RESOURCE MANAGEMENT GUIDE

Clark State Forest — Compartment 15 Tract 6
Forester Greg Roeder & Matt Gee — Date May 13, 2010
Management Cycle End Year 2030 — Management Cycle Length 20 Years

Location

Compartment 15, tract six is a 105 acre tract of predominate hardwood timber located within section 3, T1S, R6E, Clark County, Indiana. C15T6 makes up roughly half of the eastern shore of Deam Lake.

General Description

C15T6 is a predominately upland timber type tract with Virginia pine intermixed. The tract is surrounded with state forest, with Deam Lake being the western boundary. The tract contains an estimated 9.488 MBF of merchantable timber of which 5.012 MBF is harvest stock, and 4.476 MBF is growing stock.

History

This tract was acquired in 1940 from the Durham family in a 300 acre purchase. Little management has occurred in the tract since it was acquired:

1986-Inventory 91.82 BA/Ac
2010-Inventory; management guide

Landscape Context

Deam Lake and forest dominate the west side of the tract with the rest being surrounded by forest.

Topography, Geology and Hydrology

The topography of C15T6 predominately consists of west facing slopes. Relief varies between 535' to 671' above sea level. There are several small hollows, but none of them contain major creeks. The drainage from these hollows runs west into Deam Lake. Management activities in the Deam Lake watershed will be very light so the lake's water quality is not adversely affected.

Soils

BcrAW-Beanblossom silt loam

1-3% slopes, occasionally flooded, very brief duration
Landform: Flood plains
Landform position: Natural levees and alluvial fans
Parent material: Channery, loamy alluvium
Drainage class: Moderately well drained
Water table depth: 3.5 to 5.0 feet (apparent)
Yellow poplar site index: 95

ConD—Coolville-Rarden complex, 12 to 18 percent slopes
Landform: Hills underlain with shale or siltstone
Landform position: Shoulders and backslopes
Coolville
Parent material: Thin loess and clayey residuum
Drainage class: Moderately well drained
Water table depth: 1 to 2 feet (perched)
red oak site index: 66

DbrG—Deam silty clay loam, 20 to 55 percent slopes
Landform: Hills underlain with shale
Landform position: Backslopes
Parent material: Clayey residuum
Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained

GmaG—Gnawbone-Kurtz silt loams, 20 to 60 percent slopes
Landform: Hills underlain with siltstone
Landform position: Backslopes
Gnawbone
Parent material: Silty residuum
Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Kurtz
Parent material: Silty residuum
Depth class: Deep (40 to 60 inches)
Drainage class: Well drained

Access
This tract can be accessed from the Wilson Switch road and the gravel- based green horse trail.

Boundary
This tract is bordered on all sides by state property the west side being Deam Lake, tract seven to the south, tract five to the east, and tract three to the north.

Wildlife
White-tailed deer, eastern box turtle, rat snake, bullfrog, toads, and songbirds were observed in this tract. Raptors, wild turkey, and other reptiles and mammals are likely to occur in the tract.

Wildlife Habitat Feature Tract Summary

Inventory C:\Documents and Settings\groeder\My
State Forest: Clark **Compartment Number:** 15 **Tract:** 06
Reference Number: 6301506 **Tract Acres:** 105

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal	Marked For Harvest	Residual Above Maintenance
Legacy Trees *							
11"+ DBH	945		4657	3712			
20"+ DBH	315		1048	733			
Snags (all species)							
5"+ DBH	420	735	1005	585	270		
9"+ DBH	315	630	922	607	292		
19"+ DBH	52.5	105	117	65	12		
Cavity Trees (all species)							
7"+ DBH	420	630	69	-351	-561		
11"+ DBH	315	420	69	-246	-351		
19"+ DBH	52.5	105	27	-26	-78		

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

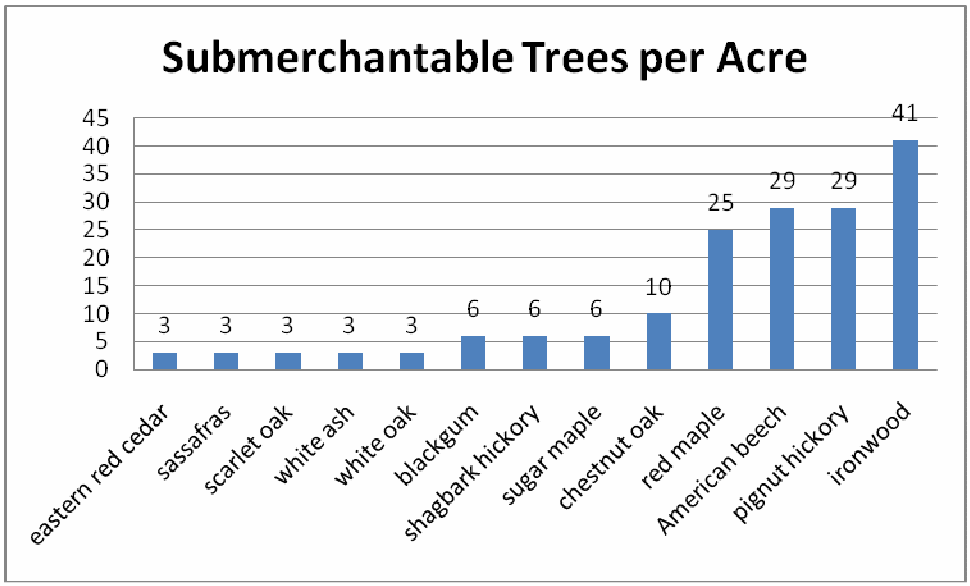
Tract six provides adequate Indiana bat habitat. The tract has a surplus of legacy and snag trees in all size classes. These trees are of species and sizes that can provide summer roosting habitat for the Indiana bat and other forest species. Cavity trees were found to be deficient in all size categories across the tract. No endangered, rare, or threatened wildlife species were noted in a Natural Heritage Database search.

Communities
C15T6 is composed primarily of dry-mesic upland forest. This forest type is abundant with white oak, scarlet oak, some black oak and assorted hickories. Small percentages of some of the ridge tops are considered dry upland forest and are abundant with chestnut and scarlet oak. No threatened or endangered species were observed, however a species of special concern, the eastern box turtle (*Terrapene Carolina*) was seen in this tract. Very few exotic species were found in tract six. The only species worthy of noting is Japanese stilt grass which can be found along low lying drainages throughout the tract.

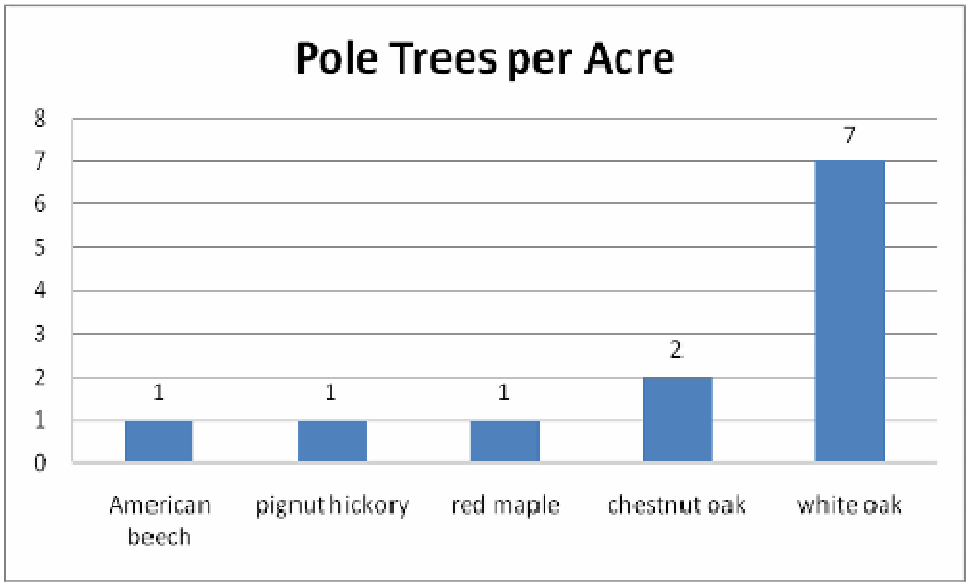
Recreation
There are abundant recreational opportunities in this tract. Fishing on Deam Lake is a popular option for recreation. Horseback riding and hiking on the green horse trail are other options. The Knobstone trail is juxtaposed to the northeast boundary of the tract and is popular with hikers. The quality and quantity of these experiences will be affected, during the forest management activities, but with careful planning and oversight the public can be notified of this and should be able to resume and continue with recreation shortly thereafter.

Cultural
No cultural sites were observed while preparing this guide.

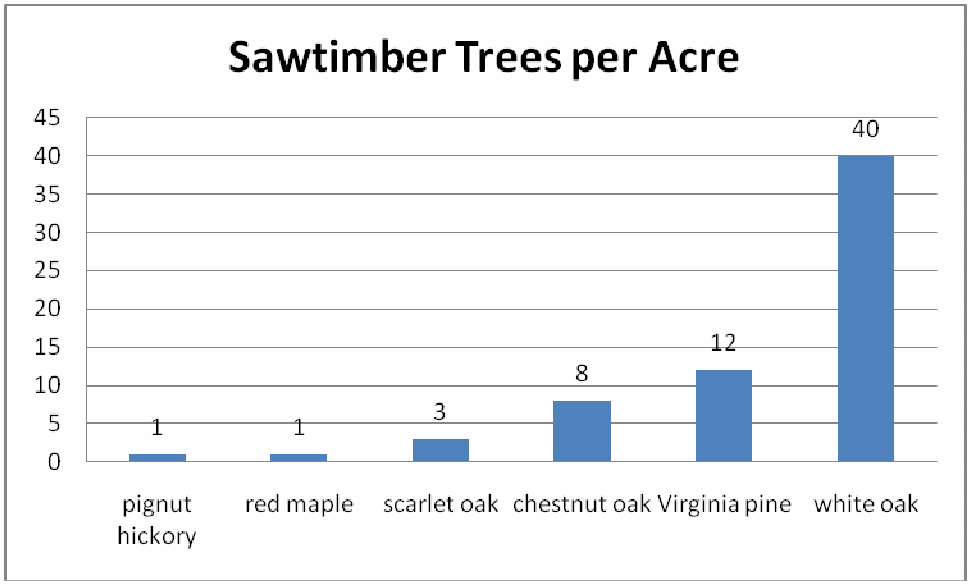
Tract Subdivision Description and Silvicultural Prescription
Sub merchantable trees in tract six are composed of ironwood (25%), pignut hickory (17%), American beech (17%), and red maple (15%). The makeup of the submerchantable layer is dominated by shade tolerant species. Infrequent canopy disturbance is responsible for propagating and perpetuating undesirable shade tolerant species. Without some sort of disturbance this tract will continue to evolve into a shade tolerant dominated stand.



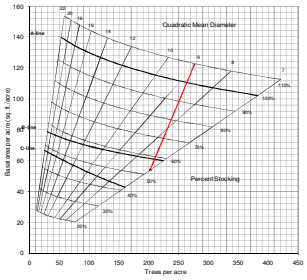
Pole trees in tract six are mostly composed of white oak and chestnut oak. 12 trees per acre presents a major deficiency in 5-11" trees throughout the tract. Again, lack of disturbance in the last 70 years can be contributed to the poor distribution of size classes across the tract.



Tract six is dominated by white oak sawtimber. At 40 trees per acre, this tract is 62% white oak sawtimber.



Tract six is currently 110% stocked according to the Gingrich stocking guide. The tract has a basal area of 121.9 ft^2 and 276 trees per acre. This tract is drastically overstocked; overstocked stands have no room to grow. Individual trees are in fierce competition with their neighbors for light and other resources. The area between the A and B line indicates the stocking where each tree can fully utilize its site. The C line indicates the lower limit of stocking necessary to reach the B line in 10 years.



This tract is overstocked and in need of a harvest in order to reduce the overall density. Tract six should receive a combination of low thinning and improvement cutting, both of which are considered intermediate selection methods.

The low thinning treatment should be used in overstocked areas of the tract to remove out-competed, sub-dominate trees that are likely to be lost to mortality before the next management cycle. Improvement cutting focuses on removing poor quality or undesirable trees from the canopy in favor of more desirable neighboring stems.

5,012 board feet/acre were identified as harvest volume during the forest inventory of this tract. Marking at this intensity would reduce stocking to approximately 55%, leaving the residual stand with plenty of room to grow through the next management cycle (2030). This harvest will be preceded by timber stand improvement (TSI) to kill any grapevines that may be present in the tract. The harvest will be followed by post harvest TSI that will kill any unharvested cull trees, complete small openings, and kill shade tolerant species where found in canopy gaps.

A harvest in tract six will have to take into account possible tribulation of Deam Lake. Harvesting in the lake's watershed will need to be low impact with special concern paid to reducing soil runoff into the lake. Indiana bat habitat should not be adversely affected by harvesting this tract. Post harvest TSI will create new snag and den trees for Indiana bat as well as other forest wildlife. After the timber sale, log yarding areas will be sowed with appropriate wildlife seed, converting them to wildlife food plots.

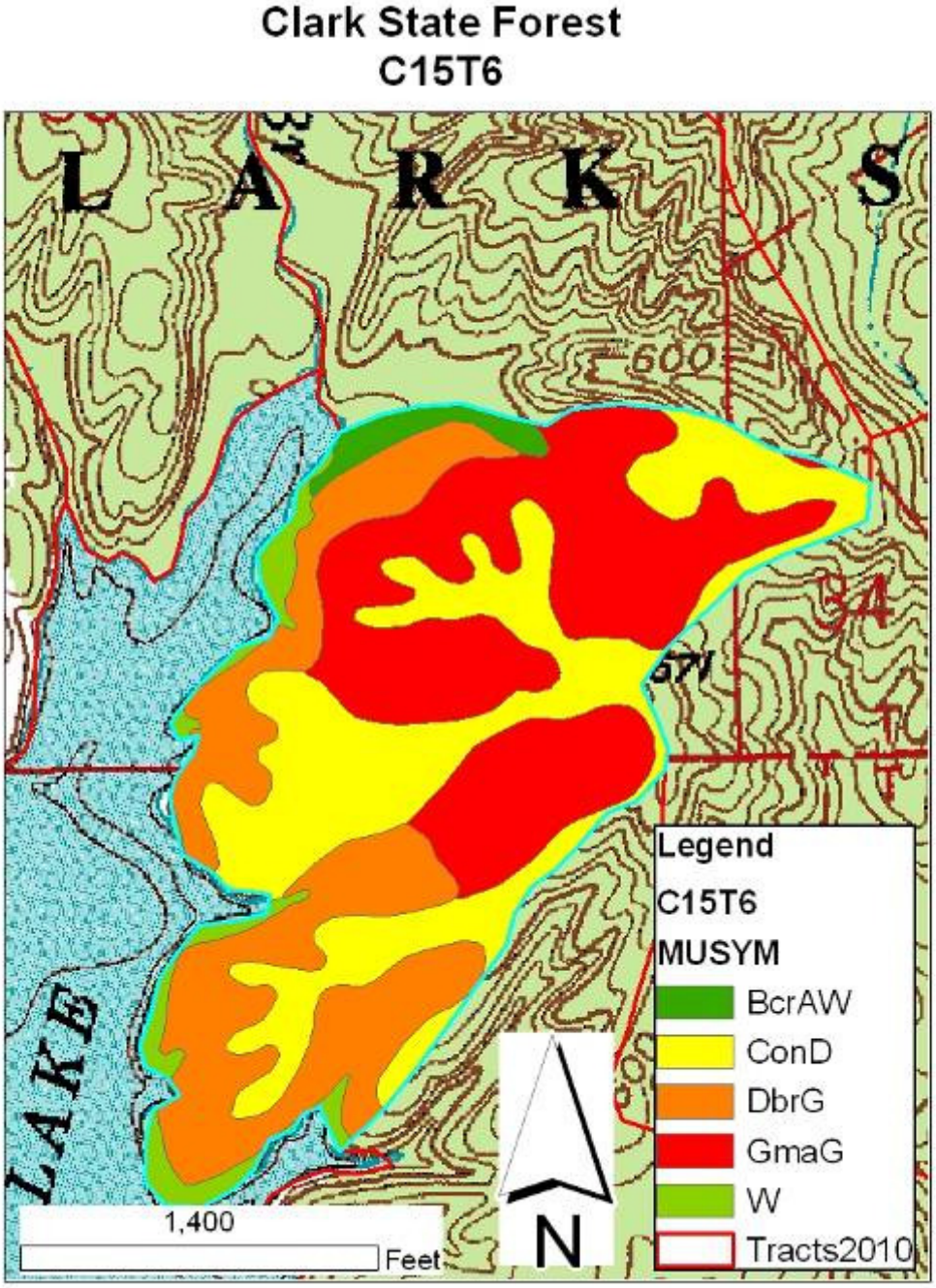
Proposed Activities Listing.

Proposed Management Activity	*Proposed Date*
Pre-harvest TSI	2011
Intermediate harvest	2011
Convert log landings to wildlife food plots	2013
Post harvest TSI	2013
Inventory and management guide	2030

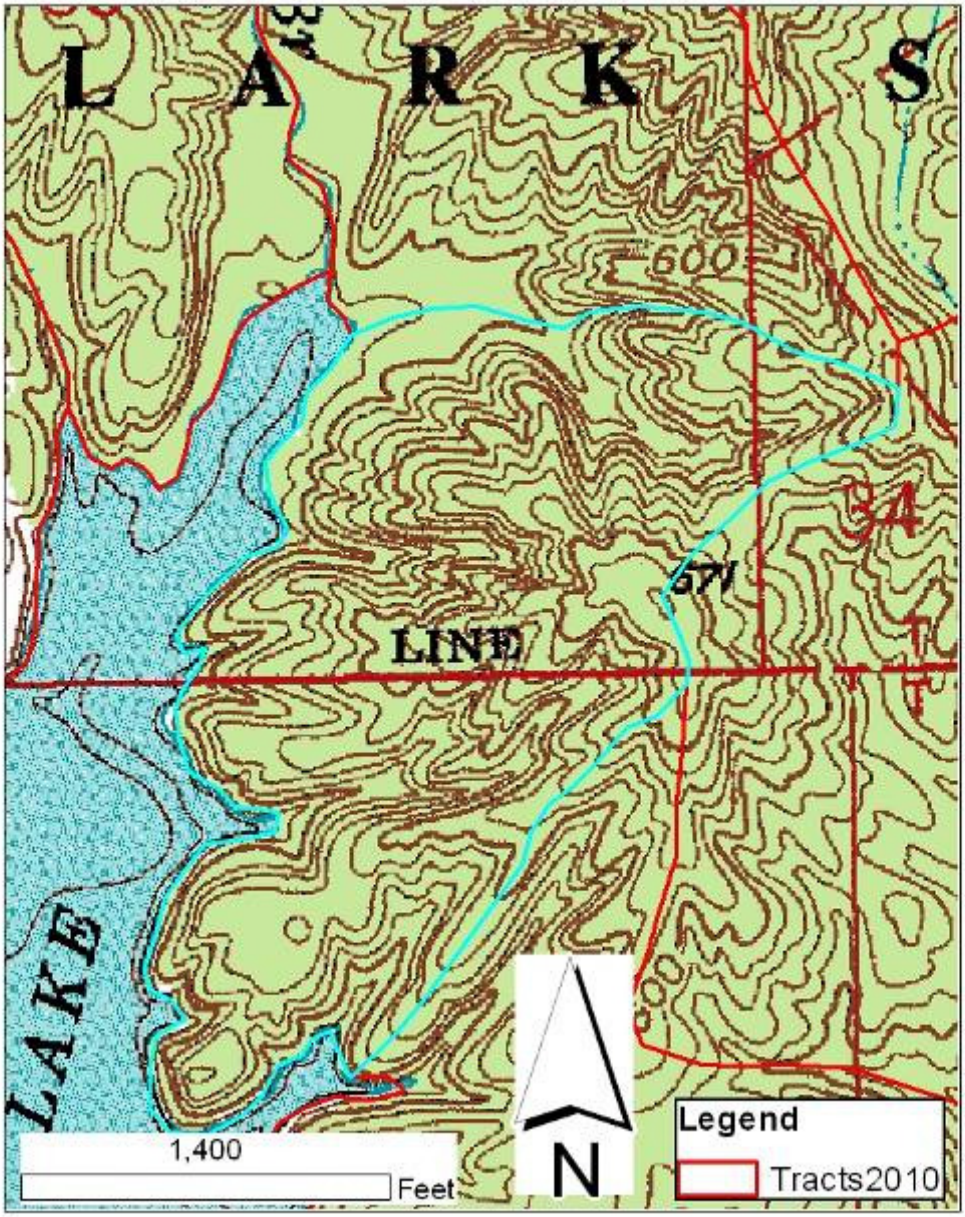
To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You **must** indicate 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.

Attachments



Clark State Forest
C15T6



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