Indiana Department of Natural Resources
Division of Forestry

DRAFT

RESOURCE MANAGEMENT GUIDE

Clark State Forest Compartment: 10 Tract: 5
Forester: Rhodes Date: Sept. 20, 2011

Acreage In:			
Commercial Forest	174	Average Site Index	75
Non-Commercial Forest	0	Total Basal Area Per Acre	107
Recreation Use	0	Basal Area Above 12 Inches	56
Permanent Openings	0	Basal Area Below 12 Inches	36
Other Openings	3	Basal Area of Culls	5
TOTAL AREA	177	Number of Trees/Acre	304

INVENTORY SIMMARY

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

Species	Harvest	Leave	Total
American Beech	20,830	19,750	40,580
American Elm	0	4,230	4,230
American Sycamore	12,540	14,490	27,030
Black Cherry	2,290	11,860	14,150
Black Gum	6,840	0	6,840
Black Oak	35,680	136,590	172,270
Chestnut Oak	36,270	66,800	103,070
Northern Red Oak	28,070	2,550	30,620
Pignut Hickory	10,780	38,830	49,610
Red Maple	32,420	11,850	44,270
Scarlet Oak	0	8,490	8,490
Shagbark Hickory	1,900	9,220	11,120
Sugar Maple	25,430	41,650	67,080
Sweet Gum	0	2,780	2,780
Virginia Pine	40,290	11,490	51,780
White Ash	0	5,280	5,280
White Oak	24,650	83,700	108,350
White Pine	43,600	74,900	118,500

Yellow Poplar	28,990	52,480	81,470
Tract Totals	350,580	596,940	947,520
Acre Average	2,015	3,431	5,446

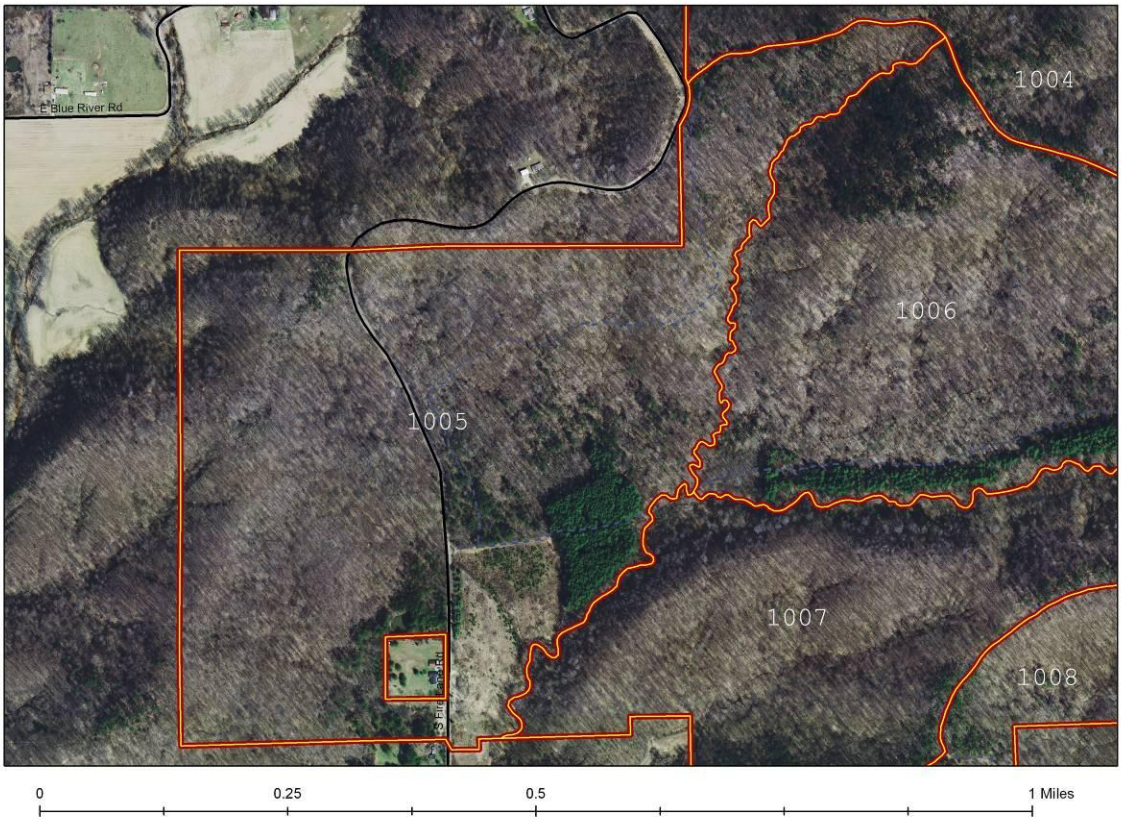
LOCATION

This tract is located in Washington county; Section 7, Township 1N, Range 6E.

GENERAL DISCRIPTION

Compartment 10, Tract 5 has not been harvested for over thirty-five years, and possibly quite longer. Many of the trees on the western half are in mixed hardwood stands and of fairly low quality. To the southeast are pine stand and old fields that have yet to grow into forest. To the northeast sit some very nice Oak – Hickory stands, either at maturity or past it, but quite ready for a harvest.

Clark State Forest Orthophoto Map - Campartment 10 Tract 5



HISTORY

This tract lies on two parcel purchases, although it does contain all of the acreage. 110.126 (80 acres) was acquired by the State of Indiana in 1941 from Frank Wade, and 110.240 (240.05 acres) was acquired by the State of Indiana in 1966 from Charles D & Nora F. Bagshaw.

In the 1980's Compartment 28, Tracts 3 (68 acres) and 4 (109 acres) were combined to form Compartment 10, Tract 10 (177 acres). In 1973 C28T3 was inventoried and was found to have 2507 board feet per acre (Doyle) and a Basal Area of 84.5 square feet per acre. C28T4 was inventoried in 1973 and was found to have 3774 board feet per acre (Doyle) and a Basal Area of 110 square feet per acre.

An inventory of C10T5 was taken in 1986, 2389 board feet per acre (Doyle) and a Basal Area of 67 square feet per acre was found.

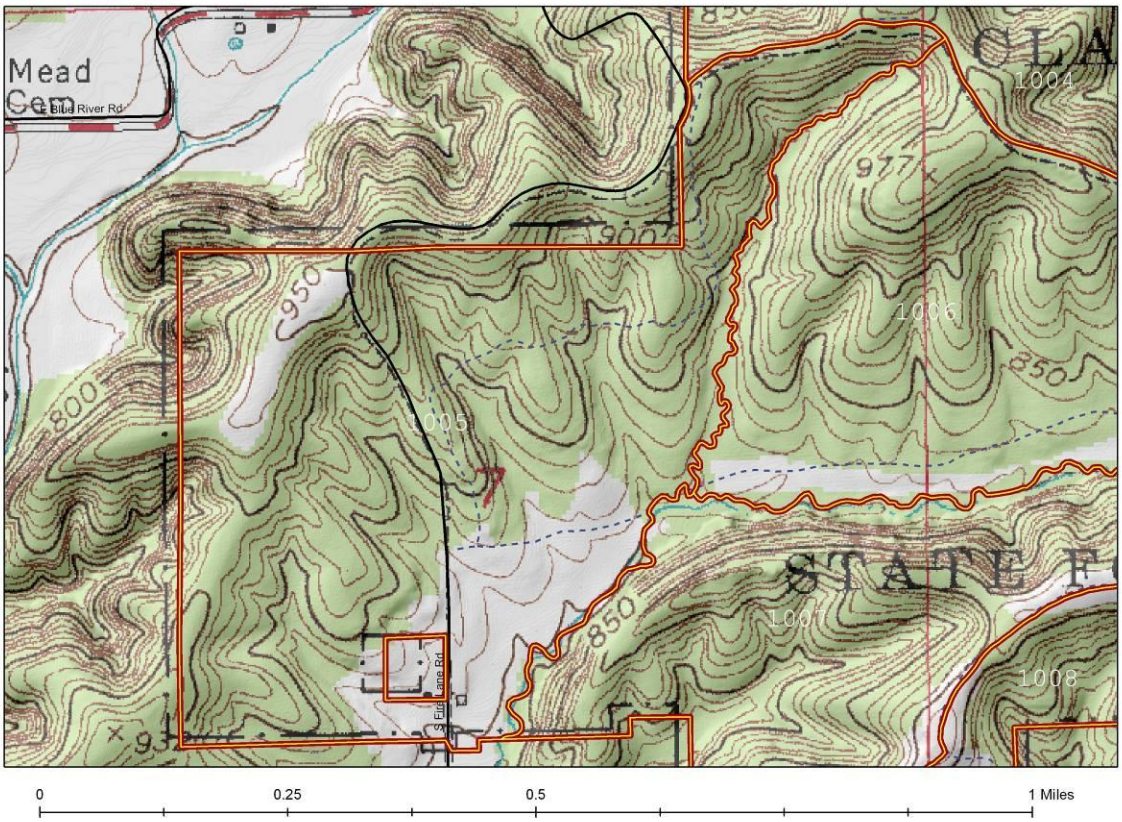
LANDSCAPE CONTEXT

The land east of C10T5 is state forest, C10T6, T7, & T4. To the south of C10T5 lies rural residents and agricultural fields. West of the tract is private forest land and agricultural fields further out. Northward is private forest and agricultural fields further north. Inside of the tract on to South Firelane Road on the south end there is a 2.45 acre square of private land and residence.

TOPOGRAPHY, GEOLOGY, AND HYDROLOGY

Essentially C10T5 is comprised of a ridge in the northwest and slopes down to a creek and lowland to the south east. The northwest part of the tract is mostly ridges, the south east part bottoms or flats, and the middle being east, southeast, and south facing slopes. Everything drains into the eastern creek, and that runs southward.

Clark State Forest USGS Topo Map - Campartment 10 Tract 5



SOILS

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

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

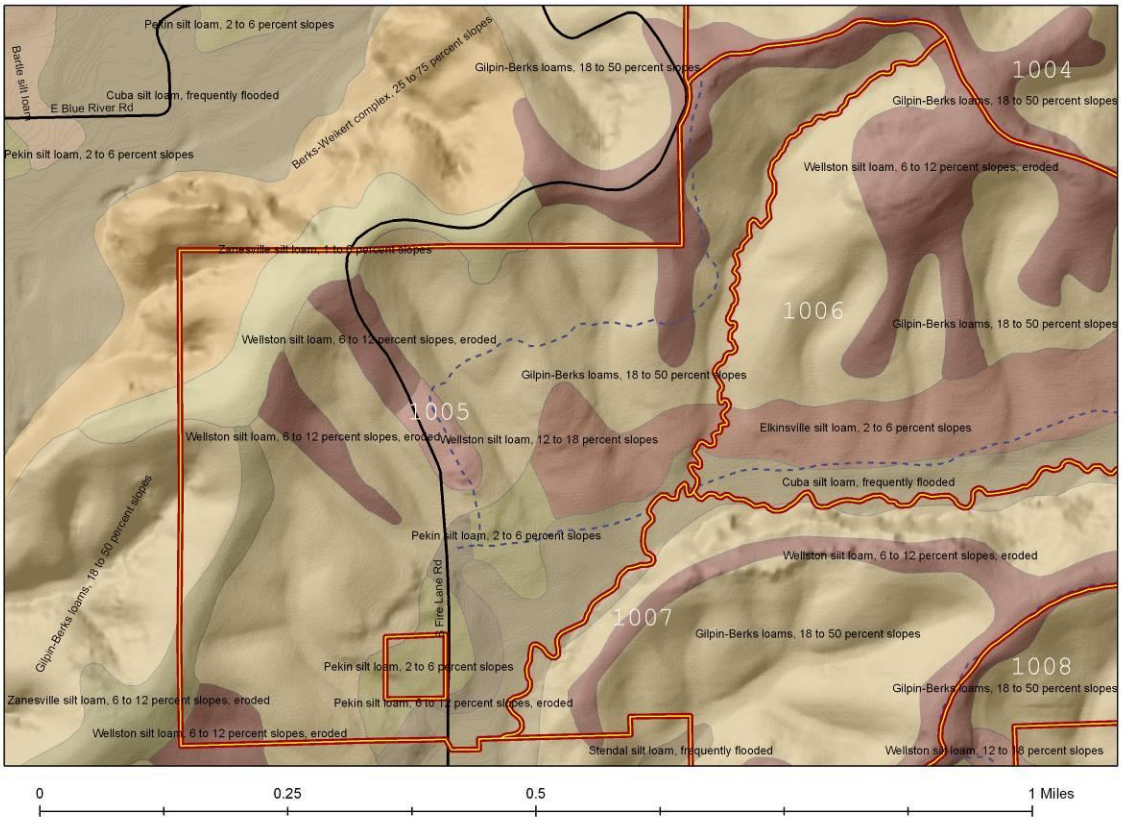
Cuba silt loam (Cu)
Drainage class: well drained
Available water capacity: High (10.9 inches)
Frequency of flooding: Frequent
Frequency of ponding: None
Landform: Flood plain steps
Parent material: Acid silty alluvium
Depth to water table: Over 80 inches
Depth to bedrock: more than 80 inches

Elkinsville silt loam (ElB)
Drainage class: Well drained
Available water capacity: High (10.7 inches)
Tendency to flood: None
Tendency to pond: None
Topography: Stream terraces
Parent material: Loess over loamy alluvium
Depth to water table: Over 80 inches
Depth to bedrock: over 80 inches

Pekin silt loam (PeB, PeC2)
Drainage class: Moderately well drained
Available water capacity: Low (5.6 inches)
Tendency to flood: None
Tendency to pond: None
Topography: Stream terraces
Parent material: Loess over loamy alluvium
Depth to water table: 18 to 24 inches
Depth to bedrock: 24 to 38 inches to fragipan

Zanesville silt loam (ZaB, ZaC2)
Drainage class: Moderately well drained
Available water capacity: Low (5.9 inches)
Tendency to flood: None
Tendency to pond: None
Topography: Hills
Parent material: Loess over loamy residuum over sandstone and siltstone
Depth to water table: 18 to 30 inches
Depth to bedrock: 20 to 30 inches to fragipan & 40 to 72 inches to lithic bedrock

Clark State Forest Soils Map - Campartment 10 Tract 5



ACCESS

The access to C10T5 is along South Fire Lane Road that runs north and south through the middle of the tract. There are a number of horse trails than can be utilized as well.

BOUNDARY

The southwest corner starts at a stone and runs north until it hits the northwest corner. Here there is no stone, rebar, or post; it then runs east into the inner northeast corner,

and from here northward until it runs into the South Fire Lane Road. Now it follows the road for a short time until it intersects the horse trailhead. Here the boundary follows the horse trail and ridge top eastward with C10T4 to the north, until it meets a steep southward bend in the ridge. Here the boundary drops down the ravine and follows the creek southward with first C10T6 to the east and then C10T7 to the east until it runs into the southern boundary. This corner has no pin, rock, or pole. The boundary continues west and jogs south shortly, continues east, and jogs north again shortly (there is one survey marker somewhere). Here it continues westward to the southwest corner.

On the south side lies 2.45 acres of private land inside of the tract. This is most easily defined by the house and yard; it is also marked with a survey marker.

WILDLIFE

Song birds, raptors, raccoons, squirrels, turtles, skink, and deer are present in C10T5.

Wildlife (Bats) Habitat Feature Tract Summary

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees					
11" + DBH	1593		2134	541	
20" + DBH	531		254	-277	
Snags					
5" + DBH	708	1239	3596	2888	2357
9" + DBH	531	1062	1587	1056	525
19" + DBH	88.5	177	34	-55	-143

As can be seen above, Legacy Trees are lacking by 277 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 except for 19” and larger. This can be fixed by girdling several wolf trees and overly mature trees.

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 C10T5 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 trees 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 need 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. Much of the western Mixed Hardwood stands in this tract are oppressed by grapevines and generally poor form. 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 parts 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 are confined to a few small patches in the northwest ridges and some patches surrounding the private residence. 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.

In the southeast section of the tract on flatland is a pole sized Virginia pine regeneration stand. For now, this should be left to grow and thin out naturally. When these Virginia pine become larger, it will be necessary to thin them out and eventually remove them completely when they reach maturity. Failure to manage the Virginia

pines in the past have led to entire stands becoming over-mature and having massive blow down. This decreases the health, beauty, and economic viability of the forest and is completely unprofessional.

East of the emerging Virginia pine stand is a mature stand of eastern white pine. The eastern white pine are slowly being blown down and being replaced by yellow poplar. Since the soil is not conducive to large eastern white pines (making them prone to blow down) they should all be removed in an even-aged harvest (opening).

Before a harvest takes place, a prescribed burn of C10T5 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 and eastern white 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, brought in by horses. It is recommended that these would be revaluated and monitored after the prescribed burn. If they persist, then they should be annihilated with herbicide. In regard to the grape vines, these should monitored after the proposed burn, and eliminated if necessary.

PROPOSED ACTIVITES DESCRIPTION

2012……..Proposed Prescribed Burn of Compartment 10, Tract 5.
2013……Single Tree Selective Harvest for Mixed Hardwoods & Oak – Hickory.
2013……Complete Harvest of Mature Virginia Pine and Eastern White Pine.
2014……Proposed 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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