RESOURCE MANAGEMENT GUIDE

DRAFT

State Forest: Yellowwood SF **Compartment:** 15 **Tract**: 04
Forester: A. Zillmer **Date:** January 6, 2009
Management Cycle End Year: 2029 **Management Cycle Length:** 20 yrs

Location

This tract is located in Section 14, T10N, R2E, Brown Co., Indiana. It is approximately 3 miles northwest of the community of Bean Blossom and 3 miles northeast of Helmsburg.

General Description

The tract covers 10 commercial acres. Pine is common throughout stand along with a mixture of hardwood species.

History

This tract was acquired by the state in 1954 from the United States government. Prior to public ownership, this area was probably farmed during the turn of the century.

No recorded management activities are noted in tract file.

This tract was up for inventory for the 08/09 fiscal year. An inventory was completed on August 15, 2008. 10 points were taken across 10 acres (1 pt./ac). The findings of which are highlighted in this report.

Landscape Context

Closed canopy forest is the most dominant covertype. Agriculture is also common. There has been an increase in residential development over the past 30 years.

Topography, Geology and Hydrology

This tract consists of wide, flat ridgetop.The ridge slopes down in the northwest. Several ephemeral drainages follow this slope into Dunnaway Creek. The creek flows southwest and serves as an outlet for an unnamed body of water located north of the tract. The creek joins up with Beanblossom and flows into Lake Lemon. The underlying geology of this tract is a combination of sandstone, siltstone, and shale.

Soils

RoB2-Rossmoyne silt loam, 2- 6% slopes, eroded

This soil is the most dominant on tract and is found along the wide ridgetop. It is formed from loess over loamy till. It has a moderate available water capacity and is moderately well drained. A fragipan is found between 24 to 40 inches below surface. Moderate restrictions due to low strength are present for haul roads and landings. Rossmoyne holds a site index of 80 for northern red oak, a land capability class of IIe, and woodland ordination symbol of 3D.

CnC2- Cincinnati silt loam, 6 – 12% slopes

This soil is found along the side of the tract's ridgetops. It is formed from loess over loamy till. It has a low available water capacity and is moderately well drained. Root penetration is somewhat restricted by firm and brittle fragipan present 26" below surface. Moderate limitations for roads and landings exist due to low strength and slope. Cincinnati holds a site index of 80 for northern red oak, a land capability class of IIIe, and woodland ordination symbol of 4A.

HkF-Hickory silt loam, 20 to 70 % slopes

This soil is found on the tract's side slopes. Actual slope grade on tract is between 30 and 40%. This silt loam is formed from sandstone, siltstone, and shale residuum. Hickory soils have a high available water capacity and are moderately permeable. Due to slope, it is generally unsuitable to development or agricultural, but is well suited to trees. Erosion hazards are a concern for large equipment, but can be mitigated by the use of land shaping and standard BMP regulations such as waterbars. This soil has a SI of 85 for both white oak and northern red oak, and a SI of 95 for yellow poplar. It has a land capability class of VIIe and woodland ordination symbol of 5R.

Access

This tract can be accessed from Stinson Hollow Rd north of Railroad Rd. A well defined lane bisects this tract. This lane was most likely used in 1973 for timber sale on neighboring tract.

Boundary

The north, east, and south boundaries of tract also serve as property lines. Boundary line marking is up to date, so these lines are clearly painted. The western boundary follows the side of the ridge.

Wildlife

The Natural Heritage Database did not report any RTE species inside of tract or surrounding area. The tract does host an animal assemblage typical for this area. Numerous songbirds, deer, turkey, chipmunks, squirrels, and box turtles were noted during inventory. Course woody debris and down trees were common and likely provide habitat for diverse herp population.

Wildlife Habitat Features

The Indiana Division of Forestry recognizes the potential to enhance wildlife habitat, including that of the Indiana Bat, on its lands by implementing comprehensive management principles. These management principles include obtaining data on size, species, and numbers of live legacy trees, snags, and cavity 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 1. Legacy Trees inventoried 8/15/2008 on 6421504.

Size Classes	Maintenance Level	Inventory	Available For Removal
11"+ DBH	90	80	-10
20"+ DBH	30	3	-27

**** Species Include:*** *AME, BIH, BLL, COT, GRA, REO, POO, REE, SHH, ZSH, SIM, SUM, WHA, WHO*

Currently the tract is showing deficiencies for both size classes of preferred legacy trees. This shortage is largely attributed to the planted pine overstory. As the stand continues to grow, the frequency and size of hardwood species will increase and close this gap. Management activities such as commercial timber harvesting or TSI could hasten this transition.

Table 2. Snag Trees inventoried 8/15/2008 on 6421504

Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
5"+ DBH	40	70	664	624	594
9"+ DBH	30	60	53	23	-7
19"+ DBH	5	10	0	-5	-10

Inventory data shows a large surplus in 5"+ DBH, acceptable levels in 9"+, and deficiencies in 19"+ snags. Any management activity should be aimed at preserving existing 9"+ snags unless safety issues are present. Snag creation in larger diameter class sizes should be considered following any future harvesting or during TSI work.

Table 3. Cavity Trees inventoried 8/15/2008 on 6421504.

Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
7"+ DBH	40	60	34	-6	-26
11"+ DBH	30	40	5	-25	-35
19"+ DBH	5	10	5	0	-5

Deficiencies in all sizes were reported for cavity trees. This shortage is most likely the result of the coniferous stand component. In general, cavities in live coniferous trees are rarer than in hardwood stands. If harvesting is determined to be appropriate to achieve future desired conditions, efforts in cavity tree retention

should be made when marking. These deficiencies will decrease as the hardwood density increases.

Recreation
There are no established recreational facilities on tract. Common uses from the surrounding area include hunting, hiking, and wildlife viewing.

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 Description and Silvicultural Prescription
Currently the stand holds 37,570 BF (3,757 BF/ac) of harvestable timber with 30,330 BF (3,033 BF/ac) designated as growing stock for a total of 67,900 BF (6,790 BF/ac). The basal area is 116.6 and at this time stocked at 103% (overstocked). Inventory indicated that the harvestable volume is found in 31 trees/ac. Proposed management would reduce the overall basal area to 74.6 square feet per acre.

Table 4. Harvest/Leave species and volume inventoried 8/15/2008 on 6421504

Species	Harvest	Leave	Total
Black Cherry	290	0	290
Black Oak	2510	5290	7800
Black Walnut	0	1960	1960
Chinkapin Oak	0	860	860
Eastern White Pine	7100	1640	8740
Largetooth Aspen	9600	0	9600
Northern Red Oak	820	0	820
Red Elm	770	0	770
Red Maple	5450	1620	7070
Shortleaf Pine	6450	0	6450
Sugar Maple	0	730	730
Virginia Pine	290	0	290
White Ash	1550	0	1550
Yellow Poplar	2740	18230	20970
Total	**37570**	**30330**	**67900**
Total per Acre	**3757**	**3033**	**6790**

Pine is a dominate overstory component across tract. It tends to be more dominate in the center and feathers out into early successional hardwood species (yellow poplar and largetooth aspen) near the edges. Eastern white pine is often in a dominant crown position, while species such as shortleaf pine and Virginia pine are co dominant or suppresses. Since the white pine has a dominant position, it could be thinned to favor better formed stems. The shortleaf and Virginia pine have relatively small crowns and would not respond well to

release. Removal of these stems would help hasten this tracts natural transition to hardwoods.

Other common understory species include sugar maple, red maple, white ash, black walnut, red oak, and sassafras. Current regeneration is dominated by sugar maple, red maple, and red elm. However, a significant amount of oak and hickory regeneration was present across tract. Due to the lack of overstory seed sources, these nuts and acorns were most likely distributed by other means such as blue jays.

Summary Tract Silvicultural Prescription and Proposed Activities
Although this tract would greatly benefit from a harvest, there is no present access at this time. Further investigation should be done to try to obtain suitable access to northern tract. If access is obtained-It is recommended that a timber harvest be done across tract to remove portions of the remaining pine stand and other poor formed stems. TSI to remove competing midstory stems would be beneficial to release many of the present oak seedlings. Follow up TSI would be needed to complete any openings. A small patch of multiflora rose was noted during inventory along the northeast boundary. Some treatment of this patch may be beneficial. Snag creation, especially in the 19" + diameter range should be employed to enhance wildlife habitat.

Proposed Activities Listing

Activity	*Proposed Date*
Mark Timber Sale Yield Approx 30,000 BF	09/10
Sell Timber Sale 09/10 Fiscal Year	09/10
Post Harvest TSI	11/12

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 "Yellowwood C15 T4" 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.

Figure 1. Gringrich Stocking chart from 8/15/2008 inventory on 6421504