Indiana Department of Natural Resources
Division of Forestry
DRAFT

RESOURCE MANAGEMENT GUIDE

State Forest: **Yellowwood**
Tract Acreage: **58**
Forester: **Laurie Burgess**
Management Cycle End Year: **2028**

Compartment: **7** Tract: **17**
Commercial Forest Acreage: **58**
Date: **September 11, 2013**
Management Cycle Length: **15 years**

Location

Y0717 is located in Section 20 of Township 9N, Range 2E of Brown County. Y0717 lies on the west side of Dubois Ridge Road being 2 miles south of Lanam Ridge Road. The tract is directly accessible from off of Dubois Ridge Road.

General Description

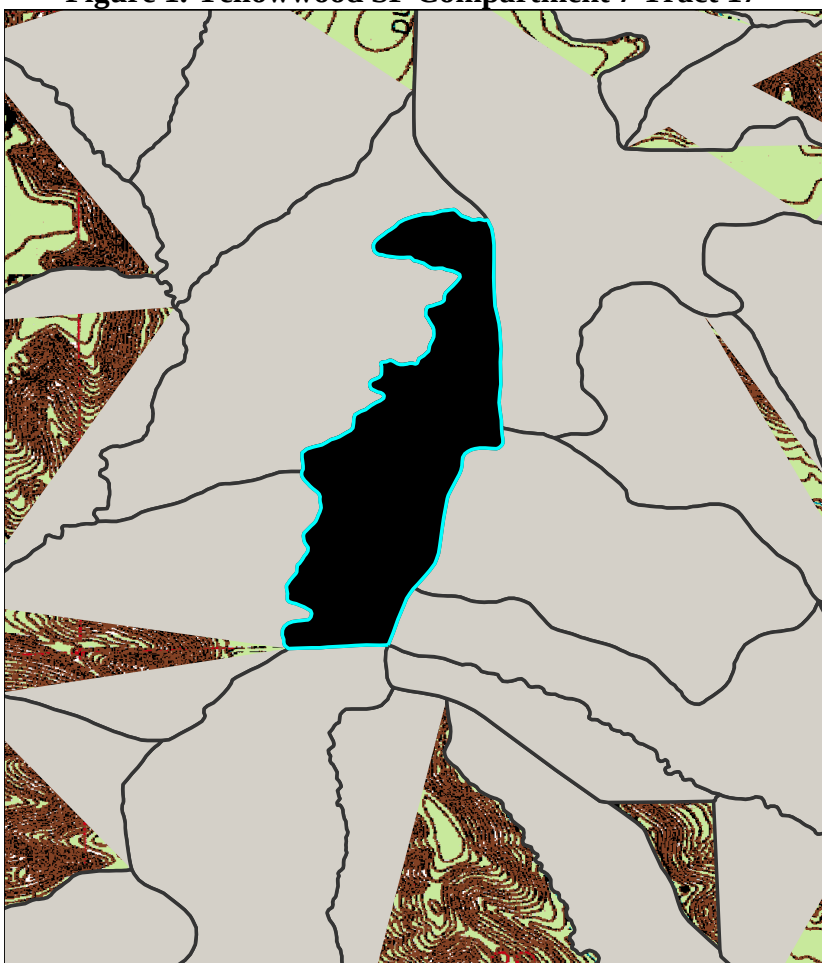
Y0717 consists of a total of 58 forested acres of closed canopy Pine Plantations and Mixed Hardwoods with all of its acres being commercial forest land (See Figure 1). The Pine plantations originally were all open ground farmland or pasture lands that were planted to Pines around 1940. Y0717's timber resource ranges from poletimber to large sawtimber in size and overall timber quality of this Tract is average. A portion of the "Y" Horseback Riding Trail of Yellowwood State Forest runs through this tract. A summary of the forest resources in Y0717 in relation to species dominance is noted below in Table 1.

Table 1. Overview of Forest Resources in Y0717 in July 2013

Overstory Sawtimber Layer	Understory Poletimber Layer	Regeneration Layer
Yellow Poplar	**Red Maple**	**Red Maple**
Shortleaf Pine	**Yellow Poplar**	**American Beech**
Largetooth Aspen	**Shortleaf Pine**	**Sassafras**
Virginia Pine	**Virginia Pine**	***White Ash***
Red Maple	*American Beech*	*Blackgum*
White Ash	*White Ash*	*Ironwood*
Eastern White Pine	*Largetooth Aspen*	*Shagbark Hickory*
White Oak	*Sugar Maple*	*Oak spp.*
Pignut Hickory	*American Elm*	
Sugar Maple	*Blackgum*	
	Eastern White Pine	
	Shagbark Hickory	
	Chestnut Oak	
	Black Oak	

Bold – Species that comprise ≥ 10% of the total BA in each structural class
Italicized - Species that comprise ≤ 10% of the total BA in each structural class

Figure 1. Yellowwood SF Compartment 7 Tract 17



History

The land area that includes Y0717 was deeded to the State of Indiana in 1956. Historical aerial photographs from 1939 show this tract as an area void of trees. Pine plantings occurred shortly after these photos. There is no record of resource management within the tract's current acreage. Y0717 originally included an additional 172 acres to the west and southwest (Y0720 & Y0721) where there was a timber harvest on that acreage in 1976. The log yard for that sale was likely located within what is now Y0717.

- Pine plantations established within tract in 1940's (estimated year).
- First and current forest resource inventory completed on July 29, 2013 by Forester Laurie Burgess.

Landscape Context

Y0717 is totally surrounded by other Yellowwood SF timberland tracts. The forest matrix is generally closed canopy mixed Pine, Mixed Hardwood and Oak-Hickory timberlands. The tract's acreage contains primarily a flat ridgetop that has only 5-10% slopes. These slopes of abandoned farm or pasture fields were mostly planted to Pine however portions naturally succeeded to Mixed Hardwoods. The mixture of Pine and hardwoods type here is a timber type that is locally abundant on the long and broad areas that constitute Dubois Ridge however they

are uncommon in most other portions of the State Forest where only Oak-Hickory and Mixed Hardwood species abound. Yellowwood Lake, a 133 acre impoundment, lies about 1 mile southwest of Y0717 and is the largest lake in the area other than Monroe Reservoir. Yellowwood Lake provides open water habitats for migrating waterfowl as well as provides for public recreation area. There are a few widely scattered residential properties.

Topography, Geology and Hydrology
Y0717 consists of a flat ridgetop with only slight slopes that eventually drain into mapped intermittent streams that lie outside the Tract's boundary. The mapped intermittent stream to the east eventually drains into Salt Creek and then into Lake Monroe whereas the mapped intermittent stream to the west (John Floyd Hollow) drains into Yellowwood Lake. In general, these upland soils were formed in residuum from sandstone, siltstone, and shale. Y0717's topography ranges from 0 - 10% slopes.

Soils
Tilsit Silt Loam (TIB) 2 – 6 percent slopes. Gently sloping, deep, moderately well drained soil on the tops of ridges in the uplands. Slight harvest limitations due to slope. Comprises about 90% of Y0717.

Wellston-Berks-Trevlac Complex (WaD) - 6-20 % slopes. Moderately sloping to moderately steep on sideslopes and narrow ridgetops. Slight harvest limitations due to slope. Comprises about 10% of Y0717.

Access
Y0717 can be directly accessed by the public or for management purposes from the west side of Dubois Ridge Road.

Boundary
Y0717 is surrounded by other Yellowwood State Forest tracts so there are no private boundary lines. Dubois Ridge Road is the tract's eastern boundary.

Wildlife
Wildlife resources in Y0717 appear abundant. The tract contains habitat suitable for a wide variety of wildlife species. Forested habitats include a modest portion of mixed Pines and Mixed Hardwoods. These areas often are valuable resources for wildlife especially in winter seasons as they provide excellent cover. Large areas of contiguous Oak-Hickory and Mixed Hardwoods timberlands make up the YSF tracts that are immediately adjacent to Y0717. In combination, these forest resources provide excellent habitat diversity which is attractive to many wildlife species. Sassafras, Grapevines, and other early successional shrubs are among those present that provide modest wildlife food resources. Other habitat structures that favor wildlife include snags (standing dead trees) and cavity trees. Snags and cavity trees provide habitat for birds, bats, and other small mammals to feed, roost, and nest. Hard mast trees such as Oaks, Hickories, and Beech provide food resources for Squirrels, Wild Turkey, and White-tailed deer. Downed woody debris provides habitat and protection for forest floor wildlife and herptile species. Overall, within Y0717 there are some soft mast producers however without a large component of Oak and Hickory in the tract's

overstory, the supply of hard mast is generally lacking. Water sources are limited to seasonal flow of intermittent streams that are outside the tract.

A Natural Heritage Database Review was completed for Y0717 in 2013. If Rare, Threatened or Endangered species (RTE's) were identified for this tract, 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 proposed harvest, including regeneration cuts will facilitate the growth of the abundant Oak and Hickory saplings and seedlings that have developed in the Pine understories. These 2 species 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. Y0717 has and will likely continue to have modest mortality from Yellow Poplar due to past stresses from the last few years of drought and the 2012 scale infestation. Management practices conducted on Y0717 will be conducted in a manner that will maintain the long-term and quality forest habitats for wildlife populations.

Communities
Y0717 is composed of a wide diversity of woodland species not generally found throughout YSF. This tract originally had large, abandoned old farm fields on a flat ridgetop that were subsequently planted to mixed Pines around 1940. Seventy years later, Y0717 is currently an upland mosaic of diverse tree species, conditions and size classes due to natural hardwood succession and some Pine mortality. It is largely comprised of Yellow Poplar, various planted Pine species (Shortleaf Pine, Eastern White Pine and Virginia Pine), Red Maple, White Ash and Largetooth Aspen. The understory consists mainly of Yellow Poplar, Red Maple and Sugar Maple. There are abundant Oak and Hickory saplings in the tract's understory most particularly in the southern half of the tract.

Exotic Species
Multiflora Rose and Autumn Olive were observed in the northwestern portion of Y0717. As Brown County is a known location of the plant "virus" rose rosette disease, the populations of MF Rose are relatively stable. Control measures may be warranted if large populations of MF Rose are located in or surrounding planned regeneration openings. The AUO is planned to be treated in a preharvest TSI operation provided this project is contracted otherwise it will be treated in the postharvest TSI operation.

Recreation
Activities on Y0717 include hiking, bird watching, wildlife viewing, hunting, and mushrooming. A portion of the "Y" horsetrail runs through the tract. This section of trail would be temporarily closed and re-routed onto Dubois Ridge Road.

Cultural
Cultural resources may be present on Y0717 but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

Tract Subdivision Description and Silvicultural Prescription

Tract Summary Data for Y0717

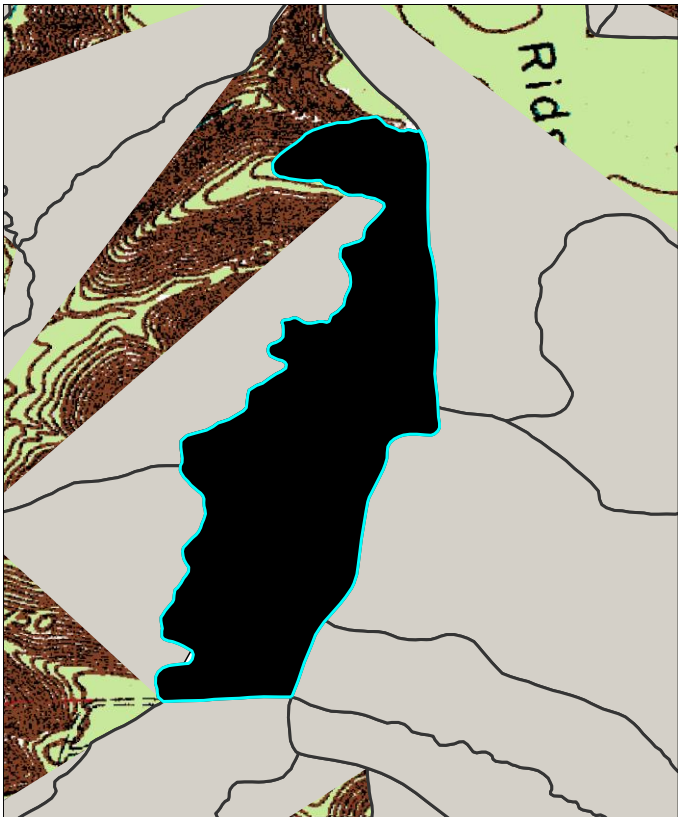
Total Trees/Ac. =	118 Trees/Ac.	BA/A =	94.3 Sq. Ft./Ac.
Sawtimber & Quality Trees/Ac. =	37 Trees/Ac.	Poles/Ac.=	69 Trees/Ac.
Present Volume =	6,602 Bd. Ft./Ac.		

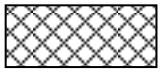
Summary Tract Silvicultural Prescription and Proposed Activities

The current forest resource inventory was completed on July 29, 2013 by Forester Laurie Burgess. 30 prism points were sampled over 58 acres (1 point for every 1.93 acres). A summary of the forest resource inventory is given above and a species breakdown of the inventory summary is given in Table 2 below. Y0717 is fully stocked and a managed timber harvest over the entire area is prescribed with the focus on releasing the Oak and Hickory saplings present in the tract's understory within the Pine plantations (See Figure 2). There is only 1 Stratum that is listed for management in Y0717 and it includes Mixed Hardwoods and Pine Plantations.

The Indiana guidelines for Best Management Practices (BMP's) will be followed during all timber harvest closeout activities to maintain the area's water quality. Portions of or all of Y0717 will be submitted for postharvest TSI and/or invasives work if deemed appropriate by the administering forester. A field review for successful regeneration of the proposed regeneration openings is planned 3-4 years after opening TSI completion.

Figure 2. Y0717 Proposed General Regeneration area location



 Anticipated Oak and Hickory release opening (or openings) location

Y Log yard

Mixed Hardwood and Pine Plantation Stratum

The predominant timber types in Y0717 are derived from the natural succession of abandoned farm fields, pockets of unmanaged timber on sideslopes and the tree planting of Pines in the 1940's in plantations. Most of these stands are now over 70 years of age and have had little forest management applied. The Oak-Hickory timber type presently covers less than 5% of the acreage of Y0717. As the Oak-Hickory timber type provides significant wildlife and timber resource values the promotion of this timber type is important in the Division's longterm forest management objectives.

The overstory in Y0717 is dominated by Yellow Poplar, mixed Pine and Red Maples with an average basal area of 94.3 square feet per acre. The understory layer consists of mainly REM, YEP, AMB, Shortleaf Pine and Virginia Pine. The regeneration layer consists of mainly REM, AMB, SAS and WHA. The dominating component of YEP within this tract varies in degrees of decline from the effects of the 2012 Tuliptree Scale epidemic and drought effects over the last 3 years. Some YEP retain healthy crowns while others have died back completely - the majority of the YEP stocking does show some decline.

The abundance of Oak and Hickory saplings in the understory within portions of this tract's Pine and Mixed Hardwoods creates opportunities for regeneration harvesting to release these saplings. Areas where advance regeneration of Oak and Hickories seedlings are of sufficient quality and size are planned for group selection and regeneration harvest. The rest of the acreage in Y0717 will be prescribed a free thinning and/or improvement cutting using single tree selection. Following the harvest a Timber Stand Improvement project is planned to release desirable growing stock from competing American Beech, Yellow Poplar and Maple species.

The primary silvicultural prescription prescribed for Y0717 during this management cycle is the creation of s regeneration openings. Based on inventory data and on-site recon, the southern two-thirds portion of the tract has potential for regeneration however the exact size and locations of openings could vary from what is proposed on the map in Fig 2. The opening(s) will be delineated by painting a boundary around the area to be harvested. Aside from the benefits of converting portions of this tract into a more diverse species mix containing Oak and Hickories, the openings will provide much needed early successional habitat utilized by several 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. This logging debris is important in mitigating impacts on low-mobility wildlife species such as herptiles.

Singletree selection is prescribed to harvest lower quality stems and low vigor dominant canopy trees to release a growing stock of high quality, more vigorous stems. Modest declines in Yellow Poplar have resulted in modest mortality and crown decline of the tract's Yellow Poplar

forest resource. A fair amount of Yellow Poplar salvage is expected to be added to the sale. Overall, marking objectives within this Stratum should consider Oak, Hickories and other favored species of significant timber and wildlife value as the preferred croptrees for release.

Given the recent inventory and growth of Y0717's forest resources, this tract is suitable for a 15 year management cycle wherein growth and development of its forest resources are evaluated by a forest inventory every 15 years. A timber sale is proposed for Y0717 in FY2013-2014.

Table 2. Overview of Sawtimber Volume Estimates in Y0717 in August of 2013

Species	Total Volume
Yellow Poplar	178,395
Shortleaf Pine	47,388
Largetooth Aspen	44,260
Virginia Pine	28,839
Red Maple	17,311
Eastern White Pine	17,225
White Ash	14,797
White Oak	14,582
Pignut Hickory	6,424
Chestnut Oak	5,442
Black Oak	4,028
Sugar Maple	2,642
American Elm	883
Black Cherry	714
Tract Totals (Bd. Ft.)	**382,930**
Per Acre Totals (Bd. Ft./Ac.)	**6,602**

Proposed Activities Listing

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

To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You must indicate the State Forest Name, Compartment Number and Tract Number 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. Note: Some graphics may distort due to compression.