

RESOURCE MANAGEMENT GUIDE DRAFT

State Forest: Morgan-Monroe
Forester: Amy Zillmer
Management Cycle End Year: 2020

Compartment 17 Tract 14
Date: April 19, 2010
Management Cycle Length: 20 years

Location

This tract is located in Section 34, T9N, T1E, Monroe County, Indiana. It is located in a block of state forest between Brummett’s Creek and Sewell Road. It is approximately 7 miles east of Bloomington.

General Description

This tract is 82 acres of which the majority is an oak-hickory cover type. Mixed hardwoods were also prevalent along the tract’s coves and northerly facing slopes.

Stand Types Morgan-Monroe State Forest
Compartment 17 Tract 14

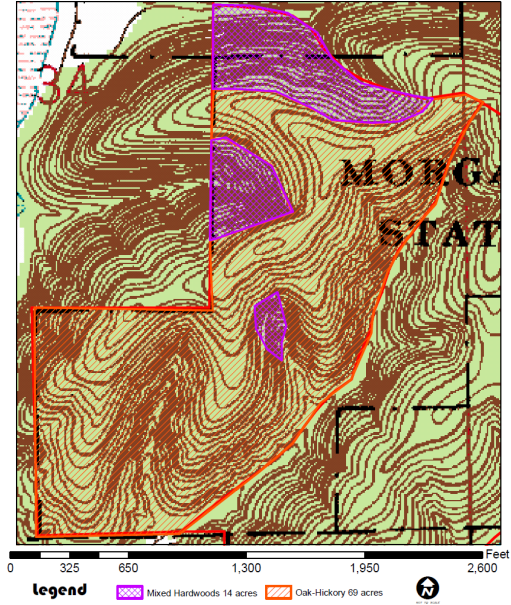


Table 1. Species list by relative abundance from March 2010 inventory on 6371714

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

History

This land was granted to the Division of Forestry in 1950 by James and Nellie Pearl Woods. Since acquisition no recorded management has occurred.

Historical aerial photography suggests that the ridges were most likely farmed and the side slopes were grazed.

An inventory was conducted during February and March 2010 by Amy Zillmer. The findings of that inventory are highlighted in the report below.

Landscape Context

The tract is nestled in to the west side of large block of rugged upland forest of which much is publically owned. The Mt. Carmel Fault line is just west running along the Brummett's Creek River Valley. This low-lying, nutrient rich alluvium is used heavily for agriculture. Some of the area serves as flood plain for the Monroe Reservoir. There has been some of an increase in residential development along some of the privately owned ridges.

Topography, Geology and Hydrology

Tract 14 is comprised of a main ridge that extends off of Sewell road and four smaller finger-like ridges; three of which are east-west facing and one north-south. Ephemeral and unmapped intermittent drainages move water west into Brummett's Creek. The underlying geology of this tract is most likely a combination of sandstone, shale, and siltstone. However, limestone was also noted during inventory at soil surface.

Soils

BkF-Berks-Weikert complex

This is the only soil found on tract. It forms from sandstone bedrock about 38" under the surface. Slopes range from 25% up to 75%. This soil has severe limitations for equipment due to slope and low strength. It is recommended that any road construction follow contours or land shaping may be employed. This complex is well drained with a low available water capacity. Although unsuited for urban development due to slope and depth to bedrock, it is well suited for trees. This soil holds a 70 site index.

Access

This tract is accessible from the east via a firelane that connects to Sewell Road. Some improvement work is needed to bring road up to code. Other routes are being considered.

Boundary

Both the north and east lines of tract abut state forest while the south and west lines of tract also serve as property lines. These lines are up to date as they were repainted during the 2008/2009 fiscal year.

Wildlife

This tract provides a wealth of wildlife habitat in the form of hard mast. Steady water sources are available nearby from Brummett's Creek. During the 2010 inventory numerous songbirds, deer, turkey, coyotes, and pileated woodpeckers were observed. Due to the time of year, this is likely only a portion of the wildlife inhabiting the area. The natural heritage database did not report any rare, threatened, or endangered animals within tract boundaries or within a one mile radius.

Indiana Bat 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. Live Legacy Trees* inventoried March 2010 on 6371714

Size Classes	Maintenance Level	Inventory	Available For Removal
11"+ DBH	738	2962	2224
20"+ DBH	246	575	329

** Species Include: 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*

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 March 2010 on 6371714

Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
5"+ DBH	328	574	562	234	-12
9"+ DBH	246	492	486	240	-6
19"+ DBH	41	82	111	70	29

Table 4. Cavity Trees inventories March 2010 on 6371714

Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
7"+ DBH	328	492	1252	924	760
11"+ DBH	246	328	1107	861	779
19"+ DBH	41	82	344	303	262

Currently this tract is meeting all guidelines for legacy, snag, and cavity trees. This tract may thus serve as a source for deficiencies in nearby management units.

Exotics

Isolated patches of multiflora rose were noted. Stilt grass may be present on tract but was not noted due to time of inventory. Access lane should be monitored during marking.

Recreation

This tract does not have any established recreational features. Likely uses of this tract include hunting, hiking, wildlife viewing, and gathering.

Cultural

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

Tract Subdivision Description and Silvicultural Prescription

Forest Condition

Currently this stand holds an average of 8,566 BF per acre with 2,945 BF tallied as harvest and 5,621 BF reserved as growing stock. There are 115 square feet of basal areas per acre in 50 sawtimber and quality trees. Overall the stand is overstocked at 102%.

Table 5. Harvest/Leave Chart from March 2010 inventory

Species	Harvest	Leave	Total
Black Oak	107070	64880	171940
Yellow Poplar	35790	0	35790
White Oak	30720	276210	306940
Scarlet Oak	17380	12320	29690
Northern Red Oak	16430	47330	63760
White Ash	14660	0	14660
Sugar Maple	6780	21400	28180
Black Cherry	3920	0	3920
American Beech	3610	8800	12410
Blackgum	3060	0	3060
Shagbark Hickory	2080	7870	9960
Bitternut Hickory	0	1630	1630
Black Walnut	0	4740	4740
Pignut Hickory	0	13500	13500
Red Maple	0	2250	2250
Totals	241500	460930	702430
Per Acre	2945	5621	8566

Oak-Hickory

This is the most common strata across the stand comprising about 69 of the tract's 82 acres. This division average about 8,925 BF per acre of which 2,909 is designated as harvestable and 6,017 Bf is growing stock. There are 119 square feet of basal area per acre. This stratum is overstocked at 106%.

This area is dominated by white oak. It makes up 52% of the average standing volume and 49 % of sawtimber stems. Other dominate trees include Black Oak, Scarlet Oak, Sugar Maple, Pignut Hickory, Shagbark Hickory, American Beech, Northern Red Oak, and White Ash. The understory is dominated by shade tolerant Sugar Maple and American Beech. To a lesser extent oak and hickory were also noted. Regeneration is almost completely made up of beech and maple.

In general, the red oak species are experiencing decline from natural senescence and overcrowding. Single tree selection of low vigor, poor formed stems in recommended to release higher quality stems is recommended. Retention in white oak is expected to be high. In areas of poor quality, low basal area, or excessively mature regeneration may be prescribed. Also, this tract experienced damage from strong N to NW winds during the last growing season (2009). Pockets of windthrow are present along the main ridge. Due to recentness of this event and species mix affected (oak) many of these stems could be salvageable if a commercial sale is enacted soon.

Mixed Hardwoods

This strata covers about 13 acres of the tract, primarily on northerly facing slopes and coves. It has an average of 8,310 BF per acre with 2,886 BF tallied as harvestable and 5,424 BF reserved as growing stock. There are 106 square feet of basal area per acre. This tract is fully stocked at 92 %.

The overstory of this unit is made up of white oak, sugar maple, northern red oak, hickory, black oak, American beech, white ash, and poplar. The understory is overwhelmingly dominated by sugar maple along with hickory and beech. Regeneration is almost completely beech/maple.

Single tree and group selection cutting methods area recommended for this area. Several areas within this division where noted to have a declining overstory and fire damage. These areas could benefit from regeneration to renew the health of the stand and increase the horizontal heterogeneity across tract. Regeneration of these areas is expected to be mixed, yet heavy in poplar.

Summary Tract Silvicultural Prescription and Proposed Activities

The overall recommendation for this tract is an improvement harvest. Areas along ridgetop containing windthrow may also be salvaged. Harvest volumes area expected to fall between 200-250 MBF. The harvest will comply with BMP regulations to minimize soil erosion and protect water quality. Prompt installation of water diversions in conjunction with seed and straw following harvesting will be

employed to minimize any effects to neighboring water resources. The harvest will entail both single tree and group selection cutting methods. Single tree selection will remove poorly formed, mature stems, and improve spacing of crop trees to increase the growth of residual stand. Group selection will be implemented in stands of inadequate stocking, poor quality, or mature timber. The goal of this and future harvest will be to maintain a 10% regeneration goal. Following harvest TSI is recommended that any openings or remaining croptree release are completed. Due to the lack of management of this area under state ownership, neighboring tracts should also be examined to look at the possibility of a combined tract sale. This tract will be up for a new management guide/inventory in 20 years.

Proposed Management Activity

Proposed Date

Mark Timbersale

2010

Post Harvest TSI & Exotic Recon/Treatment

2012

New Management Guide/Inventory

2020

Attachments (in Tract File)

Gingrich Stocking Charts

Ecological Resource Review

Natural Heritage Database Review

Wildlife Habitat Review

Archeological Clearance/Roadwork Request

Soil, Stand, and Roadwork Maps

TCruise Reports