

**Indiana Department of Natural Resources  
Division of Forestry**

**DRAFT**

**RESOURCE MANAGEMENT GUIDE**

State Forest: Martin	Compartment: 1	Tract: 6
Forester: Bear	Date: 6-1-2012	Acreage: 79
Management Cycle End Year: 2022	Management Cycle Length: 10 year	

**Location**

This tract is located in the vicinity of Bear Hill and is often referred to as “Bear Hill” by property staff and some public users despite being east of the actual Bear Hill topographic feature. The specific location is the W ½ Section 15, T 4 N, R 3W Martin County, IN. The tract is about two miles northeast of Trinity Springs, Indiana.

**General Description**

The tract consists of 79 acres, all of which is forested. Almost all the land is Oak-Hickory timber type, with only five acres being called Mixed Hardwood. Much of the tract is south or west facing slopes. Generally the slopes are workable with the exception being the area of bluffs on the eastern edge of the tract.

**History**

This tract was purchased by the United States of America from two sellers. The northern portion, approximately twenty-six acres, was purchased on September 28, 1940 from Kenneth and Pansy Nicholson. The remainder of the tract was purchased on September 30, 1940 from the Martin County Bank. This land was then deeded to the State of Indiana on September 28, 1968 in a land exchange with the U.S. Forest Service.

The only other management plan for this tract was not dated but was most likely written in the early 1970’s. The narrative indicated that there were no visible signs of a prior harvest, suggesting that this could be interpreted to mean a period of 20-30 years since a harvest had been completed. The narrative also noted that fire had “...swept through the area 5-6 years ago, and many 12-16” stems show butt damage.” Management recommendations in this plan called for a harvest to remove damaged stems and then light post-harvest TSI. The plan also recommended improving an existing old road into a firelane.

A harvest was conducted in November 1975, removing 99,470 bd. ft. In July 1989, the current firelane was built.

Another inventory in 2002 showed 9,160 board feet per acre of total volume. This inventory called for a harvest and one was conducted in 2004. Tracts 5 and 6 were harvested together with 129,060 board feet from tract 6. Post Harvest TSI followed the harvest.

Past land uses may have included limited clearing for cropping, but due to the slopes, the land was most likely grazed and used for timber production.

### **Landscape Context**

Land in the area is primarily used for timber production. Land level enough to be used for agriculture generally is open and planted to row crops, hay, or pastured. The closest residential areas are the burg of Trinity Springs to the southwest and the hamlets of Indian Springs and Cale to the northwest.

Land to the west was previously owned by Kimball and used for timber production. Recently this land was sold to a private individual.

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

The base of a ridge begins roughly at the southwest corner of this tract and runs to the northeast. In the general area of the interior corner, the ridge turns to run to the north. The crest of the ridge is just to the east of the state property line. Slopes are southeast facing between the firelane and Bear Hill Road. The area near where Bear Hill road crosses on to Private Property to the north contains some very steep rock bluffs. The remainder of the tract is generally west facing with some small north and south slopes created by side drainages. A small amount of bottomland area is present in the northwest area. The entire tract is part of the Indian Creek watershed.

### **Soils**

There are two predominant soil types on the tract. The **Wellston-Berks-Gilpin complex, 18-70% slopes** covers all but the ridge top and a very small area in the northwest portion of the tract. These well-drained soils are found on most of the side slopes in this tract and are characteristically deep to moderately deep. Erosion hazards are moderate to severe on these soils, but can be compensated for by using gentle grades for skid trails and by installing water bars and outslowing the roads to remove water. Site indices for these soils are 70 to 80 for Northern Red Oak and 90 to 95 for Yellow Poplar.

**Wellston silt loam, 6 to 12 percent slopes**, is the soil type found on the ridge top. This is a moderately sloping, deep, well-drained soil. Erosion and equipment use hazards are slight on this soil. Site index is 71 for Northern Red Oak and 90 for Yellow Poplar.

A third soil type, **Bonnie silt loam** is found in a very small area in the northwest corner of the tract. It is a nearly level, deep, poorly drained soil found on broad, flat or slightly concave bottomland. It is flooded for brief or long periods and is subject to ponding. The water table is often near or above the surface during winter and spring, resulting in equipment limitations and windthrow problems.

### **Access**

Access is good to this tract thanks to the county road and the internal fire lane. The fire lane is a bit steep for log trucks, but has been used for logging in the past. It is generally considered a dry weather road.

### **Boundary**

Beginning at the Southwest corner: The property line runs north for just over ½ mile to a stream channel. The tract boundary turns to follow the creek channel north east across the firelane at a saddle and to the northern property line. Here the line turns east along the property line to a corner. The northeast corner has no marker. The line turns south for about ½ mile to a metal stake. This line was marked with white rectangular State Forest signs which are now illegible. At the stake, the line turns east forming an internal corner. This line runs east down very steep bluffs to the county road. A large shagbark hickory on the east side of the road marks the line. The tract boundary follows the county road south and wet to the point of beginning. The property lines were painted orange during the inventory. Boundaries between tract 6 and other Martin State Forest tracts were not marked.

### **Wildlife**

Wildlife and signs of wildlife were very evident on the tract. Deer, chipmunk, turkey, gray and fox squirrels were observed along with numerous songbirds, hawks and vultures. Water is not a problem for wildlife as Indian Creek lies within ¼ mile of most parts of the tract. The rock bluffs and outcrops provide unique wildlife habitat and will be maintained as they are. There are numerous mast-producing trees on the tract, especially hard mast. Several den trees or potential den trees were seen during the inventory.

A Snag inventory was conducted along with the timber inventory. It showed a surplus of Legacy trees of both 11”+ and 20” + diameters and snags (standing dead trees) of 19”+. It showed a deficiency of snags smaller than 9”.

A Natural Heritage Database review was obtained for this tract. 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.

### **Communities**

The tract is dominated by standard Oak-Hickory forest. The overstory is dominated by white oak with a strong red oak (northern, black, and scarlet) component. Occasional species include sugar maple beech, cherry, tulip, and ash. The mid story is dominated by shade tolerant beech and sugar maple. The seedling/sapling layer is lush in area opened during the 2004 harvest. In these canopy gaps or in areas where the canopy is thin, many seedlings are present. Species include tulip, ash, sassafras, and a strong oak component on the more xeric sites. Areas with limited sunlight penetration do not have the same

type of understory. Here the understory is either devoid of seedlings or dense with beech regeneration.

### **Recreation**

No improvements exist for recreational use. The most common form of recreation on the tract is hunting for deer, turkey, and squirrel. An occasional hiker, wander, or gather may visit the tract.

### **Cultural**

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

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

Since the tract is almost entirely Oak- Hickory of the same age class, it will be managed as one stand. The 2004 harvest focused on improving the stand. It gave crop trees room to grow and they are still expanding to fill in the gaps. Any regeneration openings have come back to be dominated by tulip poplar. The poplar will dominate for the short term but is not sustainable on the majority of the tract. These openings are still very dense and contain a lot of brambles. In the next five years, they should be evaluated for thinning and or grape vine control.

One area in the north central portion of the tract has a good chance to regenerate oak. The overstory is predominately white oak and is thin enough to allow light through to the forest floor. Some oak regeneration is present, but beech seedlings and saplings are very dense. They prohibit any oak from establishing on the otherwise promising site. This area should receive an understory TSI to remove this mid story and allow the development of the oak regeneration layer. The lack of an eastern control line will most likely prohibit the use of prescribed fire, so the TSI will take the form of basal spraying the beech midstory.

The tract should be left to grow until the time of the next inventory. At that time, another improvement cut may be needed.

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

Combine the prescriptions described in the tract subdivisions into a summary prescription for the tract and an outline of proposed management activities for the entire tract over the course of the management cycle. Include approximate timeframes in which the activities would occur. Briefly describe any possible impacts of the proposed activities on the features identified above – soils, hydrology, wildlife, recreation, etc. In particular, describe impacts, or lack thereof, per the strategy for the Indiana bat. The final proposed activity will be the approximate date of the next inventory and management guide to start the next management cycle.

### **Proposed Activities Listing**

Create a summary list of proposed activities for the tract in approximate chronological order up to the start of the start of the next management cycle, which is the date of the next inventory.

<u>Proposed Management Activity</u>	<u>Proposed Date</u>
Thin dense understory beech and maple in area promising for oak regeneration	2013
Evaluate 2004 regeneration openings for thinning and vine control	2013
Inventory and update management guide	2022

Notes:

### **Attachments**

- Aerial photo with contour lines
- Soil map
- Ecological Resource Review
- Heritage Database Map
- Wildlife Habitat Feature Inventory Report
- Stocking guide by strata
- Comprehensive stocking guide

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