Indiana Department of Natural Resources
Division of Forestry

Indiana Department of Natural Resources

Resource Management Guides
Ferdinand State Forest
30-day Public Comment Period (November 24, 2025 – December 23, 2025)

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 Ferdinand State Forest.

Compartment 6 Tract 4
Compartment 6 Tract 5
Compartment 12 Tract 9

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.

Ferdinand State Forest	Compartment: 6	Tract: 4
Forester: Rusty Ahrndt	Date 6/23/2025	Acres: 164
Management Cycle End Year: 2045	Management Cycle Length: 20 years	

Location
This tract, also referenced as 6310604, is in Perry County, Indiana, Section 2, T5S, R3W, in Clark Township. The nearest town is Siberia, Indiana, located approximately 3.1 miles to the northwest.

General Description
This tract is fully forested consisting of conifer, mesic oak-hickory and mixed hardwood forest on sandstone shale uplands. Most of the remaining pine is located on the southern portion of the tract. The tract has a generally southern aspect sloping down to the floodplain of the intermittent stream that runs near the southern boundary.

History

- 1950 – The entire tract was acquired from Robert and Evelyn Leinenbach and William and Frosta Lehmkuler.
- 1973 – A forest inventory was conducted by Bill Hahn. At the time, he found 58 acres of the tract to be hardwood and the remainder to be pine.
- 1977 – A tree planting was completed in 1977 consisting of 1,000 red pine, 1,500 red oak and 1,000 yellow poplar. The red pine was planted in the eroded area; the red oak was planted in the upper dryer areas of the slopes and yellow poplar was planted on the moister lower slopes.
- 1990 – A resource management guide was written by Doug Brown. At this time, the tract had about 60 acres of pine and the tract had a total of 425,221 board feet of which 151,416 board feet were available for harvest.
- 2011 – A forest inventory was conducted by Jamie Winner. At this time the tract had approximately 821,820 board feet of which 416,080 was available for harvest.
- 2011 – A resource management guide was written by Jamie Winner. A harvest of approximately 193,340 board feet of hardwoods and 224,550 board feet of pine was recommended, although no harvest took place.
- 2025 – The tract was inventoried by Rusty Ahrndt and Hanna Tapley, and a total of 2,083,570 board feet of merchantable volume were found.
- 2025 – A resource management guide was written by Rusty Ahrndt and an improvement cut of between 700,000 and 1,000,000 board feet was recommended.

Landscape Context
Some of the southern property line and the eastern half of the northern line are agricultural fields. Whereas the land to the east and west of the tract is wooded.

Topography, Geology and Hydrology
Terrain is variable with some steep slopes and ridgetops which occur mostly in the northern two thirds of the tract with the southern third being relatively flat bottomland. Hilly portions contain deep ravines and ridgetops ranging from 510 to 690 feet above sea level. Most ridges run north-

south.

There are three wildlife ponds in this tract and a mapped intermittent stream meanders through the southeast corner for about 1,000 feet, eventually entering the Anderson River. Soils formed from a mixture of colluvium from siltstone overlying the bedrock or from a mix of loess or silty slope alluvium overtopping the bedrock.

Soils
This tract contains the following soil types: Adyeville-Wellston-Deuchars silt loam, Adyeville-Tipsaw-Ebel complex, Apalona silt loams, Ebel-Deuchars-Kitterman complexes and Gatchel loam.

AbvD2--Adyeville-Wellston-Deuchars silt loams, 8 to 20 percent slopes, eroded

This soil covers 40.3 acres of the tract and forms narrow ribbons on the lower to mid slopes. The Adyeville soils are somewhat excessively drained, have a water table at a depth greater than 40 inches and are on side slopes on uplands. Slopes are 8 to 20 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is moderate in the most restrictive layer above bedrock. Available water capacity is low (4.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 5.5. Bedrock is at a depth of 20 to 40 inches.

Wellston soils are well drained, have a water table at a depth greater than 40 inches and are on side slopes on uplands. Slopes are 8 to 20 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is moderate (8.8 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 6.0. Bedrock is at a depth of 40 to 60 inches. Site index is 81 for red oak.

The Deuchars soils are moderately well drained, have a seasonal high-water table at 2.0 to 3.0 ft. and are on side slopes on uplands. Slopes are 8 to 20 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (9.0 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 60 to 80 inches. Site index is 90 for red oak.

AccG--Adyeville-Tipsaw-Ebal complex, 20 to 50 percent slopes, very rocky

The Adyeville soils are somewhat excessively drained, have a water table at a depth greater than 40 inches and are on side slopes on uplands. Slopes are 20 to 50 percent. The native vegetation is hardwood trees. The surface layer is very fine sandy loam has moderate or high organic matter content (2.0 to 6.0 percent).

Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is low (4.0 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 5.5. Bedrock is at a depth of 20 to 40 inches.

The Tipsaw soils are somewhat excessively drained, have a water table at a depth greater than 40 inches and are on side slopes on uplands. Slopes are 20 to 50 percent. The native vegetation is hardwood trees. The surface layer is very fine, sandy loam has moderate or high organic matter content (3.0 to 8.0 percent). Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is low (3.3 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 20 to 40 inches. Site index is 70 for black oak.

The Ebal soils are moderately well drained, have a seasonal high-water table at 2.0 to 3.0 ft. and are on side slopes on uplands. Slopes are 20 to 30 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderate or high organic matter content (2.0 to 6.0 percent). Permeability is very slow (< 0.06 in/hr) in the most restrictive layer above bedrock. Available water capacity is moderate (7.2 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 50 to 80 inches. Site index is 80 for black oak.

AgrC2--Apalona silt loam, 6 to 12 percent slopes, eroded

This moderately well drained soil has a seasonal high-water table at 2.0 to 3.0 ft. and is on side slopes on uplands. Slopes are 6 to 12 percent. The native vegetation is hardwood trees. The surface layer is silt loam 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 60 inches. Available water capacity is moderate (7.2 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 6.0. Bedrock is at a depth of 72 to 100 inches. Site index is 60 for black and white oak.

AgrC3--Apalona silt loam, 6 to 12 percent slopes, severely eroded

This moderately well drained soil has a seasonal high-water table at 1.5 to 2.5 ft. and is on side slopes on uplands. Slopes are 6 to 12 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderately low organic matter content (0.5 to 2.0 percent). Permeability is very slow (< 0.06 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (6.4 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 6.0. Bedrock is at a depth of 72 to 100 inches. Site index is 60 for black and white oak.

EabD2--Ebal-Deuchars-Kitterman complex, 12 to 24 percent slopes, eroded

The Ebal soils are moderately well drained, have a seasonal high-water table at 2.0 to 3.0 ft. and are on side slopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwood trees. The surface layer is silt loam 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 60 inches. Available water capacity is moderate (7.5 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 50 to 90 inches. Site index is 80 for black oak

The Deuchars soils are moderately well drained, have a seasonal high-water table at 2.0 to 3.0 ft. and are on side slopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (9.0 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 60 to 80 inches. Site index is 90 for red oak.

The Kitterman soils are moderately well drained, have a seasonal high-water table at 1.0 to 2.0 ft. and are on side slopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwood trees. The surface layer is channery silty clay loam has moderate or high organic matter content (2.0 to 10.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is low (4.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Bedrock is at a depth of 20 to 40 inches.

EabD3--Ebal-Deuchars-Kitterman complex, 12 to 24 percent slopes, severely eroded

The Ebal soils are moderately well drained, have a seasonal high-water table at 2.0 to 3.0 ft. and are on side slopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwood trees. The surface layer is silty clay loam has moderately low organic matter content (0.5 to 2.0 percent). Permeability is very slow (< 0.06 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (6.7 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 50 to 80 inches. Site index is 80 for black oak.

The Deuchars soils are moderately well drained, have a seasonal high-water table at 2.0 to 3.0 ft. and are on side slopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwood trees. The surface layer is silt loam has moderately low organic matter content (0.5 to 2.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (8.3 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 60 to 80 inches. Droughtiness and water erosion are management concerns for crop production. Site index is 90 for red oak.

The Kitterman soils are moderately well drained, have a seasonal high-water table at 1.0 to 2.0 ft. and are on side slopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwood trees. The surface layer is channery silty clay loam has moderate organic matter content (2.0 to 5.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is low (3.2 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Bedrock is at a depth of 20 to 40 inches. Site index is 65 for black oak.

GacAW--Gatchel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

This somewhat excessively drained soil has a water table at a depth greater than 40 inches and is on floodplains. Slopes are 0 to 2 percent. The native vegetation is hardwood trees. The surface layer is loam has moderate moderately low organic matter content (1.0 to 3.0 percent).

Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (6.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 5.6 to 7.3.

Access
Foot access to this tract is possible on the northwest and southeast corners where 6310604 adjoins other state property, 6310603 and 6310606 respectfully. There is currently no public parking or vehicular access. Fire lane 25 runs through 6310606 into the southeastern portion of 6310604. The fire lane could be extended to allow access but currently needs improvement.

With the neighbor's approval, accessing the tract from the south side would be the most convenient for harvesting equipment. Suggested management activities in this guide are dependent on obtaining the necessary permissions from the surrounding landowners or completing the road work required to improve and extend fire lane 25.

Boundary
This tract boarder's private property on all sides only connecting to state property at the northwest and southeast corners. Significant effort has been put into marking the property lines, with boundary markers such as cornerstones found at each corner, and the perimeter defined by signs, fencing, flagging, and tree lines.

Ecological Considerations
Squirrels, white-tailed deer, chipmunks, and box turtles were observed during the inventory. The Merlin app from the Cornell Lab of Ornithology was used to identify bird calls. The bird species cataloged were northern cardinal, red-eyed vireo, eastern wood-peewee, ovenbird, Kentucky warbler, tufted titmouse, eastern towhee, yellow-throated warbler, white-eyed vireo, American goldfinch, Louisiana waterthrush, American robin, red-shouldered hawk, scarlet tanager, pine warbler, song sparrow, Carolina chickadee and red-bellied woodpecker.

The Division of Forestry (DoF) 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.

In the compartment that includes this tract, inventory data indicate snag densities meet DoF targets in all size classes having a suitable sample for estimation. Though the sample at the compartment-level was insufficient for density estimation in the largest size-class (>=19" dbh), the tract-level density reported from the inventory meets the DoF target for this size-class. To improve compartment-level densities, large snags should be created where opportunities exist by deadening live or declining cull trees when conducting management activities in this tract (e.g., TSI). Alternatively, large cull trees could be simply left in the stand to become future snags on their own, if they do not interfere with silvicultural objectives. Legacy tree densities exceed DoF target levels.

The invasive plant species that were noted during the inventory include: multiflora rose, Japanese honeysuckle, bush honeysuckle and autumn olive. Overall, the prevalence of these species was relatively low, and they could be controlled by spot-spraying with a backpack sprayer.

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 or communities were found to be associated with this area, the activities prescribed in this guide will be conducted in a manner that will not threaten population viability of those species or communities.

Recreation
Although lacking established access like roads or trails, this tract is accessible to hunters via a fire lane that traverses neighboring tracts 6310606. Neighboring property owners also appear to use the tract for hunting or other purposes.

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

Conifer - 33 acres
The pine in this cover type have matured and their slow decline has allowed native hardwoods such as yellow poplar to become established in canopy gaps. At the time of the inventory, pine covered roughly 20.7% of the tract, or about 33 acres, with a basal area of 124.2 square feet per acre and 201 trees per acre. The overstory was composed of larger white pine and Virginia pine. The understory was mostly composed of beech and maple with some tulip and oak where sunlight reaches the forest floor.

The primary objective for harvesting in this cover type should be to accelerate the transition to native hardwoods. Patch-cut or group selection openings could be implemented to achieve this goal. The openings should be completed during post-harvest timber stand improvement (TSI).

Mesic Oak Hickory – 99 acres
The oak-hickory cover type provides significant wildlife and timber resource value. The retention of oak and hickory species are important to the division's long-term forest management objectives. At the time of the inventory, this cover type comprised roughly 60.4% of the tract, or about 99 acres, around 110 trees per acre and had a basal area of approximately 116.8. square feet per acre. The overstory was dominated by white oak, black oak and hickory. Beech and maple made up most of the understory; however, oak and hickory seedlings were abundant as well.

A single-tree selection harvest is recommended to reduce competition, remove poor-quality stems, and remove over-mature trees (especially black oak). Thinning the overstory will allow sunlight to reach the understory trees, reduce future deformities and improve overall structure

and quality. TSI should focus on the release of advanced oak regeneration by reducing beech and maple competition to allow less shade tolerant species to persist and, hopefully, eventually, be recruited into the overstory.

Mixed Hardwood – 32 acres
This cover type comprised roughly 19.5% of the tract, or about 32 acres, with approximately 161 trees per acre and a basal area of 136.9 square feet per acre. Yellow poplar was by far the most common species in the overstory, and the understory was dominated by beech and maple.

An improvement cut is recommended to release more desirable trees from competition. The goal should be to provide more resources for preferred species such as oak, walnut, and other species important to wildlife. The harvest should focus on the removal of unhealthy, poorly formed, or damaged trees, such as those with low forks, suppressed growth, epicormic sprouting, or decay. The long-term result of the harvest should be to increase the vigor, health, and wildlife habitat. Patch-cut and group selection opening is a possibility in areas that have low-quality, diseased/damaged stems, low basal area, or maturity. Post-harvest TSI should reduce beech and maple stocking and foster shade intolerant species.

The current forest resource inventory was completed on 6/23/25 by Foresters Rusty Ahrndt and Hannah Tapley. Summary of the estimated tract inventory results are located in the tables below.

Tract Summary Data

Category	Estimate
Tract Acres (Forested)	164
Gingrich Stocking Percent (%)	100
Trees Per Acre	147
Basal Area Per Acre (SQFT)	125.1
Volume Per Acre (BDFT)	12,700

Tract Summary Data (trees >11”DBH):

Species	# of Trees	Total Bdft
White Oak	2,574	663,030
Yellow Poplar	2,778	651,800
Eastern White Pine	472	229,790
Virginia Pine	1,619	154,200
Black Oak	544	147,100
Pignut Hickory	670	79,770
Red Maple	547	55,580
Northern Red Oak	102	34,600
American Sycamore	64	15,640
American Beech	84	13,690
Shagbark Hickory	98	12,800
Scarlet Oak	50	8,970
Sugar Maple	179	6,970

Bitternut Hickory	28	4,080
Black Locust	28	3,080
Persimmon	330	2,480
Total:	10,167	2,083,580

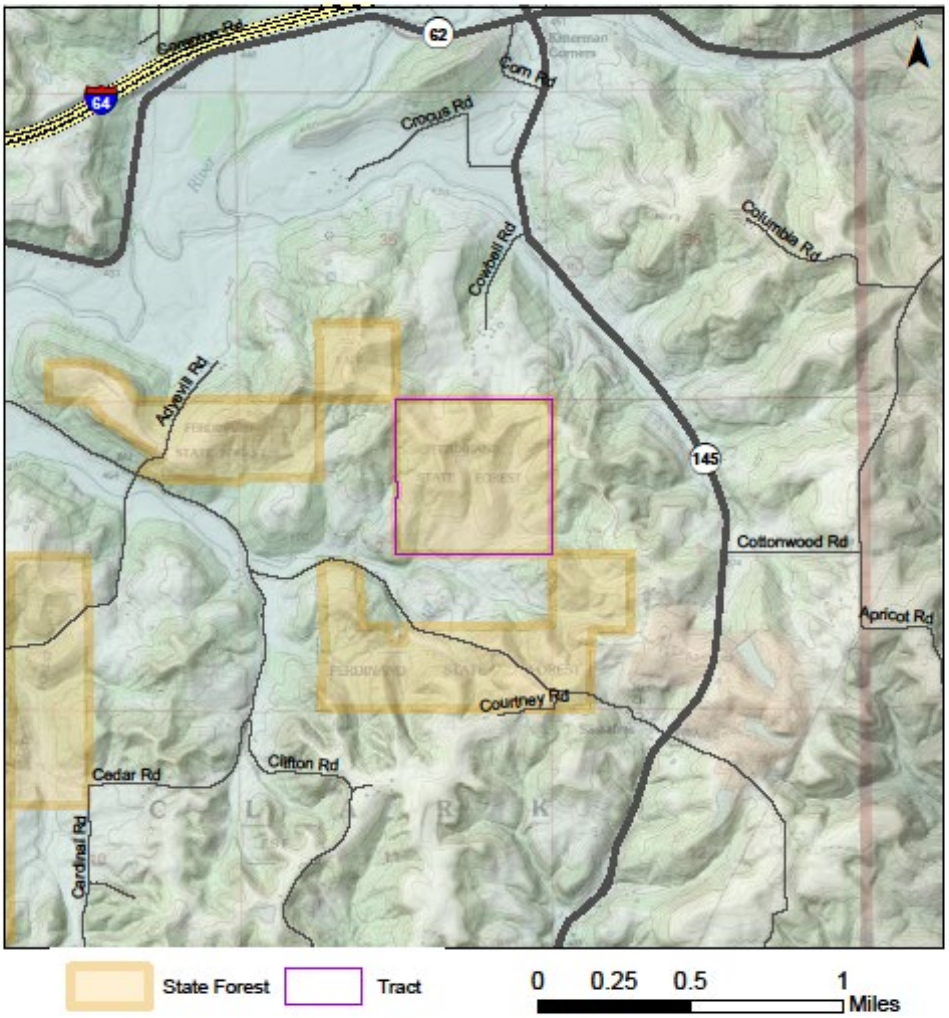
Summary Tract Silvicultural Prescription and Proposed Activities
It is recommended that a timber harvest remove between 700,000 and 1,000,000 board feet. Single-tree selection is recommended for most of the area classified as "mesic oak hickory" and "mixed hardwoods" cover types. This should improve the vigor of the stand. The main goal is to free the crowns of preferred trees like oak, hickory, and others important species for timber and wildlife. Patch-cut and group selection openings should be employed in conifer stands to capture their value before it is lost and promote the transition to native hardwoods.

The harvest should remove unhealthy, poorly formed, or damaged trees, such as those with low forks, suppressed growth, epicormic sprouting, or decay. A shelterwood system should be considered if and where it is deemed appropriate at the time of marking. The stand could benefit from the application of prescribed fire. However, the proximity of private land could make the use of fire impractical. The long-term result of the harvest should be to increase timber production and the quality of wildlife habitat.

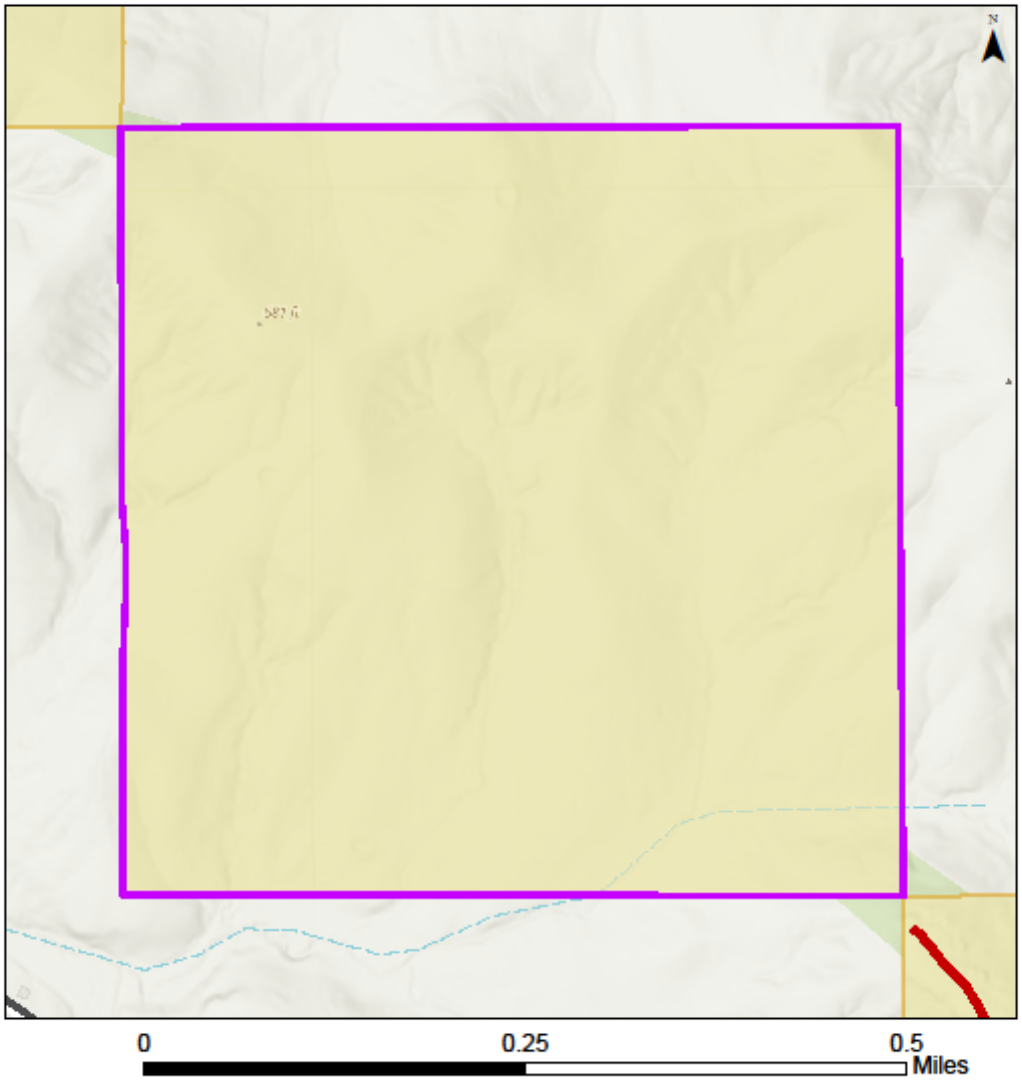
Proposed Activities Listing

Proposed Management Activity	***Proposed Period***
Vine and invasive species work	2026-2027
Timber harvest	2026-2027
Post-harvest TSI	Within 2 years of harvest
Next forest inventory	2045

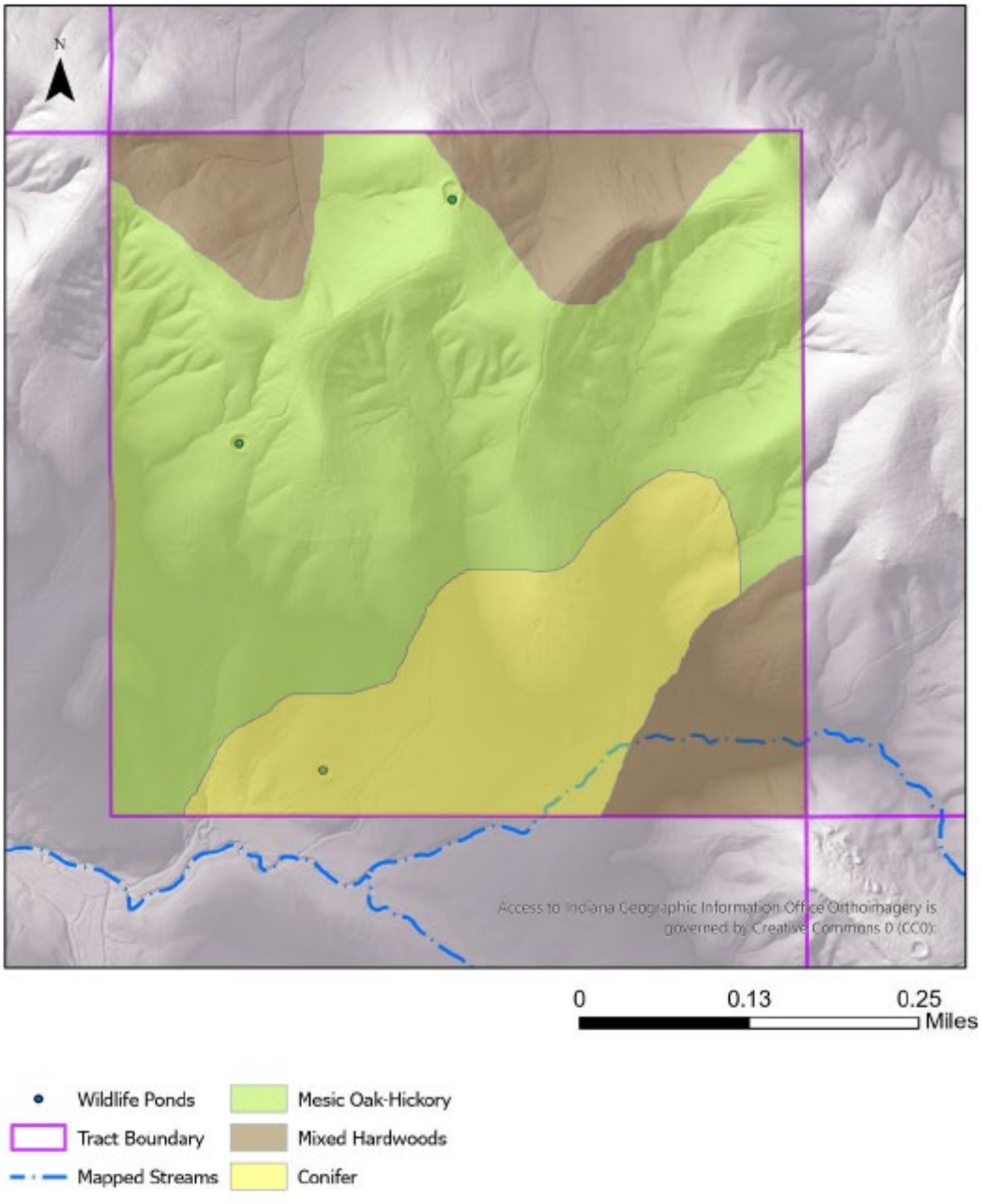
Ferdinand State Forest
Location Map
Compartment 6 Tract 4



Ferdinand State Forest
Compartment 6 Tract 4
Tract Map



Ferdinand State Forest
Compartment 6 Tract 4
Cover Types Map



Ferdinand State Forest	Compartment: 06	Tract: 05
Forester: Rusty Ahrndt	Date: 5/27/2025	Acres: 125
Management Cycle End Year: 2045	Management Cycle Length: 20 years	

Location
This tract, also referenced as 6310605, is in Perry County, Indiana, Sections 1 and 2, T4S, R3W, in Clark Township. The nearest town is Siberia, Indiana, located approximately 3.5 miles northwest of this tract.

General Description
This tract consists of conifer, dry oak-hickory, mesic oak-hickory and mixed hardwood forest on sandstone shale uplands. The pine is mostly located on the east portion of the tract with a cluster also located in the northwest. Approximately 98 percent of the area is forested. A power line right-of-way cuts through just west of center running north-south. There is an area near the western edge, where post oak is the dominant species, which might be considered a barren.

History

- 1951 – The northwest 19 acres were purchased in September from William and Susan Merckley of Perry County (book 6, page 217, deed #62-30-0025).
- 1958 – The southeast block was purchased as two parts, one 40-acre tract and one 60-acre tract. These tracts were purchased from Ollie and Joseph Hudson in September. The 60-acre tract also makes up part of neighboring Tract 0606.
- 1960 – The southwest block consisted of 77.95 acres and was purchased from Henry and Ella Hudson of Perry County in April 1960. This acreage included a 2.05-acre exclusion including a 30-foot-wide, 300-yard-long road on the west side of SE1/4, SW1/4, as well as a small area of buildings (book 6, page 566, deed #62-30-0049).
- 1973 – This tract was initially inventoried by S. Brandsasse. The silvicultural prescription suggested leaving the stand for 8-10 years and conducting a re-evaluation when the trees had matured more. The estimated total volume was 46,688 board feet, the small volume perhaps due to the agricultural conversion to woodlands.
- 1984 – Janet Eger re-inventoried the tract and provided no recommendation of cutting. She recommended boundaries be marked as soon as possible.
- 2000 – Gretchen Herbaugh inventoried the tract again and found a total volume of 463,737.80 board feet of total merchantable volume. She prescribed an improvement harvest to remove undesirable or poor-quality trees and over-mature oaks.
- 2003 – A timber harvest was conducted in March, removing 115,500 board feet within 66 acres of harvestable area. This was sold to Rasche Brothers.
- 2016 – An inventory of the tract was conducted by Evan McDivitt and Sabrina Schuler. They found a total of 579,850 board feet of total merchantable volume and recommended an improvement cut of approximately 177,550 board feet.
- 2025 – The tract was inventoried by Rusty Ahrndt. A total of 1,116,350 board feet of merchantable volume was found.

- 2025 – A resource management guide was written by Rusty Ahrndt and an improvement cut of between 300,000 and 500,000 board feet was recommended.

Landscape Context
The landscape around the tract is mostly forested with varying degrees of topography, except for where the property line adjoins two houses surrounded by lawns, one to the north and one to the south. There are agricultural fields to the south of the tract and to the north across Sinai Road.

Topography, Geology and Hydrology
Terrain is variable with some steep slopes and flat ridgetops. Hilly portions contain deep ravines and ridgetops ranging from 550 to 710 feet above sea level. Most slopes are east and west facing. There is no mapped intermittent stream located within this tract; however, one flows along the northernmost part of the northern border north of Sinai Road towards Anderson River. Soils formed from a mixture of colluvium from siltstone overlying the bedrock or from a mix of loess or silty slope alluvium overtopping the bedrock.

Soils
This tract is made up of 9 different soil types. Most of these soils are slope soils varying from 2-35% slopes. All are either characteristically designated as eroded or severely eroded.

Adyeville-Tipsaw-Ebal complex (AccG); *(59.9 acres)* is a somewhat excessively drained, eroded soil that covers most of the tract. It occurs on 20-50% slopes, and has been found along the major ridgetop dips within the tract. Permeability is moderate and surface runoff is low or medium.

The Adyeville soils are somewhat excessively drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. Slopes are 20 to 50 percent. The native vegetation is hardwoods. The surface layer is very fine sandy loam has moderate Or high organic matter content (2.0 to 6.0 percent). Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is low (4.0 inches in the upper 60 inches). The pH of the surface layer in nonlimed areas is 3.5 to 5.5. Bedrock is at a depth of 20 to 40 inches. The site index is 64 for northern red oak.

The Tipsaw soils are somewhat excessively drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. Slopes are 20 to 50 percent. The native vegetation is hardwoods. The surface layer is very fine sandy loam has moderate or high organic matter content (3.0 to 8.0 percent). Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is low (3.3 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 20 to 40 inches. The site index is 70 for Black oak, 70 for virginia pine and 70 for northern red oak.

The Ebal soils are moderately well drained, have a seasonal high watertable at 2.0 to 3.0 ft. and are on sideslopes on uplands. Slopes are 20 to 30 percent. The native vegetation is hardwoods. The surface layer is silt loam has moderate or high organic matter content (2.0 to 6.0 percent). Permeability is very slow (< 0.06 in/hr) in the most restrictive layer above bedrock. Available water capacity is moderate (7.2 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 50 to 80 inches. Site index is 80 for Black oak.

Adyeville-Wellson-Deuchars silt loams (AbvD2); *(12.1 acres)* is somewhat excessively drained to moderately drained, eroded soil that occurs on 8-20% slopes. This soil type is very deep and occurs on back-slopes of hills, especially in the southeast corner. Permeability is moderate and water runoff capabilities are very high.

The Adyeville soils are somewhat excessively drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. Slopes are 8 to 20 percent. The native vegetation is hardwoods. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is moderate in the most restrictive layer above bedrock. Available water capacity is low (4.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 5.5. Bedrock is at a depth of 20 to 40 inches. The site index is 64 for northern red oak.

The Wellston soils are well drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. Slopes are 8 to 20 percent. The native vegetation is hardwoods. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is moderate (8.8 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 6.0. Bedrock is at a depth of 40 to 60 inches. The site index is 81 for Red oak, 90 for tuliptree and 70 for Virginia pine.

The Deuchars soils are moderately well drained, have a seasonal high watertable at 2.0 to 3.0 ft. and are on sideslopes on uplands. Slopes are 8 to 20 percent. The native vegetation is hardwoods. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (9.0 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 60 to 80 inches. Site index is 90 for Red oak.

Adyeville-Wellson-Deuchars silt loams (AbvD3); *(2.4 acres)* is similar to AbvD2 except it is severely eroded. It also occurs in the southeast corner of the tract.

Apalone silt loam (AgrB); *(5.7 acres)* is a moderately well-drained soil occurring on 2-6% slopes. It occurs in the southeast corner of the tract where the pine stand is located. The site index is 60 for black oak, 60 for white oak, and 80 for yellow poplar.

Apalone silt loam (AgrC2); *(16.5 acres)* This moderately well drained soil has a seasonal high watertable at 2.0 to 3.0 ft. and is on sideslopes in uplands. This soil is similar to AgrB, except eroded slopes occur around 6-12%. The native vegetation is hardwoods. The surface layer is silt loam 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 60 inches. Available water capacity is moderate (7.2 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 6.0. Bedrock is at a depth of 72 to 100 inches. This soil type occurs on east- and west-

facing slopes typically within the tract in the northern, northwestern, and eastern portions along benches of hills. The site index is 60 for black oak, 60 for white oak, and 80 for yellow poplar.

Apalone silt loam (AgrC3); *(<1 acre)* This soil is similar to AgrC2, except slopes are severely eroded. This soil type can be found in the north-central part of the tract. It is the smallest soil type within the tract.

Ebal-Duechars-Kitterman complex (EabD2); *(11 acres)* is a deep, moderately well-drained soil found on the central north-facing slope and to the west on a west slope. It is eroded and has 12-24% slopes. Permeability is moderate and water runoff is rapid to medium.

The Ebal soils are moderately well drained, have a seasonal high watertable at 2.0 to 3.0 ft. and are on sideslopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwoods. The surface layer is silt loam 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 60 inches. Available water capacity is moderate (7.5 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 50 to 90 inches. Site index is 80 for black oak.

The Deuchars soils are moderately well drained, have a seasonal high watertable at 2.0 to 3.0 ft. and are on sideslopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwoods. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (9.0 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 60 to 80 inches. Site index is 90 for northern red oak.

The Kitterman soils are moderately well drained, have a seasonal high watertable at 1.0 to 2.0 ft. and are on sideslopes on uplands. Slopes are 12 to 24 percent. The native vegetation is hardwoods. The surface layer is channery silty clay loam has moderate or high organic matter content (2.0 to 10.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is low (4.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Bedrock is at a depth of 20 to 40 inches. The site index is 65 for black oak, 90 for tuliptree and 57 for white oak.

Ebal-Deuchars-Kitterman complex (EabD3); *(13 acres)* This soil is similar to EabD2, except it is severely eroded. It occurs along the powerline right-of-way.

Gatchel laom (GacAW); *(5 acres)* This somewhat excessively drained soil has a watertable at a depth greater than 40 inches and is on floodplains. Slopes are 0 to 2 percent. The native vegetation is hardwoods. The surface layer is loam has moderate moderately low organic matter content (1.0 to 3.0 percent). Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (6.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 5.6 to 7.3. It is found along the central drainages and at the very northern tip of the tract along the stream. This soil is subject to brief, occasional flooding periods. The site index is 95 for tuliptree.

Access
This tract has excellent access from the north and east. Going south along 145 toward Bristow, Indiana, turn right onto County Road 158 (Sinai Road). Upon encountering a fire lane to the right and private driveway to the left, the tract begins to the south. There are many pull-offs that can be utilized to gain access to the tract from Sinai Road. Coming from the west, turn on to Capers Road from State Road 62, which eventually turns into Sinai Road.

Boundary
County Road 158, also known as Sinai Road, forms the northern boundary of the eastern section. The portion of the northern boundary not delineated by Sinai Road is bounded by private property in-holdings. The western and southern borders are also abutted by private property. There is no obvious evidence of boundary signs on any of the corners demarking the tract.

The inventory revealed an absence of boundary markers. Old tree lines may be useful to identify property lines. In a past inventory conducted by G. Herbaugh in 2000, T-posts and a PK nail were found along the south line between the southeast corner and County Road 158. There was also evidence of two stones placed along the southern border as boundary markers. The stones were marked with carsonite posts and T-posts, and pink flagging used to delineate the boundary lines; however, very little of this marking remains today.

Ecological Considerations
A potential post oak barren was identified by Division of Nature Preserves Regional Ecologist Ryan Keller in 2020. Division of Forestry (DoF) Ecologist Megan Crecelius was consulted about managing the area in 2025 and it was recommended that a timber harvest would likely help restore this site back to a more noticeable barren community but skidding through the area should be avoided. Instead, skid trails should run around the border of the barren to help with future management (i.e., fire breaks, TSI, etc.).

Several instances of deer scat were observed during the inventory along with many squirrels, chipmunks, and a box turtle. The Merlin app from the Cornell Lab of Ornithology was used to identify bird calls. The bird species cataloged were Kentucky warbler, Northern parula, red-eyed vireo, wood thrush, tufted titmouse, blue jay, northern cardinal, red-bellied woodpecker, pileated woodpecker, white-breasted nuthatch, blue-gray gnatcatcher, worm-eating warbler, and yellow-throated vireo.

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.

In the compartment that includes this tract, inventory data indicate snag densities meet DoF targets in all size classes having a suitable sample for estimation. Though the sample at the compartment-level was insufficient for density estimation in the largest size-class (>=19” dbh),

the tract-level density reported from the inventory meets the DoF target for this size-class. Legacy tree densities exceed DoF compartment-level targets; although, retaining large diameter oaks, hickories, and maples will help ensure these densities remain above target densities following timber harvest.

Relatively few invasive species were observed during the inventory. Most invasive plants were noted along edges. The species identified were multiflora rose, Japanese honeysuckle, Japanese stiltgrass, and autumn olive. Multiflora rose and autumn olive were found mostly along the tract boundary with some occurrences beneath gaps in the canopy. Japanese stilt grass noted on old skid trails.

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 or communities were found to be associated with this area, the activities prescribed in this guide will be conducted in a manner that will not threaten population viability of those species or communities.

Recreation
There are no designated recreational trails in this tract; however, entry is relatively easy along Sinai Road, which can provide access for walk/hiking, wildlife viewing, bird watching, hunting, and foraging for mushrooms.

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

Tract Subdivision Description and Silvicultural Prescription

Mesic Oak-Hickory – 64 acres
The oak-hickory cover type provides very significant wildlife and timber resource values. The retention of oak and hickory species are important to the division's long-term forest management objectives. At the time of the inventory, this cover type comprised roughly 51% of the tract, or about 64.2 acres, and had a basal area of approximately 110.9 square feet per acre. The overstory was dominated by white oak, black oak and hickory.

There were black oaks surpassing maturity with signs of decline. A single-tree selection harvest is recommended to reduce competition, remove poor-quality stems, and remove over-mature trees (especially black oak). Removing the declining overstory will release understory trees, reduce future deformities and improve overall stand structure and quality. White oak, hickory, beech and sugar maple make up much of the understory. Timber stand improvement (TSI) should focus on reducing beech and maple competition with shade-intolerant species.

Dry Oak-Hickory – 16 acres
At the time of the inventory, this cover type comprised roughly 13% of the tract, or about 16 acres, and had a basal area of approximately 92.4 square feet per acre. A significant portion of this area was identified by Division of Nature Preserves Regional Ecologist Ryan Keller as a potential post oak barren in 2020. The overstory was dominated by post oak, white oak and

hickory. There were numerous oaks (mostly post oaks) in the understory along with some sassafras, dogwood, serviceberry, hickory and vaccinium.

A light single-tree selection harvest is recommended to thin the canopy and promote barren species. Division of Forestry Ecologist Megan Crecelius was consulted about managing the area in 2025 and it was recommended that a timber harvest would likely help restore this site back to a more noticeable barren community but that skidding through the barren should be avoided. Instead, skid trails should run around the border of the barren to help with future management. The location would make the use of fire difficult due to the slope and proximity to private land.

Mixed Hardwoods – 30 acres
This cover type comprised roughly 24% of the tract, or about 29.7 acres, with a basal area of 102.2 square feet per acre. The overstory is characterized by yellow-poplar, sugar maple, hickory and red maple with a beech-maple-dominated understory.

An improvement cut is recommended to release quality black walnut, oak and hickory trees from competition with less valuable species. The goal is to provide more resources to preferred hardwood species like oak, hickory, walnut, and other species important to wildlife. The harvest should also remove unhealthy, poorly formed, and damaged trees, such as those with low forks, suppressed growth, epicormic sprouting, or decay. The long-term result of the harvest should be to increase timber and wildlife habitat. Group selection is a possibility in areas that have low-quality, diseased/damaged stems, low basal area, or maturity to help maintain long-term forest regeneration. Post-harvest TSI is recommended to reduce beech and maple stocking and foster shade intolerant species.

Conifer – 15 acres
Pines were typically planted for erosion control purposes during the first half of the 20th century. As these pines have matured and slowly declined, native hardwoods have become established in canopy gaps and have, to an extent, reached the overstory. At the time of the inventory, pine covered roughly 12.2% of the tract, or about 15.31 acres, with a basal area of 121.1 square feet per acre. The overstory was composed of larger white pine and Virginia pine. The understory was mostly open with a few scattered tulip trees and maple saplings where hardwoods intermix with pine.

The primary objective for harvesting in pine areas would be to accelerate the transition to a mixed hardwood stand structure. Patch-cut openings or group selection should be implemented to achieve this goal.

The current forest resource inventory was completed on 5/27/25 by Forester Rusty Ahrndt. A summary of the estimated tract inventory results are located in the tables below.

Tract Summary Data (Trees > 11" DBH)

Category	Estimate
Tract Acres (Forested)	125
Gingrich Stocking Percent (%)	90
Trees Per Acre	135
Basal Area Per Acre (SQFT)	108
Volume Per Acre (BDFT)	8930

Tract Summary Data (trees >11”DBH):

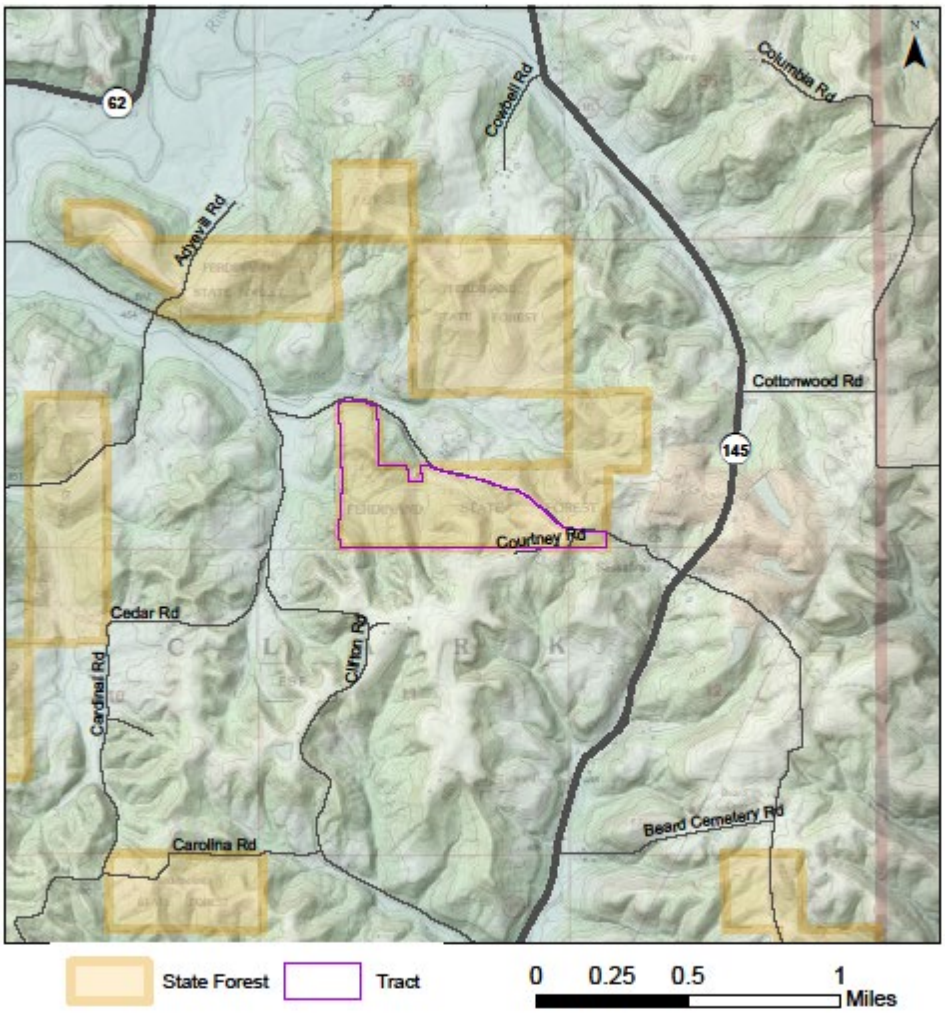
Species	# Sawtimber Trees	Total Bd. Ft.
White oak	1,047	236,420
Black Oak	741	165,030
Pignut Hickory	1,089	133,930
Eastern White Pine	483	119,700
Yellow Poplar	510	110,970
Sugar maple	944	80,370
Northern red oak	91	48,070
Virginia Pine	297	38,900
Red Maple	217	33,040
Shagbaark Hickory	202	32,530
Scarlet Oak	173	23,970
Post Oak	348	21,860
American Beech	179	20,880
Black Locust	61	19,220
Blackgum	215	10,730
Black Walnut	94	8,120

American Sycamore	31	7,800
Black Cherry	75	3,200
Persimmon	97	1,600
Total:	6894	1,116,350

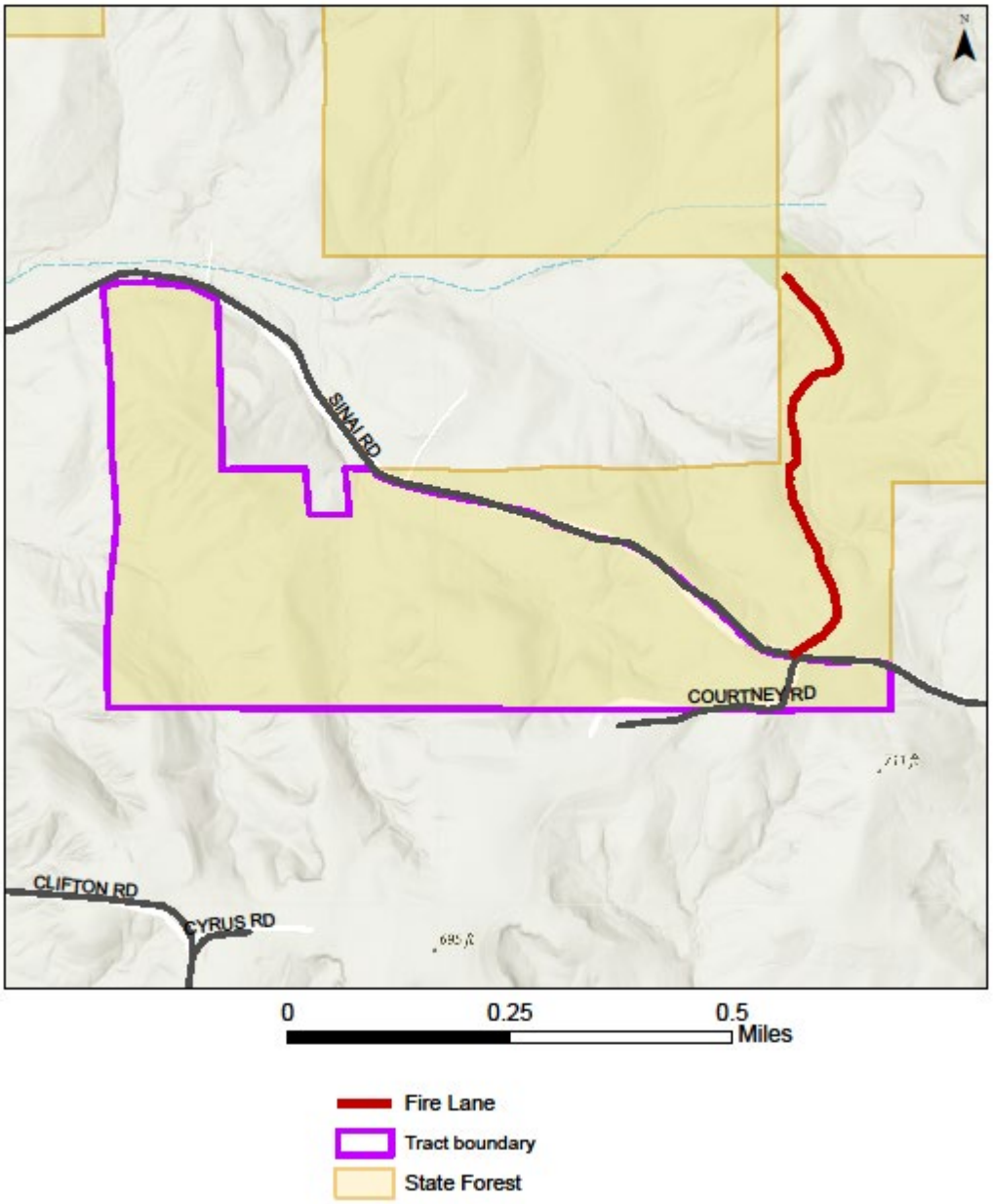
Summary Tract Silvicultural Prescription and Proposed Activities
A timber harvested is recommended to remove between 300,000 and 500,000 board feet. The tract contains a mixture of over-mature trees, mature trees and young growing stock as well as planted conifer stands that are deteriorating. Single-tree and group selection, with possible patch-cut openings, will improve the overall vigor of the tract. The goal is to free the crowns of preferred trees to improve vigor and health and to remove pines to capture their value before decline or loss and promote the transition into native hardwoods. This cutting should also remove unhealthy, poorly formed, or damaged trees, such as those with low forks, suppressed growth, epicormic sprouting, or decay. The primary objective for harvesting in pine areas would be to accelerate the transition to native hardwoods by creating gaps in the canopy. Patch-cut openings or group selection cuts should be implemented to achieve this goal. A shelterwood system should be considered if and where it is deemed appropriate at the time of marking. The stand could benefit from the application of prescribed fire. However, the proximity of private land could make the use of fire impractical. The long-term result of the harvest should be to increase timber production and the quality of wildlife habitat.

Proposed Management Activity	***Proposed Period***
Vine and invasive species work	2026-2027
Timber harvest	2026-2027
Post-harvest TSI	Within 2 years of harvest
Next forest inventory	2045

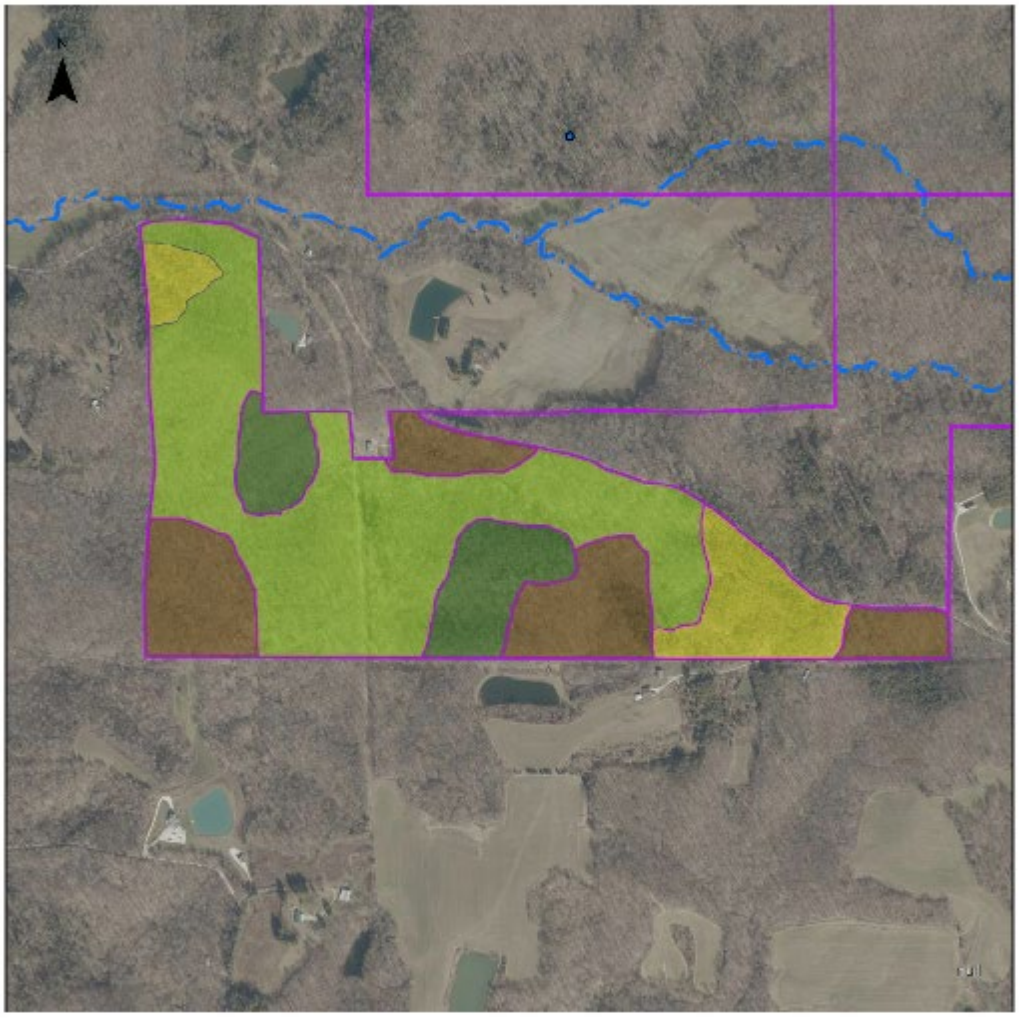
Ferdinand State Forest
Location Map
Compartment 6 Tract 5



Ferdinand State Forest
Compartment 6 Tract 5
Tract Map



Ferdinand State Forest
Compartment 6 Tract 5
Cover Types Map



Pike State Forest	Compartment: 12	Tract: 09
Foresters: Hanna Tapley & Rusty Ahrndt	Date: 8/11/2025	Acres: 192
Management Cycle End Year: 2045	Management Cycle Length: 20 years	

Location
This tract, also referenced as 6311209, lies within Sections 14, 15, 22 and 23 of Township 2 South and Range 7 west in Marion Township in Pike County, Indiana. It is approximately 3.5 miles southeast of Winslow, Indiana.

General Description
Much of this tract consists of old mining spoils from past strip mining. A large portion of the area was cleared in 2024 in preparation for a high-wall reclamation project. Currently, the tract is a mix of naturally regenerated forest, reclaimed mine areas, pine plantings, hardwood plantings, wetlands and some open ground. This tract contains old mine roads as well as a couple of creeks or runoff areas from mines. The tract is a patchwork of forest types that vary in age, composition and origin.

History

- 2004 - The northeast portion of the tract was acquired by the state as part of 250 acres purchased from James C Ellis III and Yondell Bruce Embry for $231,995. Deed 63-063-30.
- 2006 - Most of the tract (sections 14 and 15) was acquired by the state as part 550 acres purchased from James C Ellis III, Trustee, James C Ellis Estate Trust for $54,573.50. Deed 63-064-30.
- 2007 - A small portion of the tract (sections 22 and 23) was acquired by the state as part of 798 acres purchased from James C Ellis III, Trustee, James C Ellis Estate Trust for $831,500. Deed 63-068-30.
- 2021 - A forest inventory was conducted, and a total of 877,470 board feet were found, of which 223,660 board feet were identified as available for harvest.
- 2024 - A timber harvest combining portions of 6311208 and 6311209 was carried out in preparation for a high wall project, removing a combined total of 244,083 board feet of sawtimber and 382.7 pole cords. The sale was purchased by Jim Graber Logging in April for $61,500.
- 2025 - Callery pear in the hardwood plantings was treated with a basal application of triclopyr.
- 2025 - An inventory was conducted by Hanna Tapley and Rusty Ahrndt of the southern portion of the tract not included in the high wall project. A total of 540,343 board feet were found, of which 221,770 board feet were identified as available for harvest.
- 2025 - A management guide was written by Hanna Tapley and Rusty Ahrndt and an improvement cut of between 75,000 and 150,000 board feet was recommended for the eastern half of the inventoried area.

Landscape Context
The landscape around this tract is entirely forested with varying topography. Most of the surrounding land is managed by the Division of Forestry (DoF). The only exception is the private inholding on the north border of the tract.

Topography, Geology and Hydrology
Terrain is highly variable with some very steep slopes and flat bottomland. Elevation ranges from 450 to 550 feet above sea level. Spoil piles from surface mining are found in the northern and central regions. The southeastern leg of the tract contains ridges that run generally north-south as well as mapped intermittent streams. The streams combine and flow to the south-east where they drain into a 1-mile watershed stream which flows north and joins the Patoka River.

Soils
Belknap silt loam (Bg); *(17.7 acres)* is a deep, somewhat poorly drained soil that is found in flood plains. The depth to a restrictive feature is more than 80 inches. The depth to the water table is about 6 to 24 inches. Permeability is moderate and water runoff capability is very low. It occurs on 0 to 2 percent slopes and has been found in creek bottoms and low areas in the western portion of this tract that are frequently flooded.

Fairpoint Bethesda complex (FbG); *(45.8 acres)* is a deep, somewhat excessively drained, moderately slowly permeable soil formed of regolith in surface-mined areas. It occurs on 25 to 70 percent slopes. The depth to a restrictive feature is more than 80 inches. The runoff potential is medium. The depth of the water table is more than 80 inches. This soil type is found running through the center of the tract.

Fairpoint Bethesda complex (FbC); *(69.5 acres)* occurs on slopes of 8 to 15 percent. The depth to a restrictive feature is more than 80 inches. It is well drained and has a medium water runoff potential. The depth to the water table is more than 80 inches. This soil type was found in the northern portion of the tract.

Gilpin silt loam (GnE); *(37 acres)* is a moderately deep, well drained, moderately permeable soil in the uplands. Ito occurs on slopes ranging from 15 to 30 percent. The depth to a restrictive feature is 20 to 40 inches to paralithic bedrock. The water runoff potential is high. The depth to the water table is more than 80 inches. This soil type was found in upland areas that were not formed from mine spoils.

Apalona-Zanesville silt loams (ZaC3); *(4.6 acres)* are moderately well drained. They occur on slopes of 6 to 12 percent. The depth to a restrictive feature is 16 to 27 inches to fragipan; 69 to 85 inches to paralithic bedrock. They have very high runoff potential. The depth of the water table is about 14 to 25 inches. This soil type is found on hillslopes.

Apalona-Zanesville silt loams (ZaB); *(13 acres)* are moderately well drained. They occur on slopes of 2 to 6 percent. The depth to a restrictive feature is 20 to 30 inches to fragipan; 75 to 93 inches to paralithic bedrock. They have a medium water runoff potential. The depth of the water table is about 17 to 28 inches. This soil type is found on ridges.
Wellston silt loam (WeE); *(2.7 acres)* is a deep, well drained, moderately permeable soil on

uplands. It occurs on slopes of 15 to 30 percent. The depth to a restrictive feature is 40 to 60 inches to paralithic bedrock. It has a high runoff potential. The depth of the water table is more than 80 inches. This soil was found in the northern portion of the tract.

Access
This tract has generally good access via County Road 650 and from fire lane 8.

Boundary
The tract boundary is almost entirely internal to Pike State Forest and is based upon geographic and artificial features. County Road 650 forms the western boundary, the southern boundary is delineated by fire lane 8 and the eastern boundary follows a mapped intermittent stream. The tract adjoins a private inholding to the north.

Ecological Considerations
Several deer were observed during the inventory as well as a fox, a coyote, various frogs and a vole. birds observed included turkey, red eyed vireo, woodpeckers, tufted titmouse and Acadian flycatcher.

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.

In the compartment that includes this tract, inventory data indicate snag densities exceed DoF targets in all size classes. The largest size class (>=19" dbh) inventory density exceeds even the "optimal" target. Legacy tree densities exceed DoF compartment-level targets; although, retaining large diameter oaks, hickories, and maples will help ensure these densities remain above target densities following timber harvest.

The invasive plant species identified were multiflora rose, Japanese honeysuckle, bush honeysuckle, Japanese stilt grass, and autumn olive. Most of the invasive plants were found along forest edges and in the western half of the inventoried area.

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 or communities were found to be associated with this area, the activities prescribed in this guide will be conducted in a manner that will not threaten population viability of those species or communities.

Recreation
There are no designated trails in this tract. However, entry is relatively easy from County Road 650 and fire lane 8 which can provide access for walking/hiking, wildlife viewing, bird watching, hunting, and foraging for mushrooms.

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
This tract is diverse with 11 acres of water in the southeast corner, 43 acres in the center as part of a current high-wall project with the Division of Reclamation's Abandoned Mine Land program, and about 27 acres of mine spoils in the northern portion of the tract. Oak-hickory, mixed hardwoods, and tree plantings make up the remainder of the tract.

Mesic Oak-Hickory – 35 acres
The oak-hickory cover type provides very significant wildlife and timber resource values. The retention of oak and hickory species are important to the division's long-term forest management objectives. At the time of the inventory, this cover type comprised roughly 33% of the area inventoried, or about 35 acres, and had a basal area of approximately 121.1 square feet per acre. The overstory was dominated by white oak, black oak, and northern red oak.

A single-tree selection harvest is recommended to reduce competition, remove poor-quality stems, and remove over-mature trees (especially black oak). Removing the declining overstory will release understory trees, reduce future deformities, and improve overall stand structure and quality. American beech and sugar maple make up much of the understory. Timber stand improvement (TSI) should focus on reducing beech and maple competition with less shade tolerant species and promoting the recruitment of oak and hickory into the overstory.

Mixed Hardwoods – 61 acres
This cover type comprised roughly 58% of the area inventoried, or about 61 acres, with a basal area of 90.5 square feet per acre. The most common species in the overstory was yellow poplar and the understory was dominated by American beech and sugar maple.

An improvement cut is recommended to release oak and hickory trees from competition with less valuable species. The goal is to provide more resources to preferred hardwood species like oak, hickory, walnut and other species important to wildlife. The harvest should focus on the removal of unhealthy, poorly formed or damaged trees, such as those with low forks, suppressed growth, epicormic sprouting, or decay. Post-harvest TSI is recommended to reduce beech and maple stocking and foster shade intolerant species.

Tree Planting – 15 acres
The tree plantings were found to be successful with good survival. No harvest or thinning is recommended in these areas at this time; however, they could benefit from further treatment of invasive plants such as autumn olive, honeysuckle, and multiflora rose.

The current forest resource inventory was completed on 8/11/25 by Foresters Hanna Tapley and Rusty Ahrndt. Summary of the estimated tract inventory results are located in the tables below.

Tract Summary Data (Trees > 11" DBH)

Category	Estimate
Tract Acres (Forested)	106
Gingrich Stocking Percent (%)	80
Trees Per Acre	160
Basal Area Per Acre (SQFT)	96.1
Volume Per Acre (BDFT)	5,163

Tract Summary Data (trees >11”DBH):

Species	# of Trees	Total Bdft
Yellow Poplar	1,489	158,900
White Oak	678	119,350
Black Oak	531	54,880
Northern Red Oak	239	43,850
Bitternut Hickory	332	35,160
Scarlet Oak	173	24,580
Sugar Maple	326	18,030
Pignut Hickory	178	16,140
Shagbark Hickory	114	16,060
American Beech	108	12,770
Red Maple	87	10,450
White Ash	128	4,870
Blackgum	69	5,840
Eastern White Pine	86	5,750
Black Walnut	65	3,090
Black Cherry	12	2,780
River Birch	74	2,000
Eastern Cottonwood	76	1,900
Sweetgum	94	1,700
Total:	4,859	538,100

Summary Tract Silvicultural Prescription and Proposed Activities

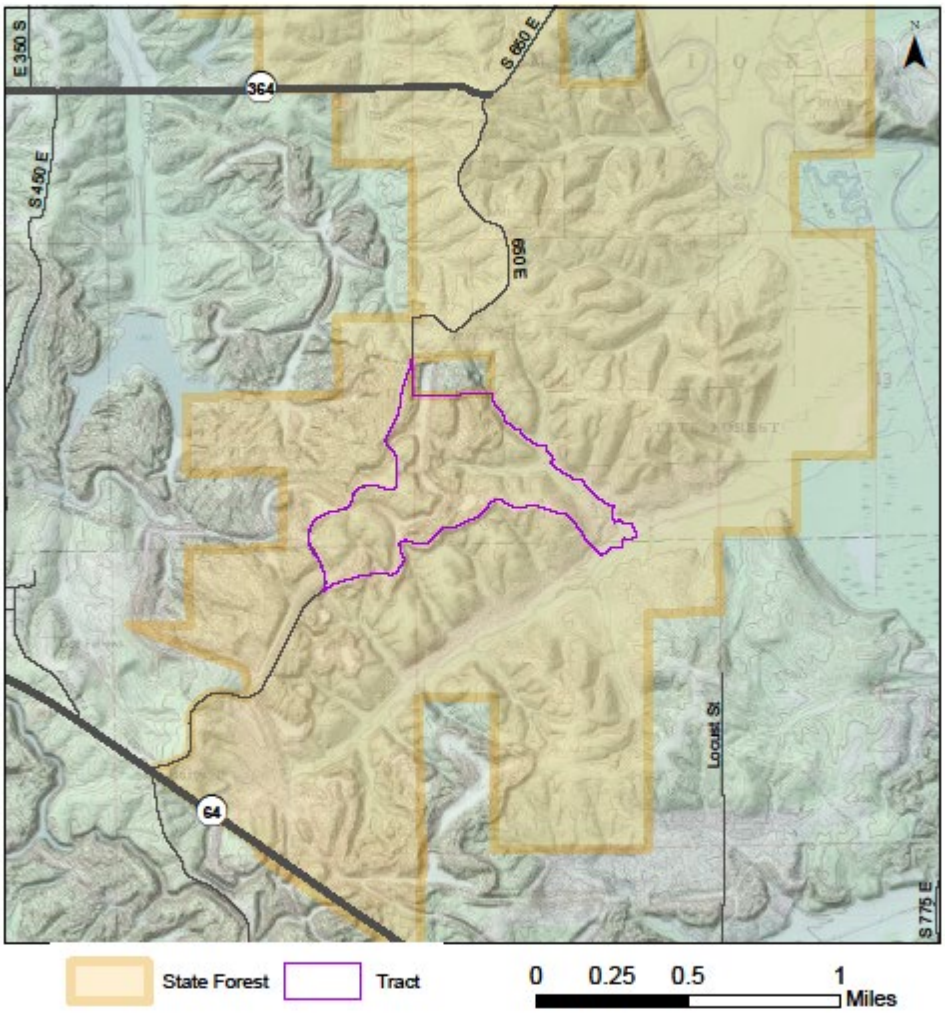
It is recommended that a timber harvest remove between 75,000 and 150,000 board feet from the southeast of the tract. The southwestern portion of the tract could be included when 6311406 and 6311407 are scheduled for a timber harvest. Single-tree selection will improve the vigor of the stand. The goal of the harvest should be to free the crowns of preferred trees (oak, hickory and others important for timber and wildlife) to improve overall vigor and health of the tract. The timber harvest should also focus on the removal of unhealthy or damaged trees such as those with low forks, suppressed growth, epicormic sprouting or decay. The long-term result of the harvest should be to increase timber and wildlife habitat. A shelterwood system should be considered if and where it is deemed appropriate at the time of marking. The tract could benefit

from the application of prescribed fire; however, the proximity of spoils from surface mining and the possibility of coal fires should be considered.

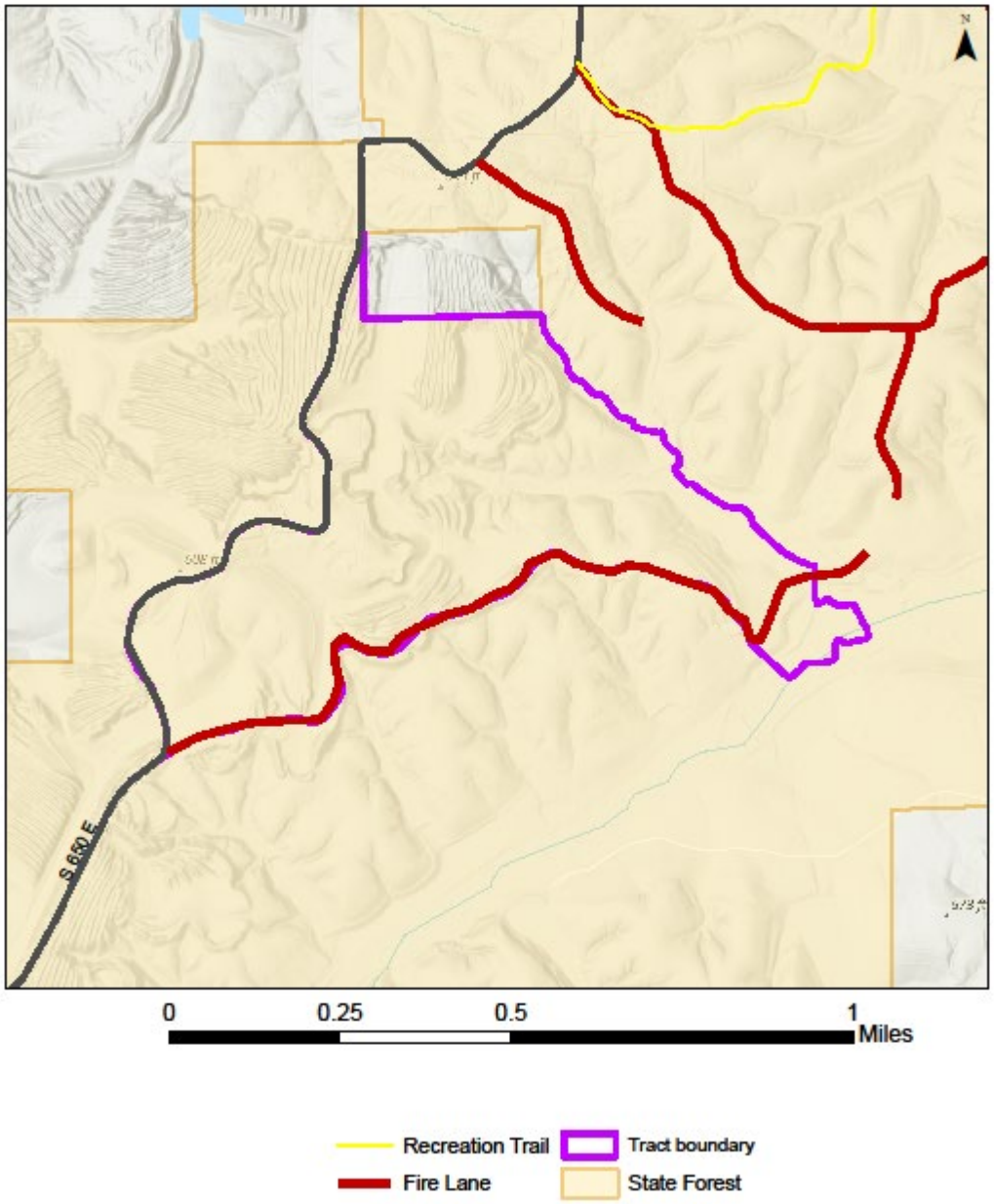
Proposed Activities Listing

Proposed Management Activity	***Proposed Period***
Vine and invasive species work	2025-2026
Timber harvest	2026-2027
Post-harvest TSI	Within 2 years of harvest
Next forest inventory	2045

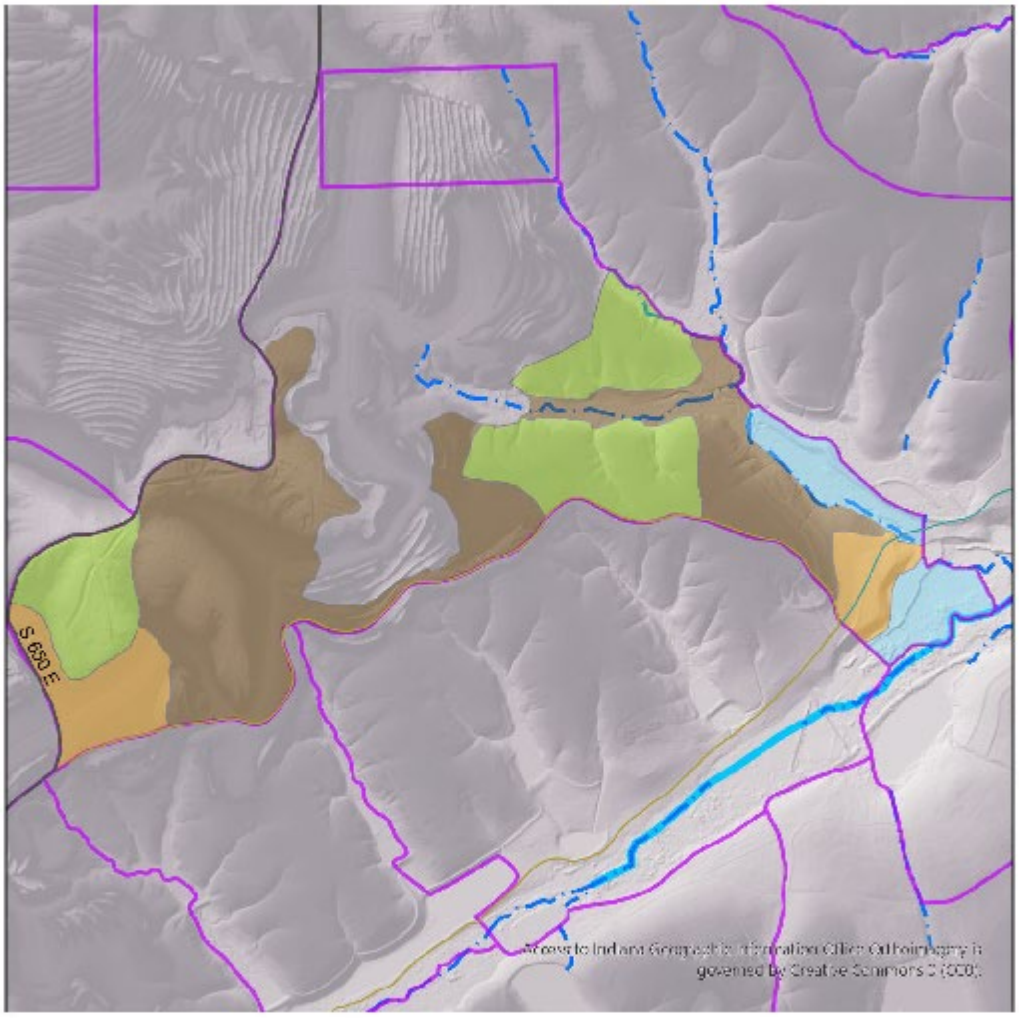
Pike State Forest
Location Map
Compartment 12 Tract 9



Pike State Forest
Compartment 12 Tract 9
Tract Map



Pike State Forest
Compartment 12 Tract 9
Cover Types Map



Mapped Streams
1-Mile Streams
County Road
Mesic Oak-Hickory
Mixed Hardwoods
Tree Planting
Water
Firelane 8 extension
Firelane 8

0 0.13 0.25 Miles