Resource Management Guides
Yellowwood State Forest
30-day Public Comment Period (May 6, 2025 – June 4, 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 Yellowwood State Forest.

Compartment 1 Tract 1
Compartment 1 Tract 2
Compartment 1 Tract 4

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.

Yellowwood State Forest	Compartment: 1	Tract: 1
Forester: Derrick Potts	Date: 10/12/2017	Acres: 139
Management Cycle End Year: 2044	Management Cycle Length: 20 years	

Location
Located in Section 12, Township 8N, Range 1E of Brown County, Indiana. Approximately twelve miles from Nashville, Indiana, the tract is located west of T.C. Steele Road, the access road passes through T.C. Steele State Historic Site property.

General Description
Most of the tract is hardwood forests, especially oak-hickory cover type. Other cover types include mixed hardwood and planted pine. The most recent harvest in this tract occurred in 1995. This was primarily an improvement cut and light thinning which focused on removal of fire damaged and other lower quality trees. There was also a regeneration opening created totaling 0.5 acres. Timber stand improvement (TSI) was performed in 1996 and focused on cull trees, vine control, and opening completion. As a result of past efforts, the current overall timber quality within this tract is good and consists mainly of medium-to-large size class. The old regeneration opening is now 23 years old and contains sapling and pole sized mixed hardwoods.

History
Due to tract boundary changes, the first history section pertains to the portion of the tract that was formerly C01 T01 (6420101) and formerly C01 T04 (6420104). The former tract 01 was 97 acres and was the area north of the access road; the former tract 04 was 117 acres and included area south of the road. The state acquired this acreage from the federal government on October 30, 1956. Fencing was noted along portions of the northern boundary during reconnaissance of tract in 2011.

Former Tract 01 History:
- 9/76 CETA crew; TSI
- 10/76 Forester Akard; Marked timber harvest
- 11/76 Forester Williams; Timber cruise 121,178 board feet (bd.ft) harvest vol. 430,232 bd.ft. leave vol., 3,323 bd.ft./acre.
- 11/76 Forester Akard; Timber sale. Sold to Foley's $11,213.48
- 1/82 Forester Gray; Encroachment noted, pasture fields over the boundary line
- 1/85 Forester Duncan; Timber harvest marking tract 03 using tract 01 yards
- 9/8/92 Forester Eckard; Passed archeological review
- 5/13/93 Forester Eckard; forest inventory
- 12/27/94 Forester Eckard; management guide
- 1/2/95 Forester Eckard; began timber harvest marking
- 1/27/95 Forester Eckard; Harvest marking completed. Est. 106,003 bd.ft 431 trees
- 7/26/95 Forester Eckard; Timber sale. Est. 109,565 bd.ft., 439 trees, 68 culls Sold to Crone Lumber $22,486.00. Three other bidders
- 8/22/95 Forester Eckart; Timber harvest. Jerry Kinser logging for Crone
- 9/11/95 Forester Eckart; Timber harvest completed
- 9/28/95 Forester Eckart; Sale close-out. Log yards and haul roads disked and seeded

- 10/3/95 Forester Eckart; Erosion control. Log yards mulched
- 2/2/96 Forester Eckart; TSI by CR&R crew completed the small opening
- 11/11/04 Forester Kaina; TSI scheduled. Ailanthus noted in the opening created with 1995 harvest
- 7/2010 Forester Kush; tract inventory

Former Tract 04 History:

    - 1969 Timber harvest - 19-acre clearcut on south facing slope
    - 1976 TSI
    - 1977 Harvest 59,839 bd.ft. sold to Harry Moore
    - 1982 Cruise (inventory)
    - 1997 Inventory 5,367 bd.ft. present, 1,652 bd.ft. harvest
    - 1999 Harvest, 54,518 bd.ft., 52 acres sold to Kinser Timber Products
- 2016 Forester Potts; tract boundary change, 97 acres to 139 acres to include area south of the access road.
- 2017 Forester Potts; tract inventory

Landscape Context
The surrounding landscape near the tract is predominantly closed-canopy deciduous forest. The primary block of Yellowwood State Forest lies to the south, east and west. Private landownerships dominate to the north with a mix of developed areas, forests and agricultural lands. Other minor cover/habitat types include cropland and grasslands/hayfields/pasture.

Landscape level forest threats include parcelization and development of private land tracts, and introduction of invasive plants that are routinely introduced during home landscaping efforts.

Topography, Geology and Hydrology
The general topography of this region consists of unglaciated, sharply dissected hills, narrow ridges and valleys. The underlying bedrock is Mississippian sandstone, shale, and siltstone.

This tract lies within the Stephens Creek-North Fork Salt Creek and Brummett Creek-North Fork Salt Creek subwatershed. Water resources within this hydrologic boundary are part of the Lake Monroe-Salt Creek watershed.

Riparian features (mapped and unmapped intermittent streams) are present on portions of the tract. General riparian management zone (RMZ) guidelines will be implemented in these areas in accordance with the Indiana Logging and Forestry Best Management Practices 2022 BMP Field Guide.

Soils
<u>BgF- Berks-Trevlac-Wellston complex, 20 to 70 percent slopes (97 acres)</u>
These moderately steep to very steep well drained soils are on hillsides in the uplands. They are fairly well suited to trees. Erosion hazards and equipment limitations are main management concerns due to slope. Consideration should be given during sale planning and implementation

of Best Management Practices for Water Quality. This complex has a site index of about 70 for northern red oak.

WaD- Wellston-Berks-Trevlac complex, 6 to 20 percent slopes (31 acres)
These moderately sloping to moderately steep, well drained soils are on side slopes and narrow ridgetops in the uplands. They are well suited to trees. Seedling mortality can be an issue on south facing Berks soils due to droughty conditions. This complex has a site index of about 70 for northern red oak.

WeC2- Wellston-Gilpin silt loams, 6 to 20 percent slopes, eroded (11 acres)
These moderately sloping to moderately steep, well drained soils are on side slopes and ridgetops in the uplands. They are well suited to trees. This complex has a site index for northern red oak of 71 in the Wellston and 80 in the Gilpin.

Access
The access road is a fire lane that crosses the T.C. Steele Historic Site property off T C Steele Road. This fire lane is in good condition and was used in 2009 for two timber sales. The gate is approximately 2 miles south from the intersection of State Highway 46 and T C Steele Road. Access within the tract is good to average.

Boundary
Privately owned property borders this tract to the north, Morgan-Monroe State Forest to the west, and other Yellowwood State Forest tracts to the east and south. Private boundaries were last marked in 2022.

Most of the boundaries are defined by deep ravines and intermittent streams.

Ecological Considerations
This tract contains diverse vegetation and wildlife resources (age, type, structure) conducive to providing habitat for a variety of wildlife species. Habitat includes:

- contiguous oak-hickory canopy
- contiguous mixed hardwood canopy
- pine planting

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

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.

The tract is completely forested, mostly by oak-hickory forest. A small remnant of planted pine exists on the eastern end of the tract and mixed hardwood forests dominate the bottomlands.

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
Although no permanently established recreation trails or developments are present in this tract, there are still several recreational opportunities.

Hunting is permitted and this area also offers opportunities for certain types of gathering and wildlife viewing.

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
Mesic Oak-Hickory - 121 acres
The cover type is predominantly mature oak-hickory with mixed hardwoods, such as yellow-poplar, sugar maple, white ash, red maple, and American beech, more common on north and east slopes. A mix of diameters are present, but the timber resource consists of a mostly large size class. Oak species account for the majority of the total volume in the tract, with chestnut oak and black oak being the most prevalent. The understory is dominated by American beech and sugar maple.

Mixed Hardwood - 14 acres
The cover type is predominantly mixed hardwoods with some oak-hickory present on the south aspects. Primary species include yellow poplar, white ash and sugar maple. A mix of diameters are present, but the timber resource consists of a mostly large size class. The understory is dominated by American beech and sugar maple.

Conifer - 4 acres
The cover type is planted pine and is located on the ridgetop along the eastern tract boundary. The stand consists of almost pure Virginia pine that is stagnant and in general decline. The Virginia pine is pole to small sawtimber in size.

The current forest resource inventory was completed in October 2017 by Forester D. Potts. A summary of the estimated tract inventory results is in the table below.

Tract Summary Data (trees >11"DBH):

Species	# of Sawtimber Trees	Total Bd. Ft.
Chestnut oak	2,328	427,050
White oak	1,220	271,360
Black oak	1,031	281,300
Sugar maple	467	38,630
Pignut hickory	419	76,590
Scarlet oak	377	90,360
Northern red oak	338	118,330
Yellow poplar	228	109,410
Virginia pine	178	27,830
Sassafras	154	7,990
Red maple	86	8,100
Bitternut hickory	73	5,320
Largetooth aspen	70	5,040
White ash	65	5,660
Blackgum	47	1,490
Mockernut hickory	30	3,550
Hackberry	21	3,100
Total	**7,129**	**1,481,110**

Summary Tract Silvicultural Prescription and Proposed Activities
This tract is well stocked, and a managed timber harvest is prescribed. The following silvicultural prescriptions are recommended.

Selection & Improvement/Thinning Cutting
A combination of selection, improvement and thinning cuttings are prescribed in this tract. The goal is to improve growth and vigor on the highest quality and most vigorous oak, hickory and mixed hardwood stems. This should be accomplished primarily through single-tree selection and release thinning. Individual trees targeted for removal should include the following: competing mixed hardwoods, suppressed trees, trees damaged by past fire or grazing, wind-damaged trees, drought-stressed trees, and any other dominant or co-dominant trees that are overtopping or suppressing quality growing stock. The residual stocking in these areas should remain above the B-line (70-75 sqft/acre) according to the Gingrich stand density chart for upland hardwoods.

Patch-cut openings may be implemented in areas dominated with poor growing stock, creating a component of mixed hardwood regeneration, young forest and important early successional habitat. Low thinning may also be utilized in denser, even-aged areas with large amounts of suppressed and intermediate trees that are likely to drop out from competition. This method can

also be employed to reduce the density of shade tolerant species such as sugar maple, red maple, and American beech in an attempt to establish and promote advanced oak-hickory regeneration.

Pine-to-Hardwood Conversion

Due to the poor condition of the Virginia pine, a conversion to native hardwoods is prescribed. This should be accomplished primarily through an even-age method such as patch-cuts. In areas where sufficient stocking of vigorous dominant, co-dominant, and intermediate mixed hardwoods exit single-tree or group selection is recommended. A light improvement cutting of the hardwood trees may be necessary.

Prescribed Fire

Due to the large component of oak-hickory forest within the tract, prescribed fire is recommended for part of the tract. This would be part of a larger prescribed fire encompassing parts of several neighboring tracts. Prescribed fire effectively controls fire intolerant species such as beech, maple, and ironwood, while promoting the regeneration of more fire adapted species such as white oak and pignut hickory. Oak-hickory forests are declining across the central hardwood region and should be managed for whenever it is possible and practical to do so to maintain them. Oak-hickory forests are extremely important, both economically and ecologically.

TSI

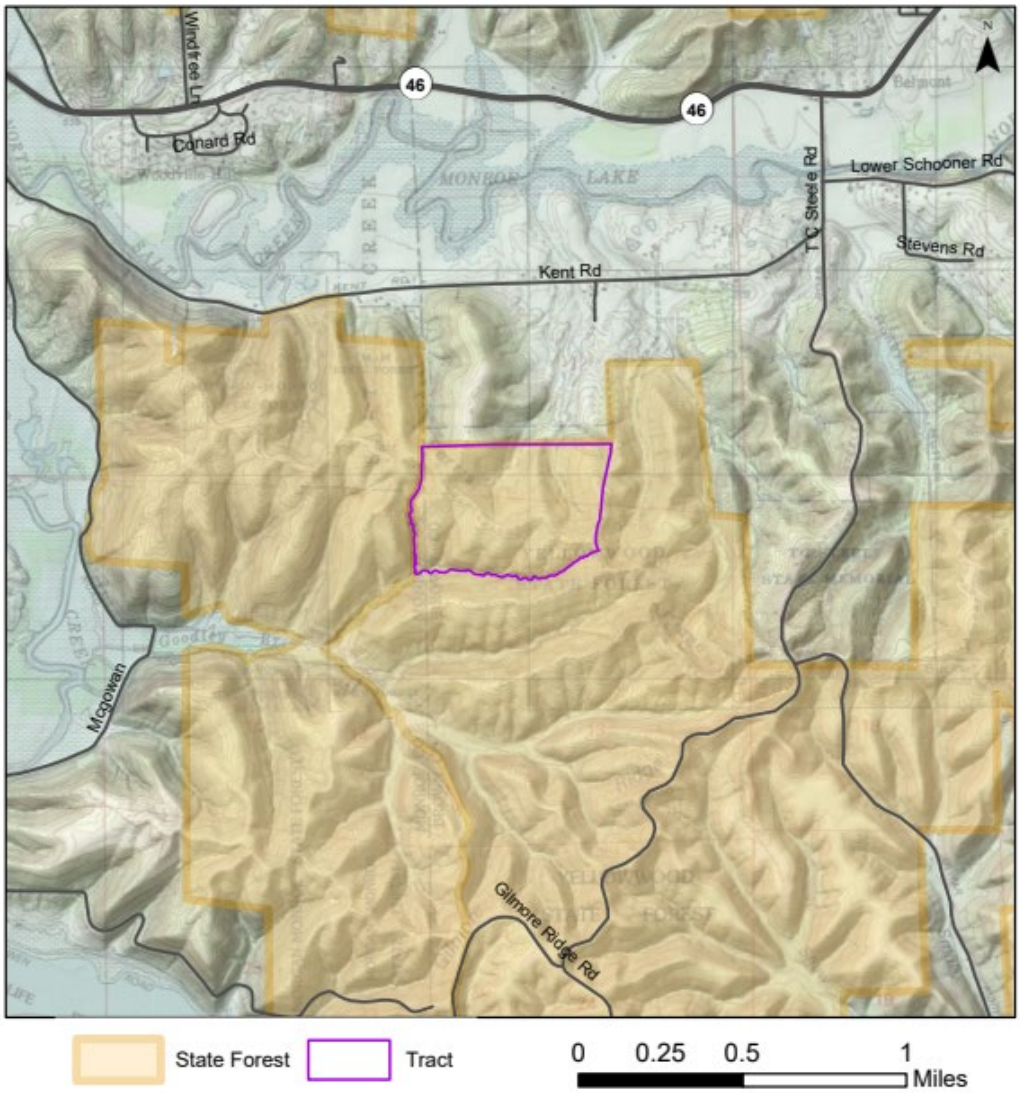
TSI is prescribed for the following:

- Vine control – post harvest
- Crop tree release – post harvest
- Regeneration opening completion – post harvest
- Large snag creation – Post-harvest as part of opening completion and crop tree release
- Coppicing – Post-harvest as part of opening completion operation – limited to young oaks, black walnuts, and yellow-poplar.
- Exotic Control – Potential Pre-harvest in openings, post-harvest as needed

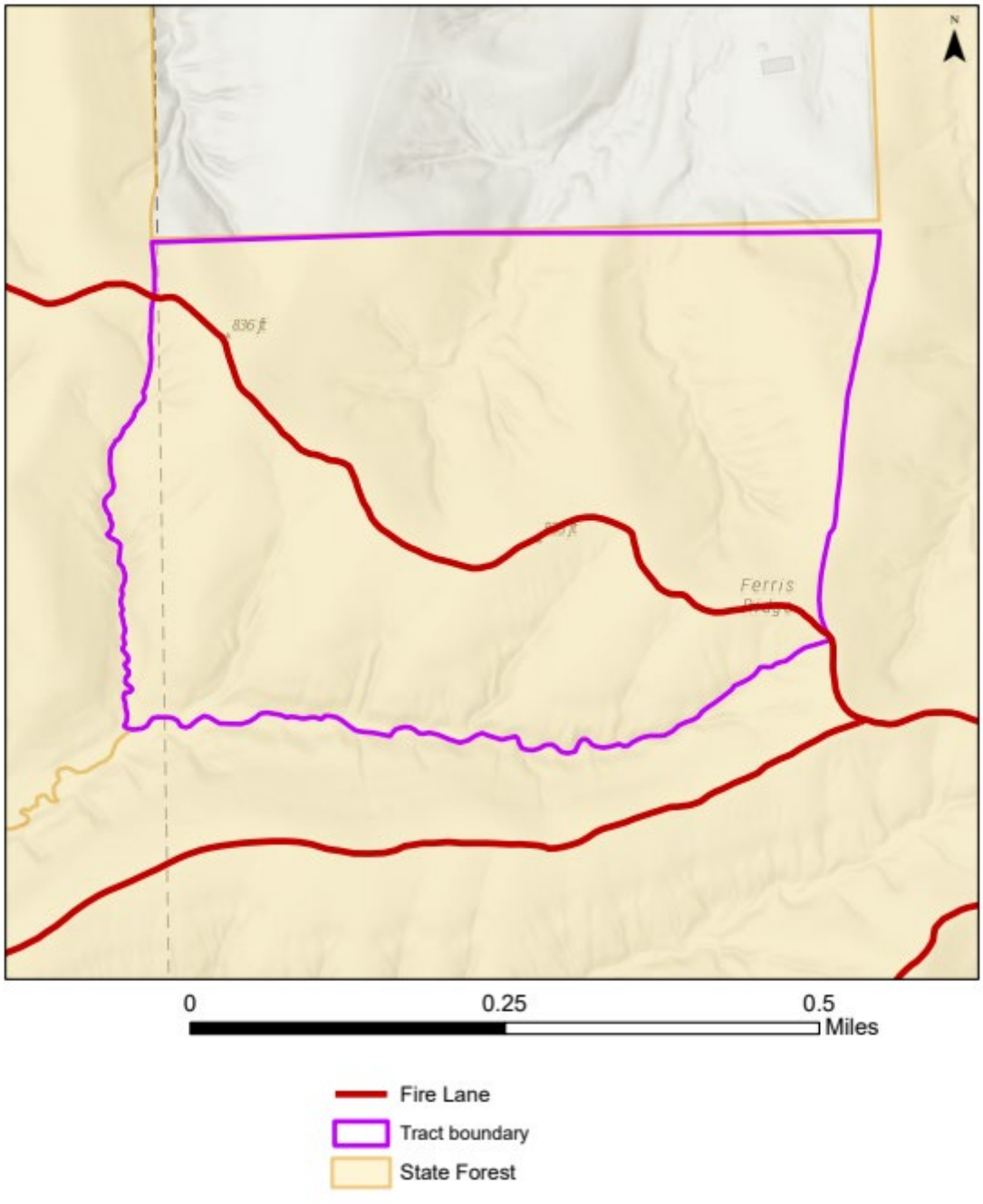
Proposed Activities Listing

Proposed Management Activity	*Proposed Period*
Prescribed fire	2025
Timber Marking	2025-2026
Road/log landing work	2026
Timber sale	2027
Timber sale closeout	2028
BMP review	2028/2029
Post-harvest TSI/invasive treatments	2029/2030
3-year regeneration opening review	Three years after harvest
Next forest inventory	2044

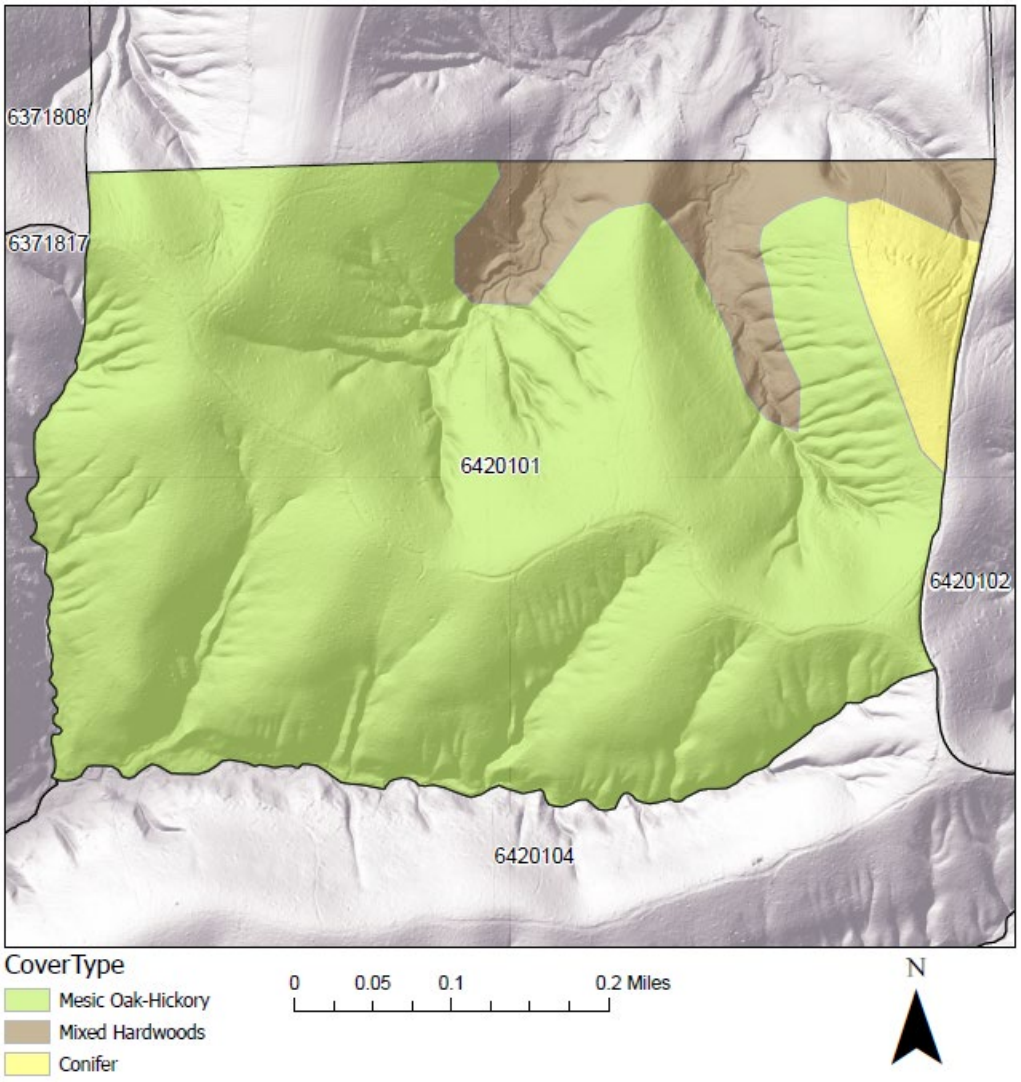
Yellowwood State Forest
Location Map
Compartment 1 Tract 1



Yellowwood State Forest
Compartment 1 Tract 1
Tract Map



Yellowwood State Forest
Compartment 1 Tract 1
Cover Types Map



Yellowwood State Forest	Compartment: 1	Tract: 2
Forester: Cole Jones	Date: 10/25/2024	Acres: 97
Management Cycle End Year: 2044	Management Cycle Length: 20 years	

Location
Yellowwood State Forest compartment 1 tract 2, also known as 6420102, is located west of the intersection of T C Steele Road and Gilmore Ridge Road. The tract resides in Washington Township, Section 13, T8N R1E.

General Description
The tract is made up of two ridges running north-south, with north, east, and west slopes in the tract. The general forest cover types in the tract are dry to mesic oak-hickory, mixed hardwoods, and conifer.

History
- Sep 1976- 34 acres of timber stand improvement (TSI) completed by CETA crew.
- Jul 1977- Forest inventory by forester Williams, recommended a timber harvest in 1988.
- Feb 1988- 45,911 board feet (bdft) marked on 38 acres by forester Fischer.
- Mar 1988- Timber sold to Foley Hardwoods for $11,775.
- Feb 2004- Forest inventory and management guide by Forester Kaina.
- Oct 2006- Foresters Burgess and Friedrich marked 202,807 bdft, 1,001 trees, 74 culls.
- Oct 2024- Forest inventory by Forester C. Jones.

Landscape Context
The tract is bordered by private land to the north, west, and east and state forest to the south. The surrounding landscape is oak-hickory and mixed hardwood forests. Outside of the state forest boundaries is a mix of forest and agricultural land, owned by the US Army Corps of Engineers (i.e., Monroe Lake) and private landowners. Monroe Lake lies a short distance to the south. Landscape level threats include invasive plants/animals and development on private lands outside of state forest boundaries.

The boundary for this tract was last inspected and repainted in 2022.

Topography, Geology and Hydrology
The general topography of this region consists of unglaciated, sharply dissected hills, narrow ridges and valleys. The underlying bedrock is Mississippian sandstone, shale, and siltstone.

This tract lies within the Stephens Creek-North Fork Salt Creek subwatershed. Water resources within this hydrologic boundary are part of the North Fork Salt Creek watershed.

Riparian features (intermittent streams and drainages) are present on portions of the tract. General riparian management zone (RMZ) guidelines will be implemented in these areas in accordance with the Indiana Logging and Forestry Best Management Practices 2022 BMP Field Guide.

Soils

Be- Beanblossom channery silt loam, occasionally flooded
This nearly level and gentle sloping, deep, moderately well drained soil is on flood plains, alluvial fans, and colluvial benches. It is fairly well suited to trees. Wet periods contribute to equipment limitations. Rooting depth is somewhat restricted for some trees, i.e. Black Walnut, due to coarse fragments in subsoil. This soil has a site index of 95 for yellow poplar.

BgF- Berks-Trevlac-Wellston complex, 20 to 70 percent slopes
These moderately steep to very steep well drained soils are on hillsides in the uplands. They are fairly well suited to trees. Erosion hazards and equipment limitations are main management concerns due to slope. Consideration should be given during sale planning and implementation of Best Management Practices for Water Quality. This complex has a site index of about 70 for northern red oak.

WaD- Wellston-Berks-Trevlac complex, 6 to 20 percent slopes
These moderately sloping to moderately steep, well drained soils are on side slopes and narrow ridgetops in the uplands. They are well suited to trees. Seedling mortality can be an issue on south facing Berks soils due to droughty conditions. This complex has a site index of about 70 for northern red oak.

Access
This tract is accessible via a cable gate off T C Steele Road. The gate is approximately 100 feet north of the intersection of T C Steele and Gilmore Ridge roads. Access within the tract is good, with no significant limitations to resource management.

Boundary
The north, east, and west sides of the tract border private property. The boundary line was repainted in 2022. The southern boundary of the tract follows the Ferris Ridge fire lane.

Ecological Considerations
Wildlife observed within the tract includes various songbirds and woodpeckers, reptiles such as blue racers, and mammals such as gray squirrels and whitetail deer. Signs were observed from various wildlife species as well.

The mature forest in the tract provides good habitat for many wildlife species but is lacking in early successional habitat. Early successional habitat is well known for being crucial to the survival of state endangered species like ruffed grouse, but it provides benefits to other wildlife as well. Box turtles use the new growth for cover and food, while scarlet tanagers forage blackberry thickets for food. Silvicultural practices like clearcuts and patch-cuts can increase wildlife diversity within the tract while also promoting the growth of valuable hardwood species like yellow-poplar and black cherry.

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.

Various forest types cover the entire tract, including dry-mesic oak-hickory forests, mixed hardwood forests, and pine forests. Oak-hickory is the dominant cover type on ridgetops and slopes, while mixed hardwood forests exist in the creek bottom. Towards the north end of the tract, evidence of past tree planting is present. Remnant Virginia and white pine plantings can be found at the end of each main ridge, while a small population of black walnuts can be found between the ridges in the bottomlands. The pine is non-native to the area and thus was likely planted. The black walnut may or may not have been planted.

Invasive species present on the site include multiflora rose, Japanese barberry, Japanese honeysuckle, and autumn olive. Most of these invasives occur along fire lanes or in the old tree plantings.

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
Although no permanently established recreation trails or developments are present in this tract, there are still several recreational opportunities.

Hunting is permitted and this area also offers opportunities for certain types of gathering and wildlife viewing.

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
Dry Oak-Hickory - 6 acres
Dry oak-hickory forests often occur on high ridges and south slopes, and are dominated by chestnut oak, scarlet oak, and black oak. White oak, pignut hickory, and shagbark hickory occur here as well, but less frequently. Dry oak-hickory stands are typically managed in conjunction with mesic oak-hickory stands, as they usually border each other. Prescribed fire, TSI, and timber harvesting all benefit dry oak-hickory regeneration.

Mesic Oak-Hickory - 57 acres
Mesic oak-hickory forests typically occur on slopes and ridges and are often dominated by species such as white oak, Northern red oak, pignut hickory, and shagbark hickory. Scarlet oak, black oak, and chestnut oak may be present, though not in such abundance that it would be considered a dry oak-hickory forest. The understory is typically composed of sugar maple,

American beech, and other mixed hardwoods. Oak-hickory forests provide the greatest amount of diversity when compared to any other forest type. If oak-hickory forests are to be maintained, they require disturbance to halt natural succession. This is typically done through timber harvesting, TSI, prescribed fire, or a mix of the aforementioned management strategies. The oak-hickory forests are of generally good quality with good stocking, though there is little oak regeneration occurring in the understory.

Mixed Hardwoods - 20 acres
This timber type is found mainly in the creek bottom between the two main ridges. Primary species include yellow-poplar, black walnut, and red maple. Other species are present sporadically but in no real abundance, like black cherry, elm, hickory, and sugar maple. The understory is mostly ironwood, sassafras, maple, and beech.

Areas of black walnut should be allowed to grow or thinned where necessary. All other species can be managed through single-tree and group selection to ensure the growth of the highest quality individuals.

Conifer - 14 acres
This timber type consists of mostly coniferous species. Conifer forests in this area are almost always remnant pine plantings from the 1930s-1950s, and these are no exception. Species present include white pine and Virginia pine. Planting efforts in the past were done to stabilize eroded soil and promote forest regeneration. While neither of these species are technically native to this area, they do not compete well post-establishment and are eventually replaced by native hardwoods.

The Virginia pine on site is generally of poor quality and should be removed using patch-cut openings to promote hardwood regeneration. Quality hardwoods like black cherry exist in the understory as advance regeneration and will grow vigorously following the removal of the pine overstory.

The Eastern white pine is of decent quality, and some of large diameter. Areas of white pine can be managed to thin out around good quality individuals or removed to make way for hardwoods.

The current forest resource inventory was completed on 10/25/2024 by Forester C. Jones. A summary of the estimated tract inventory results is located in the table below.

Tract Summary Data (trees >11”DBH):

Species	# Sawtimber Trees	Total Bd. Ft.
White Oak	1,059	265,724
Black Oak	657	209,051
Virginia Pine	1,060	126,334
Northern Red Oak	317	113,707
Yellow-Poplar	485	103,558
Pignut Hickory	883	76,012

Chestnut Oak	319	50,168
Scarlet Oak	221	49,995
Eastern White Pine	62	40,720
Shagbark Hickory	156	21,712
Black Walnut	214	16,523
Bitternut Hickory	130	8,088
Red Maple	205	8,076
Black Cherry	33	6,886
Sugar Maple	150	3,443
Sassafras	48	2,443
Total:	5,999	1,102,439

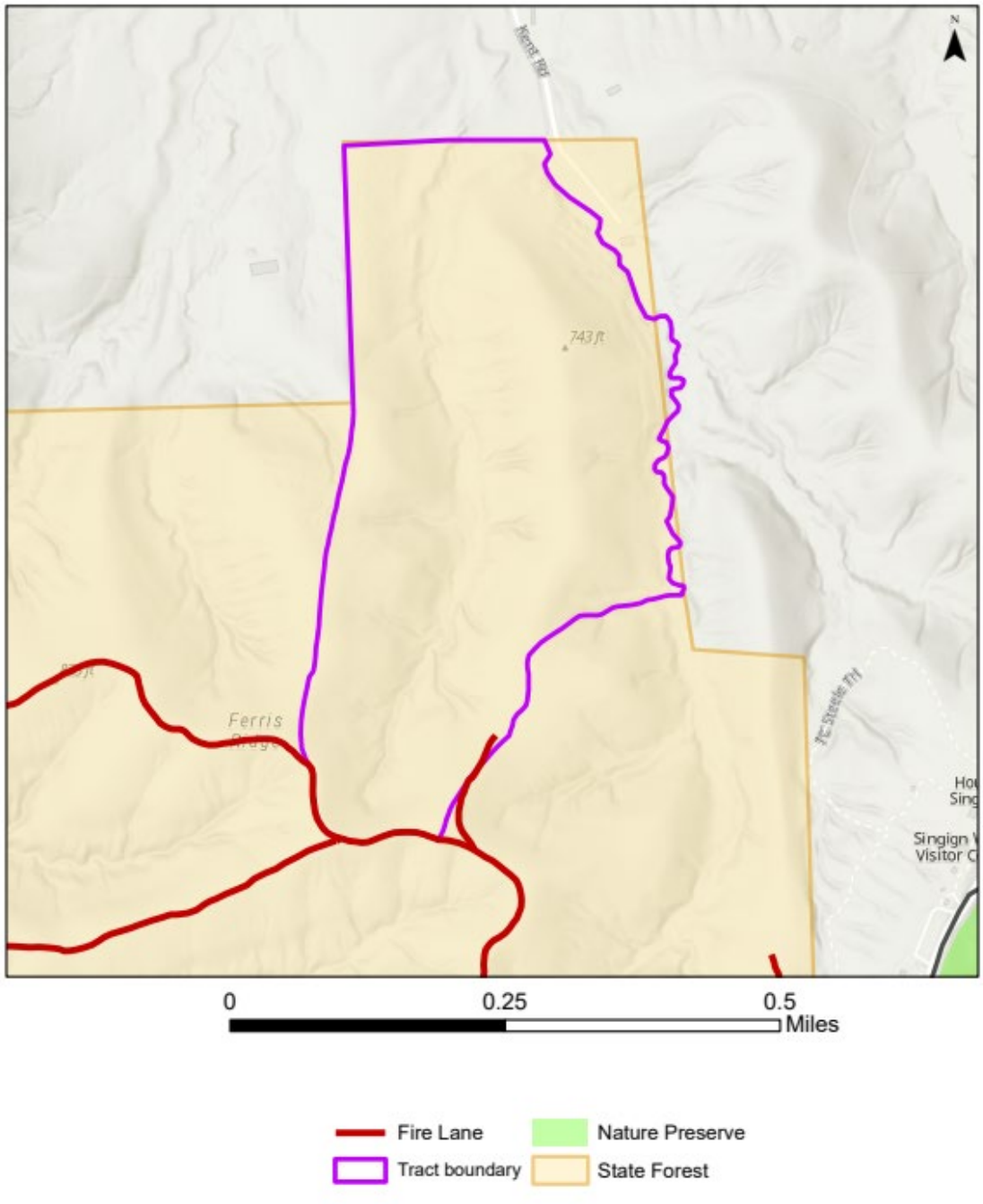
Summary Tract Silvicultural Prescription and Proposed Activities

A managed timber harvest in conjunction with TSI and invasive control is recommended for this tract. A combination of single-tree and group selection, and patch-cut openings will be administered. Prescribed fire is recommended to control the understory maintaining the oak-hickory cover types. These fires may occur on 3–5-year intervals or until the desired condition has been achieved. With proper management and adherence to best management practices (BMPs), adverse effects on water resources should be minimal. Any adverse impacts on residual trees, wildlife habitat, recreational features, and historical features will be avoided or remediated after management operations end.

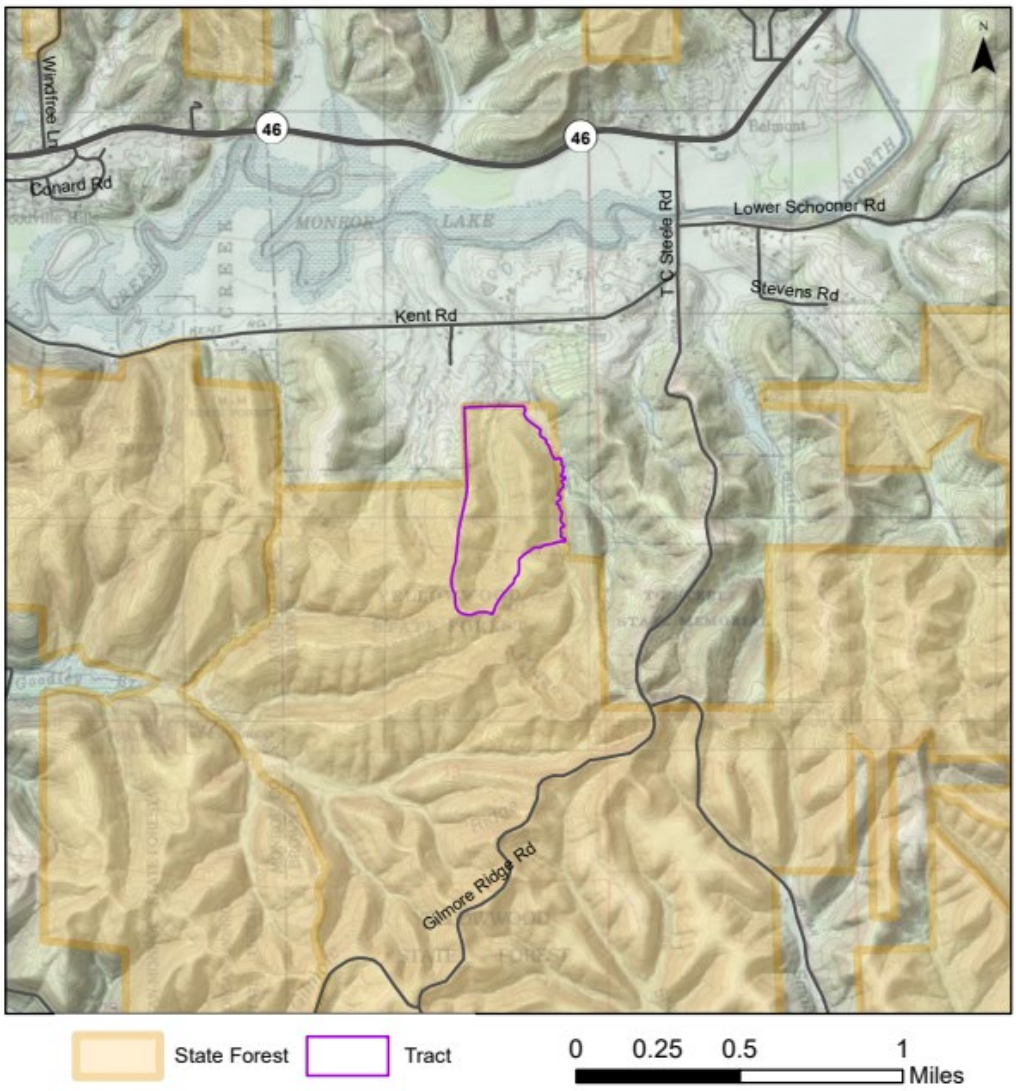
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Timber marking	2025
Road/log landing work	2025
Timber sale	2025
Timber sale closeout	2026
Fire lane maintenance as needed	2026
BMP review	2027
Post-harvest TSI/invasive species treatments	2027
3-year regeneration opening review	Three years after harvest
Next forest inventory	2044

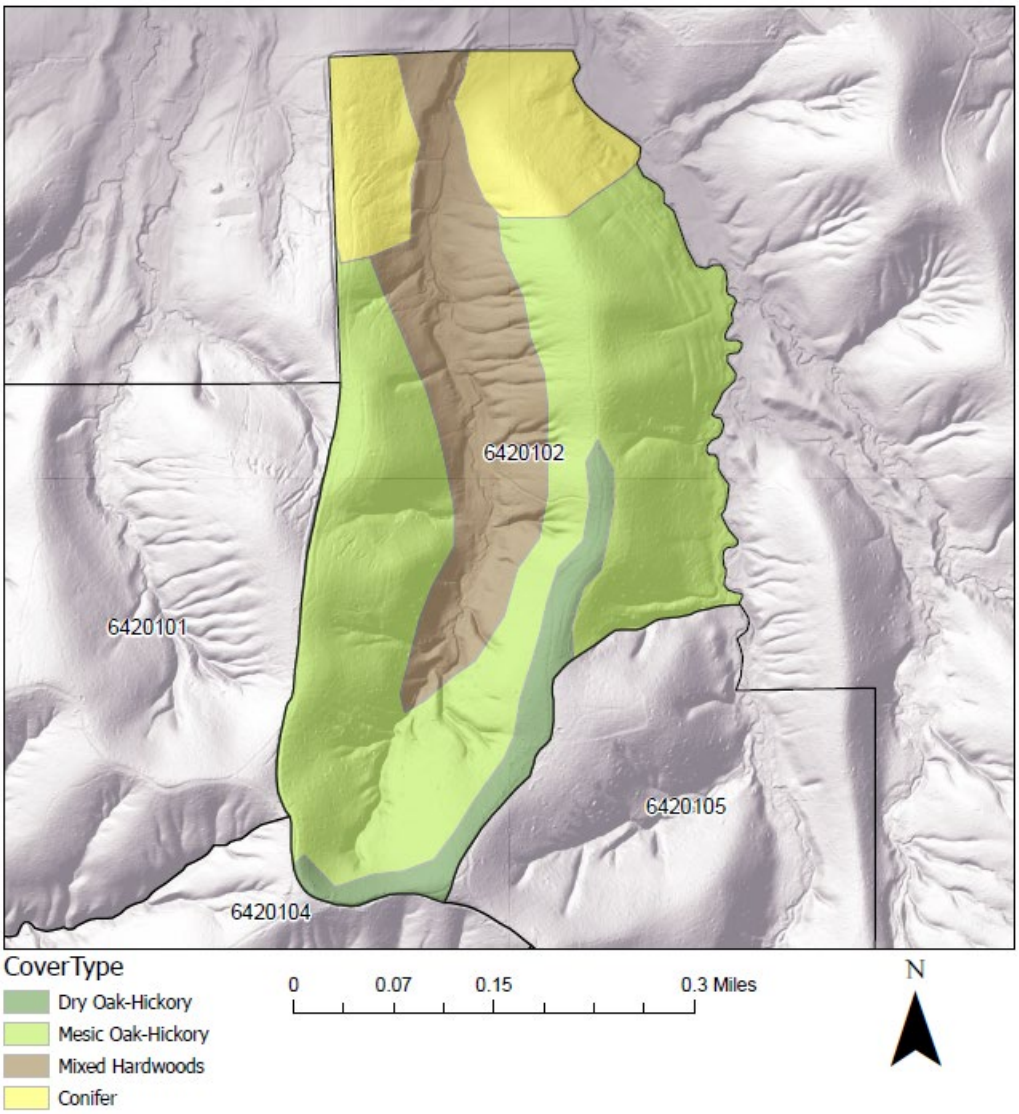
Yellowwood State Forest
Compartment 1 Tract 2
Tract Map



Yellowwood State Forest
Location Map
Compartment 1 Tract 2



Yellowwood State Forest
Compartment 1 Tract 2
Cover Types Map



Yellowwood State Forest	Compartment: 1	Tract: 4
Forester: Derrick Potts	Date: 10/27/2017	Acres: 120
Management Cycle End Year: 2044	Management Cycle Length: 20 years	

Location
Tract 4, also known as 6420104, is located in Brown and Monroe Counties, Washington Township, Section(s) 13 and 14 – T8 N – R 1 E. Approximately twelve miles from Nashville, Indiana, the tract is located west of T C Steele Road, the access road passes through the T.C. Steele Historic Site property.

General Description
Most of the tract is covered with hardwood forests, especially oak-hickory cover types. Other type(s) present include mixed hardwood and planted pine. The most recent timber harvest in this tract occurred in 1985, in the portion that was formerly C01 T03. The next most recent harvest in this tract occurred in 1999, in the portion that was formerly C01 T04.

Old C01 T03
The 1985 timber harvest was primarily an improvement cut and light thinning which focused on removal of fire damaged and other lower quality trees. There were two regeneration openings created totaling 4.5 acres. Timber stand improvement (TSI) was performed in 1987 and focused on cull trees, vine control, and opening completion. As a result of past efforts, the current overall timber quality within this tract is good and consists mainly of medium-to-large size class. The old regeneration openings are now 32 years old and contain pole size mixed hardwoods.

Old C01 T04
The 1999 timber harvest was primarily an improvement cut and light thinning which focused on removal of fire damaged and other lower quality trees. Pre-harvest and post-harvest TSI was not performed, thus many low-quality trees remain.

History
Old C01 T04

- 1969 - Timber Harvest
- 10/1976 - TSI - General
- 4/1977 - Timber Harvest
- 1/1982 - Inventory/Cruising
- 4/1997 - Inventory/Cruising
- 7/1998 - Inventory/Cruising
- 7/1998 - Resource Management Guide
- 5/1999 - Timber Harvest

Old C01 T03

- 1970 - Timber Harvest
- 1976 - TSI - General

Landscape Context
The surrounding landscape near the tract is predominantly closed-canopy deciduous forest. The tract is surrounded by other state forest tracts, and the private land nearby is a mix of forested and agricultural land.

The tract is within the Monroe Lake watershed. The lake is south of the compartment and managed by the US Army Corps of Engineers.

Landscape level forest threats include parcelization and development of private land tracts, and introduction of invasive plants that are routinely introduced during home landscaping efforts.

Topography, Geology and Hydrology
The general topography of this region consists of unglaciated, sharply dissected hills, narrow ridges and valleys. The underlying bedrock is Mississippian sandstone, shale, and siltstone.

This tract lies within the Stephens Creek-North Fork Salt Creek subwatershed. Water resources within this hydrologic boundary are part of the Lake Monroe-Salt Creek watershed.

Riparian features (intermittent streams and drainages) are present on portions of the tract. General riparian management zone (RMZ) guidelines will be implemented in these areas in accordance with the Indiana Logging and Forestry Best Management Practices 2022 BMP Field Guide.

Soils
WaD- Wellston-Berks-Trevlac complex, 6 to 20 percent slopes
These moderately sloping to moderately steep, well drained soils are on side slopes and narrow ridgetops in the uplands. They are well suited to trees. Seedling mortality can be an issue on south facing Berks soils due to droughty conditions. This complex has a site index of about 70 for northern red oak.

BgF- Berks-Trevlac-Wellston complex, 20 to 70 percent slopes
These moderately steep to very steep well drained soils are on hillsides in the uplands. They are fairly well suited to trees. Erosion hazards and equipment limitations are main management concerns due to slope. Consideration should be given during sale planning and implementation of Best Management Practices for Water Quality. This complex has a site index of about 70 for northern red oak.

Access
The access road is a fire lane that crosses T.C. Steele Historic Site property off T C Steele Road. This fire lane is in good condition and was used in 2009 for 2 timber sales. The gate is approximately 2 miles south from the intersection of State Highway 46 and T C Steele Road. Access within the tract is good to average.

Boundary
The tract boundaries adjoin other Yellowwood State Forest tracts on three sides and Morgan-

Monroe State Forest to the west.

Ecological Considerations
This tract contains diverse vegetation and wildlife resources (age, type, structure) conducive to providing habitat for a variety of wildlife species. Habitat includes:

- contiguous oak-hickory canopy
- contiguous mixed hardwood canopy
- pine plantation

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

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 in all diameter classes.

The dominant plant community in the tract is dry to mesic oak-hickory forest. Invasive species observed within the tract include Autumn olive, Japanese honeysuckle, bush honeysuckle, and Japanese stiltgrass.

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
Although no permanently established recreation trails or developments are present in this tract, there are still several recreational opportunities.

Hunting is permitted and this area also offers opportunities for certain types of gathering and wildlife viewing.

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

Dry Oak Hickory - 17 acres

This subdivision (i.e., cover type) is dominated by oak-hickory species adapted to dry soils, such as chestnut oak, scarlet oak, and black oak. White oak, pignut hickory, and shagbark hickory are present but found sporadically. Greenbrier and lowbush blueberry are common ground cover plants. This cover type occurs primarily on ridges and slopes with a south or west aspect.

Dry oak-hickory forests respond well to disturbance from fire, harvesting, or a combination of the two management strategies. Species such as chestnut oak are known for their ability to sprout following top-kill by a fire, giving them a competitive edge over other species. Dry oak-hickory forests often occur on poor soils and mortality can be somewhat high in larger diameter classes.

Mesic Oak-Hickory - 70 acres

This subdivision is defined by a dominance of oak-hickory species adapted to more mesic soils. The typical oak species include white oak, Northern red oak, and occasionally chinkapin oak. Black, scarlet, and chestnut oak are present but not in such abundance that it would be considered a dry oak-hickory stand. Hickory species present include shagbark and pignut hickories, with bitternut hickory more commonly found on the lower slopes. Other common species in the overstory include yellow-poplar, sugar maple, American beech, and American basswood. This cover type often occurs on east and north facing slopes.

The understory of this subdivision is dominated by shade tolerant species such as American beech, sugar maple, ironwood, and red maple. Mesic oak-hickory forests have better soils than that of a typical dry oak-hickory forest, and a closed oak canopy doesn't provide enough light for oak-hickory regeneration to grow past the browse line. Shade tolerant species may exist in the understory for decades. Without natural or human caused disturbance, these forests follow the natural succession process. Over time, oaks, hickories, and other species such as yellow-poplar die out and are replaced by beech-maple forests. While beech-maple forests are an important forest type in Indiana, they are inferior to oak-hickory forests in terms of ecological diversity. Oak-hickory forests also contain some of the most commercially important species in the Eastern US. Continuous forest inventory (CFI) data suggests that much of our oak-hickory forests are succeeding into beech-maple forests, so maintaining this ecologically and commercially valuable resource is a top priority.

Timber management, along with prescribed fire and TSI, is an effective way to maintain oak-hickory forests. Timber harvesting allows more light to reach the forest floor, while prescribed fire reduces understory competition and removes the thick leaf layer impeding acorns and hickory nuts from germinating in the soil. TSI further reduces competition in the midstory and creates snags which benefit a variety of Indiana wildlife species. All these management processes work in conjunction to recruit new oak-hickory seedlings and allow them to advance to be the next overstory trees. Oak shelterwoods with prescribed fire and TSI are proven methods to maintain oak-hickory forests. Bird species such as red-headed woodpeckers and Eastern whip-poor-wills need this type of woodland structure. Various bat species benefit from increased numbers of snags for roost habitat and an open mid-canopy from which to hunt insects.

Mixed Hardwoods - 33 acres

In this subdivision, none of the other hardwood types definitively describe the species mix.

Dominant species here may include yellow-poplar, cherry, or elm, either singly or in combination. It may include species or species groups from the other types that are not in dominance. Here, other species present include American sycamore, red maple, and Virginia pine. The Virginia pine is found in a small area next to the creek and was likely planted there 60-80 years ago. It is being outcompeted by native hardwoods and cannot be considered a dominant overstory tree.

Many mixed hardwood forests (especially on flat ground) were once farmed or pastured by settlers. These old farmsteads have long since been abandoned and fast growing, shade intolerant species such as yellow-poplar, black cherry, and American sycamore. A few areas in this tract next to the creek were likely abandoned fields and farmsteads.

Areas of mixed hardwood forest rarely respond well to prescribed fire, especially if they are situated next to creek beds as these are. Portions of this area may be included in prescribed fire plans for logistical purposes.

Timber harvesting and TSI are useful tools for managing mixed hardwood forests. Thinning out the timber allows remaining trees to grow faster and healthier, and small patch-cut openings allow new growth to replace overmature timber. Some areas may not be harvested and instead be allowed to grow until the next management cycle.

The current forest resource inventory was completed on October 27, 2017 by Forester D. Potts. A summary of the estimated tract inventory results is in the table below.

Tract Summary Data (trees >11"DBH):

Species	# of Sawtimber Trees	Total Bd.Ft.
Chestnut oak	1,726	265,550
White oak	1,280	231,480
Black oak	388	92,270
Northern red oak	267	84,460
Scarlet oak	433	83,990
Pignut hickory	354	80,460
Sugar maple	712	57,660
Yellow poplar	188	43,660
American sycamore	236	37,600
Bitternut hickory	99	12,330
American beech	77	12,230
Red maple	125	8,900
Black walnut	91	7,750
Basswood	14	6,640
Red pine	125	6,310

Shagbark hickory	22	4,610
Chinkapin oak	11	2,100
Total	**6,148**	**1,038,000**

Summary Tract Silvicultural Prescription and Proposed Activities
A timber harvest is prescribed for this tract. The timber harvest would include a combination of harvesting methods, including single-tree and group selection, oak shelterwoods, and patch-cut openings. Best Management Practices (BMPs) as defined by the 2022 BMP Field Guide will be followed.

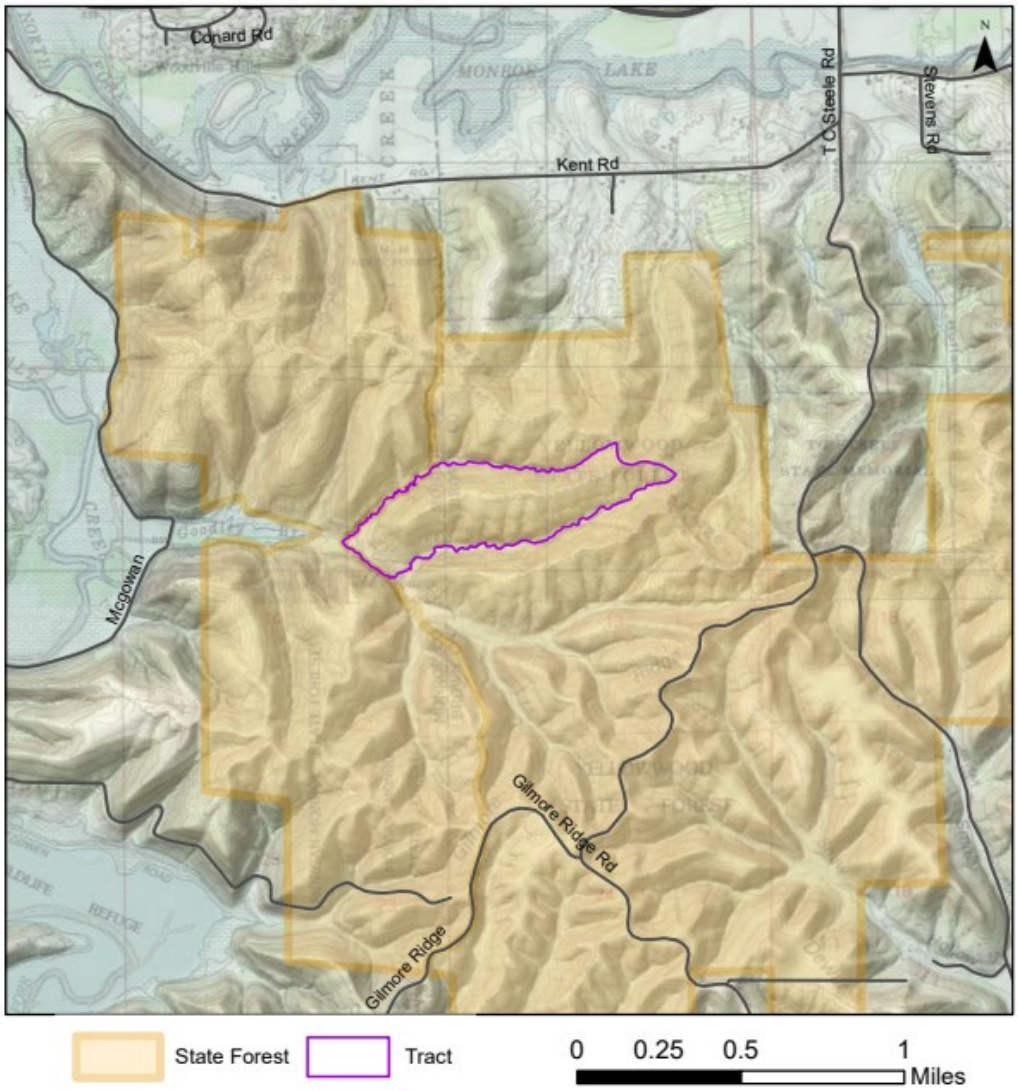
A prescribed fire is recommended for this tract. This would be part of a larger prescribed fire encompassing parts of neighboring tracts. Prescribed fire would be implemented either before or after timber harvesting as time and state resources allow. Experienced professionals from the Division of Forestry will implement the burn in accordance with a written burn plan with defined parameters. One prescribed fire is often not enough to achieve the goals of oak-hickory regeneration, so the area will be monitored after the fire and evaluated for additional fire needs.

Post-harvest TSI is prescribed for this tract. The focus of TSI will be to release ecologically or commercially valuable trees from competition, complete openings, and create snags for wildlife habitat.

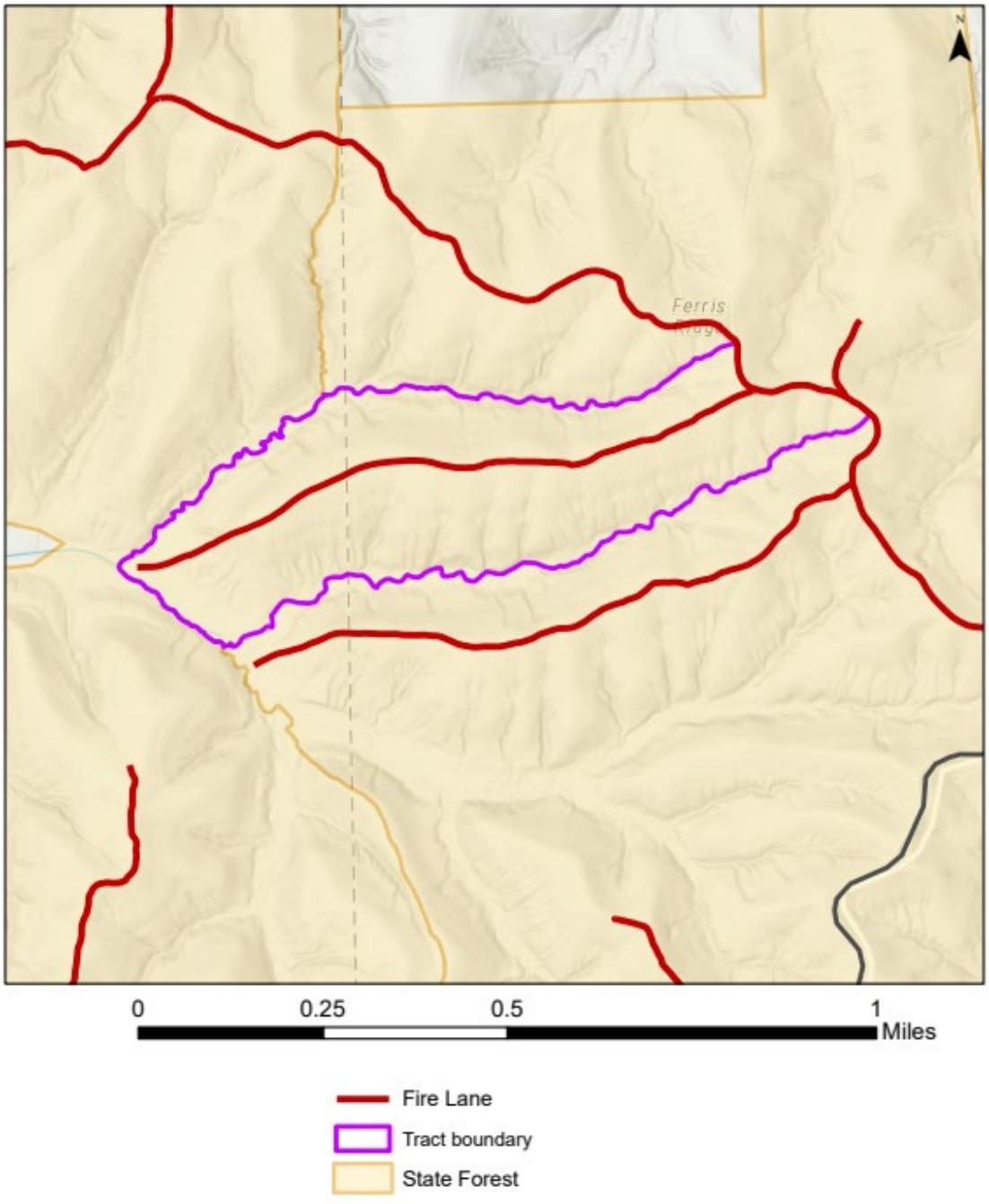
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Timber Marking	2025
Timber Sale	2026-2028
Prescribed Fire	2026-2028
Pos-harvest TSI/invasive species treatments	2028
BMP Review	2028
3-year regeneration opening review	Three years after harvest
Next forest inventory	2044

Yellowwood State Forest
Location Map
Compartment 1 Tract 4



Yellowwood State Forest
Compartment 1 Tract 4
Tract Map



Yellowwood State Forest
Compartment 1 Tract 4
Cover Types Map