Resource Management Guides
Clark State Forest
30-day Public Comment Period (August 25, 2025 – September 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 Clark State Forest.

Compartment 2 Tract 5
Compartment 2 Tract 6

To submit a comment on this document, go to:

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

You must indicate the State Forest Name, Compartment number and Tract number in the "subject or file reference" line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered and review posted at:

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

Note: Some graphics may distort due to compression.

Clark State Forest	Compartment: 2	Tract: 5
Forester: Cody Moore	Date: 9/13/2021	Acres: 168
Management Cycle End Year: 2055	Management Cycle Length: 30 years	

Location

Compartment 2, tract 5, henceforth known as 6300205, is located in Scott County, Indiana. All of 6300205 is in the backcountry area of Clark State Forest. The backcountry area is a contiguous area of state forestlands dedicated to remaining rugged and undeveloped. 6300205 lies in three different sections. Most of this tract is found in the northwest corner of Section 9, Township 2 North of Range 6 East. The northern tip of 6300205 lies in the southern half of the southwest corner of Section 4, Township 2 North of Range 6 East. The western edge of 6300205 lies in the eastern half of the northeast corner of Section 8, Township 2 North of Range 6 East. The closest municipality to this tract is Scottsburg, Indiana, which is approximately 5 miles northeast. Leota, Indiana, a small unincorporated community, is located a mile northeast.

General Description

This tract is being divided into four cover types: mesic oak-hickory, dry oak-hickory, mixed hardwoods, and conifer. The dominant overstory tree species are white oak and chestnut oak. There is a wide array of slopes within this tract, with the majority being east and south-facing slopes. There are some north-facing slopes in the southern extent of the tract and a small pocket of west-facing slopes in the western portion of the tract. This tract has high stocking levels which is resulting in high levels of mortality. Across each cover type, the regeneration is primarily American beech and maple. There are some pockets of oak regeneration, mainly on the ridgetops and in areas where there is high mortality. Management in this tract will aim to capture mortality, lower the stocking to promote forest growth, and provide the residual structure needed to regenerate desired forest types. The desired forest types being higher quality and healthier chestnut oaks on the ridgetops, healthy oak and hickory trees in the mesic oak-hickory, and a more diverse healthy mixture of species in the mixed hardwoods.

History

- 1941 – Land acquisition from Richey, George L.
- 1941 – Land acquisition from Richey, Charles M.
- 1942 – Land acquisition from Bruce, Cleo J.
- 1958 – Land acquisition from Shirley, William A.
- 1976 – 2,000 acres of Clark State Forest is designated as back country area
- 1986 – New method timber cruise showing 979 board feet (bdft)/acre harvest
- 2005 – Southern property lines flagged with pink ribbon by Winner
- 2005 – Forest inventory completed showing 2,219 bdft/acre harvest
- 2021 – Forest inventory completed by Hanners showing 3,710 bdft/acre harvest
- 2025 – Resource management guide completed by Moore

Landscape Context

Approximately one third of 6300205 boundary borders private property. The rest of the boundary is shared with Clark State Forest. Directly to the north and west, there are at least a half mile of gradual-sloping state forestlands before entering some rural houses and agricultural fields. To the south there is a thin quarter-mile strip of private woodlands and a privately-owned lake before

entering back into Clark State Forest. To the east, there is a thin tenth-of-a-mile strip of private woodlands before entering rural houses and agricultural fields. Roughly 70% of the land within a mile of this track is forested with the remaining 30% being agricultural fields, rural areas, and open bodies of water.

Topography, Geology, and Hydrology

The topography of 6300205 is moderate with most of the steepest slopes being between 10 and 15%. The slopes can best be described as coming to a peak in the northwest portion of the tract with the rest of the tract being to the south and east of the peak. This results in mostly south-facing and east facing slopes. There is another smaller ridge in the southeast portion of the tract with some north-facing and west-facing slopes within 6300205. There is 170 feet of elevation change from the lowest to the highest points in the tract.

6300205 is in the Mississippian Borden mapped bedrock formation. The formations constituting the Borden Group are the New Providence Shale, the Spickert Knob, and the Edwardsville. The Borden Group is composed dominantly of gray argillaceous siltstone and of shale. Fine-grained sandstone is common. Interbedded limestones form discontinuous lenses and facies that are minor except for the interval of the Floyds Knob Limestone Member at the base of the Edwardsville Formation.

Tract 6300205 is in the Big Ox Creek watershed. There is one mapped perennial stream and one mapped intermittent stream that flow along the borders of this tract. The southwestern border of this tract runs along Roger Creek. Roger Creek feeds into Little Ox Creek which feeds a private lake not far from the border of Clark State Forest. The outflow of this lake continues as Little Ox Creek eventually flows into Big Ox Creek approximately 7.5 miles from the lake. The northeastern border of this tract runs along Forest Run which is a mapped intermittent stream. Forest Run feeds into Little Ox Creek which continues as mentioned before. There are two wildlife ponds in this tract. One being in the center of the tract and the other being close to the southern boundary.

Soils

GmaG (114.9 Ac) - Gnawbone-Kurtz silt loams, 20 to 60 percent slopes

This moderately to very steep, moderately deep, well-drained complex is found on side. It is well suited to trees. The hazard of erosion and equipment limitations are main management concerns. These should be considered when planning management activities and implementing Best Management Practices for Water Quality. Kurtz has a site index of 60 for northern red oak and Gnawbone has not been evaluated.

StmC (20.9 Ac) – Stonehead silt loam, 6 to 12 percent slopes

This moderately sloping, deep, moderately well-drained soil is found on side slopes in the uplands. It is well suited to trees. Bedrock is present at 44 to 75 inches below soil surface. Erosion hazards are a management concern that should be considered when implementing Best Management Practices for Water Quality. Blocher has a site index of 90 for northern red oak.

ConD (15.2 Ac) - Coolville-Rarden complex, 12 to 18 percent slopes

These strongly sloping, deep, moderately well-drained soils are found on side slopes in the uplands. It is well suited to trees. Erosion hazards are concerns that should be considered during

implementation of Best Management Practices for Water Quality. Coolville has a site index of 66 for northern red oak and Rarden has a site index of 71 for black oak. (Clark)

BcrAW (5.1 Ac) - Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration
This nearly level, deep, well-drained soil is found along alluvial fans and flood plain. It is well suited to trees. Management planning should consider wet times of year. This soil has not been evaluated for site index. (Clark, Jackson, Lawrence)

SoaC2 (4.3 Ac) - Spickert silt loam, 6 to 12 percent slopes, eroded
This moderately sloping, deep, moderately well-drained soil is found on side slopes in the uplands. It is well suited to trees. A fragipan is present at 20 to 36 inches below soil surface that inhibits drainage. Erosion hazards are a management concern that should be considered when implementing Best Management Practices for Water Quality. This soil has a site index of 100 for yellow-poplar and 60 for white oak. (Jackson)

WhcD (4 Ac) - Wellrock-Gnawbone silt loams, 6 to 20 percent slopes
This strongly sloping, deep, well-drained soil is on side slopes in the uplands. It is well suited to trees. Erosion hazards are a management concern that should be considered when implementing Best Management Practices for water quality. Wellrock has a site index of 90 for yellow-poplar and 70 for white oak. Gnawbone has not been evaluated for site index. (Clark)

BfbC2 (1.2 Ac) - Blocher, soft bedrock substratum-Weddel silt loams, 6 to 12 percent slopes, eroded
This moderately sloping, deep, moderately well-drained soil is found on side slopes in the till plains. It is well suited to trees. Erosion hazards are a management concern that should be considered during implementation of Best Management Practices for Water Quality. Blocher has a site index of 76 for northern red oak and 90 for yellow-poplar and Weddel has a site index of 70 for northern red oak and 75 for yellow-poplar. (Clark)

ComC3 (1.2 Ac) – Coolville silt loam, 6 to 12 percent slopes, severely eroded
This moderately sloping, deep, moderately well drained soil is found on side slopes. It is well suited to trees. Erosion hazards are a management concern that should be considered during implementation of Best Management Practices for Water Quality. Blocher has a site index of 66 for northern red oak. (Scott)

RbmD5 (1 Ac) – Rarden silty clay, 6 to 18 percent slopes, gullied
This strongly sloping, moderately deep, moderately well drained soil is found on side slopes in the uplands. Erosion hazards are a management concern that should be considered during implementation of Best Management Practices for Water Quality. Blocher has a site index of 71 for black oak and 66 for northern red oak. (Scott)
RblD3 (0.2 Ac) - Rarden silty clay loam, 12 to 18 percent slopes, severely eroded
This strongly sloping and moderately steep, moderately deep, well-drained and moderately well-drained soil is on side slopes in the uplands. This soil is fairly well suited to trees. Erosion hazards, equipment limitations, and windthrow hazards are management concerns. These should be considered during planning and implementation of Best Management Practices for Water Quality.

This soil has a site index of 67 for northern red oak. (Clark, Jackson)

Access
There is no developed access into the tract. 6300205 is only accessible by foot. The Knobstone Trail runs though the neighboring tract (6300206) to the west which is the closest access point. From the Knobstone Trail, it would take a half mile walk to get to 6300205.

Boundary
On the south and southeast sides of 6300205, there is private property which encompasses approximately a third of the boundary. The other two thirds of the boundary are shared with other tracts of Clark State Forest. The Clark State Forest tracts that border it are as follows: 6300206 to the west on the other side of Roger Creek, 6300203 to the northwest, and 6300204 to the northeast on the other side of an ephemeral stream which becomes Forest Run.

Ecological Considerations
This tract contains diverse vegetation and wildlife resources conducive to providing habitat for a variety of wildlife species. Habitat types include mesic oak-hickory, dry oak-hickory, mixed hardwoods, conifer, and riparian areas. Evidence of several types of wildlife were noted at the time of inventory including deer sign, turkey feathers, Eastern box turtles, and a variety of woodpeckers and songbirds.

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 dying 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 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 Division of Forestry "optimal" targets in all size classes. Additionally, legacy tree densities exceed Division of Forestry compartment-level targets in all size classes by a comfortable margin.

At the time of the inventory, not many invasive species were seen. Invasive species in this tract include periwinkle and small multiflora rose bushes along Roger Creek and some autumn olive near the wildlife pond in the center of the tract. Prior to the harvest, these invasive species could be treated while they are small in numbers. Also, post-harvest invasive species monitoring and treatment could occur to control the more common invasive species which are actively spread by wildlife like multiflora rose and autumn olive.

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
The main form of recreation that occurs in this tract is likely to be hunting. Some evidence of hunting was noted during the forest inventory. Other recreational opportunities presented in this tract include wildlife viewing and foraging.

Cultural
This tract was reviewed for cultural sites during the forest resource inventory. 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
The current forest resource inventory was completed in September of 2021 by Foresters D. Alwine and A. Hanners. A summary of the estimated tract inventory results are located in the table below.

Tract Summary Data (Trees > 11" DBH)

Category	Estimate
Tract Acres (Forested)	168
Gingrich Stocking Percent (%)	78%
Trees Per Acre	95
Basal Area Per Acre (SQFT)	95.8
Volume Per Acre (BDFT)	7,925

Tract Summary Data (trees >11"DBH):

Species	# of Trees	Total Bdft
White oak	5,241	728,380
Chestnut oak	2,924	385,970
Black oak	384	57,770
Pignut hickory	363	43,080
Scarlet oak	78	34,580
Red maple	344	23,150
Virginia Pine	213	17,180
Sweetgum	37	13,040
American beech	87	12,890
Shagbark hickory	97	7,760
Sugar maple	93	4,320
Blackgum	30	3,300
Total:	9,891	1,331,420

For the purposes of this resource management guide, this tract is being divided into four management cover types based on forest composition: mesic oak-hickory, dry oak-hickory, mixed hardwoods, and conifer.

Mesic Oak-Hickory, 130 acres
This cover type is vast, making up approximately 77% of the tract acreage. Mesic oak-hickory is

found between the ridge tops and the bottoms and is composed of slopes between 5-15%. Percent stocking in this cover type is 77%, which is considered fully stocked. With the cover type being so vast, it sees a variety of growing sites. Near the top of the ridge, there is a heavy chestnut oak component which slowly dwindles when reaching the more gradual slopes, converting to a heavy white oak component. Approximately 50% of this cover type is composed of eastern-facing gradually sloping ground that is considered highly productive timber ground with the potential to grow large, high quality white oak. In the areas surrounding the ridgetops there is a conversion area between the dry oak-hickory and the mesic oak-hickory that has many double-stemmed and leaning chestnut oaks along with many trees experiencing dieback. This can be attributed to the absence of management. White oak makes up 62% of the volume in this cover type. Other dominant overstory species include chestnut oak, black oak, scarlet oak, and pignut hickory.

Mesic Oak-Hickory Data (trees >11"DBH):

Species	# of Trees	Total Bdft
White oak	4,829	669,850
Chestnut oak	1,737	247,340
Black oak	384	57,770
Scarlet oak	64	30,630
Pignut hickory	221	26,970
Sweetgum	37	13,040
Red maple	171	9,810
American beech	60	8,710
Sugar maple	93	4,320
Blackgum	30	3,300
Shagbark hickory	53	2,400
Total:	**7,679**	**1,074,140**

Much of the management objectives throughout this cover type will revolve around increasing overall forest health, capturing mortality, and crop tree release. With the gradual slopes, comes the potential to produce high quality white oak, which can be facilitated through a timber harvest that focuses on removing trees with poor health, trees with little merchantable height, and releasing the high-quality trees. Extra care must be taken to not over-expose the higher quality oaks to the elements, which could result in epicormic sprouts, wind throw, and even harvest damage. Along the lower-lying areas of this cover type, mainly to the west, there are yellow-poplar encroaching on the oak-hickory areas. It will be important not to open the canopy too much near these areas for the fear of losing the oak-hickory cover type to mixed hardwoods. The ability to keep the filtered light instead of open sunlight will promote oak-hickory regeneration instead of yellow-poplar.

An improvement harvest is recommended for this cover type. The goal is to bring the basal area down from approximately 96 to 60-70. This could be accomplished with the use of single-tree selection or a modified shelterwood harvest. Invasive species control is recommended in areas where the timber harvest or timber stand improvement (TSI) creates areas with high quantities of light to reach the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 400,000 to 500,000 board feet from this cover type.

Dry Oak-Hickory, 28 acres

This cover type is located along the highest ridges, peaks, and the steep upper slopes surrounding them. There are two high peaks within 6300205 and one ridge running north-south in the northwestern portion of the tract. This cover type is a small portion of the tract, making up approximately 17% of the tract acreage. The main canopy trees in this cover type are larger declining chestnut oaks along with some scattered white oaks which are competing for space between the chestnut oaks. Percent stocking is approximately 82%, classifying it as fully stocked. Chestnut oak makes up ~70% of the merchantable volume. The only other dominant overstory trees tallied in inventory plots include white oak, pignut hickory, and scarlet oak. Overstory mortality in this cover type is above average. The dominant regeneration in these areas tended to be American beech, red maple, chestnut oak, and white oak. There was a good amount of oak regeneration present on the highest points of the knobs, likely because of the high germination rates of chestnut oak acorns and the dominance of chestnut oaks throughout the cover type. Other pockets of advanced oak regeneration were found in areas of high mortality. With forest management, these areas could continue to be predominantly oak-hickory. The herbaceous layer is dominated by green briar throughout the cover type with some pockets of native ferns.

Dry Oak-Hickory Data (trees >11"DBH):

Species	# of Trees	Total Bdft
Chestnut oak	1,187	138,630
White oak	319	40,490
Pignut hickory	142	16,110
Scarlet oak	14	3,950
Total:	**1,662**	**199,180**

This cover type is dominated by chestnut oak. The canopy chestnut oaks exhibit much decline and dieback in the upper limbs. There are many trees leaning aggressively downhill and double stemmed trees, both of which could be contributing to the high mortality. The midstory and understory are mostly shade-tolerant species providing a thick umbrella that the more shade-intolerant, desirable species cannot penetrate. The goal is to keep this as an oak-hickory cover type for the foreseeable future. To do this, the regeneration will need the midstory removed and the canopy thinned. With the rapidly declining state of the overstory trees, this could be a more intense harvest with many stems per acre removed.

An improvement harvest is also recommended for this cover type. The goal is to bring the basal area down from approximately 99 to 45-65. This could be accomplished with the use of single-tree selection or modified shelterwood harvest, or combination. Invasive species are not prevalent in this cover type, but some light backpack spraying is recommended in areas where the timber harvest or TSI activity creates areas with high quantities of light reaching the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 75,000 to 100,000 board feet from this cover type.

Mixed Hardwoods, 8 acres

This cover type is found mostly along the western edge of the tract, close to Roger Creek. There is another area of mixed hardwoods about a half-acre in size on the eastern side of the tract near Forest Run. This is not a large cover type, covering approximately 5% of the tract acreage. Percent

stocking is estimated at 60% placing this cover type in the fully stocked region. Most of the canopy is composed of white oak and red maple. The white oaks are rather large trees, and the red maples are mostly small diameter trees and double stemmed trees that have emerged in canopy gaps between the white oaks. Mortality is a concern in this cover type because of the large diameter white oak and the poorly formed red maples. There are smaller diameter red oak species and shagbark hickories mixed in with the red maples, and there are yellow-poplars where mortality has already occurred. Most of the invasive species are in this cover type, being close to Roger Creek. The invasive species of concern are the periwinkle next to the creek and some small multiflora rose shrubs. This could be backpack sprayed while it is easily containable.

Mixed Hardwoods Data (trees >11"DBH):

Species	# of Trees	Total Bdft
White oak	93	18,040
Red maple	173	13,340
Shagbark hickory	44	5,360
American beech	27	4,180
Totals:	**337**	**40,920**

A heavy improvement harvest is recommended for this cover type. The focus will be capturing mortality and promoting hard mast species. Most of the red maple with poor form could be harvested, which would release the small diameter shagbark hickory and red oak species. The goal is to bring the basal area down from approximately 70 to 45-60. This could be accomplished with the use of single-tree selection and a modified shelterwood harvest, or combination. Invasive species control is advised along the streams on the western edge of the tract and is recommended in areas where the timber harvest or TSI activity creates areas with high quantities of light reaching the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 10,000 to 25,000 board feet from this cover type.

Conifer, 2 acres

This cover type is found on the southern border of the tract. This is a small pocket of Virginia pine, making up less than 2% of the tract's acreage. To better manage this unique stand, a stocking chart for Virginia pine was sought. However, none could be found. The most similar stocking chart which could be found was for ponderosa pine, so for the sake of this management guide, Virginia pine will be assessed relative to ponderosa pine. Based on a ponderosa pine stocking chart, this stand is approximately 50% stocked, placing it in the management zone. Mortality is seen in this stand in the form of wind thrown and uprooted trees. The midstory is primarily red maple and the understory is primarily American beech and oak species.

Conifer Data (trees >11"DBH):

Species	# of Trees	Total Bdft
Virginia pine	213	17,180

Because of the Virginia pines' high mortality rates, generally the management recommendation would be to create a regeneration opening which would remove the Virginia pine pocket in favor of oak species. However, because this tract is within the backcountry area of Clark State Forest the use of patch-cut openings is restricted. With this being the case, it is recommended the mature,

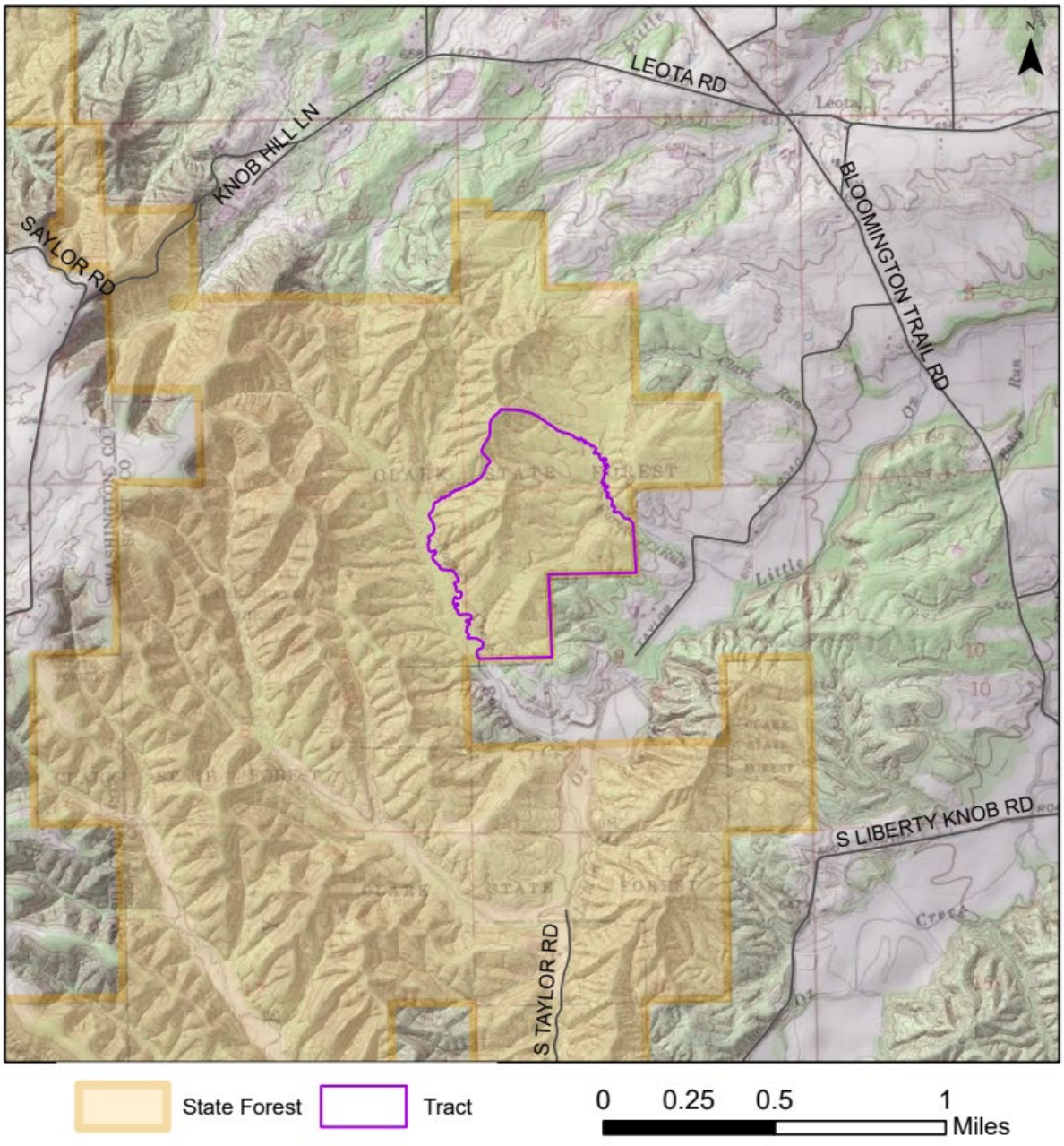
large Virgina pine be removed from the stand as well as any unhealthy trees. To achieve this, Virginia pine 16 inches or larger at breast height could be removed. Removing these trees will help lower the potential losses seen through mortality while keeping a contiguous stand of timber as intended in the backcountry area. Invasive species are not prevalent in this cover type, but some light backpack spraying is recommended in areas where the timber harvest or TSI activity creates areas with high quantities of light reaching the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 7,500 to 12,500 board feet from this cover type.

Summary Tract Silvicultural Prescription and Proposed Activities

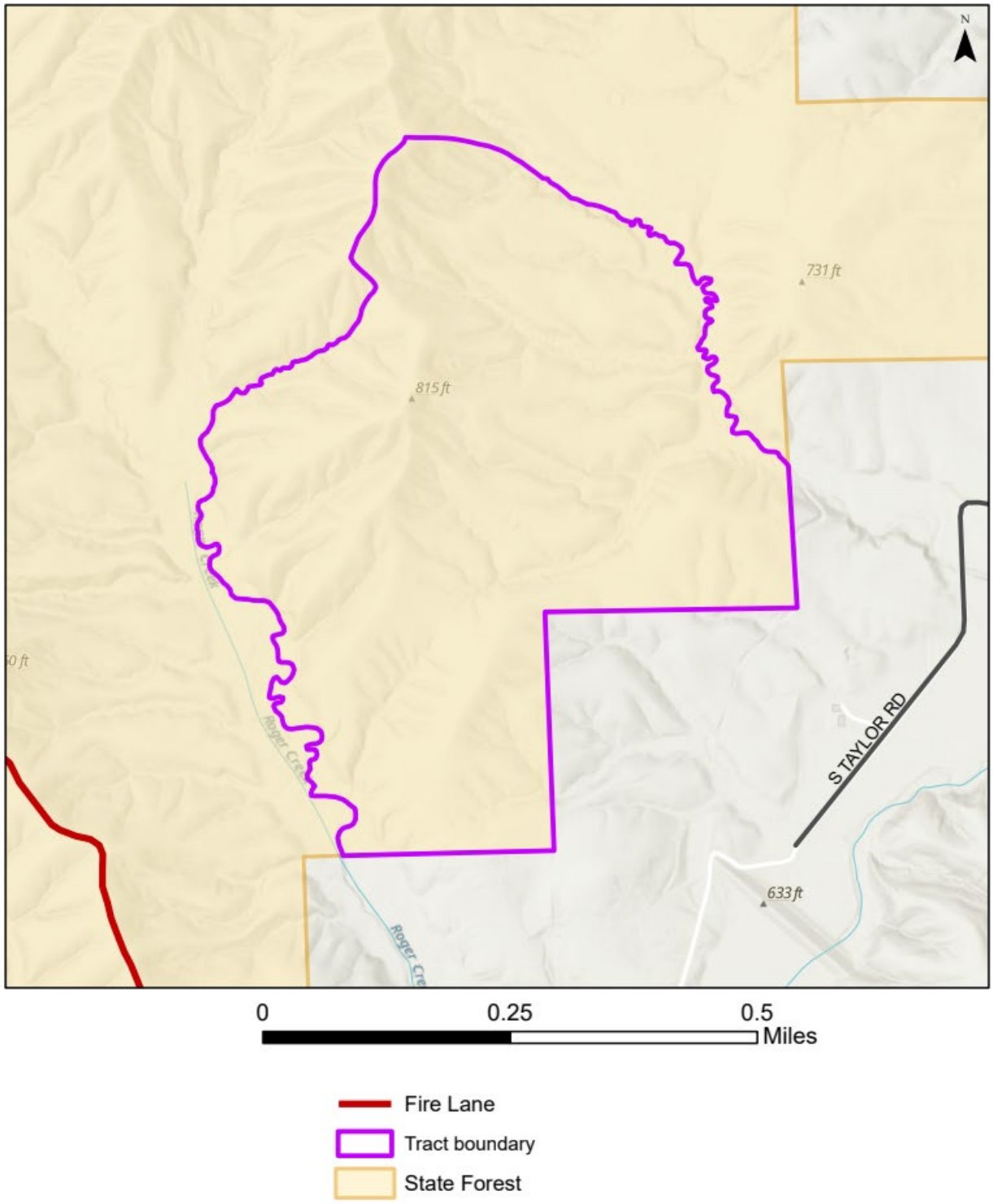
Management recommendations in this tract could begin with pre-harvest invasive species control that could be used to limit seed producing populations or reduce less pervasive invasive species. Pre-harvest TSI could be utilized to help promote oak regeneration. An improvement harvest is recommended to lower the basal area, improve regeneration conditions, or to transition an area of the tract from one cover type to another. This could be done by using single-tree selection or shelterwood harvests, or combination. Post-harvest TSI and a fire regime could be used to promote and ensure the success of the tract. It is recommended that a total of 492,500 – 637,500 board feet be removed from 6300205.

Proposed Management Activity	*Proposed Date*
Pre-harvest TSI/invasive species control	2026-2027
Fire lane improvements	2026-2028
Timber Harvest	2028-2030
Post-harvest TSI/invasive species control	Within 2 years of harvest
Post-harvest regeneration review	Three years after harvest
Prescribed fire regime	2028+
Next forest inventory	2055

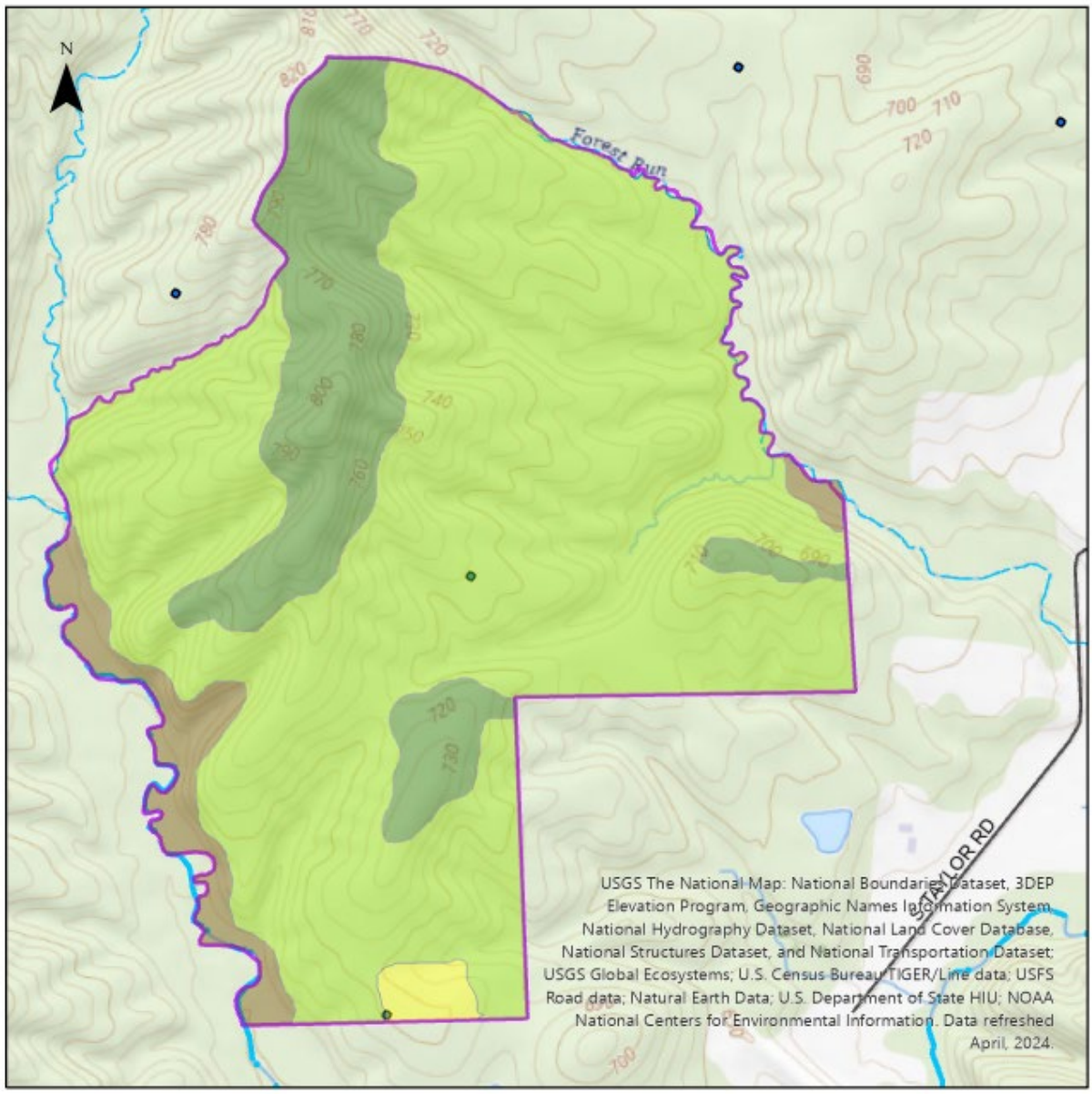
Clark State Forest
Location Map
Compartment 2 Tract 5



Clark State Forest
Compartment 2 Tract 5
Tract Map



Clark State Forest
Compartment 2 Tract 5
Cover Types Map



Clark State Forest	Compartment: 2	Tract: 6
Forester: Cody Moore	Date: 12/10/2024	Acres: 150
Management Cycle End Year: 2044	Management Cycle Length: 30 years	

Location

Compartment 2, Tract 6, also known as 6300206, is located in Scott County, Indiana. Approximately 89% of 6300206 is in the backcountry area of Clark State Forest. The backcountry area is a contiguous area of state forestlands dedicated to remaining rugged and undeveloped. This tract lies in three different sections: the southern and central majority of this tract lies in the northeast quarter of Section 8, Township 2N of Range 6E; the northern quarter of this tract lies in the southwest quarter of the southeast quarter of Section 5, Township 2N of Range 6E; and the eastern-most tip of the tract lies in the southwest quarter of the northwest quarter of Section 9, Township 2N of Range 6E. 6300206 lies on the eastern side of the Knobstone Trail which runs along its western-most border. The eastern border of the tract follows an unnamed intermittent stream and Roger Creek.

General Description

This tract has been divided into three cover types: mesic oak-hickory, mixed hardwoods, and dry oak-hickory. 6300206 is primarily east-facing slopes with some northern facing slopes on the northern extent of the tract. The dominant overstory trees are chestnut oak and white oak. This tract is seeing high stocking levels resulting in a lot of mortality. Across each cover type, the regeneration is primarily American beech and maple. There are some pockets of oak regeneration, mainly on the ridgetops and in areas where there is high mortality. Management in this tract will aim to capture mortality, lower the stocking to promote forest growth, and provide the residual structure needed to regenerate desired forest types. The desired forest types being higher quality/healthier chestnut oaks on the ridgetops, white oaks in the rest of the oak-hickory cover types, and yellow-poplar in the mixed hardwoods.

History

- 1941 – Land acquisition from Richey, George L.
- 1942 – Land acquisition from Weir, Martha
- 1958 – Land acquisition from Shirley, William A.
- 1976 – 2,000 acres of Clark State Forest is designated as Back Country Area
- 1986 – Forest inventory completed for State Forest Inventory Program
- 2008 – Land acquisition from Richards, Stephen Franklin & Loretta B.; Richards, Jason Rye; Richards, Joshua Franklin
- 2024 – Forest inventory and management guide completed by Moore

Landscape Context

This tract has a shared property line with private property in the southeast corner that is approximately 0.2 miles long and includes a corner. The rest of the boundary is shared with Clark State Forest. Directly to the north and east, there is a quarter mile of gradually sloping state forestlands surrounding the tract, then private forestlands. To the west, there is a quarter mile strip of state forestlands before entering some rural houses and agricultural fields. To the south, there are over a thousand acres of Clark State Forest, including tall ridges and deep ravines. Roughly 90% of the land within a mile of the tract is forested with the remaining 10% being rural areas or

agricultural fields.

Topography, Geology, and Hydrology
The topography of this tract has a wide variety including over 40% slopes and a gradual 0-2% slope along the southeastern portion of the tract. There is approximately 200 feet of elevation change from the lowest to the highest points in the tract. The western edge of this tract is a ridge and 6300206 makes up the east-facing slope coming off the ridge.

6300206 is in the Mississippian Borden mapped bedrock formation. The formations constituting the Borden Group are the New Providence Shale, the Spickert Knob, and the Edwardsville. The Borden Group is composed dominantly of gray argillaceous siltstone and of shale. Fine-grained sandstone is common. Interbedded limestones form discontinuous lenses and facies that are minor except for the interval of the Floyds Knob Limestone Member at the base of the Edwardsville Formation.

Tract 6300206 is located in the Big Ox Creek watershed. There is one mapped intermittent stream and one mapped perennial stream that flows through this tract. The northeast corner of this tract runs along an unnamed intermittent stream which flows into Roger Creek. Roger Creek then makes up the rest of the eastern border of 6300206. Roger Creek feeds into Little Ox Creek which feeds a private lake not far from the border of Clark State Forest. The outflow of this lake continues as Little Ox Creek eventually flows into Big Ox Creek approximately 7.5 miles from the lake.

Soils
GmaG (104.3 Ac) - Gnawbone-Kurtz silt loams, 20 to 60 percent slopes
This moderately to very steep, moderately deep, well-drained complex is found on side. It is well suited to trees. The hazard of erosion and equipment limitations are main management concerns. These should be considered when planning management activities and implementing Best Management Practices for Water Quality. Kurtz has a site index of 60 for northern red oak and Gnawbone has not been evaluated.

BvoG (15.7 Ac) - Brownstown-Gilwood silt loams, 25 to 75 percent slopes
This moderate to very steep, deep, well-drained soil is found on sideslopes in the uplands. It is well suited to trees. Equipment limitations and erosion hazards are main management concerns that should be considered during sale layout and implementation of Best Management Practices for Water Quality. Brownstown has a site index of 50 for black oak and gilwood has not been rated.

BcrAW (13.3 Ac) - Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration
This nearly level, deep, well-drained soil is found along alluvial fans and flood plain. It is well suited to trees. Management planning should consider wet times of year. This soil has not been evaluated for site index.

StaAQ (8 Ac) - Steff silt loam, 0 to 2 percent slopes, rarely flooded

This nearly level, deep, moderately well-drained soil is on bottom land. It is flooded for brief periods, mainly in winter and spring. It is well suited to trees and has a site index of 88 for black oak and 107 for yellow poplar.

WhcD (4.6 Ac) - Wellrock-Gnawbone silt loams, 6 to 20 percent slopes

This strongly sloping, deep, well-drained soil is on side slopes in the uplands. It is well suited to trees. Erosion hazards are a management concern that should be considered when implementing Best Management Practices for water quality. Wellrock has a site index of 90 for yellow poplar and 70 for white oak. Gnawbone has not been evaluated for site index.

SoaC2 (2.8 Ac) - Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded

This moderately sloping, deep, moderately well-drained soil is found in side slopes in the uplands and knobs. It is well suited to trees. A fragipan is present at 20 to 36 inches that inhibits drainage. Erosion hazards are a management concern that should be considered when implementing Best Management Practices for Water Quality. Spickert has a site index of 60 for white oak and 100 for yellow poplar and Wrays has a site index of 70 for white oak and 90 for yellow poplar.

ConD (0.8 Ac) - Coolville-Rarden complex, 12 to 18 percent slopes

These strongly sloping, deep, moderately well-drained soils are found on side slopes in the uplands. It is well suited to trees. Erosion hazards are concerns that should be considered during implementation of Best Management Practices for Water Quality. Coolville has a site index of 66 for northern red oak and Rarden has a site index of 71 for black oak.

GgfD (0.5 Ac) - Gilwood-Wrays silt loams, 6 to 18 percent slopes

This gently to moderately sloping, moderately deep, well-drained complex is found on side slopes of the upland knobs. The hazard of erosion is main management concerns that should be considered when implementing Best Management Practices for Water Quality. Wrays has a site index of 70 for white oak and 90 for yellow poplar and Gilwood has not been evaluated.

Access

6300206 can be accessed by UTV and by foot. The Knobstone Trail runs along the western border of this tract which crosses Leota Road approximately 0.75 miles north of the tract. The Knobstone Trail, albeit rugged, is passable with a narrow UTV. There is also a mapped fire lane that comes off South Taylor Road and runs along the western border of the tract. This fire lane is passable on the ridges but is impassable between the ridges and Taylor Road. The fire lane would require maintenance closer to Taylor Road to be functional again.

Boundary

6300206 has a private property boundary in its southeast corner which runs about a quarter mile. The rest of the boundaries are shared with other tracts of Clark State Forest. The Clark State Forest tracts that border it are as follows: 6300205 to the east, 6300203 to the northeast, 6300202 to the northwest, 6300207 to the west, 6300208 to the southwest, and 6300214 to the south. Roger Creek and an unnamed intermittent stream run along the majority of the eastern border. The Knobstone Trail runs along a portion of the western border.

Ecological Considerations

This tract contains diverse vegetation and wildlife resources conducive to providing habitat for a

variety of wildlife species. Habitat types include dry oak-hickory, mesic oak-hickory, mixed hardwoods, and riparian areas. Evidence of several types of wildlife were noted at the time of inventory including deer sign, turkey feathers, Eastern box turtles, and a variety of woodpeckers and songbirds.

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 Division of Forestry (DoF) "optimal" targets in all size classes. Additionally, legacy tree densities exceed DoF compartment-level targets in all size classes by a comfortable margin.

At the time of inventory, not many invasive plants were found. There were some scattered multiflora rose and Japanese honeysuckle along the Knobstone Trail and continuing along the ridge on the western edge of the tract. In the bottoms, there is periwinkle growing close to the stream along with some scattered multiflora rose. Prior to the harvest, these invasive species could be treated while they are small in numbers. Also, post-harvest invasive species monitoring and treatment could occur to control the more common invasive species which are actively spread by wildlife and wind like multiflora rose and ailanthus.

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
The main form of recreation that occurs in this tract is likely to be hiking on the Knobstone Trail and hunting. Some evidence of hunting was noted during the forest inventory. Other recreational opportunities presented in this tract include wildlife viewing and foraging.

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
The current forest resource inventory was completed in June of 2024 by Forester C. Moore and intern I. Hyde. A summary of the estimated tract inventory results are located in the table below.

Tract Summary Data (Trees > 11" DBH)

Category	Estimate
Tract Acres (Forested)	150
Gingrich Stocking Percent (%)	80
Trees Per Acre	97
Basal Area Per Acre (SQFT)	97
Volume Per Acre (BDFT)	8,603

Tract Summary Data (trees >11"DBH):

Species	# of Trees	Total Bdft
Chestnut oak	3,868	680,820
White oak	1,286	214,950
Scarlet oak	387	129,090
Yellow-poplar	432	80,240
Red maple	1,368	74,140
Northern red oak	130	36,510
Black oak	42	21,270
American sycamore	30	12,710
Pignut hickory	69	12,580
Shumard oak	21	8,250
Black gum	141	6,490
Shagbark hickory	58	4,180
American beech	74	2,930
Black walnut	24	2,630
Sugar maple	36	1,990
Sweetgum	42	1,660
Total:	8,008	1,290,440

For the purposes of this resource management guide, this tract is being divided into three management cover types based on forest composition: mesic oak-hickory, mixed hardwoods, and dry oak-hickory.

Mesic Oak-Hickory, 118 acres

This cover type is vast, making up approximately 79% of the tract acreage. Mesic oak-hickory is found between the ridge tops and the bottoms and is composed of slopes between 5-30%. Percent stocking in this cover type is 80%, which is considered fully stocked. With the cover type being so vast, we see a variety of growing sites. Near the top of the ridge, there is a heavy chestnut oak component which slowly dwindles as you reach more gradual slopes, converting to a heavy white oak component. The more gradual eastern-facing slopes, near the eastern edge of the cover type, make for a productive timber-growing site with the potential to grow large, high quality white oak. Near the western side of this cover-type, the chestnut oak dominated areas, there are many double-stemmed trees, trees leaning downhill, and trees experiencing dieback. This can be contributed to the site being left alone through the stages it could have used a thinning and sustained a harvest. Chestnut oak makes up 54% of the volume in this cover type. Other dominant overstory species

include white oak, scarlet oak, and red maple.

Mesic Oak-Hickory Data (trees >11"DBH):

Species	# of Trees	Total Bdft
Chestnut oak	3,029	531,710
White oak	1,172	193,520
Scarlet oak	363	127,630
Red maple	1,138	54,840
Yellow-poplar	173	29,650
Northern red oak	94	22,630
Pignut hickory	69	12,580
Black oak	14	7,080
Shagbark hickory	58	4,180
Total:	**6,110**	**983,820**

With the condition of the chestnut oak throughout this tract, the large numbers of red maples competing with more desirable species, and the high mortality seen in all species, there may be a high amount of board footage removed in this cover type. Through doing this, many crop trees will be released with high potential on such a high-quality site. Extra care must be shown to not over-expose the higher quality oaks to the elements, as you may be setting them up for failure. Failure can be seen through shock, epicormic sprouts, wind throw, and even harvest damage. The goal is to keep this as an oak-hickory cover type for the foreseeable future. The best methods for this include removing much of the red maple, allowing more sunlight to reach the forest floor, and promoting oak regeneration. There are some areas in this cover type where mortality was not captured and there are large trees on the ground, and these areas are now housing advanced yellow-poplar regeneration. Unless there is a good oak seed source nearby, it is recommended to help the yellow-poplar reach the canopy in these areas. This reinforces the importance of performing harvests before mortality develops.

An improvement harvest is recommended for this cover type. The goal is to bring the basal area down from approximately 97 to 50-70. This could be accomplished with the use of a modified shelterwood or single-tree selection harvest, or combination. Invasive species control is recommended in areas where the timber harvest or timber stand improvement (TSI) creates areas with high quantities of light to reach the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 425,000 to 475,000 board feet from this cover type.

Mixed Hardwoods, 20 acres

This cover type is found along the eastern edge of the tract, close to Roger Creek and the intermittent. This is not a large cover type, covering approximately 13% of the tract acreage. Most of the canopy is composed of yellow-poplar, making up ~33% of the merchantable volume. Percent stocking is estimated at 82%, placing this cover type in the fully stocked region. Mortality throughout this cover type is high, mainly seen in the oaks and red maple. This can be attributed to their poor growing form and large size. Much of the young yellow-poplars, northern red oak, and shumard oak look very promising. Releasing these crop trees will be in the best interest of the tract. Many of the high mortality areas demonstrate the tenacity of the yellow-poplar regeneration

in this cover type. There are some invasive species to note in this cover type: periwinkle is found in the northern extent, near the streams along with some multiflora rose. It is recommended to control this prior to the harvest while it is easily containable.

Mixed Hardwoods Data (trees >11"DBH):

Species	# of Trees	Total Bdft
Yellow-poplar	259	50,590
Chestnut oak	79	15,980
Red maple	193	15,650
Northern red oak	36	13,880
American sycamore	30	12,710
White oak	22	10,730
Black oak	21	9,720
Shumard oak	21	8,250
Black gum	141	6,490
American beech	74	2,930
Black walnut	24	2,630
Sugar maple	36	1,990
Sweetgum	42	1,660
Scarlet oak	24	1,460
Totals:	**1,002**	**154,670**

An improvement harvest is recommended for this cover type. The yellow-poplar, northern red oak, and shumard oak have promising growing stock that can be released for the future. There are also many double-stemmed and poorly formed trees to harvest before mortality begins to show. The goal is to bring the basal area down from approximately 97 to 50-70. This could be accomplished with the use of a modified shelterwood or single-tree selection harvest, or combination. Invasive species control is advised along the streams on the eastern edge of the tract and is recommended in areas where the timber harvest or TSI activity creates areas with high quantities of light reaching the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 50,000 to 75,000 board feet from this cover type.

Dry Oak-Hickory, 12 acres

This cover type is located along the highest ridge and the steep upper slopes surrounding it. This ridge is found in the northwestern corner of 6300206. This cover type is a small portion of the tract, making up 8% of the tract acreage. The main canopy trees in this cover type are larger declining chestnut oaks along with some scattered white oaks which are competing for space between the chestnut oaks. Percent stocking is approximately 82%, classifying it as fully stocked. Chestnut oak makes up ~88% of the merchantable volume. The only other dominant overstory trees found in an inventory plot included white oak, black oak, and red maple. Overstory mortality in this cover type is above average. The dominant regeneration in these areas tended to be American beech, red maple, chestnut oak, and white oak. There was a good amount of oak regeneration present on the highest points of the knobs, likely because of the high germination rates of chestnut oak acorns and the dominance of chestnut oaks throughout the cover type. More

forms of oak regeneration were found in areas of high mortality. With forest management, these areas could continue to be predominantly oak-hickory. The herbaceous layer is dominated by greenbrier throughout the cover type with some pockets of Christmas ferns.

Dry Oak-Hickory Data (trees >11"DBH):

Species	# of Trees	Total Bdft
Chestnut oak	760	133,130
White oak	92	10,700
Black oak	7	4,470
Red maple	37	3,650
Total:	**896**	**151,950**

This cover type is dominated by chestnut oak. The canopy chestnut oaks are exhibiting much decline and dieback in the upper limbs. There are many trees leaning aggressively downhill and double stemmed trees, this is likely the cause of the high mortality. The understory is mostly shade-tolerant species providing a thick umbrella that the more shade-intolerant, desirable species cannot penetrate. The goal is to keep this as an oak-hickory cover type for the foreseeable future. To do this, the regeneration will need the midstory removed and the canopy thinned greatly. With the rapidly declining state of the overstory trees, this could be a rather intense harvest with many stems per acre removed.

An improvement harvest is also recommended for this cover type. The goal is to bring the basal area down from approximately 99 to 40-60. This could be accomplished with the use of a modified shelterwood or single-tree selection harvest, or combination. Invasive species control is advised along the Knobstone Trail on the western edge of the tract and is recommended in areas where the timber harvest or TSI activity creates areas with high quantities of light reaching the ground. Prescribed fire is also recommended to promote oak regeneration and control invasive species. A harvest could remove between 50,000 to 100,000 board feet from this cover type.

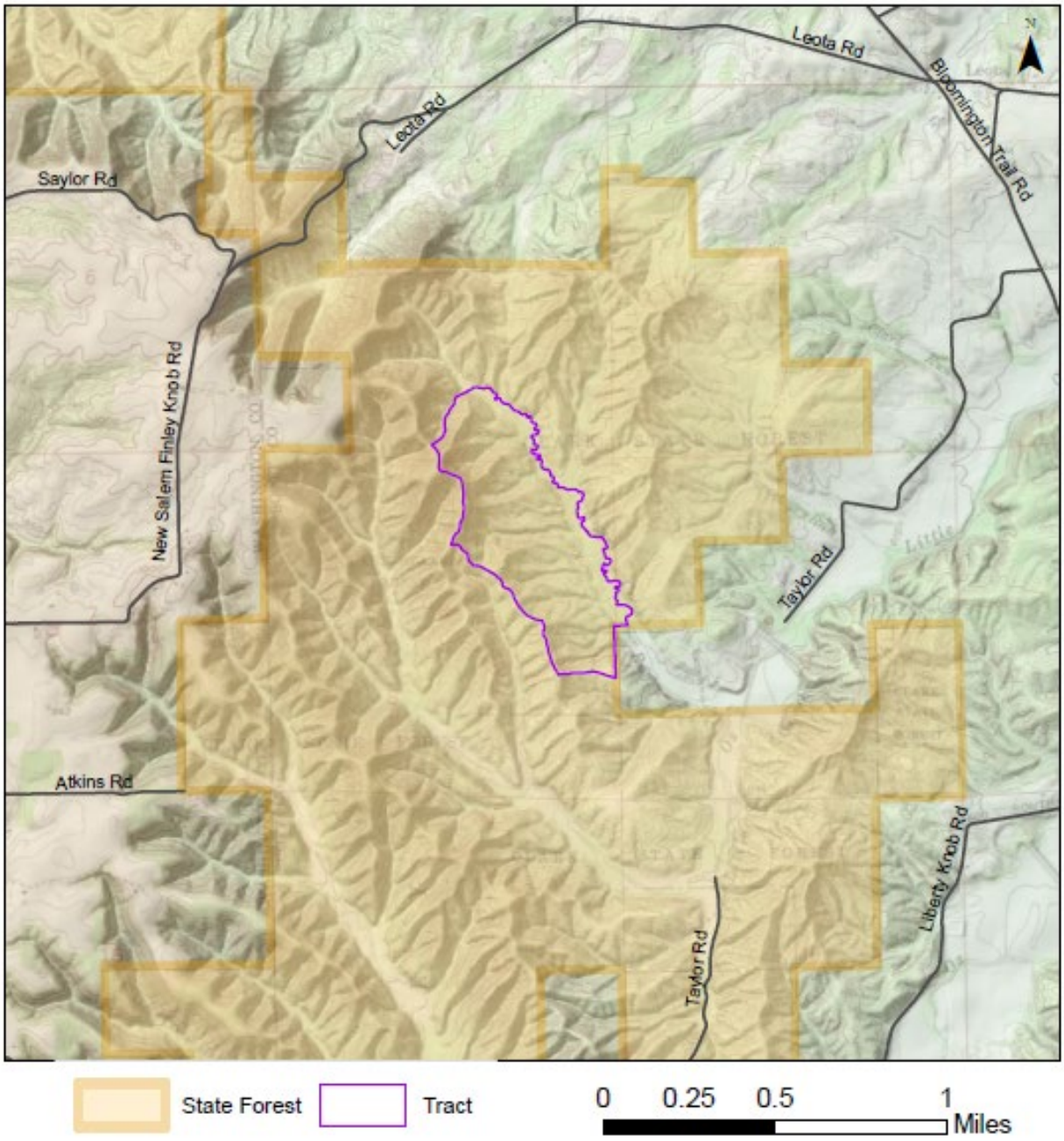
Summary Tract Silvicultural Prescription and Proposed Activities

Management recommendations in this tract could begin with pre-harvest invasive species control that could be used to limit seed producing populations or reduce less pervasive invasive species. Pre-harvest TSI could be utilized to help promote oak and yellow-poplar regeneration. A harvest is recommended to lower the basal area, improve regeneration conditions, or to transition an area of the tract from one cover type to another. This could be done by using single-tree selection or a modified shelterwood harvest, or combination. Post-harvest TSI and a fire regimen could be used to promote and ensure the success of the tract. It is recommended that a total of 525,000 – 650,000 board feet be removed from 6300206.

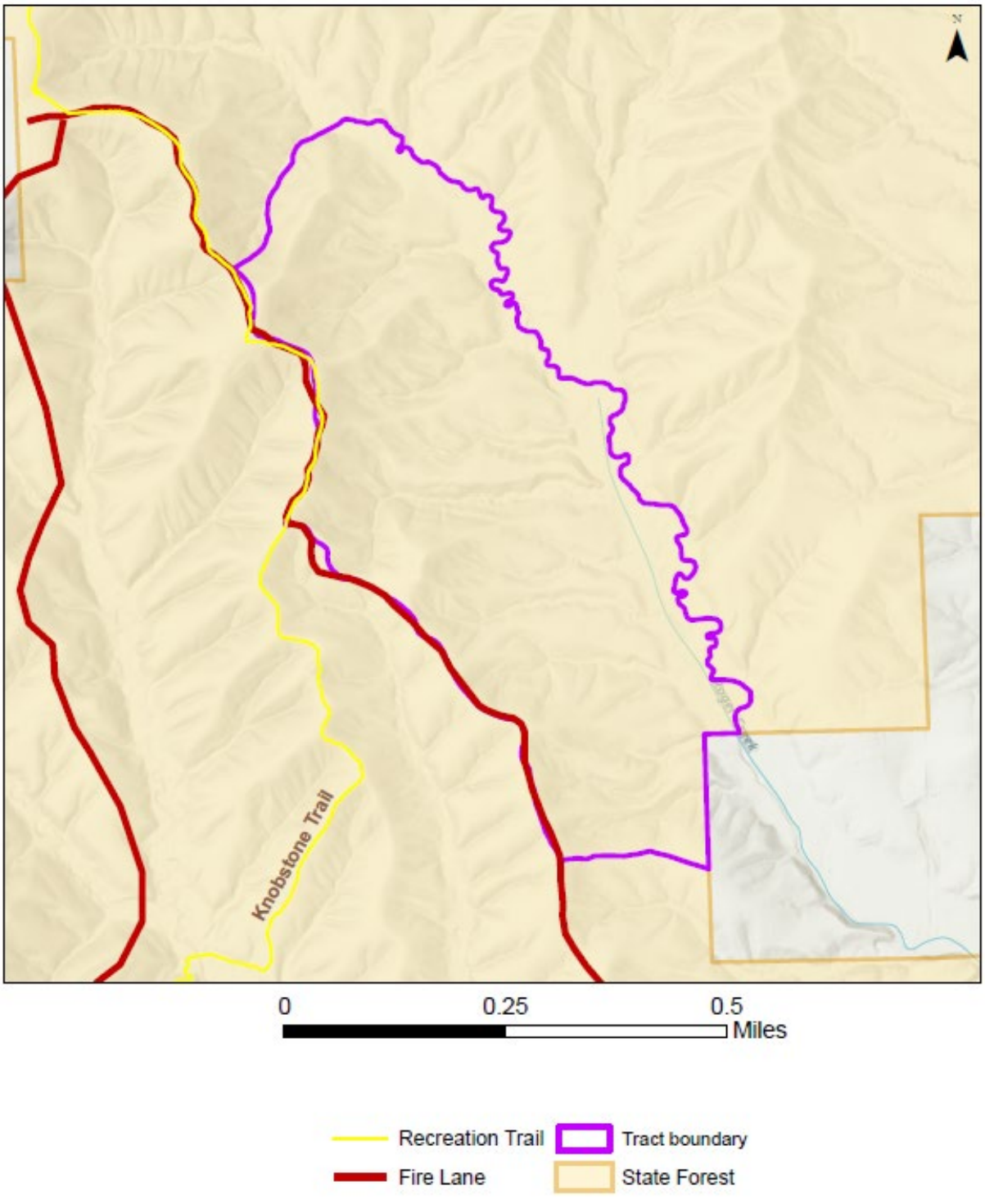
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Pre-harvest TSI/invasive species control	2025-2026
Timber Harvest	2026-2028
Post-harvest TSI/invasive species control	Within 2 years of harvest
Post-harvest regeneration review	Three years after harvest
Prescribed fire regime	2025+
Next forest inventory	2055

Clark State Forest
Location Map
Compartment 2 Tract 6



Clark State Forest
Compartment 2 Tract 6
Tract Map



Clark State Forest
Compartment 2 Tract 6
Cover Types Map