Indiana Department of Natural Resources
Division of Forestry

DRAFT

RESOURCE MANAGEMENT GUIDE

Clark State Forest | Compartment: 11 | Tract: 04
Forester: Rhodes | Date: Sept. 7th, 2011

Acreage In:			
Commercial Forest	139	Average Site Index	75
Non-Commercial Forest	0	Total Basal Area Per Acre	111
Recreation Use	0	Basal Area Above 12 Inches	70
Permanent Openings	0	Basal Area Below 12 Inches	39
Other Uses	0	Basal Area of Culls	2
TOTAL AREA	139	Number of Trees/Acre	256

INVENTORY SIMMARY

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

Species	Harvest	Leave	Total
American Beech	12,510	7,140	19,650
Black Cherry	0	10,370	10,370
Black Gum	4,550	0	4,550
Black Oak	2,780	45,850	48,630
Chestnut Oak	91,260	160,130	251,390
Northern Red Oak	12,530	9,780	22,310
Pignut Hickory	0	26,090	26,090
Red Maple	15,040	2,490	17,530
Scarlet Oak	8,670	20,510	29,180
Shagbark Hickory	0	21,150	21,150
Shortleaf Pine	4,660	0	4,660
Sugar Maple	14,370	36,500	50,870
Virginia Pine	112,860	18,150	131,010
White Oak	18,970	146,650	165,620
Yellow Poplar	35,290	108,020	143,310
Tract Totals	333,490	612,830	946,320
Acre Average	2,399	4,409	6,808

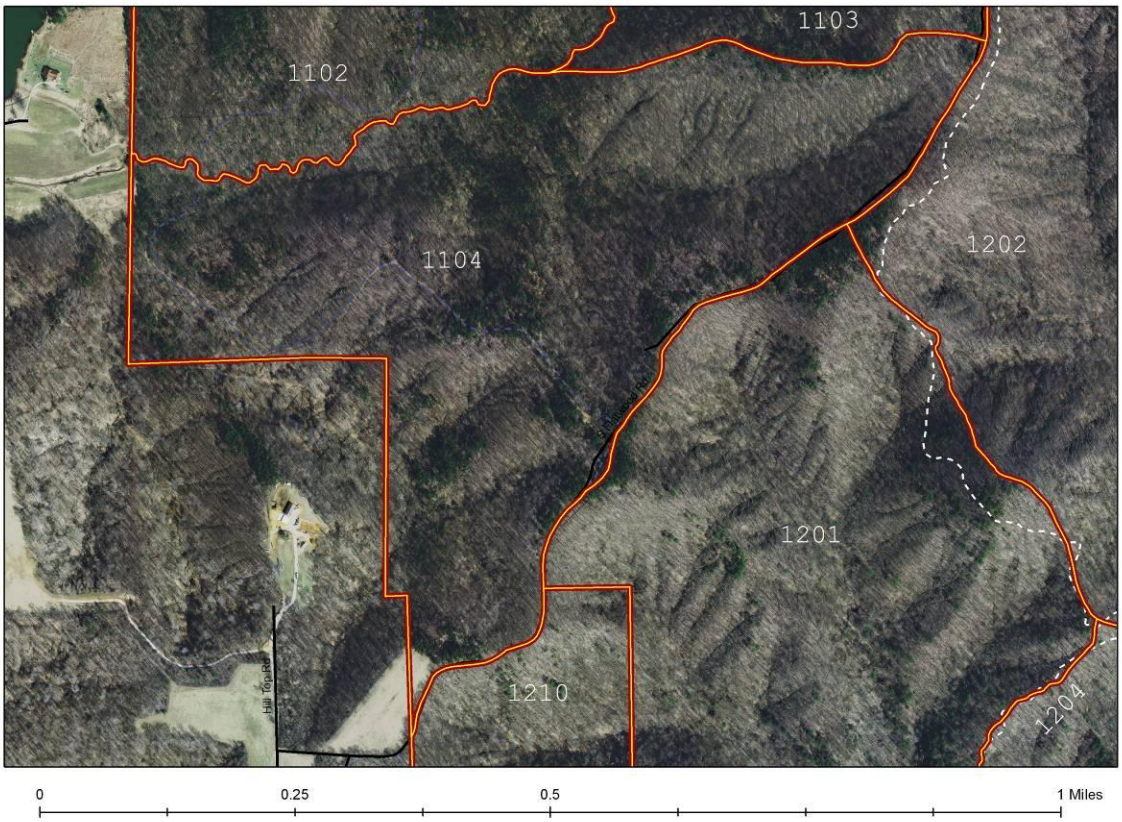
LOCATION

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

GENERAL DISCRIPTION

Compartment 11, Tract 4 is made up of Oak – Hickory and Mixed Hardwood stands. The Oak – Hickory makes up the largest component at 85 acres. The Mixed Hardwood component makes up 52 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 4



HISTORY

This tract lies on six different parcel purchases, although it does not contain all six. 110.58 (400 acres) was transferred from Carl & Myrtle Elrod and Leroy & Cora Thomas in 1939, 110.63 (80 acres) was transferred from Manker & Phoebe Nicholson in 1939, 110.70A (40 acres) and 110.70B (80 acres) was transferred from Jerry McKoen in 1939,

110.83 (40 acres) was transferred from Ellis & Thelma Jackson in 1939, and 110.218 (40 acres) was transferred from Dewey A. & Helen Dotson in 1964.

In the 1980's Compartment 29, Tracts 7 (70 acres) and 8 (62 acres) were combined to form Compartment 11, Tract 4 (132 acres). In 1977 C29T4 was inventoried and was found to have 2528 board feet per acre (Doyle) and a Basal Area of 92 square feet per acre. C29T8 was inventoried in 1977 and was found to have 1869 board feet per acre (Doyle) and a Basal Area of 98 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.

In 1986 an inventory was conducted and found to be at 4733 board foot per acre with a Basal Area of 87 square feet per acre. In 1988, 238,838 board feet (Doyle) at 20.6 cents a board foot was harvested from Compartment 11, Tracts 3 and 4. In 1991, an inventory was taken which found C11T6 to have 4733 board feet per acre with a Basal Area of 87 square feet per acre.

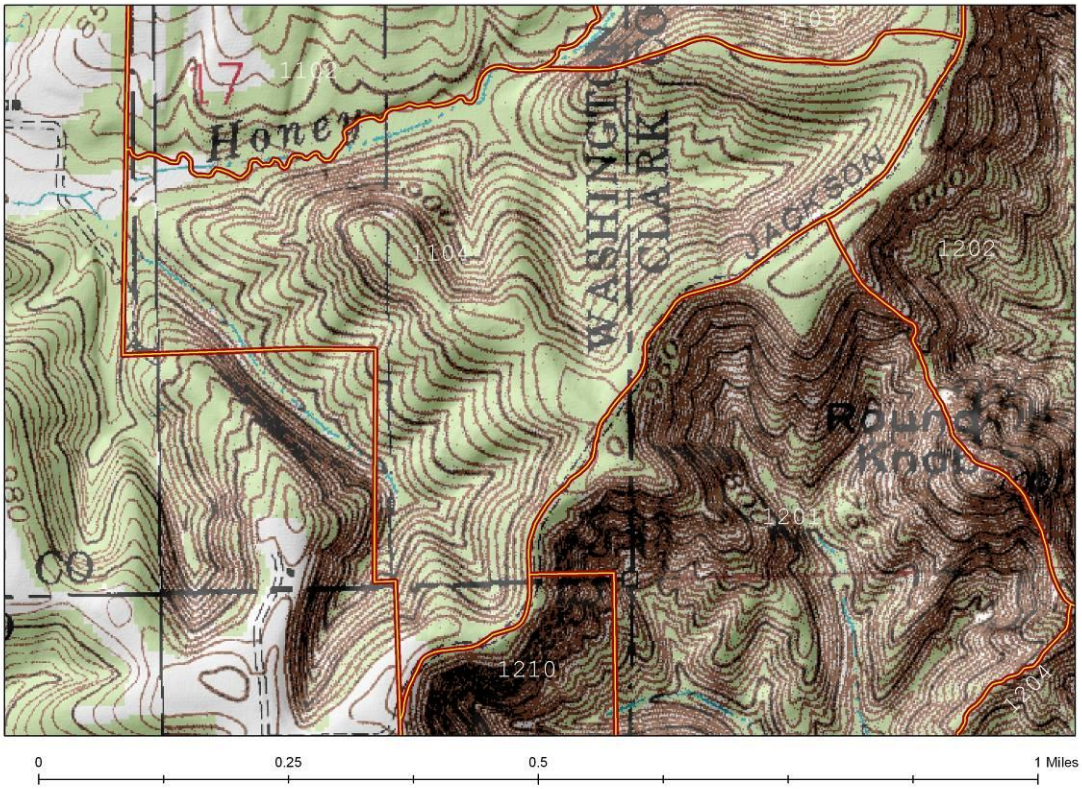
LANDSCAPE CONTEXT

Compartment 11, Tract 4 is surrounded by other forested tracts to the north, east, and southeast. There is private forest with some houses to the south west and west.

TOPOGRAPHY, GEOLOGY, AND HYDROLOGY

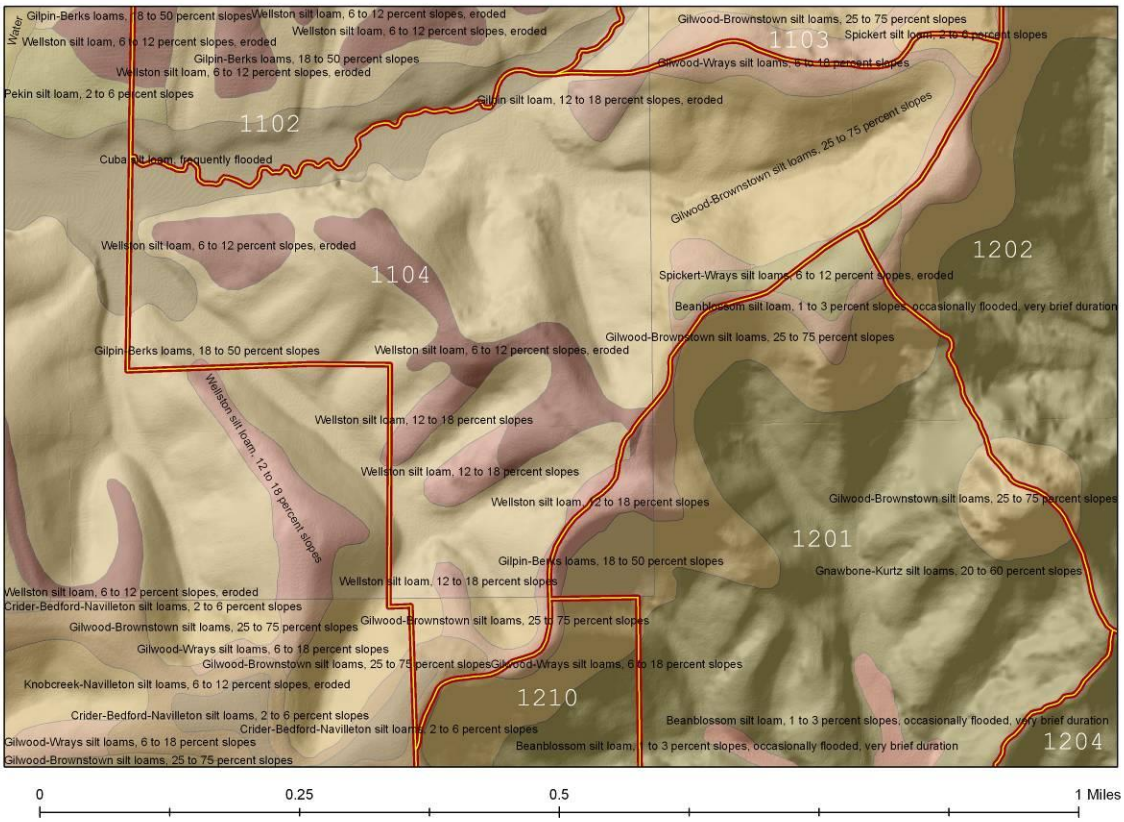
A large ridge runs northeast – southwest on the west boundary of C11T4, upon which Jackson Road sits. From this ridge one ridge runs westward, this makes up the boundary between C11T3. A second ridge further south runs northwestward. All water from this tract flows westward into Honey Creek, which makes up the boundary between C11T4 and C11T2.

Clark State Forest USGS Map - Campartment 11 Tract 4



SOILS

Clark State Forest Soils Map - Campartment 11 Tract 4



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

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

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

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

ACCESS

The access for C11T4 is the Jackson Road running along the east side of the boundary, and two horse trails that run along the ridge tops.

BOUNDARY

The eastern boundary is Jackson Road, this separates C11T4 from C12T1, C12T2, and C12T10 to the east. To the north, a horse trail running along the ridge top separates C11T4 from C11T3. This horse trail converges with a creek, this creek continues the northern boundary, but now with C11T2 lying to the north. The boundary line then drops south with private to the west and runs into a corner without post, pin, or rock. Then travels west with private to the south until it runs into an inner corner that has no post, pin, or rock. From here it continues south with private to the west taking a short jog to the east and continues south until it runs into Jackson Road.

WILDLIFE

Song birds, raptors, raccoons, squirrels, turtles, skink, and deer are present in C11T4.

Wildlife (Bats) Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees					
11" + DBH	1251		2216	965	
20" + DBH	417		241	-176	
Snags					
5" + DBH	556	973	2916	2360	1943
9" + DBH	417	834	1396	979	562
19" + DBH	69.5	139	57	-12	-82

As can be seen above, Legacy Trees are lacking by 176 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 4 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.

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, brought in by horses. 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 4.
2014-2020…….……Continue to monitor invasive species and use herbicides as needed.
2031……Inventory of Tract 4.

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.