Indiana Department of Natural Resources
Division of Forestry

Draft

RESOURCE MANAGEMENT GUIDE

Clark State Forest | Compartment: 11 | Tract: 02
Forester: Rhodes | Date: Sept. 7th, 2011

Acreage In:			
Commercial Forest	122	Average Site Index	75
Non-Commercial Forest	0	Total Basal Area Per Acre	128
Recreation Use	0	Basal Area Above 12 Inches	87
Permanent Openings	0	Basal Area Below 12 Inches	39
Other Uses	0	Basal Area of Culls	2
TOTAL AREA	122	Number of Trees/Acre	291

INVENTORY SIMMARY

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

Species	Harvest	Leave	Total
American Beech	18,980	3,960	22,940
American Sycamore	3,910	12,040	15,950
Bitternut Hickory	1,010	11,060	12,070
Black Cherry	2,920	1,880	4,800
Black Gum	2,250	0	2,250
Black Oak	25,900	53,640	79,540
Chestnut Oak	86,580	223,750	310,330
Northern Red Oak	0	26,220	26,220
Pignut Hickory	1,710	17,420	19,130
Red Maple	9,970	3,330	13,300
Scarlet Oak	1,640	0	1,640
Shagbark Hickory	0	16,960	16,960
Sugar Maple	24,170	44,040	68,210
Virginia Pine	19,490	12,920	32,410
White Ash	4,110	7,430	11,540
White Oak	32,930	192,350	225,280
Yellow Poplar	20,810	82,390	103,200
Tract Totals	256,380	709,390	965,770
Acre Average	2,101	5,815	7,916

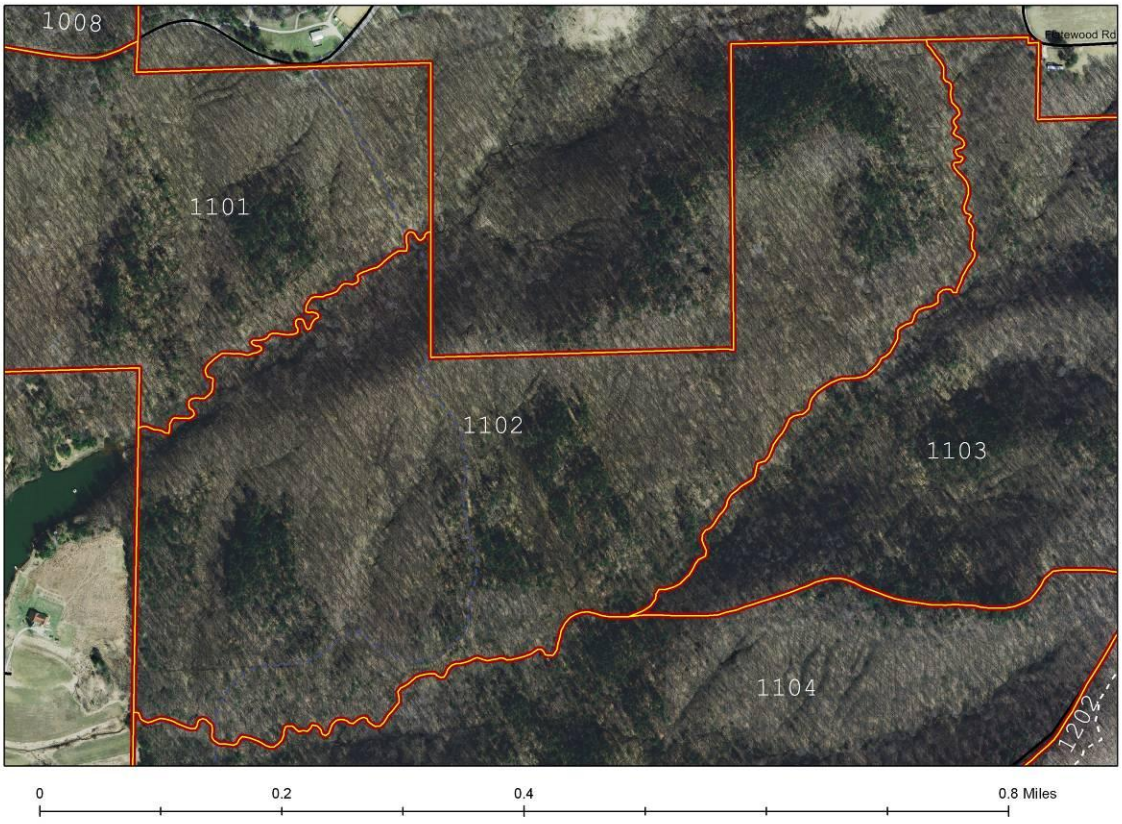
LOCATION

This tract is located in Clark & Washington counties; Section 16 & 17, Township 1N, Range 6E.

GENERAL DESCRIPTION

Compartment 11, Tract 2 is made up of Oak – Hickory and Mixed Hardwood stands. The Oak – Hickory makes up the largest component at 79 acres. The Mixed Hardwood component makes up 40 acres. Much of the Mixed Hardwood component has significant amount of Virginia pine blow down, and potential Virginia pine blow down.

Clark State Forest Orthophoto Map - Campartment 11 Tract 2



HISTORY

This tract lies on five different parcel purchases, although it does not contain all five. 110.70A (40 acres) and 110.70B (80 acres) was transferred from Jerry McKoen in 1939,

110.157 (70 acres) was transferred from Charles and Nellie M. Dunlevy in 1947, 110.218 (40 acres) was transferred from Dewey A. & Helen Dotson in 1964, and 110.242 (80 acres) was transferred from H. Kenneth & Florise Dennis and Charles D. & Nora F. Bagshaw in 1966.

In the 1980's Compartment 29, Tracts 3 (69 acres) and 4 (64 acres) were combined to form Compartment 11, Tract 3 (133 acres). In 1977 C29T3 was inventoried and was found to have 2763 board feet per acre (Doyle) and a Basal Area of 101 square feet per acre. C29T4 was inventoried in 1977 and was found to have 3028 board feet per acre (Doyle) and a Basal Area of 93 square feet per acre. Later in 1977 a harvest of Compartment 29, Tracts 4, 5, and 7 was conducted, removing 70,337 board feet at 12.1 cents per board foot. Only a very small portion of this harvest was removed from what is now Compartment 11, Tract 2.

There has been no other timber harvest in Compartment 11, Tract 2 since 1977. In 1986 an inventory was conducted, the stocking was found to be 4535 board foot per acre with a Basal Area of 93 square feet per acre.

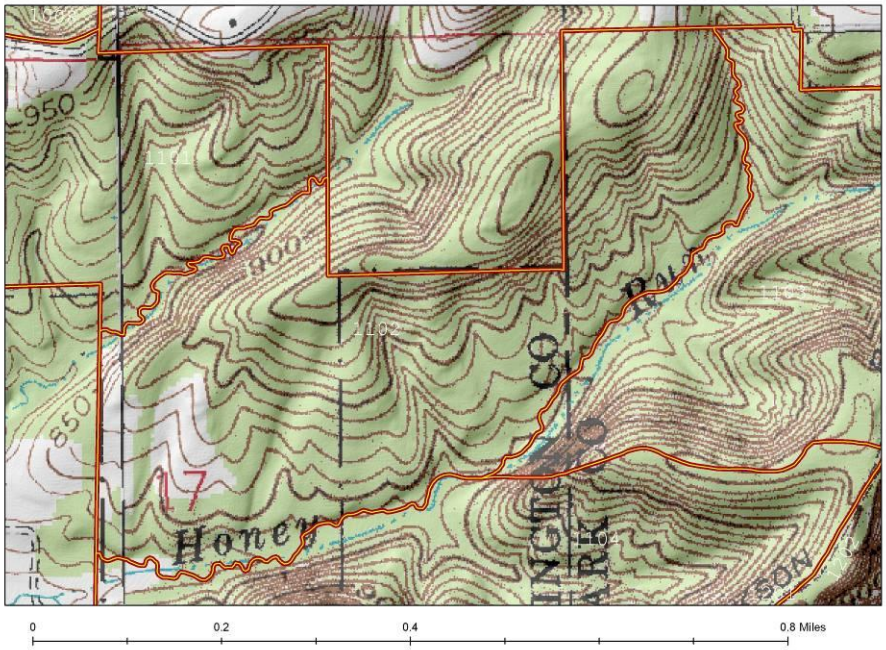
LANDSCAPE CONTEXT

Compartment 11, Tract 2 is surrounded by other forested tracts to the south, east, and northwest. There is private forest to the north as well as rural residential housing. There is also rural residential to the west.

TOPOGRAPHY, GEOLOGY, AND HYDROLOGY

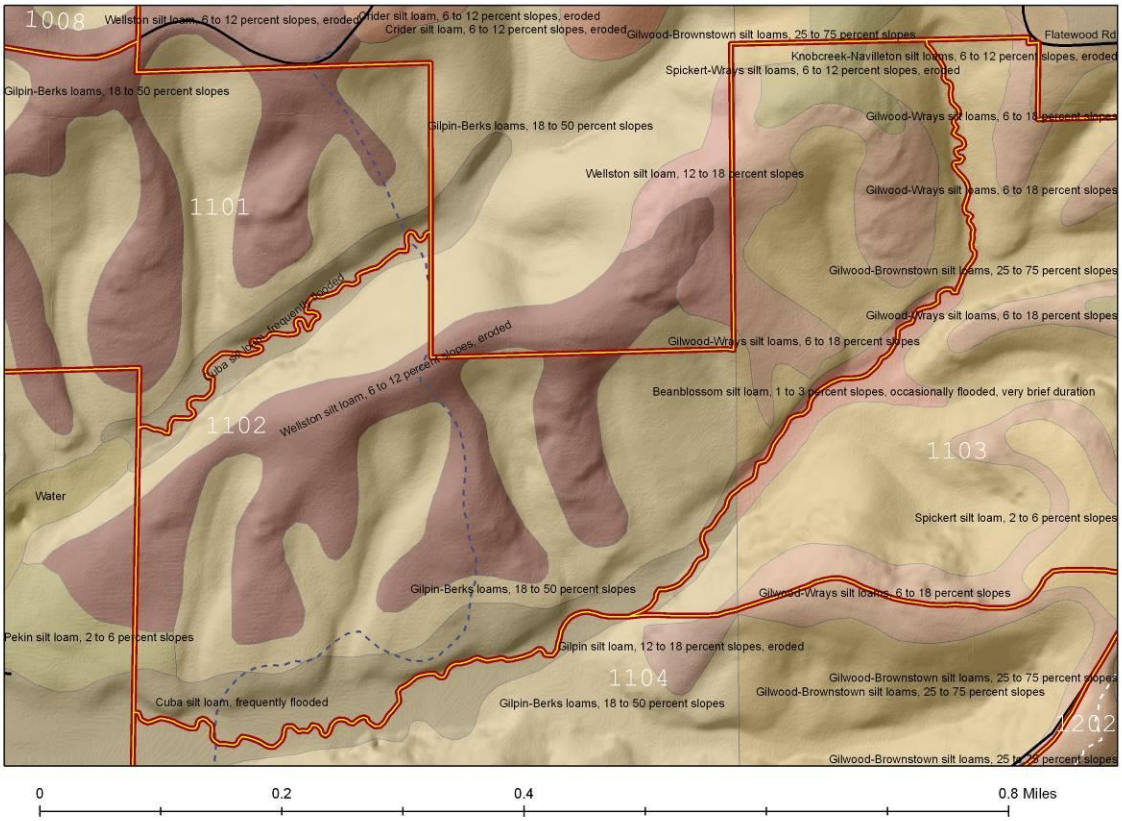
There are two main drainages in C11T02, one makes up the northwest boundary with C11T01, and the other makes the eastern and southern boundaries with C11T03 and C11T04 respectively. C11T02 is mostly south-southeastern slopes, with a ridge in the northern section, and some north-northwestern slopes to the northwest corner of the property. There do exist some wetter areas along the creeks.

Clark State Forest USGS Map - Campartment 11 Tract 2



SOILS

Clark State Forest Soils Map - Campartment 11 Tract 2



Wellston silt loam (WeC2, WeD)
Drainage class: Well drained
Available water capacity: Moderate (8.8 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Hills
Parent material: Loess over loamy residuum over siltstone
Depth to water table: over 80 inches
Depth to bedrock: 40 to 72 inches to paralithic bedrock

Gilpin – Berks loams (GnF)
Composition: 60% Gilpin silt loam & 40% Berks loam

Gilpin silt loam (GiD2)
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 sandstone and shale
Depth to water table: More than 80 inches
Depth to bedrock: 20 to 40 inches to lithic bedrock

Berks loam
Drainage class: Well drained
Available water capacity: Low (3.7 inches)
Frequency of flooding: None
Frequency of ponding: None
Landform: Knobs and hills
Parent material: Loamy-skeletal residuum over sandstone and shale
Depth to water table: More than 80 inches
Depth to bedrock: 20 to 40 inches to lithic bedrock

Cuba silt loam (Cu)
Drainage class: well drained
Available water capacity: High (10.9 inches)
Frequency of flooding: Frequent
Frequency of ponding: None
Landform: Flood plain steps
Parent material: Acid silty alluvium
Depth to water table: Over 80 inches
Depth to bedrock: more than 80 inches

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

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

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

ACCESS

The access for C11T02 is either through C11T03 & C11T04 to Jackson Road to the east or through C11T01 to West Road to the west. Alternative access could be through private property to the southwest or to the northeast. Either way, it will be a long haul.

BOUNDARY

The eastern boundary is a creek that separates C11T02 from C11T03. This creek turns west to separate C11T02 from C11T04 to the south. The west side is residential and ends with the tree line. The northeast boundary between C11T02 and C11T01 is defined by a creek. The northern boundary from private woods to the north is roughly defined by fence remnants and no trespassing signs.

WILDLIFE

Song birds, raptors, raccoons, squirrels, turtles, skink, and deer are present in C11T2.

Wildlife (Bats) Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees					
11" + DBH	1098		2905	1807	
20" + DBH	366		391	25	
Snags					
5" + DBH	488	854	1976	1488	1122
9" + DBH	366	732	1266	900	534

19" + DBH	61	122	140	79	18

As can be seen above, Legacy Trees are not lacking, and 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.

RECREATION

The biggest recreational attractions on Tract 2 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. 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 any harvest takes place, a prescribed burn of Compartment 11, Tracts 1, 2, 3, and 4 is recommended. 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), increase forest health, add to wildlife value, and beautify the tracts.

Ailanthus and multi-flora rose were 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 and Japanese honey suckle vine are present mostly in the Mixed Hardwood stands, these should be monitored after the proposed burn, and eliminated if necessary.

PROPOSED ACTIVITES DESCRIPTION

2012……Recommended Prescribed Burn of Compartment 11, Tracts 1, 2, 3, & 4.
2013……..…Single Tree Selective Harvest for Mixed Hardwoods & Oak – Hickory.
2013……Complete Harvest of Mature Virginia Pine.
2014……..Recommended Post Harvest Burn of Tract 2.
2014-2020…….……Continue to monitor invasive species and use herbicides as needed.
2031……Inventory of Tract 2.

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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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