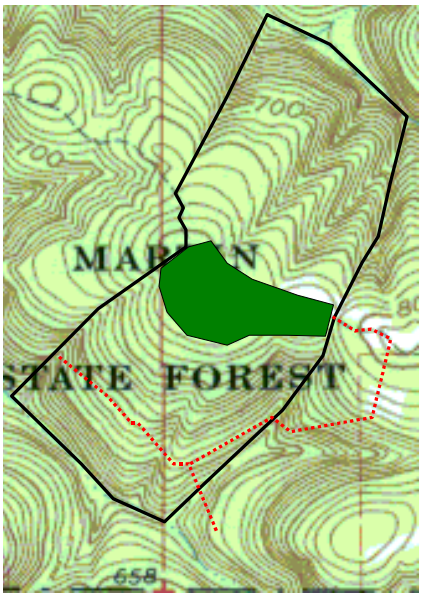
RESOURCE MANAGEMENT GUIDE

Compartment: 7	Tract: 10	Acreage: 90
Section: 25	Township: 3 N	Range 3W

FORESTER'S NARRATIVE
By Andy Fox and Abe Bear

ROADS AND BOUNDARIES:



This tract is bound on all four sides by drainages, and has three fire lanes (shown in red at right) running through it. The eastern and western borders are made up of four drainages. Two of these drainages parallel each other, running north from the ridge top in the center of the tract. The other two drainages run in the opposite direction both again paralleling each other. These four drainages empty into two large drainages that make up the northern and southern borders. These borders flow to the west, running parallel to the ridge in the center of the tract.

The main fire lane, 7c, splits the tract almost in half, as it runs east and west along the ridge top. Fire lane 7e enters the tract in the southeastern corner and runs along the east border, until it crosses the eastern drainage boundary. Fire lane 7j splits off of 7e, and runs parallel to 7c near the southern border. It dead ends at the western boundary of the tract. Steep slopes prevent travel by larger vehicles, as well as, restrict logging and maintenance to dry weather periods.

TRACT DESCRIPTION:

This tract consists of four timber types: Oak-Hickory, Beech-Maple, Mixed Hardwoods, and Pine-Hardwood. The general arrangement of these types is as one would expect. The Oak-Hickory is largely on the south slope and dry ridges, the Beech-Maple is in coves and bottoms, Mixed Hardwoods are found in reverting field sites and on fringes, and Pine-Hardwood is on the open ridgetops planted to pine. By both area and volume, the Oak-Hickory timber type is dominant with 36% of the area and 53 % of the volume. Beech–Maple holds 25% of the area and 15% of the volume. Further analysis reveals Mixed Hardwoods make up 25 % of the area and Pine –Hardwood comprises 14% (the mixed nature of these stands makes % volume calculations impractical).

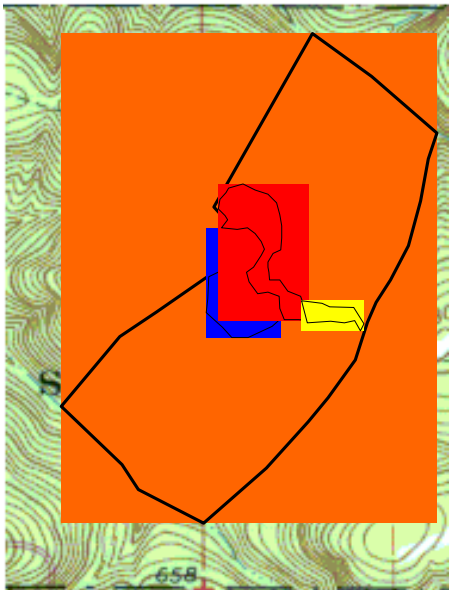
A moderate amount of grapevines were present in the tract, as well as, evidence of fire damage. There is a large pine plantation (marked in green on the map above) which runs the entire course of the ridge top in the center of the tract. In this plantation and in several other areas of the tract it was noted that there was considerable wind damage and many blow downs among the trees. This tract has an average site index of 93 for yellow poplar and 59 for White Oaks. Both indexes are a little better than the desired average index for each species.

During the inventory, some areas of oak regeneration were noted on the field sheets. If these areas are found to include advanced oak regeneration, it will be beneficial to treat understory competition prior to any harvesting. Competing understory species such as sugar maple, beech, pawpaw, dogwood, and

ironwood would be removed via herbicide application or understory burning. This would allow the oak and hickory seedlings to take full advantage of the diffuse light currently available, and outgrow other species once the overstory removal allows full sunlight.

SOILS:

There are three major soil types on this tract. The first is Wellston-Berks-Gilpin complex, with 18-70 percent slopes (orange on the map). These well-drained soils are found on most side slopes in this tract and are characteristically deep to moderately deep. The surface layer is typically silt or channery silt loam and the subsoil, which is roughly 36" deep. Permeability is moderate to moderately rapid, and surface runoff is rapid to very rapid. Organic matter content in the surface layer is moderate to moderately low. 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 outsloping the roads to remove water.



The second most abundant is Zanesville silt loam, with 2 to 6 percent slopes (purple on the map). It is a gently sloping, deep, well drained to moderately well drained soil found on ridgetops. The surface layer is an eight-inch thick brown silt loam underlain by a roughly three-foot thick silty clay loam subsoil. A firm fragipan, which restricts root penetration, exists in the lower part of the subsoil. In some areas, the lower portion of the subsoil is extremely acid. Available water capacity is moderate and permeability is moderate above the fragipan and slow in the fragipan. This slow permeability restricts downward water movement through the soil and often results in the soil being saturated in the winter and spring. Surface runoff is medium. Organic matter content in the surface layer is moderate. Erosion hazards and equipment limitations are slight for this soil; however, winter/spring logging may be restricted due to the saturated soil conditions.

The third soil type on the tract is Zanesville silt loam, with 6 to 12 percent slopes eroded (ZaC2) (yellow on the map). It is a moderately sloping, deep, well to moderately well drained soil found on some ridgetops and upper side slopes. The surface layer is a five-inch thick layer of brown silt loam. The subsoil layer, about 39 inches thick, is friable silt loam over a silty clay loam. This is underlain by a silt loam fragipan, which restricts root penetration and downward water movement. This restriction to water movement often results in saturated soil conditions in the winter and spring. Available water capacity is moderate, and permeability is moderate above and slows within the fragipan. Surface runoff is rapid, requiring measures such as water turnouts and bars to properly remove water from roads and yards. The organic matter content is moderate in the surface layer. Erosion hazards and equipment limitations are slight for this soil; however, winter/spring logging may be restricted due to the saturated soil conditions.

The last soil type is WeD2-Wellston silt loam, with 12 to 18 percent slopes eroded (red on the map)**.** This sloping, deep, well-drained soil is found along slopes along drainages in upper lands. The surface layer is dark grayish brown and about five inches thick. This layer is also mixed with some brown sub-soil material. The subsoil is a firm silt clay loam about 5 inches thick. The upper part of this is strong brown, and the lower part is yellowish-brown. The underlying soil is a yellowish-brown clay-loam with mottled channery and 15 percent sandstone fragments. This underlying soil runs to about 60 inches in depth. The available water capacity for this soil is high with moderate permeability, with very rapid surface run off. There is moderate organic matter content in the soil. Erosion will be a limiting factor when it comes to the logging operations, as this soil is highly erodible.

HISTORY:

This tract was purchased from several Martin County landowners in the 1940's and 50's. The state obtained the first portion of this tract in 1947. Walton and Ella Pearl Allbright sold one hundred acres for $900.00, in August of that year. A second portion of the tract came from Dale and Violet Courtright, when they sold their land for $160.00 in 1950. A timber sale was conducted in on this tract in 1981 by Ben Hubbard in conjunction with tracts 7 and 8. DMI Furniture bought the timber, for the sum of $21,538. Hubbard inventoried this tract twice, once in 1975 and again in the 1980s.

RECREATION AND WILDLIFE:

The main forms of recreation in this area are hunting, gathering, and hiking. Steep slopes and deep ravines provide many pleasurable views for hikers and great mushroom hunting. Both small and large game hunters will have great opportunities as many different forms of wildlife reside in the different habitat types throughout the tract. The oak-hickory forest type provides great food sources for the different wildlife species while overgrown pine plantations provide excellent areas of cover. Although illegal, there have been several signs of ATV use and horseback riding along the fire lanes and other trails.

WATERSHED:

The watershed in this tract has two general directions of flow, north and south. Water runs off the central ridge in the tract. Water travels north for about ¼ mile, through several different drainages spread along the slope. It eventually empties into a central drainage for the area that flows to the west from this point. Water also travels south for about the same distance along the slope until it reaches another large drainage that serves the whole area. Both of the main drainages run parallel to each other until they meet a larger drainage, which then flows into Beaver Creek.

SURROUNDING LANDSCAPE:

This parcel is centrally located in a 577 acre block of Martin State Forest timberland. Beyond this block, the land is a mix of private, state, and National Forest. Interspersed are a few small agricultural fields and residences.

TM 901 **Date: 12-12-08**

RESOURCE MANAGEMENT GUIDE
By

Compartment: 7	**Tract: 10**	**Stand: Total**	
County: Martin	**Section: 25**	**Township: 3N**	**Range: 3 W**

Comercial Forest	90	**Average Site Index**	77
Non-commercial Forest	0	**Average Annual Growth**	
Recreational Use	0	**Total Basal Area**	109.7
Permanit Openings	0	**B.A.-Trees > 14"**	58.6
Other Openings	0	**B.A.-Trees < 14"**	24.7
Total Acres	90		

Species	Saw Timber Leave	Saw Timber Harvest	Saw Timber Total
White Oak	100,070	89,340	189,410
Yellow Poplar	56,080	53,130	109,210
American Beech	8,970	48,660	57,630
Sugar Maple	6,700	33,480	40,180
Black Oak	12,410	39,450	51,860
White Ash	5,790	29,100	34,890
White Pine	5,530	27,960	33,490
Northern Red Oak	17,000	25,150	42,150
Blackgum	0	21,230	21,230
Scarlet Oak	19,330	19,350	38,680
Shagbark Hickory	16,100	7,790	23,890
American Sycamore	0	7,780	7,780
Largetooth Aspen	0	7,710	7,710
Red Pine	0	6,030	6,030
Red Maple	0	4,850	4,850
Pignut Hickory	8,360	4,070	12,430
Chinkipin Oak	5,850	1,680	7,530
Black Walnut	4,650	0	4,650
Pin Oak	5,500	0	5,500
Totals (tract)	272,340	426,760	699,100
Total (per acre)	3,026	4,742	7,768
Percent Oak/Hickory	68%	44%	53%
Percent Beech/Maple	6%	20%	15%
Percent Yellow-poplar	21%	12%	16%
Percent Misc. Hardwoods	2%	15%	10%
Percent Pine	2%	8%	6%

Indiana Division of Forestry
Forest Resource Management
Wildlife Review Checklist – Revised April 2005

Date of Review: 6/8/06
State Forest: Martin State Forest
Inspected By: Andrew S. Fox
Compartment: C7 **Township:** 3 North
Tract(s): T10 **Range:** 3 West
Total Acres: 90 **Section(s):** 25 & 26

1. Does the Natural Heritage Database identify any Endangered, Threatened or Rare species or "significant areas" documented from this tract or nearby?

2. Describe the vegetative cover/land use matrix within a 2.5 mile radius of this tract:

   a. A majority of the land within the matrix area is _X_ publicly owned, __ privately owned. (mark one)

b. Which of the following land cover types are present in the matrix area (mark all that can be easily identified as present from aerial photos, use two marks to identify the most prevalent type)?

_XX_ Closed-canopy forest
_X_ Brushy/early successional areas
_X_ Open fields
__ Open water
__ Developed areas

C. Does tract contain any habitat/habitat type, which is otherwise missing or poorly represented within the 2.5 mile radius matrix area? Yes/No

No

D. Has the land use pattern within the matrix area shown obvious significant change within the last 15 years? Yes/No

Yes

If yes, explain:
The tract just to the east has a timber sale marked to be harvest in the next few months, and with in this timber sale there will be a regeneration opening made.

3. Have there been documented sightings or other evidence of current or recent past (20 years) occurrences of rare, threatened or endangered species within this tract?

Not to my knowledge.

4. List the expected short term (<5 years) and long term (>5 years) effects the proposed forest resource management activities will have on the following **habitat types within this tract**:

A. Closed canopy forest

Short term: A decrease in canopy cover ranging from 0-20% is expected to take place with the management practices that we plan to implement on this tract.

Long term: none.

B. Understory woody vegetation

Short term: We expect shade-intolerant (and tolerant) species to have an increase in density and growth rates as there will be a higher amount of light and water penetration due to the more open canopy.

Long term: Same. Effects will be diminishing as canopy closes.

C. Herbaceous vegetation

Short term: Density and growth rates should increase in areas where canopy in opened greatly

as much needed light and water will be able to penetrate through.

Long term: Same. Effects will diminish as canopy begins to close.

D. Streams, Lakes and Ponds

Short term: None

Long term: None

E. Subterranean None

5. List any conditions that would suggest that the management proposal for this tract would require further evaluation by any additional wildlife management specialists?

None

6. Were any additions, changes or amendments made to the proposed forest resource management activities specifically to enhance or protect wildlife populations or wildlife habitat?

No

Additional Comments:

Evidence of the following species were either observed or heard during the field review of tract(s):
Turkeys, squirrels, deer, raccoons, frogs, turtles, lizards,

ADDENDUM TO ADDRESS INDIANA BAT MANAGEMENT STRATEGY

(Discuss any adjustments to management activities that are needed to comply with guidelines.)

GUIDELINES--

- *3 live trees per acre 20+ inches DBH and (an additional) 6 live trees per acre 11+ inches DBH (of species with desired characteristics.(i.e. – shagbark, shellbark and bitternut hickory, black, green and white ash, shingle, post, white and northern red oak, slippery and American elm, black locust, eastern cottonwood, silver maple and sassafras).*

5 snags per acre 9+ inches DBH and (an additional) 1 snag per acre 19+ inches DBH

Snag Trees

The inventory indicated that there were a total of 2 snag trees, of the preferred species, per acre greater than 9" DBH; bat management plan guidelines call for five trees per acre. The inventory also showed that there were .3 trees per acre of a DBH at 19" or greater of the preferred species; the guidelines call for one per acre.

In order to comply with the bat management plan 3 sang trees greater than 9" will be created per acre, and in addition one snag tree 19" or greater will be created per acre. These trees will be marked and deadened as part of the post harvest TSI operation.

Live Trees

The bat management guidelines call for at least three live trees of preferred species per acre greater than twenty inches DBH and an additional six live trees per acre greater than eleven inches DBH. The inventory indicated that there are 7.2 trees of preferred species greater than 11" DBH per acre and 2.8 trees per acre greater than 20" DBH in the leave category. To bring this tract into compliance with the bat management policy adjustments such as leaving one additional tree 20 inches DBH per every two acres, will be taken.

TM 903 Date: 12/15/08

SILVICULTURAL PRESCRIPTION
By: Abe Bear

A timber harvest will benefit this tract by removing declining stems, releasing future crop trees, and regenerating areas with little potential to improve. The harvest level should be around 3,000 feet per acre. Single tree selection, group selection and potentially regeneration openings will be used as marking techniques. Special care will be taken to favor oak and hickory, especially in areas where seedlings have already become established. Further recon will allow these areas to be identified and mapped. If needed, the understory will be removed via basal herbicide application and/or prescribed fire 5-7 years prior to harvest. The resulting increase in light should give the seedlings a competitive advantage once the overstory is removed.

Grapevine control will be necessary to control vines prior to any timber harvest.

Post-harvest TSI should be performed in areas needed, to ensure crop tree growth and seedling establishment. Also, a planting of native grasses in areas that are highly susceptible to erosion (i.e. skid trails, log yards) is strongly encouraged.

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 "Martin C7 T10" 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.