

Indiana Department of Natural Resources – Division of Forestry
Draft
Resource Management Guide

State Forest: Yellowwood
Tract Acreage: 172
Forester: L. Burgess
Management Cycle End Year: 2037

Tract: 6420719 Compartment 7 Tract 19
Forest Acreage: 172
Date: July 25, 2017
Management Cycle Length: 20

Location:

Tract 6420719 is located in Brown County, Washington Township, Sections 19, 20, 29 & 30 – T9N – R2E. It is approximately 8 miles west of Nashville and located on the west side of Dubois Ridge Road.

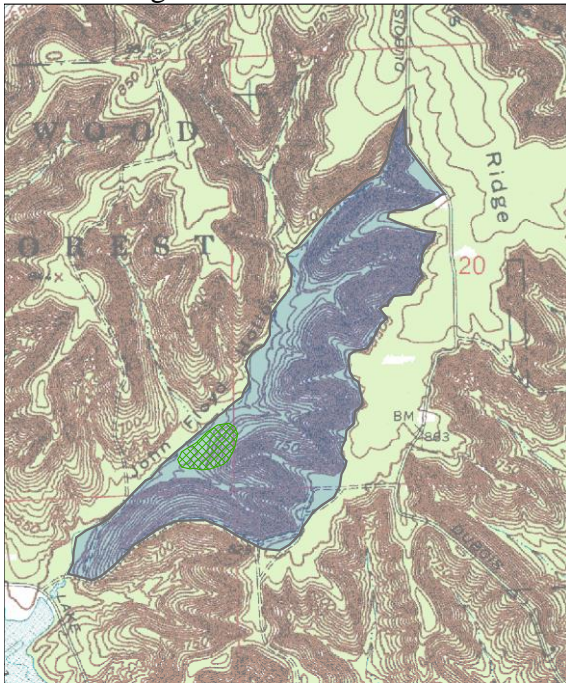


Figure 1. Compartment 7 Tract 19

General Description:

Most of the tract's 172 acres are covered with hardwood forests, especially oak-hickory timber types. Other type(s) present include mixed hardwood. The most recent harvest in this tract occurred in 1976. The past harvest was primarily an improvement cut . TSI was applied in 1988.

History:

Original Tract 19 (91 acres)

- 1983 (approx.) White oak plantation established in John Floyd Hollow
- 12/1984 – Tract 19 created by dividing other tracts, including 14 (all history for Tract 14 prior to 12/1984 applies to Tract 19)
- 3/1988 – Marked thinning in White oak plantation for contract (330 trees)

- Summer 1988 – TSI completed
- 2/1990 – Management reconnaissance
- 8/1991 – Inventory 7,921 bf/ac present
- 6/2000 – Inventory

Original Tract 14 (81 acres)

- 4/1975 – Planted 1500 Autumn olive
- 12/1975 – TSI
- 3/1976 – Timber sale 138,954 bf.
- 3/1976 TSI
- 12/1984 – Tract 14 created by dividing other tracts, including 19
- 3/1988 – Marked thinning in White Oak plantation for contract (204 trees)
- 1988 – TSI completed by contractor. Double girdle, no chemical
- 2/1990 – Management reconnaissance

6/2017 New Tract 19 (combined acreage of Tract 14 and Tract 19)

- 6/2017 – Inventory
- 7/2017 – Management guide and planning

Landscape Context:

State forest completely surrounds the tract and contains a mix of pine, early successional hardwood forest, and closed-canopy deciduous forest.

The primary block of the State Forest lies to the east and north. Private land ownership is more abundant to the east with a mix of developed areas and forest.

Other minor cover/habitat types present include, grasslands/hayfields/pasture and cropland and 133 acre Yellowwood Lake.

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, 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. Water resources within this hydrologic boundary are part of the North Fork Salt Creek watershed.

Soils:

Typical soils in this area are moderately well drained or well drained. These soils formed from a thin layer of loess and underlying limestone bedrock. The major soils in this tract are listed below.

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 the main management concerns due to slope. Slope considerations are needed 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. This soil comprises about 80% of the tract acreage.

WaD - Wellston-Berks-Trevlac Complex, 6 to 20 percent slopes

These moderately sloping to moderately steep, well drained soils are on sideslopes and narrow ridgetops in the uplands. They are well suited to trees. Seedling mortality can be an issue on the south facing Berks soils due to droughty conditions. This Complex has a site index of about 70 for northern Red Oak. This soil comprises about 15% of the tract acreage.

(Be) Beanblossom channery silt loam (Be)

Nearly level and gently sloping, deep, moderately well drained soil is on flood plains, alluvial fans and colluvial benches. Slight to moderate limitations. This soil comprises about 5% of the tract acreage.

Access:

This tract is accessible via Yellowwood Lake Road as well as a short walk in from Dubois Ridge Road.

Boundary:

This tract has no adjacent private ownerships. The tract boundary is surrounded by other State Forest tracts.

Wildlife:

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

- contiguous mixed hardwood canopy
- riparian areas
- scattered mixed hardwood stands
- Remnants of pine plantings

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.

Snags (standing dead or dying trees), are an important wildlife habitat features in Indiana's forests. They are used by a wide range of species as essential habitat features for foraging

activity, nest/den sites, decomposers (e.g., fungi and invertebrates), bird perching and bat roosting. Additionally, snags are an important contributor to the future pool of downed woody material. Downed woody debris provides habitat and protection for many species and contributes to healthy soils.

Forest wildlife species depend on live trees for shelter, escape cover, roosting and as a direct (e.g., mast, foliage) or indirect (e.g., foraging substrate) food resource. The retention of live trees with certain characteristics (legacy trees) is of particular concern to habitat specialists such as species of conservation need like the Indiana bat.

The DoF has developed compartment level guidelines for two important wildlife structural habitat features: **snags and preferred live roost trees** (legacy trees). Structural feature data indicate live roost trees and snags features currently meet or exceed recommended maintenance levels. Additionally, legacy trees and standing dead trees (snags) will be given consideration for retention and recruitment as habitat during the implementation of resource management activities. .

Communities:

Listed below are the general community types found in this tract.

Dry-mesic upland forest

Dry-mesic upland forests are one of the most prevalent forest communities in Indiana state forests. This community occupies an intermediate position along a soil moisture gradient. Trees grow well, but the canopy is usually more open than in mesic forests.

The dominant trees found are white oak, red oak, and black oak. Other plants and animals characteristic of this community are: shagbark hickory, mockernut hickory, flowering dogwood, hop hornbeam, blackhaw, broad-headed skink, white-footed mouse, eastern chipmunk.

Mesic upland forest

Mesic upland forests are found throughout the state, but are most common in hilly regions where slopes and aspect reduce excessive evaporation and wildfire. They generally occur on north-facing slopes, in ravines, and on level soil with moderately high available moisture. Ideal soil moisture conditions tend to result in dense overstories and, in undisturbed stands, an understory of shade-tolerant species.

Sugar maple, American beech, yellow-poplar, northern red oak, and basswood are the typical dominant trees in a mesic upland forest. Other plants that are found in this community include pawpaw, Ohio buckeye, blue beech, bitternut hickory, red mulberry, and bladdernut. Tiger salamanders, wood frogs, and wood thrushes are some animals commonly found.

A Natural Heritage Database review was completed for this tract in July 2017. If Rare, Threatened or Endangered (RTE) species were identified for this area, the activities prescribed in this guide will be conducted in a manner that will not threaten the viability of those species.

Exotic and Invasive Species:

Below is a list of invasive species identified during the inventory. If identified, priority control should be given to ailanthus and bush honeysuckle. These would be treated as soon as practical, with individuals and smaller areas being targeted if needed. A broader and/or situational approach should be taken with the species noted below. Control measures for these species could be warranted for larger scale road & trailside treatment projects, planned regeneration openings, pre or post-harvest TSI projects, etc. Post-harvest control of stiltgrass is most easily accomplished through successful seeding of fescue or other highly competitive non-invasive seeding mixture.

- **Autumn Olive**
- **Japanese Stiltgrass**

Recreation:

Hunting is permitted on State Forest property and this area also offers opportunities for certain types of gathering and wildlife viewing. A section of the “Y” Horsetrail trail falls along the southern boundary of this tract. A temporary re-route will be marked to keep the trail open while keeping horseback riders and hikers safe during resource management operations.

Cultural:

This tract was reviewed for cultural sites during the forest resource inventory. Cultural resources may be present on this tract but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

Tract Description and Silvicultural Prescription:

The current forest resource inventory was completed on June 8, 2017 by Forester L. Burgess. A summary of the estimated tract inventory results are located in the table below.

Tract Summary Data

Total Trees/Ac. = 107 **Trees/Ac.**
BA/A = 85 **Ft²/Ac.**
Current Volume = 5,954 **BF/Ac.**

Overall % Stocking = 70% **Stocking**
Sawtimber Trees/Ac. = 23 **Trees/Ac.**

This tract has three management units (stands). Below are general stand descriptions and silvicultural prescriptions.

Oak-Hickory/Mixed Hardwood

The timber 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 is 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 white oak being the most prevalent. The understory is dominated by beech and sugar maple.

Mixed Hardwood

The timber type is predominantly mixed hardwoods with some oak-hickory present. Primary species include yellow-poplar and white oak. A mix of diameters are present, but the timber resource consists of a mostly large size class. The understory is dominated by American beech.

Homogeneous Pine Plantation

The timber type is planted Virginia pine and is located southwestern third of the tract. The Virginia pine is pole to small sawtimber in size and is stagnant and in general decline. There is a larger component of hardwoods here, most notably Pignut hickory and White oak.

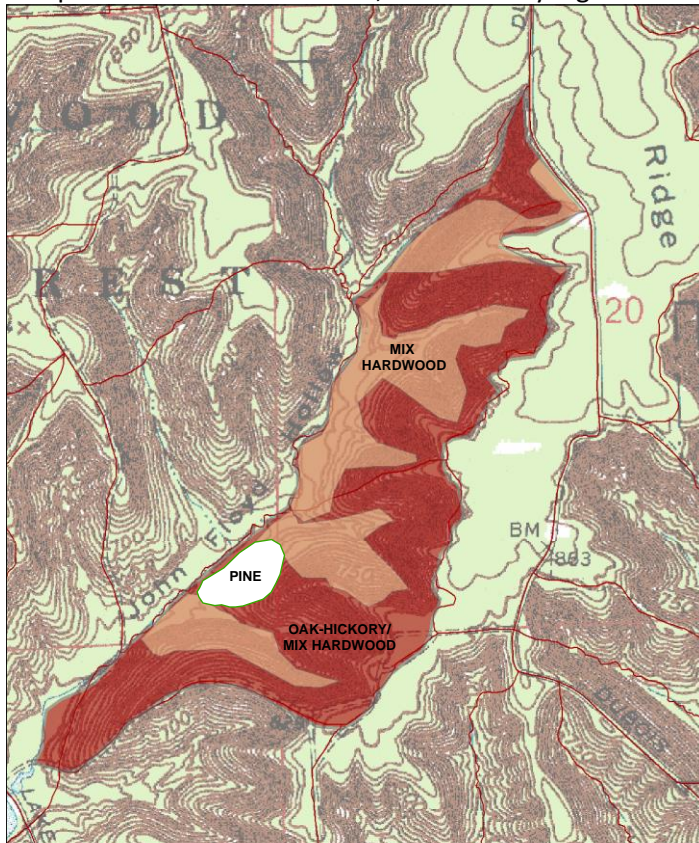


Figure 2. Compartment 7 Tract 19 timber type map

Prescriptions

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 singletree 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 average residual stocking in these areas should remain above the B-line (60 sqft/acre) according to the Gingrich stand density chart for upland hardwoods.

Group selections will be implemented in areas dominated with poor growing stock and those areas exhibiting past fire damage, creating a component of young forest and important early successional habitat. An area of windthrow was noted during the inventory – this area will be considered for expanding the natural opening into a larger opening to further promote existing saplings present and new seedling establishment. 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.

The prescribed harvest is projected at 1,700-2,200 board feet/acre.

TSI

Timber Stand Improvement (TSI) is prescribed for 6420719. Work should include the following:

- Post Harvest Regeneration Opening Completion - 2020

Schedule:

<u>Proposed Management Activity</u>	<u>Proposed Period</u>
Timber Marking	2017-2018
Road/Landing Work	2018
Timber Sale	2018/19
Timber Sale Closeout	2018-20
BMP Review	2019-21
Post Harvest TSI/Invasive Treatments	2019-21
Regeneration Success Review	2024
Reinventory and Management Guide	2037

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