# Indiana Department of Natural Resources
# Division of Forestry
## -DRAFT-
## RESOURCE MANAGEMENT GUIDE

State Forest: Martin Compartment: 7 Tract: 13 (previously 14)
Forester: Bear Date: 2-1-2013
Management Cycle End Year: 2027 Management Cycle Length: 14 years

**Location**
This tract is located on Mill Road in Martin County. It is the southern most tract in Compartment 7. The legal description is the NE1/4, NE1/4 Section 35, the NW1/4, NW1/4 Section 36, the SW 1/4, SW 1/4, Section 25, and the SE 1/4, SE 1/4 Section 26 T 3N, R 3W. From Shoals, take HWY 150 south to Mill Road. Turn east on Mill Road and travel about two miles to the western parking unit on the north side of the road.

**General Description**
This tract contains 54 acres of timber land, almost all of which is on a north facing slope. There is a small amount of ridge top along the road. The ridge top is a mix of native hardwoods and planted pine. The higher elevations of the hillside are dominated by Oak-Hickory timber which changes to Mixed Hardwood as the elevation decreases.

**History**
(Management history prior to the early 1990's may be located in the Compartment 7 Tract 14 file.)

A portion of this property E 1/2 NE 1/4 and SW 1/4 SW 1/4 of Section 25 was obtained from Benton Fox in August of 1944. The remainder of the tract was obtained from the U.S. Forest Service in a land trade around 1966. The inspection report of the Fox property describes the area nearest the road as "old field in need of planting" (hence the pines) and the remainder of the property as an "excellent stand of mixed hardwoods".

An undated inventory (probably from the early 1960's) reports 3,691 BF per acre, 1,973 of which was reported as harvest stock. At that time only 26 of the 54 acres were well enough stocked to be considered merchantable timber. Aerial photos from that time period show forest cover on the hill side but brushy areas and young pine plantings on the ridge top.

An inventory was conducted in 1976 by Ben Hubbard. At that time, 34 acres was considered to be commercial forest. This inventory reported a total stocking of 2,815 BF per acre.

Another inventory was done in 1988 by Janet Eger, by this time; 36 acres were considered commercial forest. This inventory reported 5670 BF per acre of total volume.

Several pine thinning harvests have occurred on this tract in order to promote better growth of the pine and to encourage the area to convert to native hardwood timber. The sale dates and volumes are below.

- In 1980, Jim Freeman of Shoals purchased 40 pole size white and red pines.

- In 1981, Leroy Lewis of Shoals purchased 220 white pine trees and 4 white pine culls containing 8,685 BF.

- Also in 1981, Chester Courtright purchased 25 Red Pine poles.

- In October of 1982, 32 white pine trees and 99 Red pine trees containing 3,345 BF were sold to Bobbie Noe of Orleans.

-In May of 1990, 51 pines were sold to Rob Payton of Shoals

-In February of 1994, 15 pines were sold to Tom Jones

- In 1994, 101 white pines were sold to White River Log Homes of Shoals.

Standard harvests have also been conducted on this tract. In January of 1968, an estimated 67,580 BF was sold to C.V. Tedrow of Shoals.

Newton's Planing Mill of Taswell, Indiana purchased168 trees containing 49,826 BF in 1991. Almost half of this volume was yellow poplar. This harvest was intended to improve the overall quality of the tract's timber and release the high quality young stems of tulip and oak.

**Landscape Context**

The property surrounding the tract is dominated by forested acreage. This tract is part of a roughly 600 acre parcel of Martin State Forest. The US Forest Service owns a large block of property south and east of the tract. The privately owned land in the area is mostly forested with scattered residences along the road. The land use seems to be relatively stable. Most private property owners do sell timber from their woodlots.

**Topography, Geology and Hydrology**

This tract is almost entirely a north facing slope. The area along Mill Road is flat, but the topography breaks off shortly to the north. The slope is rather steep before tapering off to a gentler slope in the northern portion of the tract. The soil is quite rocky on the slope and less so on the flat and in the northern area. Water flows north off of this tract into the unnamed intermittent stream to the north. This stream eventually flows to Beaver Creek and into the East fork of the White River.

**Soils**

Two major soil types are present on this tract. Moderately well drained Apalona dominates the southern portion of the tract. A fragipan probably exists on the more level

sites with Apalona soils. Wellston dominates the steeper slopes and the northern reaches of the tract. Wellston is a well drained soil.
There is a bench on the northern slope about midway through the tract. This bench area appears to have several seep type areas and even contains a small ephemeral pool.
The overall appearance of the soil texture across most of the tract is loose and rocky.

**Access**
This tract is blessed with excellent access. Mill Road is a chip and seal hard surfaced county road running the extent of the southern boundary. Two parking units exist on either end of the tract. Both parking units are at the head of a firelane extending into the tract. The western firelane goes north into the tract then turns to cross the tract about 2/3 of the way to the north. The eastern most firelane runs north through the tract along the eastern property line. Both firelanes are marginal for use as logging haul roads due to their steep grades, and the eastern-most firelane, 7E has a large, short culvert placed near a 90 degree bend in the road. This culvert would be extremely difficult for a large log truck to negotiate.

**Boundary**
The south, east, and west boundaries of the tract are property lines. The south property line is defined by the Mill Road. The east and west lines are marked with a mix of pink ribbon and orange paint, the north tract boundary is not a property line and is not marked, as it is defined by the drainages.

**Wildlife**
This tract is home to the typical woodland wildlife of the region including among others: deer, turkey, raccoon, squirrel, mice, various songbirds, hawks, owls, snakes, turtles, and salamanders. The tract provides mixed hardwood mature forest habitat, mature pine habitat, and stream habitat. One unique and valuable feature of the tract is the small ephemeral pool found on the north facing bench. This pool is likely a breeding spot for amphibians.

A maintained power line ROW crosses though the southern portion of the tract. This area offers an open grassy habitat favorable to many species.

A Natural Heritage Database Review was completed for the tract. 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.

Snags and Legacy trees were tallied during the timber inventory. Both snags and Legacy trees of all diameter classes were well above the required levels. Refer to the attached Wildlife Habitat Feature Tract Summary for specific distributions.

**Communities**
Two main plant communities are found on the tract. The first and most common is hardwood forest. The hardwood forest is dominated by mixed hardwoods, but includes some areas of oak-hickory timber (higher on the slope) old field hardwood timber (mostly red maple, ash and black walnut) in the old field areas not planted to pine. Trees

on the slope are of medium sawtimber size with some individual larger trees present. The mid story and understory in the hardwood areas is dominated by sugar maple, spicebush, and pawpaw. The herbaceous layer is rich during the growing season thanks to the northern aspect and rich soils. A small sample of the herbaceous plants known to exist includes various ferns, trillium, goldenseal, spring beauty, mayapple, wild ginger, American ginseng, greenbrier, Virginia creeper, and poison ivy.

The pine dominated area is the other community present on the tract. Several species of pine are present including eastern white, red, shortleaf, and Virginia. The pines have been commercially thinned several times and are larger than most planted pine of the same age. The thinning has also allowed the intrusion of native hardwoods into the pine stands. Canopy cover in the pine dominated stands is about 60% pine and 40 % hardwood. The understory in the pine stands is mostly American beech. The herbaceous layer in the pine stands is not as rich as that of the mixed hardwood forest.

**Invasive Species**
A limited amount of multi-flora rose is present in the area along Mill Road. Most plants are of low vigor and are not spreading. The population will be monitored by property staff.

**Recreation**
The only recreational developments on the tract are the parking units located at either end of the tract on Mill Road. The primary users of the tract are hunters and mushroom gatherers. While not permitted, evidence of ATV traffic is present on the firelanes.

**Cultural**
An old county road once made its way through the tract. Evidence of this old road bed can be seen in the northern tip of the tract where the road crossed the stream channel. From this point it went uphill to the south and ran along the bench just south of the current firelane. The road continued west along the bench and climbed the hill to the present route of Mill Road near the center of the tract.

The tract was reviewed for cultural sites during the forest resource inventory. Cultural resources may be present, 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**
The tract consists of two major timber types- pine and hardwood. The hardwood type can be further broken down into oak-hickory dominated areas and mixed hardwood areas. Refer to the attached stand map for specific distributions.

The pine timber is composed of eastern white, red, shortleaf and Virginia pines. The species are not mixed, but grouped across the area. Of the four species, white is most common followed by shortleaf, red and finally Virginia. The areas of pine have been thinned at least 3 times in the past. This thinning has allowed them to achieve a quality and diameter not typically seen in Martin State Forest pine plantations. The pine stands include volunteer hardwoods, which have benefited from past thinning. The canopy cover

in the pine stands is approximately 40% hardwood. While these pine stands are more open than many, the trees are reaching the point where they are suffering from competition. The live crown ratio on most of the trees is about 1:5. This should be 1:3 for the best growth and health of the stand. Per acre stocking in the pine dominated stands averages about 20,000 Board feet per acre with a basal area of 190. This stocking density is much too high for the health of the timber. The density should be reduced by about ½ to around 10,000 feet per acre for a healthier more vigorous stand.

The pine stands may be managed with either single tree selection to retain some pine component of increasing quality, or they may be converted to native hardwood timber via group selection harvesting. The single tree selection method is most likely due to the presence of the hardwoods already in the pine stands

The hardwood timber is dominated by Mixed Hardwoods. This type is found on all but the highest elevations of the north facing slope where Oak-Hickory timber is present. The mixed hardwood stands include white oak, red oak, tulip poplar, maple, ash, sycamore, hickory, cherry, and other minor species. A mix of diameters is present, but most trees fall into medium sawtimber size class. Some larger trees are present particularly of the red oak family. The Mixed Hardwood timber is fully stocked. There is some room for improvement cutting in areas where trees are competing heavily and in areas of poor quality. The stocking rate is almost 9,500 BF per acre in the Mixed Hardwood stand. This is somewhat high, but not unusual for this type of site. Most of the volume is in the form of yellow poplar and white pine. The naturally good form and low taper of these species allows for a relatively high stocking rate considering the very reasonable basal area of 106.

The Oak-Hickory timber type is found high on the slope and on the margin of the planted pine stands. Some large trees with spreading crowns hint that this may have been the edge of the old field area. Trees are of medium to large sawtimber size and boles are shorter due to the spreading crowns. The stocking rate in the Oak-hickory stand is almost 8,000 BF per acre and basal area is 120. This is a very common but somewhat high stocking density for MSF tracts. In this area, lower quality trees should be harvested to allow the growth and development of the higher quality healthier stems.

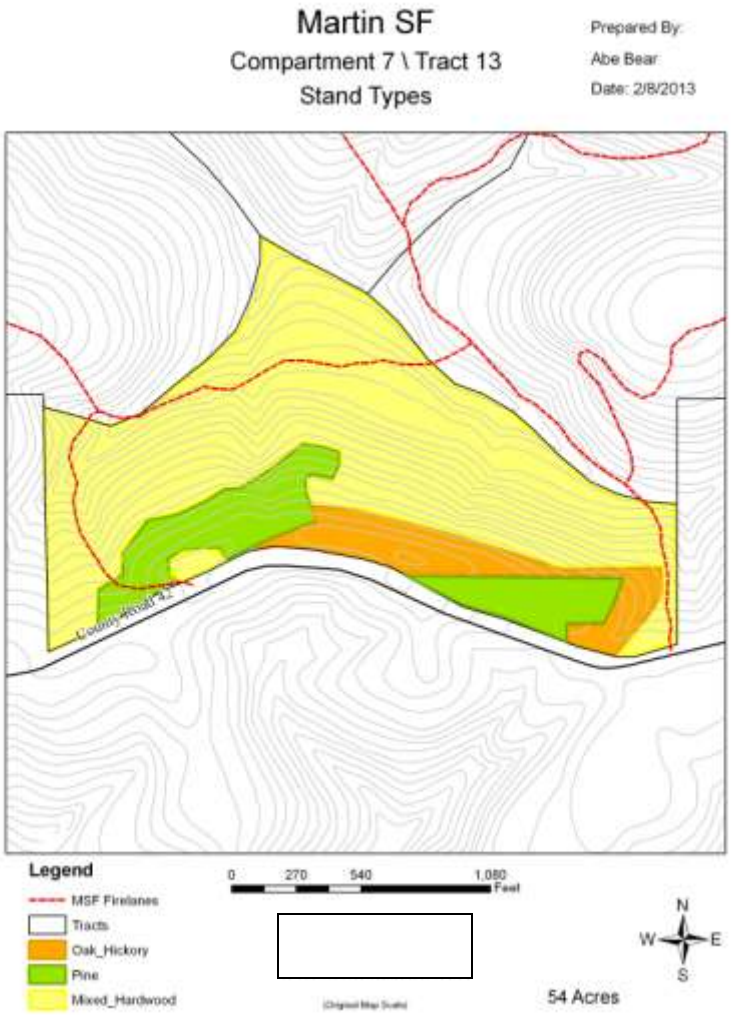
**Summary Tract Silvicultural Prescription and Proposed Activities**

This tract should be managed to maintain a Mixed Hardwood timber stand. The northern aspect and rich soils are best suited for red oaks, yellow poplar, ash, maple, American beech and black cherry. The pines have served their purpose of stabilizing the old field areas. They should be converted to native hardwood forest over time through either single tree or group selection harvesting. These harvests will also include harvesting in the hardwood portion of the stand. While some small groups may be marked on the slope, the most common method of marking will be single tree selection. This will encourage the development of the Mixed Hardwood timber type. Important points to consider when marking timber on this tract are the retention of legacy trees, snags, shagbark hickory, and stream side trees in accordance with the Indiana Bat Guidelines, buffering the ephemeral pool area to maintain this unique habitat, and buffering cultural sites if present. From a practical standpoint, much of the area along the county road will likely

be exempted from harvesting due to the danger of trees falling on the road and into the power line ROW. Care must be taken in the layout of skid trails to protect residual timber and minimize erosion.

**Proposed Activities Listing**

| *Proposed Management Activity* | *Proposed Date* |
|---|---|
| Mark and sell 150 - 200 MBF timber | 2015 |
| Post Harvest TSI | 2017 |
| Re-inventory and update guide | 2027 |

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