TM 901	RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

		Compartment:	1
Jackson-Washington State Forest		Tract:	9, 16
Forester:	Jason Vogelpohl	Date:	5/24/2010

ACREAGE IN:	
Commercial Forest	80
Non-Forest	0
TOTAL AREA	80

B.A. Culls	2
B.A. Trees 12" & Up	85.9
B.A. Trees < 12"	27.4
Total B.A./Acre	116.1

	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
chestnut oak	132,070	79,060	211,130
white oak	99,280	22,240	121,520
black oak	89,830	27,400	117,230
pignut hickory	69,730	23,000	92,730
northern red oak	19,840	18,880	38,720
scarlet oak	0	28,640	28,640
sugar maple	15,050	7,830	22,880
yellow-poplar	0	11,860	11,860
shagbark hickory	9,720	0	9,720
white ash	0	8,410	8,410
red maple	0	7,250	7,250
blackgum	0	2,150	2,150
TRACT TOTALS	435,520	236,720	672,240
PER ACRE TOTALS	5,444	2,959	8,403

RESOURCE MANAGEMENT GUIDE

Jackson-Washington State Forest
Compartment 1 Tracts 9 and 16
Foresters: Jason Vogelpohl and Michael Spalding
Inventory Completion Date: May 24, 2010
Draft Guide Completion Date: September 7, 2010
Management Cycle End Year: 2031
Management Cycle Length: 21 years

Location

Compartment 1 Tracts 9 and 16 are located in the south ½ of Section 7, Township 5 North, Range 5 East, Jackson County, IN. These two tracts are located approximately 1.5 miles east of Brownstown.

General Description

Tract 9 is 29 acres, and consists of a dry oak hickory forest type dominated primarily by chestnut, scarlet, white, and black oaks as well as pignut and shagbark hickory. Tract 16 is 51 acres, and transitions from mesic oak-hickory forest type containing a mixed hardwoods component on the north end of the tract to a very xeric chestnut oak forest type on the south end containing even a few post oak.

History

The land that makes up these two tracts was purchased by the State of Indiana in the following three separate parcels:
8 acres from R. Dean Kamman, Jerald V. Kamman, Robert D. Kamman, John P. Kamman II, Nancy Gillespie, and Elizabeth Shoupe on October 11, 2007.
28 acres from Ruth Horstman on February 14, 2008.
40 acres from Allen Horstman, Phyllis R. Zabel, Mary Jane Peck, John R. Bartels, Thomas E. Bartels, Elizabeth E. Smith, Annabeth Kamman, and Martha Sue Wooden on March 3, 2010.
On August 18, 2010, 9 trees containing 4,476 bd. ft. were sold to John M. Wooley Lumber Co. as a salvage operation.

Landscape Context

The landscape surrounding these tracts is quite varied. To the north and west lies the White River valley which is dominated by crop lands. To the west is the town of Brownstown. South and east of the tract is heavily forested, primarily Jackson-Washington State Forest land. Housing development is a serious threat to the forests in the area around these tracts due to the proximity to both Brownstown and Seymour. Some of the forested parcels of land along this road have already been subdivided into house lots within the last 10 to 15 years.

Topography, Geology and Hydrology

The topography of these tracts is relatively gentle when compared to that of most of Jackson-Washington State Forest. The geology is still very similar with soils underlain

with siltstone and sandstone. Tract 16 is in the upper part of the Hough Creek watershed, which does not drain into the lake at Lake and Forest. Tract 9 is in the watershed for the lake at Lake and Forest; however, with proper implementation of Best Management Practices during timber harvesting, as is done on all State Forest timber sales, the impact to the lake will be very minimal to none at all.

Soils

Coolville silt loam, 12 to 20 percent slopes (CoD)

This moderately well drained soil has a seasonal high watertable at 1.0 to 2.0 ft. and is on side slopes on uplands. Slopes are 12 to 20 percent. The native vegetation is hardwoods. The surface layer is silt loam and has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is very slow (<0.06 in/hr) in the most restrictive layer above bedrock. Available water capacity is moderate (6.6 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 3.5 to 5.5. Bedrock is at a depth of 40 to 60 inches.

Kurtz silt loam (KtF) This series consists of deep, well drained soils on hills. They formed in residuum weathered from interbedded soft siltstone and shale bedrock. Slopes range from 20 to 55 percent. Most Kurtz soils are in forest. Native vegetation consists of mixed hardwood with oaks, hickory, beech and tulip. These soils a well suited to trees. The potential productivity or site index for this soil type is 60 (n. red oak). Preferred trees to manage for are black oak, bur oak, chestnut oak, persimmon, northern red oak, scarlet oak, shagbark hickory, sugar maple, and white oak.

Stonehead silt loam (SsC2) This series consists of deep and very deep, moderately well drained soils formed in loess and the underlying residuum weathered from soft shale or soft siltstone bedrock. Slopes range from 4 to 12 percent. Most areas are used for hay, pasture or are in woodland. Native vegetation is mixed hardwoods with oaks, hickory, beech, maple, and tulip poplar as the major species. This soil is well suited for trees. Prolonged seasonal wetness hinders logging activities and planting of seedlings. The equipment limitations, seedling mortality, windthrow hazard, and plant competition are management concerns. The potential productivity or site index for this soil type is 90 (N. red oak). Preferred trees to manage for are black oak, bur oak, chestnut oak, persimmon, northern red oak, scarlet oak, shagbark hickory, sugar maple, yellow-poplar and white oak.

Access

These tracts lie on Venus Road approximately 1.5 miles east of Brownstown. The county road follows the ridgetop that divides the two tracts; therefore, some portions of both tracts will be inaccessible for timber harvesting. This will also require more yards than would typically be necessary for two tracts of this size. County Road 175 East travels south off of Venus road into tract 9 and eventually dead-ends into Jackson-Washington State Forest.

Boundary

The western boundary of Tract 16 has been marked by the adjacent private landowner and appears to be very accurate. Other than corner evidence, the rest of the boundary

remains unmarked. During a reconnaissance of the boundary line shortly after purchasing these parcels, 13 pieces of corner evidence were located. Six were rebar, two were conduit pipes, and the other 5 were old sandstone monuments.

Wildlife

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Snags (all species)					
5"+ DBH	320	560	355	35	-205
9"+ DBH	240	480	267	27	-213
19"+ DBH	40	80	81	41	1

The maintenance level for snags was exceeded in the 5", 9", and 19" DBH classes for this tract. In the 19" DBH class, the optimum level was also met. While no action is needed to meet the goals for snags, TSI will create more snags by deadening live cull trees.

In the nearby East Fork of the White River, six freshwater mussels have been found in the last twenty years: pyramid pigtoe, clubshell, round hickorynut, rabbitsfoot, and tubercled blossom. Pyramid pigtoe has a widespread range, but it is classified as endangered in Indiana. Clubshell is considered endangered both federally and in the state of Indiana. Round hickorynut has sporadic populations throughout its range. It is a species of special concern in Indiana. Rabbitsfoot is classified as endangered in Indiana. Tubercled blossom is classified federally and by Indiana as endangered. Management on this tract will not affect any of these species because there is no aquatic habitat to support them in this tract of nearby.

Communities

The exotic species found are centered, as expected, along Venus Road. The species found include Japanese honeysuckle, Japanese stilt grass, and Ailanthus. Japanese honeysuckle should be monitored and evaluated, as it is not wide-spread. Ailanthus, although only present in the form of a few saplings, should be treated with a basal oil and triclopyr. Japanese stilt grass may be treated where accessible along the road with glyphosate or a grass-specific herbicides; however, this species will continue to be re-introduced along the road from mowing equipment.

Post oak was found along Venus Road. Post oak is a common tree in many areas of southern Indiana; however, these trees are uncommon in Jackson-Washington State Forest in Jackson County. These post oaks should be avoided when it is practical.

There is a siltstone glade in a nearby tract. A siltstone glade is an area of thin soil with siltstone bedrock underneath. Glade barrens, including siltstone glades, are prairie-like areas with various grasses and forbs. No siltstone glades are located in this tract;

therefore, management on this tract will have no effect on the siltstone glade located in the nearby tract.

Forest Condition
The trees throughout most of these two tracts have stagnated in growth due to high stocking and crown competition. Old fire and grazing damage is present throughout. Drought and linden looper epidemics have killed many trees over the past several years. Numerous wind events over the past five years have also caused much mortality. On the north end of tract 16, many of the over-mature trees are declining in health and vigor. Harvesting the over-mature, damaged, suppressed, and other dominant/co-dominant trees will provide the growing space and resources necessary for the residual stand to be a healthier and more vigorous stand.

Recreation
Hunting is the primary recreational use of these tracts. During the inventory, we discovered some illegal horse and ATV trails as well.

Cultural
No cultural sites were found during the inventory of this tract. If any are located, the forest archaeologist will be contacted and the area avoided.

Tract Subdivision Description and Prescription

Oak-Hickory
Overall the entire tract is an oak-hickory forest type with small pockets of mixed hardwoods, which were not large enough in extent to delineate on the map. The overstory species consist mainly of black oak, chestnut oak, pignut hickory, red maple, scarlet oak, sugar maple, white ash, and white oak. Other species in the overstory, but making up only a small part of it, include blackgum, northern red oak, and yellow-poplar. The understory species consist of sugar maple, red maple, American beech, sassafras, and white ash. There were also some small pockets of chestnut oak in the understory. The approximate basal area per acre of sawtimber is 87 square feet.

Much of the northern area of the tract had over-mature large sawtimber of pignut hickory, white oak, and black oak. Several of the over-mature trees have old grazing or fire damage in them. Where possible the over-mature and damaged trees should be harvested to release higher-quality and more vigorous trees. In areas where all the trees are over-mature and/or damaged, openings should be marked to begin new stands of trees.

Traveling south throughout the two tracts and south across Venus Road, the timber gradually transitions into overstocked stands of primarily medium-sized sawtimber. These stands are very stagnated due to a lack of active management. Also fire, grazing, and wind damage are present throughout. These areas should be thinned to release the more vigorous and higher quality trees.

Tract Prescription and Proposed Activities

A timber harvest should be marked within the next year. This harvest should focus on removing over-mature, suppressed, co-dominant, and (grazing, fire, and wind) damaged trees to release higher quality and more vigorous trees. Some areas of all damaged and over-mature trees (especially at the north end of the tract) will require group-selection openings in order to regenerate new stands of trees. The impacts to Indiana bat habitat will be minimal, as the number of existing snags estimated in the inventory is above the maintenance level for all three size classes. Additional snags will also be created through post-harvest TSI. Impacts on water quality to Lake and Forest as well as Hough Creek will be minimal to none at all with the proper BMP implementation that is required of loggers on all State Forest timber sales. Post-harvest TSI will be implemented to complete regeneration openings, deaden cull trees, and release any future crop trees not sufficiently released through harvesting. These tracts should then receive another inventory in year 2031.

Proposed Activities Listing

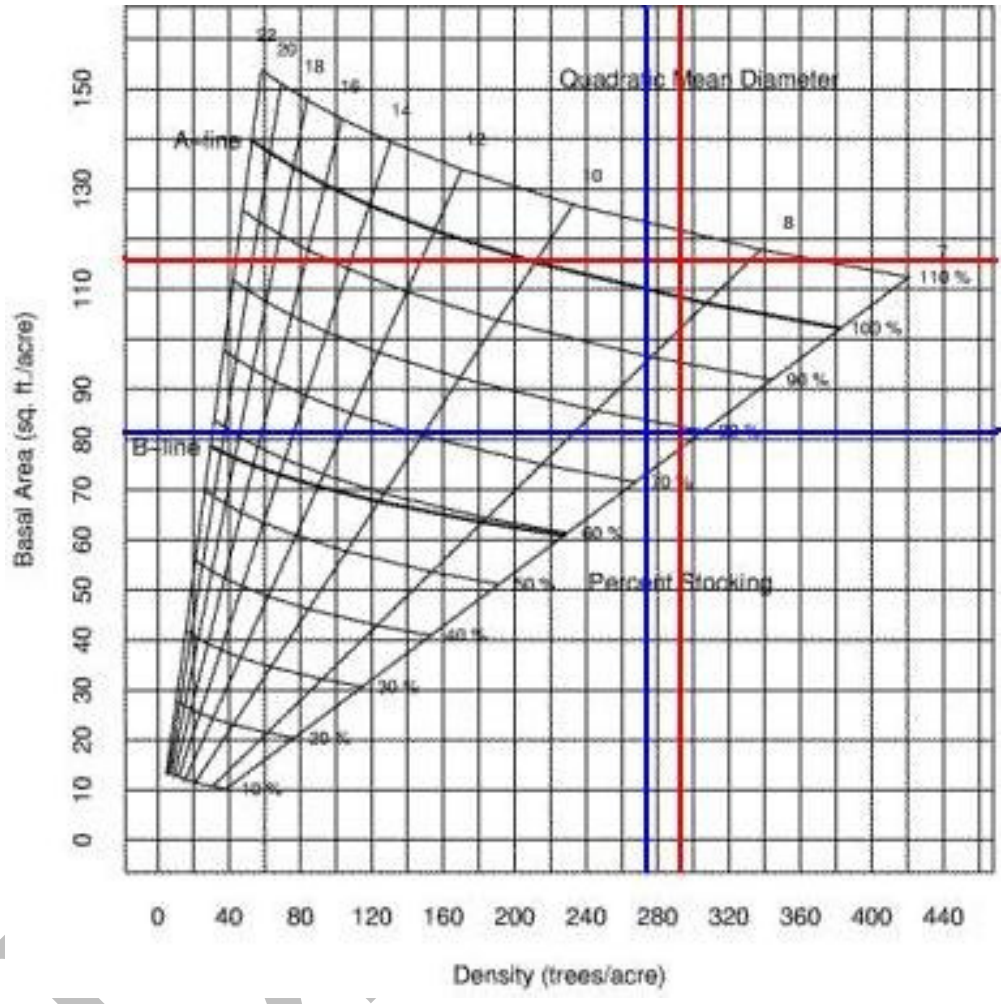
Proposed Activity	**Year**
Mark and Sell Timber Sale	2010-2011
Post-Harvest TSI	2011-2012
Inventory and Management Plan	2031

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 State Forest Name, Compartment Number and Tract Number 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.

Stocking Guide

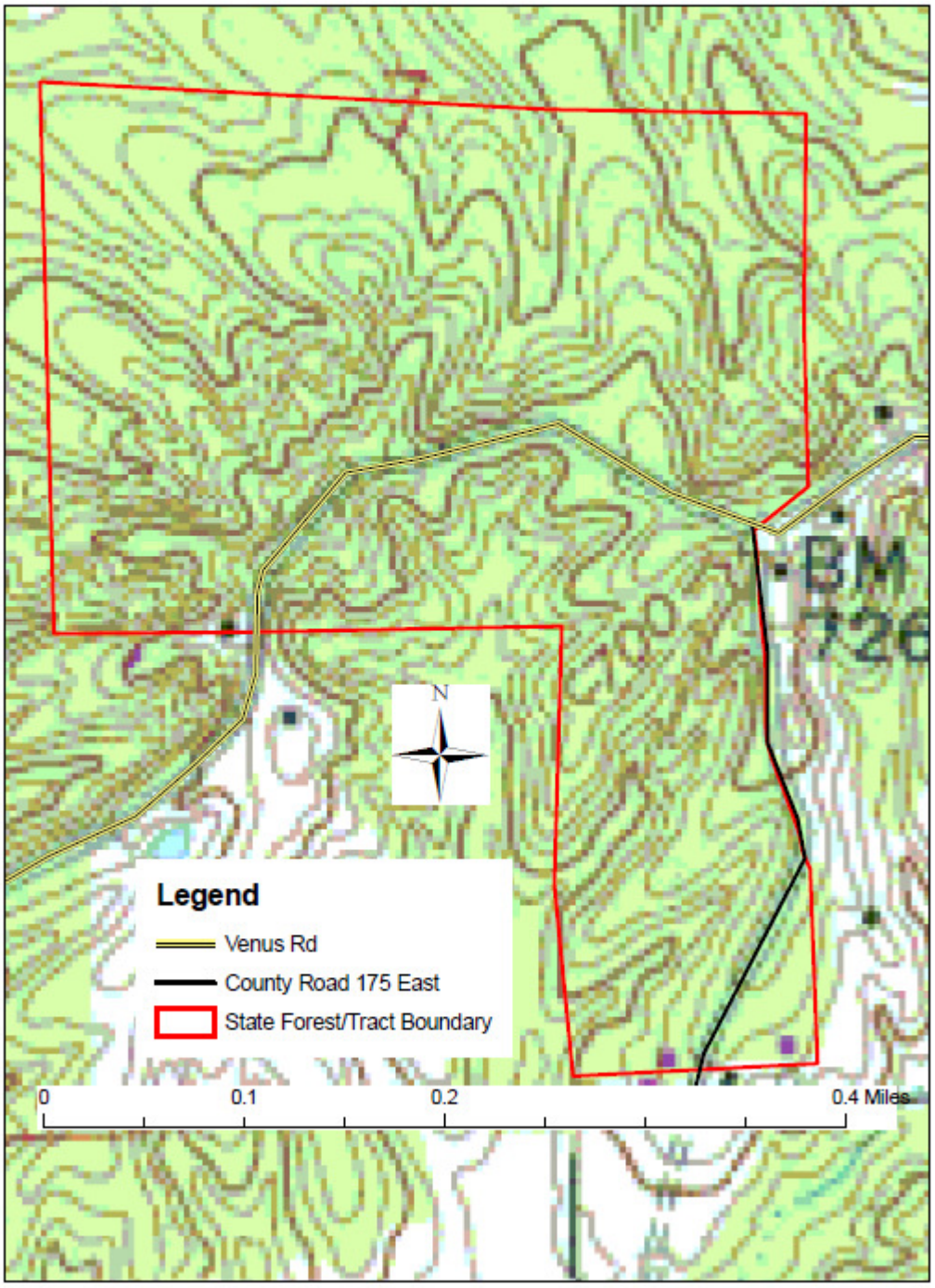
Compartment 1 Tracts 9 and 16
May 2010 Inventory
80 acres



Pre-Harvest Inventory Data in Red
Total Basal Area per Acre = 116.1 square feet per acre
Total Number of Trees per Acre = 292
Average Tree Diameter = 8.6 inches DBH
Percent stocking = 106 percent

Projected Post-Harvest Data in Blue
Total Basal Area per Acre = 80.7 square feet per acre
Total Number of Trees per Acre = 272
Average Tree Diameter = 7.4 inches DBH
Percent stocking = 78 percent

Compartment 1 Tracts 9 and 16
Jackson-Washington State Forest



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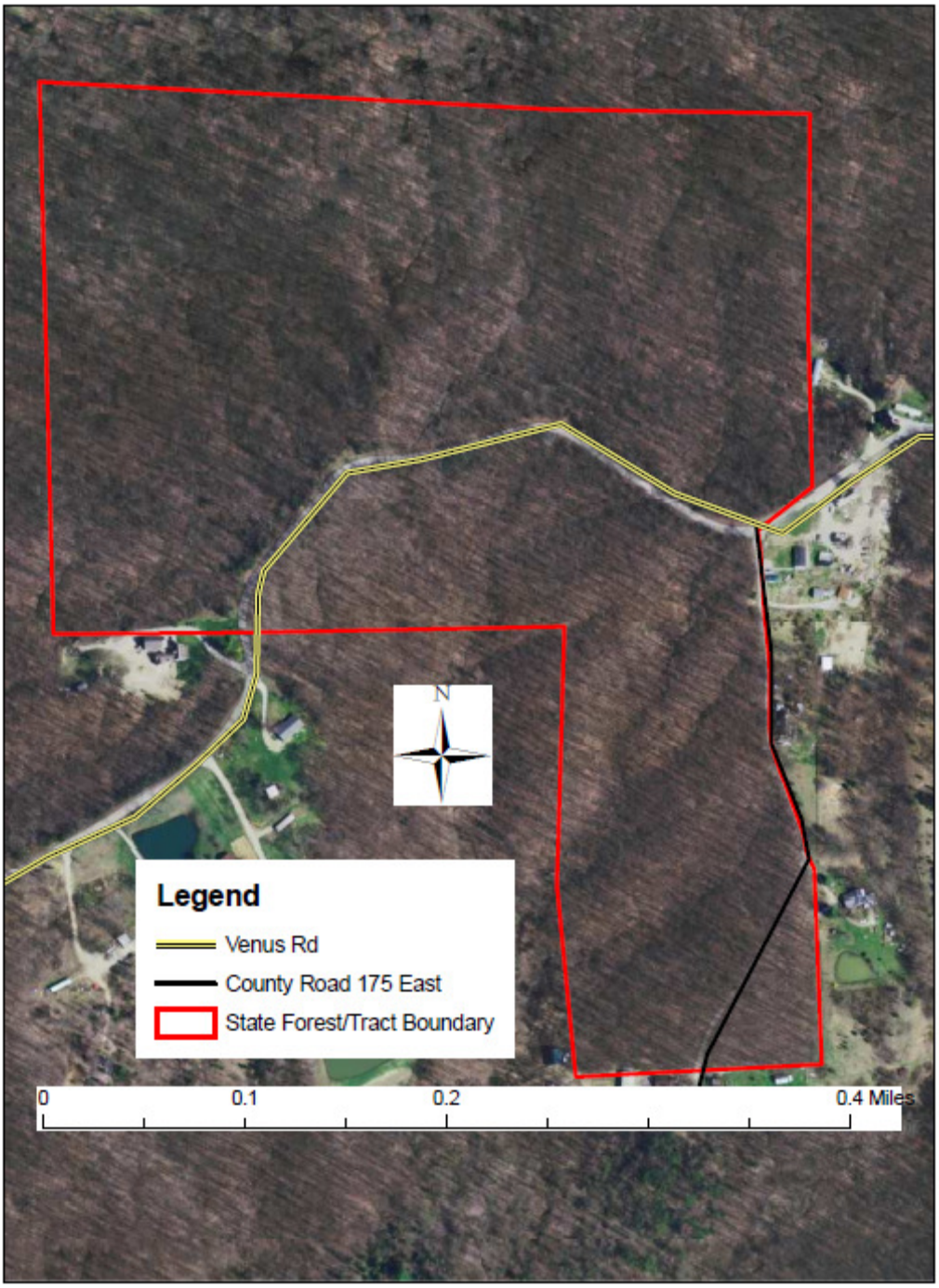

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