Indiana Department of Natural Resources
Division of Forestry

Draft

RESOURCE MANAGEMENT GUIDE

Clark State Forest | Compartment: 11 | Tract: 03
Forester: Rhodes | Date: Sept. 7th, 2011

Acreage In:			
Commercial Forest	83	Average Site Index	75
Non-Commercial Forest	0	Total Basal Area Per Acre	107
Recreation Use	0	Basal Area Above 12 Inches	71
Permanent Openings	0	Basal Area Below 12 Inches	34
Other Uses	0	Basla Area of Culls	3
TOTAL AREA	83	Number of Trees/Acre	225

INVENTORY SIMMARY

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

Species	Harvest	Leave	Total
American Beech	7,510	0	7,510
Bitternut Hickory	2,540	22,380	24,920
Black Cherry	4,040	710	4,750
Black Gum	1,200	2,630	3,830
Black Oak	3,010	21,730	24,740
Chestnut Oak	21,920	59,240	81,160
Northern Red Oak	1,370	24,390	25,760
Pignut Hickory	0	14,990	14,990
Red Maple	2,270	7,890	10,160
Scarlet Oak	2,340	7,880	10,220
Shagbark Hickory	2,160	12,940	15,100
Sugar Maple	9,770	4,840	14,610
Virginia Pine	40,910	4,200	45,110
White Ash	4,810	4,860	9,670
White Oak	16,640	84,700	101,340
Yellow Poplar	48,790	124,020	172,810
Tract Totals	169,280	397,400	566,680
Acre Average	2,040	4,788	6,827

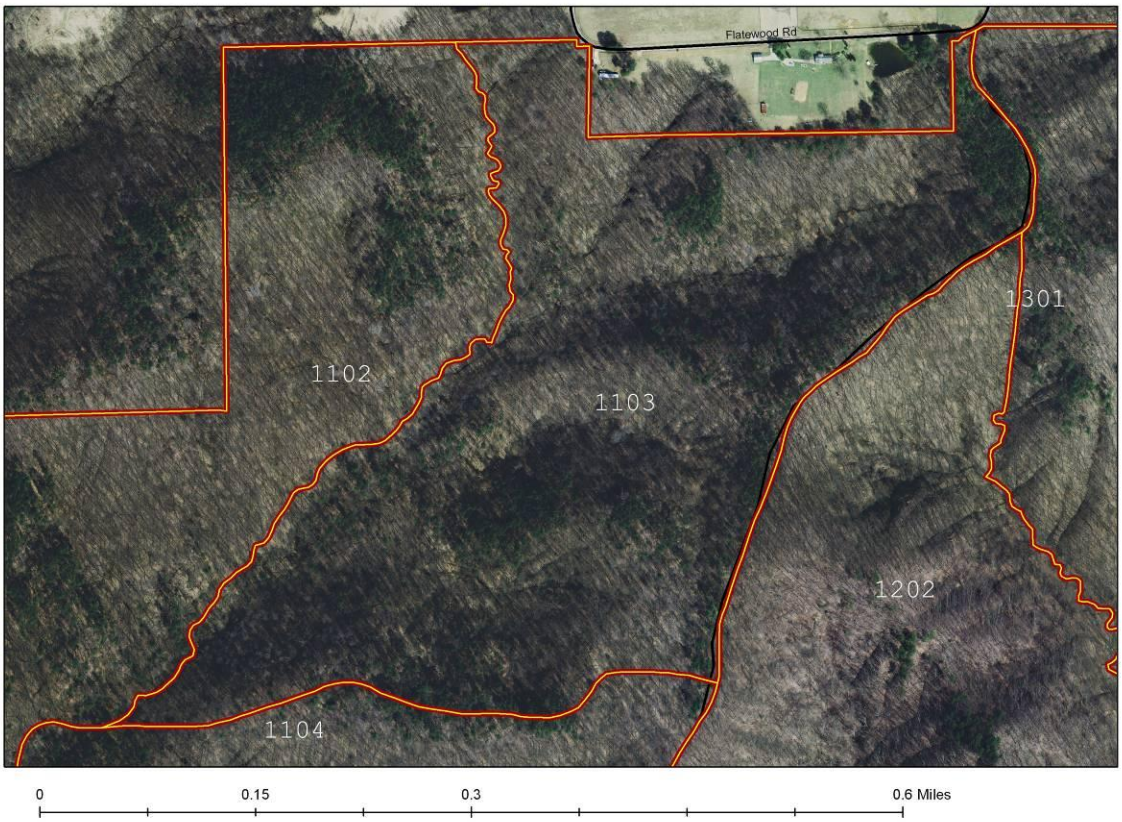
LOCATION

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

GENERAL DISCRIPTION

Compartment 11, Tract 3 is made up of Oak – Hickory and Mixed Hardwood stands. The Oak – Hickory makes up the largest component at 47 acres. The Mixed Hardwood component makes up 34 acres. Much of the Mixed Hardwood component has significant amount of Virginia pine blow down, and potential Virginia pine blow down. Most of this Virginia pine is located on the ridge top along the road, and towards the drainage bottom.

Clark State Forest Ortho Map - Campartment 11 Tract 3



HISTORY

This tract lies on three different parcel purchases, although it does not contain all three. 110.63 (80 acres) was purchased from Manker and Phoebe Nicholson in 1939, 110.70A (40 acres) was purchased from Jerry McKoen in 1939, and 110.157 (70 acres) was purchased from Charles and Nellie M. Dunlevy in 1947.

In the 1980's Compartment 29, Tracts 5 (42 acres) and 6 (42 acres) were combined to form Compartment 11, Tract 3 (83 acres). In 1977 C29T5 was inventoried and was found to have 2954 board feet per acre (Doyle). C29T6 was inventoried in 1977 and was found to have 2428 board feet per acre (Doyle). 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.

In 1988 Compartment 11, Tracts 3 and 4 were harvested (216 acres, 175 acres marked) producing 238,838 board feet (Doyle) at 20.7 cents a board foot. The last inventory was in 1991 with 3434 board feet per acre (Doyle).

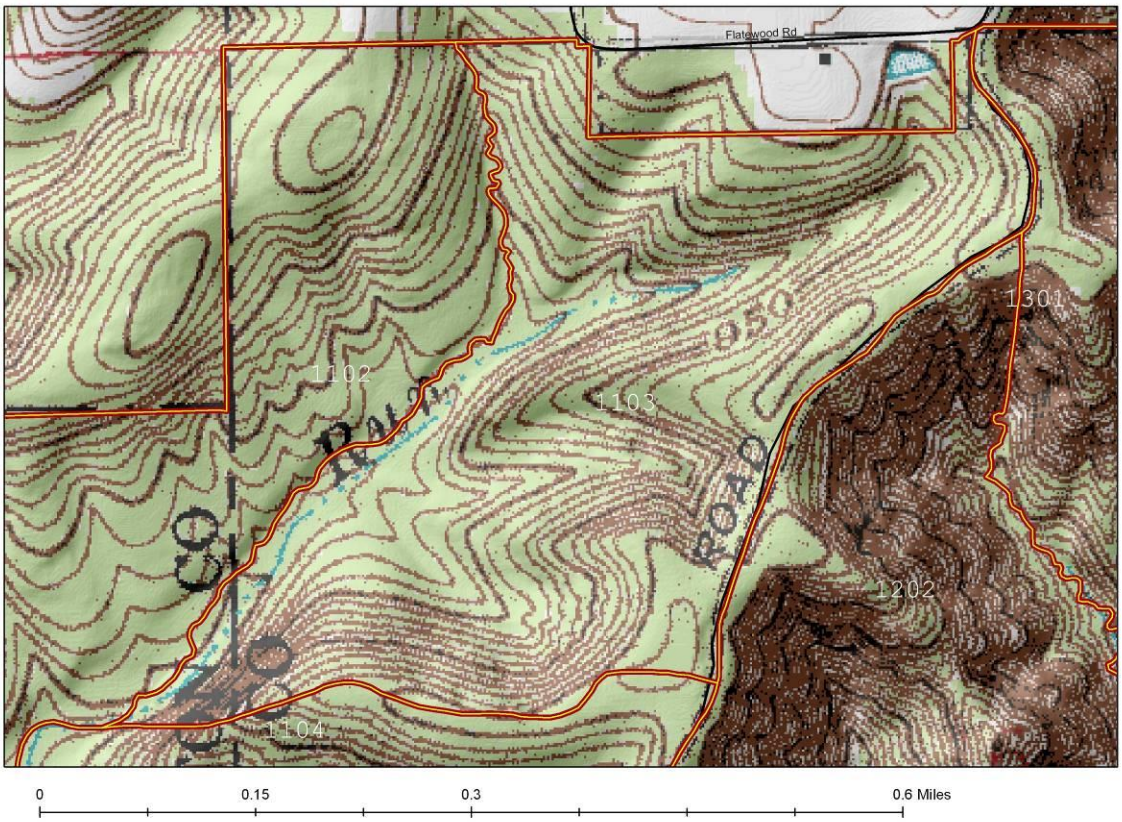
LANDSCAPE CONTEXT

Compartment 11, Tract 3 is surrounded by other forested tracts and light residential housing to the north.

TOPOGRAPHY, GEOLOGY, AND HYDROLOGY

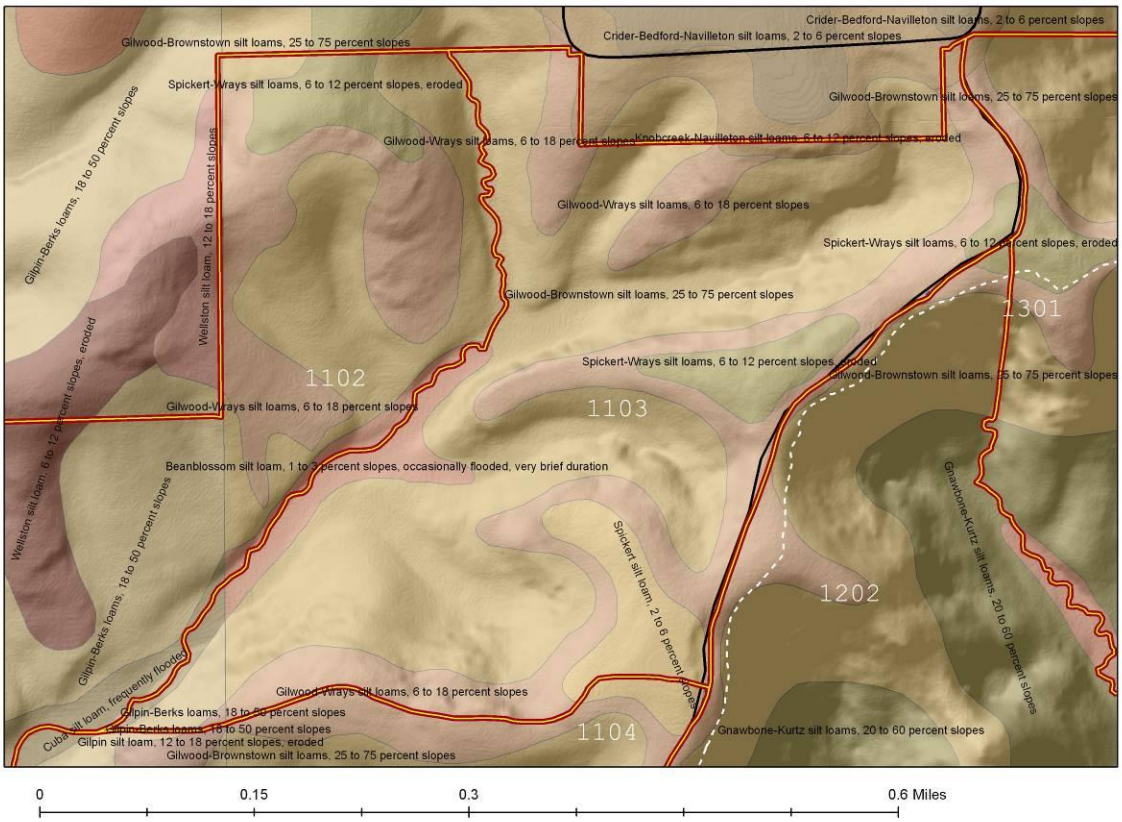
The Jackson Road runs north and south along the east side of the tract on a ridge. Two ridges and two drainages run downward and eastward from this main north-south ridge, where everything drains into a creek that makes up the western boundary and flows to the south. The aspects tend to be north, south, or ridge top.

Clark State Forest USGS Map - Campartment 11 Tract 3



SOILS

Clark State Forest Soils Map - Campartment 11 Tract 3



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

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

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

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

ACCESS

There is excellent access from the north-south running Jackson Road on the east side of the tract and two horse trails that run the east-west ridges down to the drainage at the west side of the property.

BOUNDARY

The eastern boundary is the Jackson Road that runs along the ridge line, with C13T1 on the east side. The southern boundary is a horse trail that runs along the top of an east-west ridge, with C11T4 on the south side. The western boundary runs along a creek separating it from C11T2. The northern boundary is identified by a barbed wire fence, with private property to the north.

WILDLIFE

Song birds, raptors, raccoons, squirrels, turtles, skink, and deer are present in C11T3.

Wildlife (Bats) Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees					
11" + DBH	747		1891	1144	
20" + DBH	249		205	-44	
Snags					
5" + DBH	332	581	2257	1925	1676
9" + DBH	249	498	761	512	263
19" + DBH	41.5	83	54	12	-29

As can be seen above, Legacy Trees are lacking by 44 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.

RECREATION

The biggest recreational attractions on Tract 3 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, jogging, and poaching. It should be noted that the Knobstone Trail runs along the east side of Jackson Road.

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 makes up a dominates the Oak – Hickory stands on the ridges and upper slopes, with the white oak and black 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 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 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 3.
2014-2020……Continue to monitor invasive species and use herbicides as needed.
2031……Inventory of Tract 3.

To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?=dnr_forestry

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.

Note: Some graphics may distort due to compression.