Forest

Pike State Forest Compartment 12 Tract 6 Cover Types Map



0 0.13 0.25
Miles

- Mesic Oak-Hickory
- Mixed Hardwoods
- Mapped Streams
- 1-Mile Streams