Resource Management Guide

Yellowwood State Forest | Compartment: 7 | Tract: 26
Tract Acreage: 73 | Commercial Acreage: 60
Forester: Andrea Wallis | Date: 10/12/2009 | Update: 10/27/2009

Location:

This tract is located in Brown County approximately 8 miles from the town of Nashville. It is in Section 38 Township 9 North Range 2 East. One half of the eastern boundary runs along Dubois Ridge Road.

General Description:

There are 73 acres total in this tract all of which are commercial timber. There is a 13 acre pine area in the middle of the property with primarily young white oak and mixed hardwoods encompassing the remainder of the tract. There are 13 acres of mixed hardwoods, 39 acres of mixed oak coverage, 8 acres of oak-hickory, and the remaining 13 acres of poor quality submerchantable pine.

Overstory	Understory	Regeneration
Black Oak	Sugar Maple	White Ash
White Oak	Pignut Hickory	White Oak
Red Oak	Shagbark Hickory	Shagbark Hickory
Shagbark Hickory	Red Maple	Red Oak
Sugar Maple	Blackgum	Sugar Maple
Pignut Hickory	Red Oak	American Elm
Scarlet Oak	Black Oak	Sassafras
White Ash	American Elm	Black Oak
Mockernut Hickory	White Oak	Pignut Hickory
Virginia Pine	Virginia Pine	American Beech
Yellow Poplar	Ironwood	Red Maple
Black Walnut	Mockernut Hickory	Pawpaw
American Beech	American Beech	Sassafras
Black Cherry	Dogwood	Mockernut Hickory
American Sycamore	Yellow Poplar	Witchazel
	Sassafras	Blackgum
	Black Cherry	

History:

There have been no documented harvests within this tract since state acquisition. There appears however to be remnants of an old road or possible skid trail in the very southern tip of the tract. The tract was created in 1984 when pre-1980 tract 17 was divided to created current tracts 23 and 26. A management reconnaissance was conducted in 1990 that noted stocking to be average to below average with dominant oak timber and a pine stand located on the ridge top. Sixteen-inch yellow poplars were removed from the property to serve as replacement logs for the manager's cabin in March 2003.

Landscape Context:

The area is entirely forested with an inholding of private land across the road from the tract.

Topography, Geology, and Hydrology:

The tract is bordered on both east and west sides by mapped intermittent streams. The tract has a variety of slopes and aspect including northeast, southwest, southeast, east, south, and west. Areas that comprise bottomlands and ridge tops are the dominant type in the tract. The majority of the tract has mesic site qualities. Yellowwood Lake is located nearby to the west.

Soils:

Beanblossom (Be), Berks-Trevlac-Wellston (BgF), Tilsit silt loam (TlB), Wellston-Berks-Trevlac (WaD), and Wellston-Gilpin (WeC2) are all present in this tract. Nine percent (6.5 acres) of the tract area is Be, 36 percent (26 acres) is BgF, 11 percent (8 acres) is TlB, 4 percent (3 acres) is WaD, and 40 percent (29.5 acres) is WeC2. Beanblossom is typically composed of alluvial flood fans and flood plains: its land class capability is 2w, and is a relatively well drained soil with occasional flooding. Berks-Trevlac-Wellston is a combination of Berks, Trevlac, and Wellston soils and is the second most present soil type in this tract. Berks is comprised of hills and knobs: the soil is well drained and 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. Tilsit is mainly composed of hills: is moderately well drained with no frequency of flooding or ponding, the land class is 2e. 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. Wellston-Gilpin is the dominant soil on the tract and is a combination of those two soil types. Wellston and Gilpin are both hills and knobs landforms. They have well-drained soils and no frequency of flooding or ponding; they have a land class of 4e. The only difference between the two is in their horizon designation in which Gilpin has channery silt loam and Wellston has silt clay loam. Skid trails, haul roads, and landings will be constructed over TlB, WaD, and WeC2 soils; this should not present problems because all are well drained, with no flooding frequencies, and composed of stable parent material and horizon properties.

Access:

Tract 6420726 will be accessed by a haul road that will be constructed and run north to south from the top of tract 6420722 down through the tract boundaries and nearly to the boundary edge of 6420726. Dubois Ridge Road constitutes the lower eastern boundary of 6420726 however direct access from that road would require a bridge crossing, which will be avoided by using the north access.

Boundary:

The tract boundaries are neighboring tracts to the north and south with a stream to the west and Dubois Ridge Road to the east. There are no private land boundaries.

Wildlife:

The following wildlife was noted during inventory: squirrel, white tailed deer, eastern Indiana box turtle, a variety of songbirds, red tailed hawk, and a woodpecker. According to the Natural Heritage Database there are no known threatened, rare, 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	Inventory	Available Above Maintenance
11"+ DBH	657	3308	2651
20"+ DBH	219	666	447

* 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 (All Species)	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
5"+ DBH	292	511	2661	2369	2150
9"+ DBH	219	438	347	128	**-91**
19"+ DBH	36.5	73	88	51	15

Cavity Trees (All Species)	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
7"+ DBH	292	438	147	**-145**	**-291**
11"+ DBH	219	292	147	**-72**	**-145**
19"+ DBH	36.5	73	30	**-6**	**-43**

The only deficiency is in cavity tress of all size classes' therefore special attention and precaution will be taken to limit the harvest of cavity trees.

Communities:

Autumn olive, multiflora rose, Japanese stiltgrass, and oriental bittersweet were all noted on this tract. The autumn olive and Japanese stilt grass were GPS located and can be seen on an attached map, the multiflora rose was sparse and widely dispersed and did not seem to pose as great a threat. With haul road construction the stiltgrass is apt to spread since it is already resident in the proposed haul road area. It is recommended that all disturbed areas be seeded promptly with a native species following new construction to reduce its spread. Post or preharvest treatment of the areas should be completed depending when the site becomes actively harvested.

There is a growth of oriental bittersweet located in the Virginia pine stand. Oriental bittersweet will need to be dealt with immediately; small patches can easily dominate due to its voracious growth. Studies show that the best treatment occurs in late summer with a triclopyr-based herbicide. The USDA Forest Service Southern Research Station offers these recommendations: to thoroughly wet all leaves with one of the following herbicides between July and October: Garlon 4, Garlon 3A, or a glyphosate herbicide as a 2 percent solution and for stems or vines too tall for foliar sprays, apply Garlon 4 as a 20 percent solution in commercially available basal oil, diesel fuel, or kerosene with a penetrant to the lower 16 inches of stems. Larger stems can also be cut and treated immediately with any of the following herbicides in water with a surfactant added: Garlon 4 or glyphosate herbicide at a 25 percent solution.

The oriental bittersweet and autumn olive can be treated with the same herbicide.

Recreation:

This tract is used regularly for hunting by visitors and surrounding landowners.

Cultural:

Cultural resources may be present on the tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction projects.

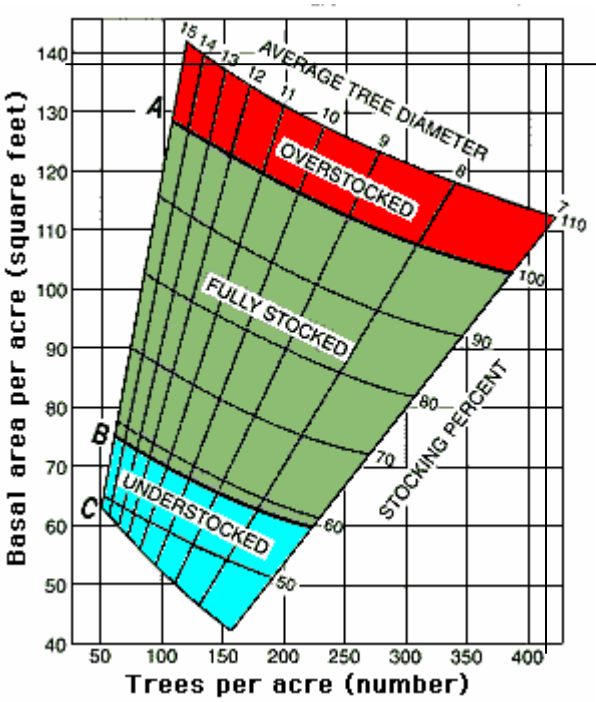
Tract Prescription and Activities:

The current tract inventory was completed by Forester Andrea Wallis on September 18, 2009. Overall, this tract is composed mainly of medium sawtimber white oak of lower quality and a portion of submerchantable pine. Selection cutting will be used to thin out crowded, less vigorous, and low quality white oak, especially those with epicormic branching. The overall basal area for this tract averaged between 139 and 142. This basal area average will be lowered to a range between 70 and 100 through the removal of poor quality white oak and thinning of crowded areas. Removal of low grade white oak will invigorate other species like red oak and hickory species. The Virginia pine area has become stagnate. It is recommended the pine be completely removed and the area be used for planting or allowed to naturally regenerate. Hickory species, snags, and areas of advanced regeneration will be protected during timber marking as well as during the harvest. There are multiple areas of oak-hickory regeneration ranging from 2 inches to 4 or 5 feet in height. It is recommended that the next rotation be shortened so as to ensure the release of this promising oak-hickory regeneration. Therefore a review of this stand in ten years is recommended. Tract wide there is a high amount of natural stand mortality mainly from blow down and disease. An Indiana Cross Roads Orienteering Event site is located in the Virginia pine area (it was noted during inventory and located in plot twenty-two). Contact will need to be made informing them of the harvest. This tract will be harvested in conjunction with 6420722 (the tract directly above it). The southwestern area of the tract between Dubois Ridge Road and a stream does not contain any high quality timber however could benefit from some thinning. The topography on the eastern slope of the stream would make construction of a skid trail and crossing nearly impossible hence it is recommended this area be marked with individual trees felled during timber stand improvement for firewood cutters. This will allow for the stand to be

thinned while not endangering the major stream that separates this section from the remaining tract. Overall the majority of harvesting will occur in the north central and western portions of the tract with the addition of the pine stand that will be completely removed.

Volume Estimates:

Species	**Harvest BF**	**Growing Stock BF**	**Total BF**
American Beech	3,650	0	3,650
American Sycamore	1,460	0	1,460
Black Cherry	730	0	730
Black Oak	23,360	32,850	56,210
Black Walnut	0	1,460	1,460
Mockernut Hickory	0	730	730
Northern Red Oak	8,030	9,490	17,520
Pignut Hickory	730	6,570	7,300
Scarlet Oak	2,920	1,460	4,380
Virginia Pine	13,140	0	13,140
Shagbark Hickory	0	1,460	1,460
Sugar Maple	10,220	730	10,950
White Ash	5,840	2,190	8,030
White Oak	143,080	118,990	262,070
Yellow Poplar	0	1,460	1,460
Total	**213,160**	**177,390**	**390,550**



Due to the high amount of submerchantable trees there are 420 trees per acre and 139 basal area.

Proposed Management Activities:	Proposed Dates:
Timber Harvest – in conjunction with 6420722	2010-2012
Timber Stand Improvement/ Firewood	2012
Inventory and New Management Guide	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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