Indiana Department of Natural Resources
Division of Forestry
Resource Management Guide

Clark State Forest **Compartment: 15 Tract: 9**
Christine Martin **Date: 1/15/14**

Acres Commercial forest: 100
Acres Noncommercial Forest: 0
Acres Permanent Openings: 0
Acres Other: 0

Basal Area ≥ 14 inches DBH: 70
Basal Area < 14 inches DBH: 17.5
Basal Area Culls: 0
Total Basal Area: 87.5

Acres Total: 100
Stocking Level : Fully Stocked (75%)

Number Trees/Acre: 128

Species	Harvest	Leave	Total
White Ash	1380	0	1380
Northern Red Oak	0	2220	2220
American Sycamore	0	2500	2500
Black Oak	3280	0	3280
Red Maple	2040	7480	9520
Scarlet Oak	10500	22440	32940
Chestnut Oak	0	38430	38430
Virginia Pine	34620	19450	54070
White Oak	59700	406260	465960
Totals	**111520**	**498780**	**610300**
Totals/ac	**1115**	**4987**	**6103**

- Volumes estimated in Doyle board feet.

Location

This tract is located in Clark county Indiana, T1N R6E, section 33.

General Description

In total this tract of land comprises 100 acres. There are 2 different stratums in this tract. The largest type is the oak-hickory which is 81.9 acres. The mixed hardwoods are about 18.8 acres.

This stand seems to be close to a monoculture of white oak. These white oaks are stunted and stressed. There has not been any recorded management in this tract and it shows by the poor quality of timber growing here. Many of the shorter lived oak species such as scarlet oak are dying if not already dead snags.

History

1975- resource management guide written
1985- Tract lines were redrawn
1987- inventory summary states 2900 board feet to the acre.

Landscape Context

This tract is bordered on 3 sides by Clark state forest. The 4th side is bordered by Deam Lake.

Topography, Geology, and Hydrology

This tract is mainly one ridge that cuts to the south therefore the tract is comprised mainly of south and west facing slopes. This tract borders Deam Lake therefore all the drainages to this tract empty out into the lake.

Soils

Beanblosson Silt Loam(BcrAW) or Wakeland Silt (WaaAH)

The Wakeland series consists of very deep, somewhat poorly drained soils that formed in silty alluvium. These soils are on flood plains and flood-plain steps. The surface horizon is a plowed horizon with a dark grayish brown silt loam. After this horizon the rest of the profile is comprised of substratum. The substratum is mainly a grayish brown silt loam. The end of the profile is at 60 inches.
Degree Slope: 0-2%
Site Index: 80
Growth Range Potential: 342

Coolville (ComC)

The Coolville series consists of moderately well drained soils with amoderat available water capacity. These soils are comprised of Loess with a clayey residuum over shale and siltstone. The first Horizon is a silt loam which is 8 inches thick. The next horizon is 8-21inches thick and is comprised of a silty clay loam. At 21-37 soils is a silty clay. At 37-44 inches it is a parachannery silty clay loam. At 44-60 inches it is bedrock.

Degree Slope: 6-12%
Land capability: 3e
Management concerns: None

Deam Silty Clay Loam (DbR)

This soil series is formed from the residuum of shale. These soils are moderately deep, well drained soils found on hills. The surface horizon is a silty clay loam which grades into more the further in the horizon. In the Bt2 horizon there starts to be some parachanery silty clay showing up in the profile. The rest of the profile gets increasingly channery until bedrock.
Degree slope: 15-55%
Available water capacity: low
Permeability: slow to very slow

Gnawbone (GmaG)

The Gnawbone series consists of moderately deep soils with and available water capacity is moderate. These soils mainly form on the backslope of hills. In a typical profile the soil is silt loam in the surface layer and in the substratum the soil is a parachannery silty clay loam with bedrock at 60 inches.

Kurtz

The Kurtz series consists of well drained soils which are from siltstone and shale bedrock. A typical profile starts with a O layer which is 1-2 inches thick. The soil then grades from a silt loam to a silty clay loam. In the lower horizons the soil becomes channery. The bedrock consists of siltstone at 60inches.

Rarden (Cocn)

The Rarden series are moderately deep soils with a low available water capacity. These soils are mainly found on hills, more specifically the shoulders, back slopes and the side slopes. In a typical soil pedon thee oils is primarily a silty clay loams grading to a silty clay. At about 28-36 inches there is an extremely parachannery silty clay overlying bedrock.

Access

There is a horsetrail that runs through this tract. The horsetrail runs through the southern part tract, also serves as firelane access and can be accessed easily by a 4 wheel drive vehicle. This horsetrail will need significant improvement to bring up to forest access standards. This includes grade work, soil stabilization and stone. These will improve tract access and create a more sustainable high use horse/recreation trail.

Boundary

This tract is surrounded by Clark State forest. The majority of the boundaries are geographical. The southern tip of this tract adjoins Deam Lake.

Wildlife and Communities

This tract is typical of Southern Indiana's flora and fauna. Deer, squirrels, chipmunks, song birds, and some birds of prey, were observed while inventorying.

The white oak of this tract provides great wildlife opportunities for foraging. Many species prefer white oak acorns. There is also American beech in the understory that will also provide seed for the wildlife. The high abundance of snags, dead and dying trees do provide some additional habitat benefits.

Wildlife Habitat Feature Tract Summary

Compartment 15 Tract 9

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	900		3771	2871	
20"+ DBH	300		558	258	
Snags (all species)					
5"+ DBH	400	700	974	574	274
9"+ DBH	300	600	801	501	201
19"+ DBH	50	100	176	126	76

*** Species Include:** AME, BIH, BLL, COT, GRA, REO, POO, REE, SHH, ZSH, SIM, SUM, WHA, WHO

Indiana Bat

Recreation and resource management activities may have both positive and negative effects on the Indiana bat. Well planned timber harvests create conditions that are beneficial to Indiana bats. Roads and/or skid trails provide improved canopy foraging conditions by reducing clutter. Roosting habitat could also be improved by reducing clutter around roost trees. Edges of log landings and regeneration openings could provide roost trees with improved solar exposure, thus improving microclimate/thermal conditions for roosting areas. This would improve reproductive success and fitness, contributing positively to local populations. In cases of maternity trees this could provide conditions that increase growth and activity rates of young bats.

Suitable roost trees such as large diameter snags or live trees with loose or exfoliating bark will be retained in sufficient numbers to provide potential roosting habitat for the Indiana bat.

This report shows that this tract meets or exceeds the target number and size of trees to provide suitable habitat.

A Natural Heritage Database Review was completed for the tract. If Rare, Threatened or Endangered species (RTE's) were identified, the activities prescribed in this guide will be conducted in a manner that will not threaten the viability of those species.

Invasive Species

Oriental bittersweet and Japanese honeysuckle were found extensively throughout this tract. These invasive plants are the heaviest along the horsetrail. These invasive plants will need to be monitored and sprayed periodically to get them under control.

Recreation

This tract is highly utilized for recreation. There is a horsetrail that runs through this tract. This horsetrail connects the campground of Deam Lake to flower gap road.

This tract is also heavily hunted in because of the proximity to the handicapped hunter trail. This tract will be closed to recreation activities including the horsetrail while during the management activity. Activity will be timed to minimize disruption.

Cultural

Cultural resources may be present, but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during any management activity

Summary Tract Silvicultural Prescription and Proposed Activities

<u>OAK-HICKORY</u>

There are approximately 82 acres in this stratum. This stratum is fully stocked at 76%. The basal area per acre is 91sf, with approximately 14 square feet of basal area prescribed for harvest. There are approximately 543,090 Doyle board feet found in this stratum and 100,480 of that is tallied as harvestable, which is a little less than a fifth of the total volume.

77% of this stratum is white oak. The overall size of these trees is mainly medium saw timber to small saw timber. The majority of the trees in this stratum are in poor health. These trees have been living in crowded conditions for a long time therefore most of them are stressed and in decline. The scarlet oaks in this stand are all dying. This area is prescribed a light thinning and improvement harvest to groom out the dying, stressed, and poor formed trees to make room for the good quality and healthy trees to grow. This harvest will increase the vitality of the stand enabling it to better fend off future insect and disease attacks.

The regeneration is mainly red maple and American beech. There is a fair amount of oak regeneration found along the outside of the pine stand. There is not much sunlight hitting the forest floor in the interior of this stand to support oak regeneration. With the shade tolerant species in the understory it exacerbates the oak regeneration problem. There should be some large openings created with the harvest to increase the sunlight hitting the forest floor with follow-up TSI to reduce regeneration inhibiting maple and beech growing in the newly created openings.

The improvement harvest would also target the poor quality, stunted, and stressed trees to make room for the young trees to take over. These young trees will improve vigor and overall health. There also needs to be some larger openings in order to facilitate oak regeneration. These openings should be created in areas with large groups of stunted or defective trees. There are also areas with a large amount of stressed white oak. These areas are also good candidates for openings.

MIXED HARDWOOD

This stratum is mainly found in the drainage. There are approximately 19 acres found in this type. There is 51 square feet of basal area in this stratum. This stratum is under stocked with 45% stocking.

The main tree species is red maple. These tree species are mainly pole sized timber. There is a plethora of American beech in the understory. This area is sparse and filled with invasive species. The invasives mainly traveled in from the horse trail and with the open canopy of this stratum they thrived. Invasive species control is prescribed and could be done with the post harvest TSI of this tract.

Proposed Activities Listing

2014-Road work and invasive species work
2014-Timber sale
2015- Timber stand improvement(TSI) and invasive control and regeneration check
2024- re evaluate for next managements cycle.

Use the link below to submit a comment on this document:
http://www.in.gov/dnr/forestry/8122.htm

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