

Indiana Department of Natural Resources
Division of Forestry
DRAFT
RESOURCE MANAGEMENT GUIDE

State Forest: **Yellowwood**
 Tract Acreage: **170**
 Forester: **Laurie Burgess**

Compartment: **6** Tract: **11**
 Commercial Forest Acreage: **170**
 Date: **9/10/2013**

Location

Sections 17 and 20 of Township 9N, Range 2E of Brown County. It is located on the east side of Dubois Ridge Road, 2 miles south of Lanam Ridge Road.

General Description

Y0611 consists of a total of 170 forested acres which were all open before being planted to pine around 1940. Additional hardwood and pine plantings have occurred as well as natural hardwood succession. Much of the Red Pine has died out. A summary of the forest resources in Y0611 in relation to species dominance is noted below in Table 1. Y0611 is also bounded in part by the Y Horsetrail along much of its perimeter.

Table 1. Overview of Forest Resources in Y0611 in September 2013

Overstory Sawtimber Layer	Understory Poletimber Layer	Regeneration Layer
Yellow Poplar	Red Maple	American Beech
Eastern White Pine	Yellow Poplar	Red Maple
Red Maple	White Ash	American Elm
Shortleaf Pine	Virginia Pine	Sassafras
White Ash	Eastern White Pine	White Ash
Virginia Pine	Sassafras	Flowering Dogwood
Largetooth Aspen	Shortleaf Pine	Blackgum
Red Pine	Red Pine	Sugar Maple
Black Oak	Sugar Maple	Ironwood
Sugar Maple	American Elm	Black Oak
Black Cherry	Blackgum	Eastern White Pine
Loblolly Pine	American Beech	Yellow Poplar
American Elm	Black Oak	White Oak
Shagbark Hickory	Black Cherry	Shagbark Hickory
Pignut Hickory	Black Walnut	Persimmon
Chestnut Oak	Shagbark Hickory	
Osage Orange	Northern Red Oak	
Scarlet Oak	Black Locust	
	Largetooth Aspen	
	Pignut Hickory	

History

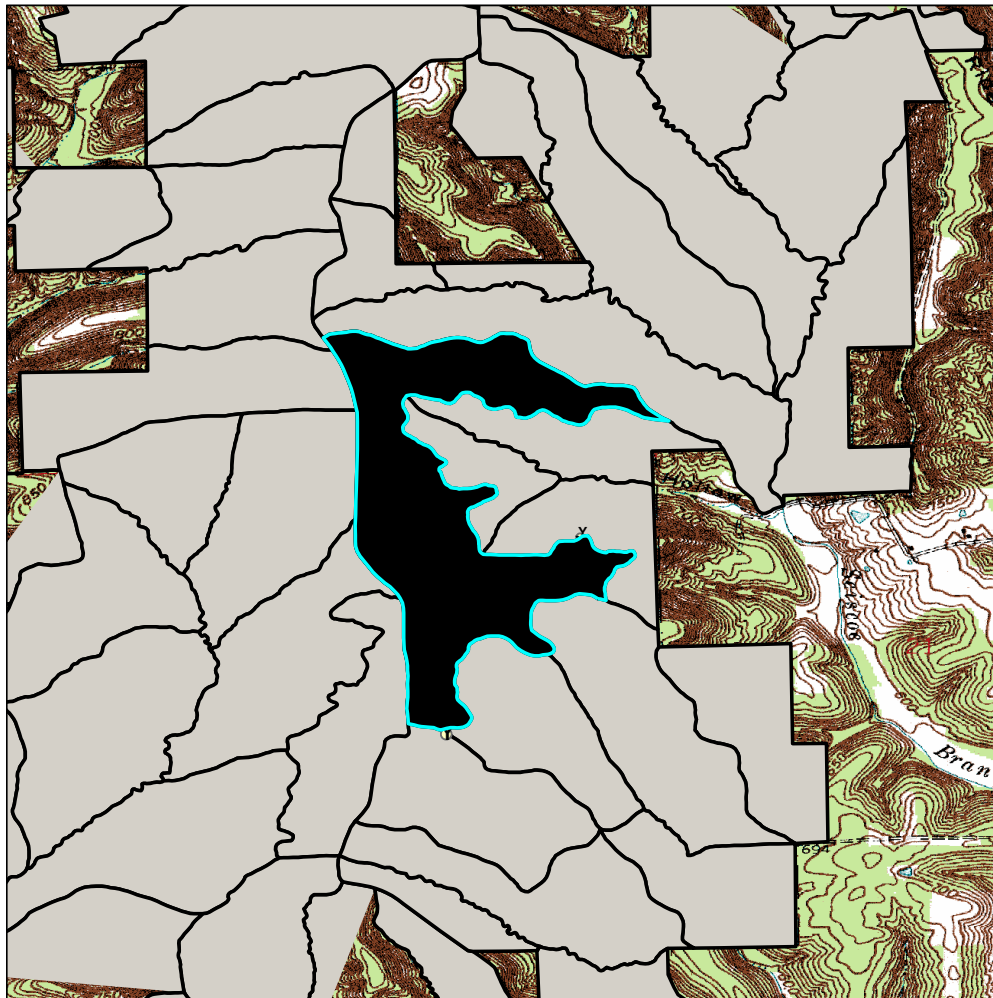
The land area that includes Y0611 was deeded to the State of Indiana 1956. Historical aerial photographs from 1939 show the area void of trees. The pine plantings must have occurred shortly after this period. A “reinforcement” Black Walnut planting and TSI was noted in

1975 by a CETA forester: the exact area for either event is unknown. A Red Oak plantation from 1947 is within Y0611 and has been thinned in 1985 and 2001. A 100% inventory was completed in the Red Oak plantation also in 1985. A Red Pine sale of 192 trees of 10"-16" dbh with an estimated volume of 8,879 BF was sold to Troy Law for \$510.00 in 1991. The contract expired and trees were never harvested. 130,720 BF of pine (190 Red Pine and 18 White Pine from Tract 26) were sold to Jerry Perkins for \$2,669.75 in 1993. These pine were harvested in 1994. The most current forest resource inventory was completed on August 26, 2013 by Forester Laurie Burgess.

Landscape Context

Y0611 is comprised primarily of a flat ridgetop with only 5-10% slope. It is nearly surrounded by closed forest canopy of other Yellowwood State Forest tracts with just the northeastern most portion bordering private, forested property.

Figure 1. Yellowwood SF Compartment 6 Tract 011



Topography, Geology and Hydrology

Y0611 consists predominantly of a flat ridgetop with only slight slopes that eventually drain into mapped intermittent streams outside the Tract's boundary. The mapped intermittent streams eventually drain into Salt Creek and then into Lake Monroe. In general, these upland soils were formed in residuum from sandstone, siltstone, and shale. Y0611's topography ranges from 0 - 10% slopes.

Soils

Tilsit Silt Loams (TIB) 2 – 6 percent slope. Gently sloping, deep, moderately well drained soil on the tops of ridges in the uplands. Some harvest BMP's required.

Wellston-Gilpin Silt Loams (WeC2) 6-20% slope. Moderately sloping to moderately steep, well drained soil. Harvest BMP's required in areas due to slope and erosion potential.

Wellston-Berks-Trevlac Complex (WaD) 6-20 % slopes. Moderately sloping to moderately steep on sideslopes and narrow ridgetops. Harvest BMP's required in areas due to slope.

Access

Y0611 can be easily accessed off of the adjacent Dubois Ridge Road. Access yards and haul road construction and rehabilitation areas to be reviewed by Division's Archaeologist prior to roadwork improvements.

Boundary

Y0611 is surrounded by closed forest canopy of Yellowwood State Forest except for the northeastern most portion which borders private, forested property. The Tract's private ownership boundaries are currently being remarked in 2013. Lines are being repainted in orange paint along the private property boundary line.

Wildlife

The current inventory was conducted during the late summer of 2013 so summer breeding bird residents were present. Other species or sign observed are documented in the Tract's appendix. Y0611 has an abundant supply of food resources consisting of soft mast and occasional areas of hard mast. Water sources are limited to seasonal flow of intermittent streams that are outside the Tract. A small vernal pool was discovered within Y0611 but was dry at the time of inventory. This vernal pool will be buffered from harvest operations.

A Natural Heritage Database Review was completed in 2013. If Rare, Threatened or Endangered 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.

The Division of Forestry has instituted special procedures for conducting forest resource inventories so that the documentation and analysis of live tree and snag tree densities are examined on a compartment level basis in order to maintain long-term and quality forest habitats. The regeneration openings and clearcuts that are proposed will facilitate the growth of the abundant Oak and Hickory saplings and seedlings, both of which are important hard mast producers. Timber Stand Improvement (TSI) following the harvest is planned to reduce the competition from the American Beech, Red Maple and Sugar Maple component. Y0611 has several acres of standing dead Red Pine and will likely have several dead Yellow Poplar

due to past stresses from droughts and insect infestations. Management practices conducted on Y0611 will be conducted in a manner that will maintain the long-term and quality forest habitats for wildlife populations.

Communities

Y0611 is composed of a flat ridgetop that probably had a modest history prior to State acquisition in cropland or pastures. Portions of the Tract were planted to mixed pine species around 1940 prior to State acquisition in 1956. This Tract does contain areas of Oak and Hickory species including a small Red Oak plantation. Y0611 is largely comprised of Yellow Poplar, various pine species (Eastern White Pine, Shortleaf Pine, Virginia Pine, Red Pine, Loblolly Pine and Pitch Pine), Red Maple, White Ash and Largetooth Aspen. Additional hardwood and pine plantings have occurred as well as natural hardwood succession. Much of the plantation Red Pine has matured and died. The understory consists mainly of Yellow Poplar, Red Maple and Sugar Maple. There are abundant oak and hickory saplings presently established in much of the pine planting areas. The immediate area surrounding this Tract contains mostly State Forest landholdings with predominantly large sawtimber Oak-Hickory forest on the sideslopes with their ridgetops also having planted mixed pine.

Exotic Species

Multiflora Rose was observed in several areas during the resource inventory. The density of this species within some proposed openings will warrant eradication efforts by a contractor at time of postharvest TSI. Some areas may need to be treated prior to harvest to reduce spread. Autumn olive was also noted during the inventory – it was planted around the old log yards and appears only periodically within the Tract. A postharvest Timber Stand Improvement project will include treating this exotic.

Recreation

Recreational activities in Y0611 include hiking, horseback riding, bird watching, wildlife viewing, hunting, and mushrooming. A posting for restricted access during the proposed forest management activities is planned for public safety. The “Y” Horsetrail will be re-routed onto Dubois Ridge Road during timber harvest operations.

Cultural

Cultural resources may be present on Y0611 but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

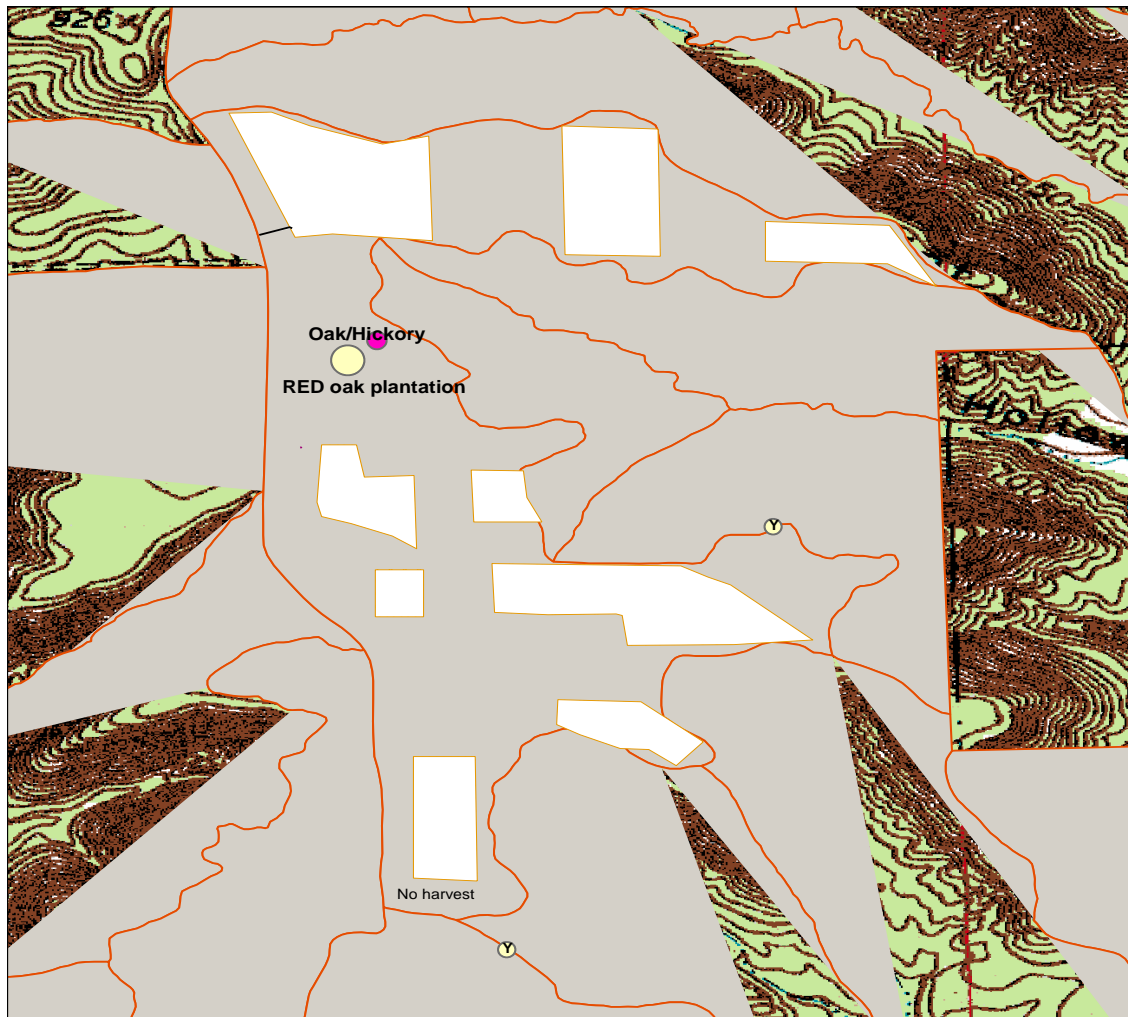
Summary Tract Silvicultural Prescription and Proposed Activities

The current forest resource inventory was completed on August 26, 2013 by Forester Laurie Burgess. 88 prism points were sampled over 170 acres (1 point for every 1.93 acres). A summary of the forest resource inventory is given in Table 1 above and a species summary of the inventory is given in Table 3 below. Y0611 is fully stocked and a managed timber harvest for the Tract is prescribed in the near future. Y0611’s forest resource was not divided into subdivisions (non-stratified). The primary focus of the proposed management will be to regenerate areas of the Pine/Mixed Hardwoods areas to promote a higher proportion of Oak-Hickory timber within the Tract by releasing the established Oak and Hickory advance

regeneration already present (Figure 2). Some singletree selection in between the planned regeneration areas is also planned however will be lightly applied to release quality growing stock of desired hardwood species.

The Indiana guidelines for Best Management Practices (BMP's) will be followed during timber harvest closeout activities to maintain the area's water quality. Portions, or all, of Y0611 will be submitted for a postharvest TSI and/or invasive control project following the harvest in areas deemed appropriate by the administering forester. A field review for successful regeneration of these regeneration openings is planned 3-4 years after opening TSI completion.

Figure 2. Y0611 Proposed opening locations



Anticipated oak and hickory release opening locations



Red oak plantation



Small area dominated by oak and hickory

The Oak-Hickory timber type provides very significant wildlife and timber resource values. The promotion of this Stratum is important in the Division's longterm timber management objectives. The Oak-Hickory timber type covers less than 5% of the acreage of Y0611. However, the abundance of Oak and Hickory saplings in the understory within Y0611 significantly lends itself to creating openings and clearcuts to release these saplings. TSI of competing Red Maple and American Beech will also be necessary. Y0611's overstory is dominated by YEP, Mixed Pine and REM with an average basal area of 94.4 square feet per acre. The understory layer consists of mainly REM, YEP, WHA and Pine. The regeneration layer consists of mainly AMB, REM, AME and SAS. The YEP vary in degrees of decline from past scale and drought effects - some retain healthy crowns while others have died back completely - the majority show modest decline.

The primary silvicultural prescription for Y0611 is the creation of group selection openings and clearcuts. Based on the forest resource inventory data, nine areas have been identified for these openings. The exact size and location could vary from what is proposed on the map in Fig 2. The openings will be marked by painting a boundary around the area to be harvested. Aside from the benefits of converting Y0611 into a more diverse forest species mix containing Oak and Hickories, the group selection openings and clearcuts will provide valued early successional habitat utilized by many wildlife species. The lightly harvested areas in between the openings as well as the logging debris such as stumps and tops left on the forest floor will help provide cover and reduce soil moisture loss, thereby mitigating the impacts on low-mobility species such as herptiles.

Single tree selection is planned to remove some lower quality stems and mature to overmature trees to release a growing stock of high quality, more vigorous stems. The scattered Yellow Poplar mortality that is occurring warrants such removal. Overall, marking objectives within Y0611 should consider Oaks, Hickories, Black Walnuts, and other species of significant timber and wildlife value as the preferred croptrees for release, future growth and development.

Given the recent inventory and growth of Y0611's forest resources, this Tract is suitable for a 15 year management cycle wherein growth and development of the forest resource is reevaluated by a forest inventory every 15 years. The present stocking and quality of the forest resource would best be suited to creating additional openings in the future to maintain early successional habitat as the other regenerated areas mature. A timber sale is proposed for Y0611 in FY2013-2014.

Table 3. Overview of Sawtimber Volume Estimates in Y0611 in August of 2013

Species	Total
Yellow Poplar	585,070
Eastern White Pine	248,510
Red Maple	56,290
Shortleaf Pine	47,980
Virginia Pine	48,150
Largetooth Aspen	36,740
White Ash	32,820
Black Oak	8,680

Loblolly Pine	7,560
Red Pine	7,400
Black Cherry	3,770
Shagbark Hickory	3,640
Scarlet Oak	3,180
American Elm	3,120
Sugar Maple	2,810
Osage Orange	2,790
Blackgum	1,500
Pignut Hickory	760
Chestnut Oak	760
Tract Totals (Bd. Ft.)	1,101,520
Per Acre Totals (Bd. Ft./Ac.)	6,480

Proposed Activities Listing

<u>Proposed Management Activity</u>	<u>Proposed Period</u>
DHPA Timber Sale Project Review	CY2013
Timber Marking & Invasive Evaluation	CY2013
Timber Sale	FY2013-2014
Postharvest TSI & Invasives Follow-up	CY2014-2018
Regeneration Opening Review	CY2018-2020
Reinventory and Management Guide	CY2027

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