

Resource Management Guide

Yellowwood State Forest
 Tract Acreage: 74
 Forester: Andrea Wallis

Compartment: 7 Tract: 22
 Commercial Acreage: 70
 Date: 9/25/2009 Update: 10/27/2009

Location:

This tract is located in Brown County about 8 miles from Nashville, IN on Dubois Ridge Road. It includes Sections 39 and 38 of Township 9 North, Range 2 East. It is identified as Yellowwood Compartment 7 Tract 22.

General Description:

Two cover types dominate the majority of this 74 acre tract: mixed hardwood and oak. There are approximately 41 acres of mixed hardwood, 29 acres of oak, and 3 acres of a yellow poplar red pine combination. The following table shows canopy composition by species and position.

| Overstory | Understory | Regeneration |
|-------------------|-------------------|-------------------|
| Black Oak | Red Maple | White Ash |
| Chestnut Oak | White Ash | American Beech |
| White Oak | Sugar Maple | Red Maple |
| Red Oak | American Beech | Sugar Maple |
| Pignut Hickory | Chestnut Oak | Chestnut Oak |
| Shagbark Hickory | Red Oak | Black Oak |
| Yellow Poplar | American Elm | White Oak |
| Sugar Maple | Dogwood | Red Oak |
| Red Maple | Blackgum | Pignut Hickory |
| White Ash | Pignut Hickory | Bitternut Hickory |
| American Beech | Mockernut Hickory | Mockernut Hickory |
| Jack Pine | Shagbark Hickory | Shagbark Hickory |
| Red Pine | Yellow Poplar | Redbud |
| Largetooth Aspen | Blackgum | American Elm |
| American Sycamore | Sassafras | Yellow Poplar |
| Black Cherry | | Pawpaw |
| | | Sassafras |
| | | Dogwood |

History:

- 1985 - Tract Inventory was conducted using 1 point for 4 acres
- 1987 - Timber sale and harvest of 123,040 board feet
- 1988 - Autumn Olive planted on logging yard
- 2003 - Tract Inventory indicating a basal area of 83.16; 1,372 BF harvest and 2,898 BF leave

Landscape Context:

The properties surrounding this tract are primarily state owned and managed for timber however there are a few inholdings in which people have built homes. There is an agricultural area a few miles to the south east of the tract.

Topography, Geology, and Hydrology:

There is a stream that acts as the eastern boundary to the tract as well as many drainages due to the general rolling topography of the tract. The stream is relatively narrow only reaching 4 feet across in a few places. Majority of slopes are either southwest, west, or along a ridge top/flood plain. This tract has multiple and varying aspects due to its previous stated topography. There is one major north to south ridgeline that runs the length of the tract. The area is basically half and half in reference to mesic or xeric properties with a slightly larger portion of mesic areas.

Soils:

Soil composition of this tract is of three main types: Beanblossom (Be), Berks-Trevlac-Wellston (BgF), and Wellston-Berks-Trevlac (WaD). Beanblossom is typically composed of alluvial flood fans and flood plains, its land capability is 2w, and is a relatively well drained soil with occasional flooding. This soil type is mainly located in the southeastern portion of the tract comprising a low percentage of the tract land. No skid trails, haul road, or landings are located here. Berks-Trevlac-Wellston is a combination of Berks, Trevlac, and Wellston soils and is the dominant soil type of this tract. Berks is comprised of hills and knobs: the soil is well drained and is not prone to flooding or ponding, its land class is 7e. Wellston is mainly hill formations: is well drained with no opportunity for flooding or ponding with a land class of 4e. Trevlac has landforms of hills and knobs: is well drained with little opportunity for ponding or flooding, and a land class of 7e. The tract is approximately seventy percent composed of BgF. Wellston-Berks-Trevlac is a combination of Wellston, Berks, and Trevlac and has a similar definition to BgF with just a different proportion of the three components. WaD comprises twenty to thirty percent of the tract with the majority running from north to south in the center of the tract. The haul road will be constructed on WaD soil and most all skid trails will run east west on BgF soil type areas.

Access:

Dubois Ridge Road is the only direct access to the tract; it acts as a northern tip boundary and then runs north and south along the eastern tract boundary.

Boundary:

The eastern and western boundaries of the tract are streams while the northern tip is Dubois Ridge Road and southern portion abuts another Yellowwood State Forest tract 6420726. There are no private land boundaries.

Wildlife:

The following wildlife was noted during inventory: songbirds, yellow jackets, crickets, white tailed deer, chipmunk, squirrel, bees, and skunk. The Natural Heritage Database indicated that there are no rare, threatened, or endangered species within the tract but there are several located in neighboring tracts. Cerulean Warbler (*D. cerulean*, 1994) and Butternut (*J. cinerea*, 1996) were both sited in tracts to the south while timber rattlesnake (*C. horridus*, 1998) and northern leopard frog (*R. pipiens*, 1971) were sighted in western tracts. The following wildlife habitat features were calculated:

| Legacy Trees* | Maintenance Level | Inventoried | Available Above Maintenance |
|----------------------|--------------------------|--------------------|------------------------------------|
| 11"+ DBH | 666 | 2230 | 1564 |
| 20"+ DBH | 222 | 385 | 163 |

* Species include: American Elm, Bitternut Hickory, Cottonwood, Green Ash, Red Oak, Post Oak, Red Elm, Shagbark Hickory, Shellbark Hickory, Silver Maple, Sugar Maple, White Ash, and White Oak

| Snags | Maintenance Level | Optimal Level | Inventoried | Available Above Maintenance | Available Above Optimal |
|--------------|--------------------------|----------------------|--------------------|------------------------------------|--------------------------------|
| 5"+ DBH | 296 | 518 | 1285 | 989 | 767 |
| 9"+ DBH | 222 | 444 | 225 | 3 | -219 |
| 19"+ DBH | 37 | 74 | 61 | 24 | -13 |

| Cavity Trees | Maintenance Level | Optimal Level | Inventoried | Available Above Maintenance | Available Above Optimal |
|---------------------|--------------------------|----------------------|--------------------|------------------------------------|--------------------------------|
| 7"+ DBH | 269 | 444 | 97 | -199 | -347 |
| 11"+ DBH | 222 | 296 | 97 | -125 | -199 |
| 19"+ DBH | 37 | 74 | 32 | -5 | -42 |

There is a deficiency in all size classes for cavity trees and the larger DBH classes of snag trees. Snags and cavity trees may be selectively harvested to ensure the quality and overall health of the tract; however efforts will be made to conserve desirable candidate trees.

Communities:

Small dispersed patches of multiflora rose were noted during inventory however the size of plants and relative infrequency does not prompted any control at this time.

Recreation:

This tract is available for hunting and hiking by neighboring landholders as well as Dubois Ridge Road visitors.

Cultural:

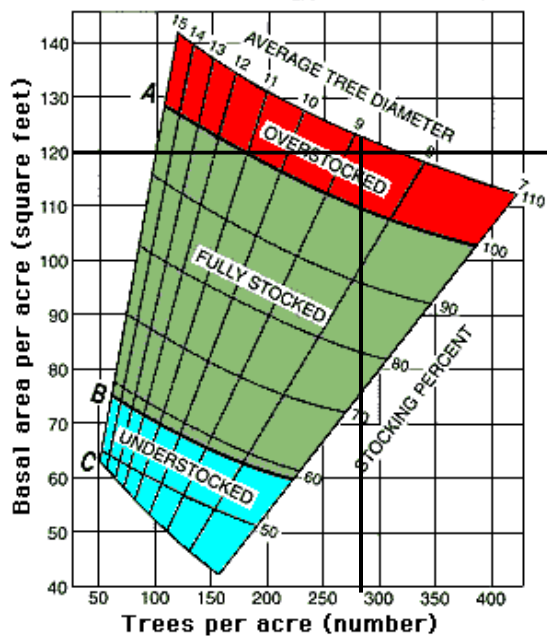
There were no cultural sites observed on this tract during the inventory.

Tract Prescription and Activities:

The current tract inventory was completed by Forester Andrea Wallis on September 9, 2009. Overall, this tract has high stocking in certain areas and is composed of mature to over mature trees and a small understory of 7 to 10 inch trees. Over mature, poor form, and undesirable tree species should be marked for removal to improve overall tract composition and dynamics. Where understocking occurs after the removal of such trees an opening may be created. The major species in the northern portion of the tract is chestnut oak, which will require intensive thinning to produce better quality and healthier trees. Average basal area for this tract was between 120 and 124 with some areas being adequately stocked while others overstocked. Overstocked areas are confined to the western tract portion with a few areas in the south of the tract. Basal area in

these areas will be decreased through the thinning of crowded chestnut oak, the removal of mature trees, removal of trees damaged from the previous harvest, and the release of small diameter oak and hickory trees in selected areas. There is a pine area located in the southwestern portion of the tract in a flat land area next to the creek. This pine is small in diameter and may be to the point of stagnation. This area could be thinned or completely removed as it has already begun to regenerate to hardwoods with the presence of two to eight inch diameter yellow poplar in the understory. It is an area of approximately three acres and is across from a small creek, which might constitute a good opening if access can be achieved. In order to reduce harvest and road impacts this tract will be harvested in conjunction with 6420726. There is an area of white oak snags all greater than twenty inches diameter breast height in an area near the eastern creek boundary. This area will be protected from harvest activity since it will provide good wildlife habitat and most of the trees no longer have merchantable volume. The first opening regenerated in 1987 (noted in that management guide) has developed well with mainly yellow poplar and chestnut oak competing against each other at heights of 8 to 10 feet with average diameters of 1 to 3 inches. It is suggested the yellow poplar of the opening be removed by selective herbicide application method allowing the chestnut oak to develop. Overall, within the tract natural mortality has resulted in large amounts of woody debris present on the forest floor.

Volume Estimates:



This tract is overstocked being at 295 TPA and 120 BA/Ac. This is mostly due to the combination of over mature trees and thick understory of submerchantable trees.

| Species | Harvest BF | Growing Stock BF | Total BF |
|-------------------|-------------------|-------------------------|-----------------|
| Jack Pine | 0 | 2,090 | 2,090 |
| Pignut Hickory | 0 | 9,930 | 9,930 |
| Scarlet Oak | 0 | 1,430 | 1,430 |
| American Sycamore | 0 | 2,180 | 2,180 |
| Red Maple | 720 | 0 | 720 |
| American Beech | 860 | 1,030 | 1,890 |
| Largetooth Aspen | 1,030 | 0 | 1,030 |
| White Ash | 1,670 | 4,930 | 6600 |
| Northern Red Oak | 7,130 | 41,200 | 48,330 |
| Sugar Maple | 8,940 | 950 | 9,890 |
| Red Pine | 12,610 | 1,890 | 14,500 |
| Yellow Poplar | 25,310 | 2,380 | 27,690 |
| Chestnut Oak | 34,530 | 29,910 | 64,440 |
| Black Oak | 34,850 | 49,460 | 84,310 |
| White Oak | 42,980 | 96,360 | 139,340 |
| Total | 170,630 | 243,740 | 414,370 |

Proposed Management Activities:

Timber Harvest – in conjunction with 6420726
Timber Stand Improvement/ Firewood
Inventory and New Management Guide

Proposed Dates:

2010-2012
2012
2029

The following attachments are kept in the tract file:

- Ecological Resource Review
- Aerial photo map with noted special features
- Aerial photo map with noted unique areas
- Soil type tract map
- Indiana Natural Heritage Database Map
- TCruise reports

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You **must** indicate “Yellowwood C7 T22” 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.