

## RESOURCE MANAGEMENT GUIDE

DRAFT

**State Forest** Yellowwood

**Compartment** 12

**Tract** 01

**Forester** Amy Zillmer

**Date** May 17, 2010

**Management Cycle End Year** 2020

**Management Cycle Length** 10 years

### Location

This tract is located in Jackson Township, Section 21, T10N, R2E, Brown County, Indiana. It is approximately 2 miles northwest of Helmsburg.

### General Description

This tract is 27 acres of mixed deciduous hardwoods. Currently the tract is very much a two aged stand.

Table 1. Species composition by relative abundance from April 2010 inventory on 6421201

Overstory	Understory	Regeneration
Sugar Maple	Sugar Maple	Sugar Maple
Yellow Poplar	Black Cherry	American Beech
White Oak	Blackgum	Ironwood
Black Oak	Yellow Poplar	White Ash
Black Cherry	Red Maple	
American Beech	Sassafras	
Northern Red Oak	Pignut Hickory	
Red Maple	American Beech	
White Ash	White Ash	
Bitternut Hickory	Shagbark Hickory	
Pignut Hickory	Bitternut Hickory	
Blackgum		
Shagbark Hickory		
American Sycamore		
Red Elm		
Scarlet Oak		

### History

This area of state forest was acquired from the Federal government in 1956.

In 1973, a timber harvest was conducted on the tract by Forester Jim Akard removing 108,080 BF in 570 trees over 24 acres. TSI was completed the following year and yellow poplar was planted in small openings in 1975.

In 1984 this area was inventoried by Forester Don Duncan. The tract averaged about 2,750 BF per acre, with 66 square feet of basal area per acre, 6.7 average dbh, and was 66% stocked.

In 1993, this area was reconned by Foresters Duncan and Eckert. It was determined to not have enough harvestable volume to warrant a harvest. Vines were treated. The area was noted to have good black cherry and yellow poplar regeneration from the '73 harvest.

A new inventory was conducted in 2010 by Forester Amy Zillmer. The results of which are highlighted in the report below.

### **Landscape Context**

The most dominant cover type on landscape is closed canopy forest. Small pockets of pine dot the landscape. Residential development is common along Carmel Ridge Road. Agriculture is more common south of tract in the Beanblossom Creek river bottoms.

### **Topography, Geology and Hydrology**

This tract is made up of short east facing finger ridges coming off of Carmel Ridge. Small ephemeral drainages direct water flow into a mapped intermittent stream on the eastern boundary of tract. Water flows south into Beanblossom Creek which in turn drains into Lake Lemon. The underlying geology of this tract is most likely a combination shale, sand, and siltstone.

### **Soils**

#### BqF-Berks-Trevlac-Wellston complex, 20 – 70% slopes (20 acres)

This complex is found on side slopes along the tract's main ridge. It is formed from a combination of siltstone interbedded with sandstone and shale. It has a very low available water capacity and is moderately rapidly permeable. This soil is well suited to woodlands, and has some limitations to harvest. Employing standard BMP regulations such as waterbars or contour shaping for haul roads mitigate these limitations. Other special logging methods, such as uphill yarding with cables can be beneficial when using rubber tired or crawler tractors. This complex holds a SI of 70 in northern red oak, a land capability class of VIIe, and woodland ordination symbol of 4R.

#### WeC2-Wellston-Gilpin silt loams, 6 to 20 % slopes, eroded (4acres)

This soil is found along the tract's ridges. It is formed from loess over loamy residuum over shale. It is well drained with a moderate available water holding capacity. In general the soil is well suited to trees. Only slight equipment limitations exist. Wellston-Gilpin has a SI of 71 in northern red oak, a land capability class of IVe, and a woodland ordination symbol of 4A.

#### Be-Beanblossom channery silt loam, occasionally flooded (3 acres)

This soil is found in the bottomland areas in the southern corner of tract. It is formed from channery alluvium. Slopes range from 1 to 3 %. It has a very low available water capacity and is moderately rapidly permeable. Overall this soil is well suited to woodlands. Wetness is a concern for harvesting and planting operation, but can be managed by avoiding wet times of year. Beanblossom holds a 95 SI, a land capability class of Illw, and woodland ordination symbol of 7F.

**Access**

This tract is accessible from a lane that comes off of Carmel Ridge Road and makes up the southern tract boundary.

**Boundary**

The southern and eastern boundaries of tract adjoin state forest. They are made up of an old lane and a mapped intermittent stream. The northern and western boundaries are property boundaries. They have been marked with orange paint and are up to date.

**Wildlife**

A Natural Heritage Database search was conducted and is in tract file. The natural heritage database did not report any findings of rare, threatened, or endangered animals within the tract boundaries or within a 1 mile radius.

The tract does provide a variety of habitats for many species. Sightings of deer, chipmunks, turkey, and numerous songbirds were noted on the tract. The forest provides a steady food source in the form of hard and soft mast. Permanent water sources are available from lakes and small ponds on neighboring private property.

Indiana Bat Habitat Guidelines

The Indiana Division of Forestry recognizes the potential to enhance the Indiana bat habitat on its lands by implementing comprehensive management principles. These management principles include obtaining data on size, species, and numbers of snags trees. Snag trees and some specific species are an integral part of the Indiana bat policy as they are prime roosting sites for maternal colonies.

**Table 2. Legacy\* Trees inventoried on April, 2010 on 6421201**

Size Classes	Maintenance Level	Inventory	Available For Removal
11"+ DBH	243	812	571
20"+ DBH	81	81	0

*American Elm, Bitternut Hickory, Black Locust, Cottonwood,, Green Ash, Northern Red Oak, Post Oak, Red Elm, Shagbark Hickory, Shellbark Hickory, Silver Maple, Sugar Maple, White Ash, White Oak*

\* Species Include:

*These species of trees, whether dead, dying, or alive have a relative high value as potential Indiana Bat roost trees and are encouraged for conservation.*

**Table 3. Snag Trees inventoried April, 2010 on 6421201**

Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
<b>5"+ DBH</b>	108	189	141	33	-48
<b>9"+ DBH</b>	81	162	68	-13	-94
<b>19"+ DBH</b>	13.5	27	10	-3	-17

**Table 4. Cavity Trees inventoried April, 2010 on 6421201**

Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
<b>7"+ DBH</b>	108	162	261	153	99
<b>11"+ DBH</b>	81	108	176	95	68
<b>19"+ DBH</b>	13.5	27	66	53	39

Currently this tract is showing a small deficiency in snags in the 9" + and 19"+ diameter classes. This is indicative of past management. As this stand continues to grow, stems will advance into the next size class and contribute to the total snag count through stem exclusion. Timber Stand Improvement work may also improve these figures.

### **Communities**

Some isolated patches of crimson barberry were noted on tract's ridges. Also, a small area of periwinkle was documented in one of the tract's ephemeral drainages.

### **Recreation**

This tract does not contain any established recreational facilities. The southern firelane also coincides as a portion of the Tecumseh Trail.

### **Cultural**

No cultural features were found on tract.

### **Tract Subdivision Description and Silvicultural Prescription**

**Table 5. Harvest/Leave summary based on April, 2010 inventory on 6421201**

Species	Harvest Stock	Growing Stock	Total
White Ash	8720	0	8720
Yellow Poplar	8030	8510	16540
Black Oak	6790	23820	30610

Black Cherry	3070	170	6240
Red Maple	2970	5010	7980
White Oak	2270	23940	26210
Sugar Maple	2030	10200	12230
American Beech	2010	4750	6760
Scarlet Oak	1220	0	1220
American Sycamore	0	680	680
Bitternut Hickory	0	5790	5790
Blackgum	0	2780	2780
Northern Red Oak	0	14170	14170
Pignut Hickory	0	3580	3580
Red Elm	0	760	760
Shagbark Hickory	0	3710	3710
<b>Total</b>	<b>37110</b>	<b>107870</b>	<b>147980</b>

Currently, this tract averages 5,481 BF/ac with 1,375 BF being designated for harvest and 4,106 BF designated as growing stock. The tract has 97 square feet of basal area per acre and is fully stocked at 90%.

This tract is very much a two aged stand. Although the harvest in 1973 removed a great amount of the oak overstory, the majority of the standing volume is still found within this species mix. These remnants were left along the steep side slopes by the stream banks and along the western boundary line. The remaining areas of tract consist of old openings and canopy gaps that have regenerated to maple, cherry, poplar, and Blackgum with a notable amount of hickory. These species are beginning to reach merchantable size. This stand will be moving into a mixed hardwood overstory composition.

Light timber stand improvement work to release future crop trees and cull low value trees could be performed to hasten the tract's stems into larger size classes.

### **Summary Tract Silvicultural Prescription and Proposed Activities**

Due to the small size of tract and low harvestable volume, a harvest is not recommended for this tract at this time. In the future, if a neighboring tract is considered for harvest, it is possible that portions of this tract may receive management. Furthermore, it is recommended that this tract be joined with a neighboring tract to increase ease and efficiency of future management.

In the mean time, exotic control work to target the small amount of invasives noted during inventory is recommended. Light TSI to release future crop trees would also be beneficial. This work could occur in mid to late summer if 2010. It is recommended that this area be reevaluated in 10 years.

**Proposed Activities Listing**

Proposed Management Activity

Exotic Control/TSI  
New Management Guide/Inventory

Proposed Date

Summer 2010  
2020

**Attachments (in Tract File)**

Gingrich Stocking Charts  
Ecological Resource Review  
Natural Heritage Database Review  
Wildlife Habitat Review  
Soil Map  
TCruise Reports

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