

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

State Forest: Yellowwood

Tract Acreage: 144

Forester: L. Burgess

Management Cycle End Year: 2036

Tract: 6420908- Compartment 9 Tract 8

Forest Acreage: 144

Date: April 7, 2016

Management Cycle Length: 20

Location:

Tract 6420908 is located in Brown County, Washington Township, Section(s) 36 – T9N – R1E. It is approximately 8 miles west of Nashville and located on the west side of Scarce O’Fat Ridge.

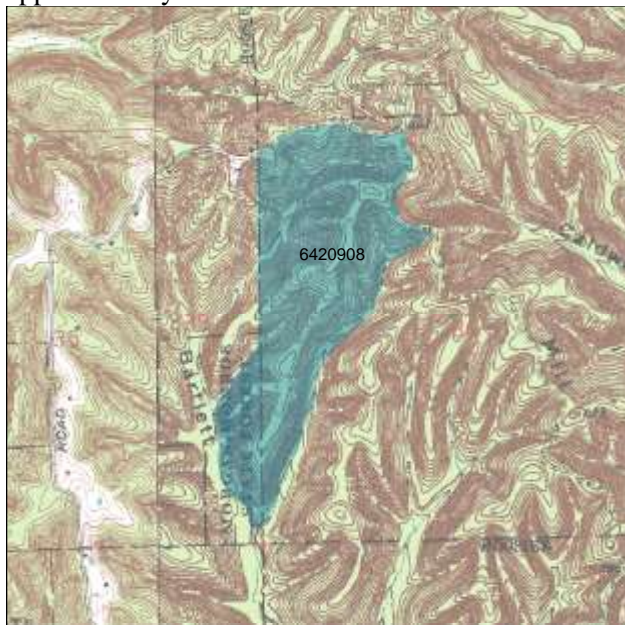


Figure 1. Compartment 9 Tract 8

General Description:

Most of the tract’s 144 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 2002 within 59 acres of former Tract 9. The original Tract 8 acreage had a harvest in 1991.

1. In the acreage formerly Tract 9, the harvest was primarily an improvement cut and light thinning which focused on removal of fire damaged and other lower quality trees. There were also 2 regeneration openings created totaling 2.1 acres. TSI was performed in 1993 and focused on cull removal, vine control, and opening completion. As a result, the current overall timber quality within this tract is good and consists mainly of medium and large size class. The old regeneration openings are now 23 years old and contain pole-sized mixed hardwoods. In the acreage of original Tract 8 the harvest was also primarily an improvement cut and light thinning which focused on removal of fire damaged and other lower quality trees. There was 1 regeneration opening created totaling 0.5 acres. As a result, the current overall timber quality within this tract is good and consists mainly of medium and large size class. No TSI was documented for this

opening however it is now 14 years old and contains post size mixed hardwoods dominated by yellow-poplar.

History:

Original Tract 8 (85 acres)

- 3/1972 - Inventory/Cruising
- 8/1985 - Road Construction / Maintenance. Area opened for public firewood cutting.
- 2/1987 - Boundary/Survey work: marking boundaries
- 2/1990 - Inventory/Cruising
- 2/1990 - Resource Management Guide
- 10/1990 - Road Construction / Maintenance. Public firewood from 110 felled TSI trees.
- 7/1991 - Timber Harvest - Marking
- 8/1991 - Timber Harvest – Marking complete
- 9/1991 - Timber Sale. 115,947 bd.ft. in 464 trees
- 9/1991 - Timber Harvest begun
- 10/1991 - Timber Harvest complete
- 2/1992 – TSI marking
- 6/1992 - TSI –2.1 acres in 2 openings
- 11/1993 - TSI - General

Former Tract 9 (59 acres)

- 4/1972 - Inventory/Cruising
- 5/1981 - Timber Harvest - Marking
- 6/1981 - Timber Sale. 103,939 bd.ft
- 9/1981 - Inventory/Cruising
- 5/1982 – Private property logging adjacent to YSF granted access for skidding across YSF
- 12/1982 - TSI marking and one opening completed
- 12/1982 – Commercial Firewood cutter
- 5/1983 – Planted 100 autumn olive in both landings
- 7/1983 – Recon of logging and past firewood cutting
- 8/1985 - Road Construction / Maintenance
- 2/1987 - Boundary/Survey work: marking boundaries
- 4/1987 - Road Construction / Maintenance: daylighted Sewell Rd by removing some pine
- 12/1989 – Hunter parking area constructed and cable gate put in.
- 11/1990 – Gate maintenance
- 4/1999 – Replaced cable gate with 12 foot farm gate to deter horses and atv's.
- 1/2000 - Inventory/Cruising and management guide
- 2/2000 - Timber Harvest marking
- 6/2000 - Road Construction – constructed log landing on south boundary
- 8/2001 – Inventory of snags-new policy
- 4/2002 - Timber Harvest additional marking due to heavy mortality
- 7/2002 - Timber Sale followed by harvest. 51.050 bd.ft 88 trees.
- 8/2002 - Timber Harvest - Closeout

Landscape Context:

State forest completely surrounds the tract and is predominantly closed-canopy deciduous forest.

The surrounding landscape near the tract is predominantly closed-canopy deciduous forest. The primary block of the State Forest lies to the east and north. Private land ownership dominates to the west and southeast with a mix of developed areas, forest, and agricultural lands.

Other minor cover/habitat types present include, grasslands/hayfields/pasture and cropland.

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.

This tract lies within the Brummett Creek-North Fork Salt Creek subwatershed. 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 60% 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 40% of the tract acreage.

Access:

This tract is accessible via Sewell Road and Scarce O'Fat Road/Tulip Tree Road. A gate is located at the northwest corner of the tract from Sewell Road. Another gate is approximately 2 miles north and is accessed from Tulip Tree Road, or yet a third gate is 1.5 miles south and accessed from Scarce O'Fat Road.

Boundary:

This tract's northwestern section is bordered by adjacent private ownerships. The remaining tract boundary is defined by other State Forest tracts.

Privately owned property borders this tract. Private boundaries were last marked in 2015.

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
- old regeneration openings
- riparian areas
- scattered mixed hardwood stands

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 March 2016. 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**

Recreation:

Hunting is permitted on State Forest property and this area also offers opportunities for certain types of gathering and wildlife viewing. Short sections of the Scarce O'Fat and Tecumseh trails follow the boundary of this tract near the north end of the eastern boundary of the tract on the Scarce O'Fat Road. Temporary short re-routes will be marked to keep the trail open while keeping hikers safe during harvest 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 March 21, 2016 by Forester L. Burgess. A summary of the estimated tract inventory results are located in the table below.

Tract Summary Data

Total Trees/Ac. = 114 **Trees/Ac.**
BA/A = 85 **Ft²/Ac.**
Current Volume = 6,942 **BF/Ac.**

Overall % Stocking = 70% **Stocking**
Sawtimber Trees/Ac. = 30 **Trees/Ac.**

This tract has three management units (stands). Below is a list, approximate acreages, 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 sugar maple.

Old Regeneration Openings

There were two old regeneration openings noting during the inventory dominated with yellow poplar. The majority of yellow-poplar regeneration in these openings was found to have only modest decline and mortality despite to the tuliptree scale infestation and severe droughts that occurred in the last 5 years. The openings are approximately 18 years old and total about 1.5 acres.

Chestnut Oak

The timber type is predominantly chestnut and scarlet oaks. A higher stocking of other oak and hickory species as well as mixed hardwoods is more common lower on the slopes and into the stream bottoms; however, the extent of those other species is not large enough to delineate separately. The understory is dense with greenbrier, blackgum, sassafras, American beech, and red maple. With the exception of some larger individuals lower on the slopes, the timber resource consists of a mostly pole to small sawtimber size class. Old fire damage is common throughout this cover type and several trees sounded out with evidence of this.

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. 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 6420908. Work should include the following:

- Post Harvest Regeneration Opening Completion - 2018

Schedule:

<u>Proposed Management Activity</u>	<u>Proposed Period</u>
Timber Marking	2016
Road/Landing Work	2016
Timber Sale	2016
Timber Sale Closeout	2016-18
BMP Review	2017-18
Post Harvest TSI/Invasive Treatments	2017-18
Regeneration Success Review	2021
Reinventory and Management Guide	2031

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