Indiana Department of Natural Resources
Division of Forestry

Draft

RESOURCE MANAGEMENT GUIDE

Clark State Forest | Compartment: 10 | Tract: 10
Forester: Rhodes | Date: Sept. 19, 2011

Acreage In:			
Commercial Forest	176	Average Site Index	75
Non-Commercial Forest	0	Total Basal Area Per Acre	108
Recreation Use	0	Basal Area Above 12 Inches	53
Permanent Openings	4	Basal Area Below 12 Inches	54
Other Uses	0	Basal Area of Culls	1
TOTAL AREA	180	Number of Trees/Acre	307

INVENTORY SIMMARY

[Estimated Tract Volumes for Commercial Forest Areas only - Board Feet, Doyle Rule]

Species	Harvest	Leave	Total
Bitternut Hickory	0	3,620	3,620
Black Cherry	3,750	2,030	5,780
Black Gum	4,790	0	4,790
Black Oak	10,220	65,750	75,970
Black Walnut	0	4,590	4,590
Chestnut Oak	70,640	222,560	293,200
Northern Red Oak	10,130	45,120	55,250
Pignut Hickory	0	26,090	26,090
Red Elm	0	5,560	5,560
Red Maple	5,320	3,000	8,320
Shagbark Hickory	3,210	14,700	17,910
Sugar Maple	10,920	8,410	19,330
Virginia Pine	91,740	6,770	98,510
White Ash	10,450	6,470	16,920
White Oak	5,680	118,140	123,820
Yellow Poplar	27,340	76,300	103,640
Tract Totals	254,190	609,110	863,300
Acre Average	1,444	3,461	4,905

LOCATION

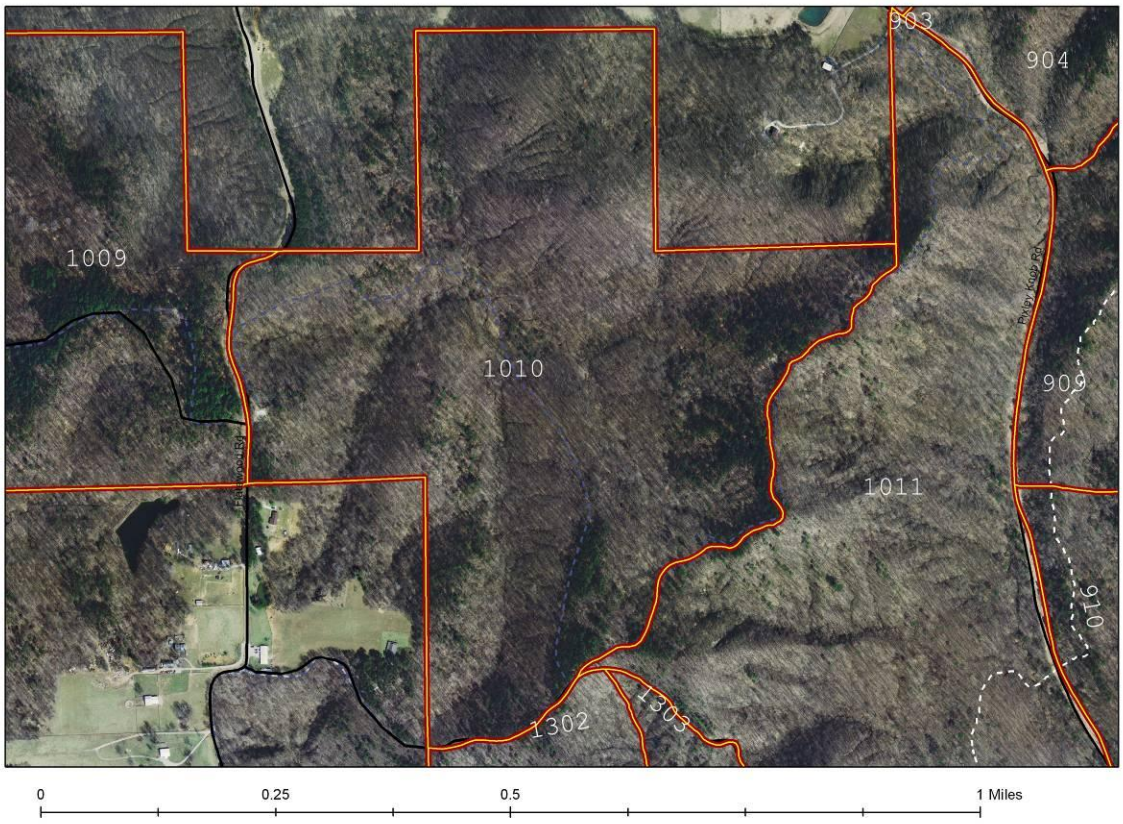
This tract is located in Clark county; Section 9 & 10, Township 1N, Range 6E.

GENERAL DISCRIPTION

Compartment 10, tract 10 is located directly west of a very steep ridgeline. The tract is made of several ridges and ravines running into the center, save for the northwest ravine, and that runs the creek into the Poplar Branch. The timber is fairly nice in some of the ravines and lower slopes. The ridges are generally short chestnut oak and white oak with poor form. The north half of the tract which is all south facing slopes has more oak-hickory where as the southern half has more Virginia pine, yellow poplar, and sugar maple.

Most of the surrounding land is forested, although there is some pasture to the north of the tract. There are several horse trails that go through the tract as well as unauthorized horse trails that have caused erosion. The access is good, with a parking lot that could easily become a log yard.

Clark State Forest Orthophoto Map - Campartment 10 Tract 10



HISTORY

This tract lies on five different parcel purchases, although it does contain all the acreage. 110.28 (117 acres) was obtained by the State of Indiana in 1928 from Robert Grubennann, 110.29 (15 acres) was obtained by the State of Indiana in 1933 from George D. Stoner, 110.47 (25 acres) was obtained by the State of Indiana in 1927 from J.A. Smith, 110.55 (80 acres) was obtained by the State of Indiana in 1939 from Henryville State Bank, and 110.159 (40 acres) was acquired by the State of Indiana in 1947 from Homer E. & Dorothy Hostettler.

In the 1980's Compartment 23, Tracts 2 (83 acres), 3 (47 acres), and 4 (63 acres) were combined to form Compartment 10, Tract 10 (193 acres). In 1973 C23T3 was inventoried and was found to have 2093 board feet per acre (Doyle) and a Basal Area of 85.9 square feet per acre. C23T4 was inventoried in 1973 and was found to have 1561 board feet per acre (Doyle) and a Basal Area of 84 square feet per acre. In 1978 C23T2 was inventoried and was found to have 4380 board feet per acre (Doyle) and a Basal Area of 93 square feet per acre.

In 1981 two harvests took place. One was 205,723 board feet (Doyle) in Compartment 23, Tract 2, 3, & 4. This sold for $24,119.04 at 12 cents a board foot. 10,994 board feet from C23T2 was harvested by Purdue University for Stain Research. It is unclear exactly what Purdue University paid for the timber, apparently they cut some timber for Clark State Forest in compensation.

An inventory of C10T10 was taken in 1986, 2756 board feet per acre (Doyle) and a Basal Area of 80 square feet per acre was found.

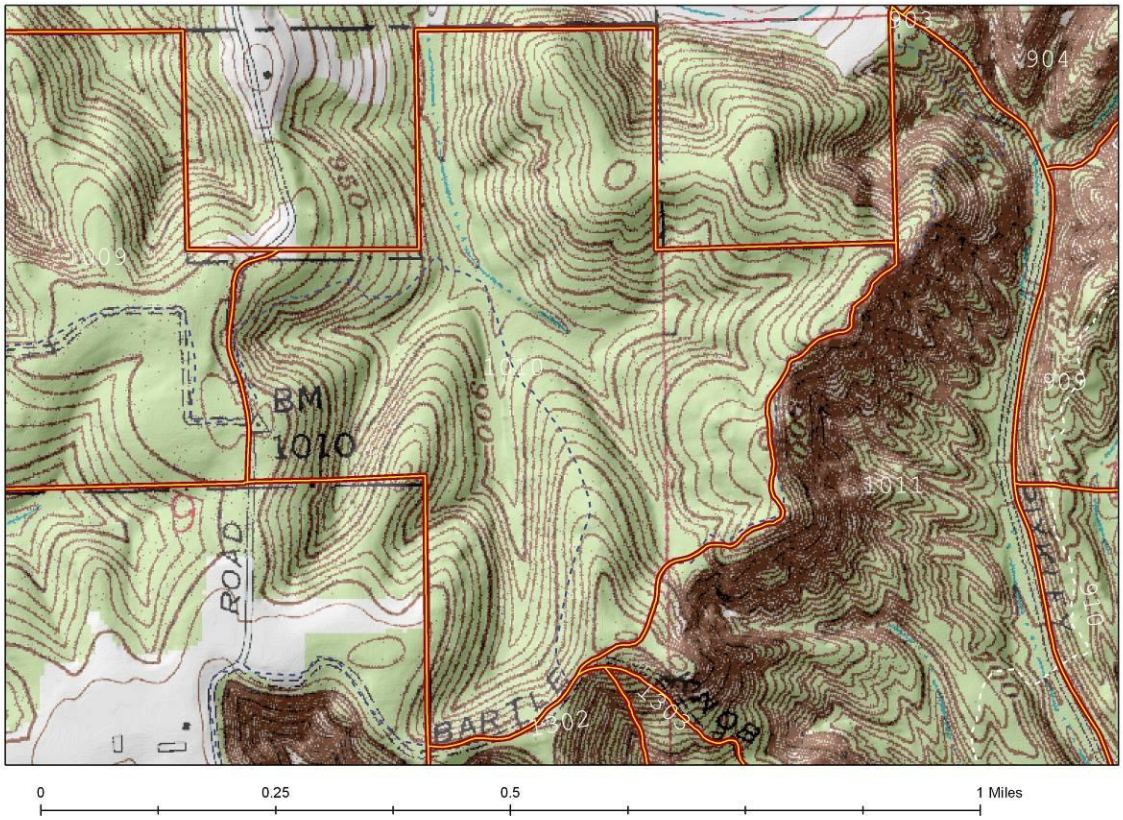
LANDSCAPE CONTEXT

The land east of C10T10 is forested private and more state forest. To the southeast is state forest, to the southwest is private rural wooded residential and some open areas. The west is more state forest, the northwest is private rural wooded residential, and the north is agricultural fields.

TOPOGRAPHY, GEOLOGY, AND HYDROLOGY

Compartment 10, tract 10 is located directly west of a very steep ridgeline. The tract is made of several ridges and ravines running into the center, save for the northwest ravine, and that runs the creek into the Poplar Branch. The timber is fairly nice in some of the ravines and lower slopes. The ridges are generally short chestnut oak and white oak with poor form. The north half of the tract which is all south facing slopes has more oak-hickory where as the southern half is more north facing slopes and has more Virginia pine, yellow poplar, and sugar maple.

Clark State Forest USGS Topo Map - Campartment 10 Tract 10



SOILS

Gilwood – Brownstown silt loams (GgbG)
Composition: 45% Gilwood & 35% Brownstown

Gilwood silt loam
Drainage class: Well drained
Available water capacity: Low (5.0 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Knobs and hills
Parent material: Loamy residuum over mississippian siltstone
Depth to water table: 80 inches
Depth to bedrock: 20 to 40 inches to lithic bedrock

Brownstown silt loam
Drainage class: Well drained
Available water capacity: Low (3.9 inches)
Frequency of flooding: None
Frequency of ponding: None

Landform: Knobs and hills
Parent material: Loamy-skeletal residuum over mississippian siltstone
Depth to water table: Over 80 inches
Depth to bedrock: 20 to 40 inches to lithic bedrock

Gilwood – Wrays silt loam (GgfD)
Composition: 39% Gilwood & 38% Wrays

Gilwood silt loam
Drainage class: Well drained
Available water capacity: Low (5.0 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Knobs and hills
Parent material: Loamy residuum over mississippian siltstone
Depth to water table: Over 80 inches
Depth to bedrock: 20 to 40 inches to lithic bedrock

Wrays silt loam
Drainage class: Well drained
Available water capacity: Moderate (7.6 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Knobs and hills
Parent material: Loess over silty residuum over mississippian siltstone
Depth to water table: Over 80 inches
Depth to bedrock: 40 to 60 inches to lithic bedrock

Beanblossom silt loam (BcrAW)
Drainage class: well drained
Available water capacity: Moderate (7.2 inches)
Frequency of flooding: Occasional
Frequency of ponding: None
Landform: Alluvial fans, flood plains
Parent material: Loamy-skeletal alluvium over Mississippian siltstone or shale
Depth to water table: 40 to 60 inches
Depth to bedrock: 40 to 60 inches to paralithic bedrock

Spickert – Wrays silt loams (SoIC2)
Composition: 44% Spickert and 32% Wrays

Spickert silt loam
Drainage class: Moderately well drained
Available water capacity: Low (5.9 inches)

Frequency of flooding: None
Frequency of ponding: None
Landform: Knobs and hills
Parent material: Loess over silty residuum over mississippian siltstone
Depth to water table: 18 to 30 inches
Depth to bedrock: 10 to 36 inches to fragipan; 50 to 80 inches to lithic bedrock

Crider – Bedford – Navilleton silt loams (CtwB)
Composition: 39% Crider silt loam, 29% Bedford silt loam, 28% Navilleton silt loam

Crider silt loam
Drainage class: Well drained
Available water capacity: Moderate (8.9 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Hills
Parent material: Loess over clayey residuum over limestone
Depth to water table: Over 80 inches
Depth to bedrock: 60 to 120 inches to lithic bedrock

Bedford silt loam
Drainage class: Well drained
Available water capacity: Low (4.6 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Hills
Parent material: Loess over clayey residuum
Depth to water table: 18 to 30 inches
Depth to bedrock: 20 to 38 inches to fragipan

Navilleton silt loam
Drainage class: Well drained
Available water capacity: High (9.5 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Hills
Parent material: Loess over clayey residuum over limestone
Depth to water table: Over 80 inches
Depth to bedrock: 60 to 120 inches to lithic bedrock

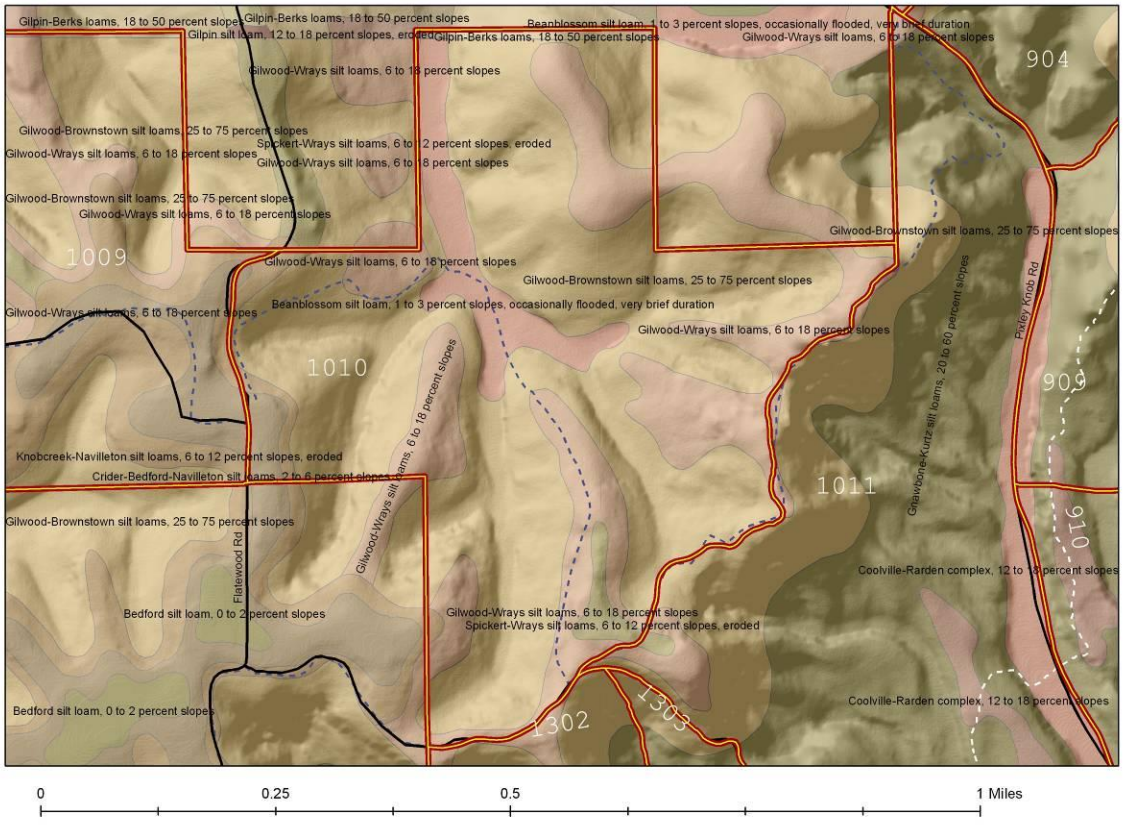
Knobcreek – Navilleton silt loam
Composition: 37% Knobcreek and 35% Navilleton

Knobcreek silt loam

Drainage class: Well drained
Available water capacity: Moderate (8.0 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Hills
Parent material: Loess over clayey residuum
Depth to water table: Over 80 inches
Depth to bedrock: 60 to 120 inches to lithic bedrock

Navilleton silt loam
Drainage class: Well drained
Available water capacity: High (9.5 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Hills
Parent material: Loess over clayey residuum over limestone
Depth to water table: Over 80 inches
Depth to bedrock: 60 to 120 inches to lithic bedrock

Clark State Forest Soils Map - Campartment 10 Tract 10



ACCESS

The access will be Flatwood Road on the west side of the tract and Poindexter handicapped hunter trail that runs into the south end of the tract from the west. There are also horse trails that can be utilized.

BOUNDARY

The southeast boundary is against state forest (C13T2 and C10T11) and runs the ridge top. The southwest line runs north (state forest to the south) with private to the west. This inside corner has no known post, stone, or pin. It then runs west with private to the south until it hits Flatwood Road. The boundary follows Flatwood Road northward with C10T9 to the west. The boundary at some point turns and run east with private to the north. Here lies another corner with no known post, stone, or pin. The line then travels northward with private to the west until it runs into a corner with a known post. Here the line travels westward with private to the north until it runs into another known post. The line now travels southward, with private to the east until it reaches a corner with no known post, stone, or pin. At this point it runs eastward with private to the north until it runs into state forest again.

WILDLIFE

Song birds, raptors, raccoons, squirrels, turtles, skink, and deer are present in C10T10.

Wildlife (Bats) Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees					
11" + DBH	1620		2004	384	
20" + DBH	540		174	-366	
Snags					
5" + DBH	720	1260	5520	4800	4260
9" + DBH	540	1080	2808	2268	1728
19" + DBH	90	180	131	41	-49

As can be seen above, Legacy Trees are lacking by 366 trees of the 20” size class. This size class will continue to increase in numbers after a single tree selection harvest to release crop trees and cause them to grow faster. There are enough Snags at present in all size classes.

Ecological assessment Review

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.

The timber harvesting practices will not alter the composition of the dry upland forests and the dry mesic upland forests.

RECREATION

The biggest recreational attractions on C10T10 are the horse trails. These horse trails are severely eroded and in generally terrible condition. Erosion control is highly recommended for these trails. Other recreational activities include hunting, bird watching, squirrel watching, hiking, geo-caching, and jogging.

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.

SUMMARY TRACT SILVICULTURAL DESCRIPTION, PRESCRIPTION, AND PROPOSED ACTIVITIES

The Oak – Hickory stands are made primarily of chestnut oak, white oak, black oak, shagbark hickory, and pignut hickory with northern red oak (lower slopes) and scarlet oak (upper slopes & ridges) making up a smaller component. The chestnut oak dominates the Oak – Hickory stands on the ridges and upper slopes, with the white oak and black oak spread more evenly throughout.

Most of the understory regeneration in the Oak – Hickory stands consist of American beech, sugar maple, red maple, and black gum. It is recommended that single tree selection would be used in the Oak – Hickory stands. If there is a fair amount of healthy crop tree available, the single tree selection should be gauged to release and promote those crop trees. If the overall stand is past maturity and healthy crop trees are dwindling, then the single tree selection should be on the heavy side to create a thin enough overstory to promote oak regeneration. This would have to be followed up with a removal of all understory maples and beech. Otherwise, the oak will be replaced by a Beech – Maple forest.

The Mixed Hardwood stands are made up of yellow poplar, sugar maple, red maple, and American beech with varying amounts of oaks, hickories, white ash, black gum, black cherry, and Virginia pine. These stands should be harvested using single tree selection process to release crop trees, unless areas look to be a good candidate for openings.

In some of the Mixed Hardwood stands, the Virginia pine has dominated the stand for decades and is now overly mature and very susceptible to blow down. These patches of Virginia pine are located in several large patches throughout the tract, particularly on the ridge tops. These Virginia pine patches should be completely removed and in most cases all species size classes should be cleared to provide for a healthy regeneration of valuable hardwood species. The rest of the Mixed – Hardwoods should be selectively harvested to release crop trees and remove low grade timber.

Before a harvest takes place, a prescribed burn is recommended for C10T10. This will kill many of the small shade tolerant understory (American beech, sugar maple, and red maple) and also clear a large amount of the blown down Virginia pine. These will reduce logging costs (increasing log value), benefit forest health, add to wildlife value, and beautify the tracts.

Ailanthus and multi-flora rose was observed during the inventory. Most of this was found along horse trails. It is recommended that these would be reevaluated and monitored after the prescribed burn. If they persist, then they should be annihilated with herbicide. Grape vines are present mostly in the Mixed Hardwood stands, these should monitored after the proposed burn, and eliminated if necessary.

PROPOSED ACTIVITES DESCRIPTION

2012……..Recommended Prescribed Burn of Compartment 10T10.
2013……Pre-harvest TSI.
2014……Single Tree Selective Harvest for Mixed Hardwoods & Oak – Hickory.
2014……Complete Harvest of Mature Virginia Pine.
2015……Recommended Post Harvest Burn of Tract 4.
2031……Inventory of Tract 4.

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You must indicate the 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.

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