TM 902

RESOURCE MANAGEMENT GUIDE

Clark State Forest

Date: May 20, 2008 Compartment 15 Tract: 7

FORESTERS NARRATIVE

Location

Compartment 15, tract 7 is a 184-acre tract of predominate hardwood timber located within sections 3 and 4, T1S, R6E, Clark County, Indiana.

Hardwoods

Submerchantable stems in the tract are dominated by sugar maple (40%), followed by pignut hickory (34%), beech (6%), red oak (6%), white oak (6%), and yellow poplar (6%). The regeneration layer is shifting to a shade tolerant composition even though much of the tract has southern aspects.

Pole timber is dominated by white oak (50%), sugar maple (25%), pignut hickory (10%), beech (5%), red maple (5%), and Virginia pine (5%). The high number of white oak poles suggests the intermediate cohort will predominately be white oak. The high number of sugar maple poles and saplings suggests the stand will shift to a sugar maple dominated timber stand in subsequent rotations unless measures are taken to regenerate oak-hickory timber.

Sawtimber volume was estimated to be 8,230 board feet per acre. The majority species by volume is white oak (66%), followed by black oak (9%), scarlet oak (9%), and Virginia pine which is isolated in the southeast corner (7%).

Pine

There is a 6.7-acre Virginia pine stand in the southwest corner of the tract containing approximately 8,000 board feet per acre. The pine stand may be a candidate for hardwood conversion during the next timber harvest.

Access

This tract has excellent access along the south boundary shared by Broom Hill Road. The tract is also bisected north-south by a graveled horse trail.

Boundaries

The tract is bounded on two sides by state property; Deam lake to the west and tracts five and six to the north. Private property comprises the east boundary. Broom Hill Road and some private property border the south boundary.

Indiana bat

Numbers of live trees of preferred roost species in the 11" to 19" size class was adequate for Indiana bat. Guidelines for 20" and larger trees were also met. The 9" to 18" snag category was deficient as well as the 19"+ category. Snags will be created in post harvest TSI process in order to meet guidelines.

Live Trees – Entire Tract – Desired Species Only			
	Required	**Inventory**	**Removal Availability**
11" DBH +	**1656**	**6295**	**4639**
20" DBH +	**552**	**1335**	**783**
Snags – Entire Tract – All Species			
9" DBH +	**1104**	**822**	**-282**
19" DBH +	**184**	**103**	**-81**

Cultural Resources

Cultural resources may be present on the tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction projects.

Recreation

This tract contains two prominent trails. The Knobstone trail starts in the southeast corner and runs northwest. A horse trail runs north-south on the west side of the trail.

Silviculture Prescription

Most timber below the 600-foot contour is very high quality white oak with a small black and scarlet oak component. This tract needs a thinning harvest of shorter lived and low quality black and scarlet oaks where they are directly competing with high quality white oak stems. Dense stands of white oak also need thinned, removing poorly performing stems that are near the bottom of the codominant layer. This stand is currently stocked at approximately 91 square feet per acre. An improvement cut would remove up to 35 square feet per acre leaving 66 square feet of residual stocking. This reduction in density will greatly affect the growth of future high value white oak stems.

Where elevation rises above 600' on south slopes and ridge tops, chestnut and scarlet oak prevail with a small white oak component. In these areas some improvement cutting of poorly formed and out-competed stems can increase overall stand quality.

Timber marking should be limited to the east side of the horse trail. This trail runs atop a long ridge and separates the Deam Lake watershed from the Muddy Fork watershed. Harvesting on the west of the ridge could contribute to sedimentation in Deam Lake.

TSI should be performed before harvesting begins. Grapevines and creepers should be targeted as well as any exotic species so that they do not proliferate under increased light conditions. Post harvest TSI should follow the sale. This prescription should kill any unharvested cull trees, complete openings, and remove stems not desired to be carried through the next rotation.

Soils

ComC—Coolville silt loam, 6 to 12 percent slopes

Map Unit Setting

- *Elevation:* 340 to 1,000 feet
- *Mean annual precipitation:* 40 to 46 inches
- *Mean annual air temperature:* 52 to 57 degrees F
- *Frost-free period:* 170 to 200 days

Map Unit Composition

- *Coolville and similar soils:* 71 percent

Description of Coolville

Setting

- *Landform:* Hills
- *Landform position (two-dimensional):* Backslope, shoulder
- *Landform position (three-dimensional):* Side slope
- *Down-slope shape:* Convex
- *Across-slope shape:* Linear
- *Parent material:* Loess over clayey residuum over mississippian shale and siltstone

Properties and qualities

- *Slope:* 6 to 12 percent
- *Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock
- *Drainage class:* Moderately well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 12 to 24 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Moderate (about 6.9 inches)

ConD—Coolville-Rarden complex, 12 to 18 percent slopes

Map Unit Setting

- *Elevation:* 340 to 1,000 feet
- *Mean annual precipitation:* 40 to 46 inches
- *Mean annual air temperature:* 52 to 57 degrees F
- *Frost-free period:* 170 to 200 days

Map Unit Composition

- *Coolville and similar soils:* 51 percent
- *Rarden and similar soils:* 30 percent

Description of Coolville

Setting

- *Landform:* Hills
- *Landform position (two-dimensional):* Shoulder, backslope
- *Landform position (three-dimensional):* Side slope
- *Down-slope shape:* Convex
- *Across-slope shape:* Linear
- *Parent material:* Loess over clayey residuum over mississippian shale and siltstone

Properties and qualities

- *Slope:* 12 to 18 percent
- *Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock
- *Drainage class:* Moderately well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 12 to 24 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Moderate (about 6.8 inches)

DbrG—Deam silty clay loam, 20 to 55 percent slopes

Map Unit Setting

- *Elevation:* 340 to 1,000 feet

- *Mean annual precipitation:* 40 to 46 inches
- *Mean annual air temperature:* 52 to 57 degrees F
- *Frost-free period:* 170 to 200 days

Map Unit Composition

- *Deam and similar soils:* 94 percent

Description of Deam

Setting

- *Landform:* Hills
- *Landform position (two-dimensional):* Backslope
- *Landform position (three-dimensional):* Side slope
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Clayey residuum over mississippian shale

Properties and qualities

- *Slope:* 20 to 55 percent
- *Depth to restrictive feature:* 20 to 40 inches to paralithic bedrock
- *Drainage class:* Well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Low (about 4.4 inches)

Properties and qualities

- *Slope:* 20 to 60 percent
- *Depth to restrictive feature:* 20 to 40 inches to paralithic bedrock
- *Drainage class:* Well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* More than 80 inches

- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Moderate (about 6.0 inches)

Interpretive groups

- *Land capability (nonirrigated):* 7e

Typical profile

- *0 to 7 inches:* Silt loam
- *7 to 27 inches:* Parachannery silty clay loam
- *27 to 39 inches:* Extremely parachannery silt loam
- *39 to 60 inches:* Bedrock

WedB2—Weddel silt loam, 2 to 6 percent slopes, eroded

Map Unit Setting

- *Elevation:* 340 to 1,000 feet
- *Mean annual precipitation:* 40 to 46 inches
- *Mean annual air temperature:* 52 to 57 degrees F
- *Frost-free period:* 150 to 210 days

Map Unit Composition

- *Weddel and similar soils:* 95 percent

Description of Weddel

Setting

- *Landform:* Till plains
- *Landform position (two-dimensional):* Shoulder, summit
- *Landform position (three-dimensional):* Side slope
- *Down-slope shape:* Convex
- *Across-slope shape:* Linear
- *Parent material:* Loess over loamy till over clayey residuum over mississippian shale

Properties and qualities

- *Slope:* 2 to 6 percent
- *Depth to restrictive feature:* 60 to 90 inches to paralithic bedrock

- *Drainage class:* Moderately well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 18 to 30 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Moderate (about 8.0 inches)

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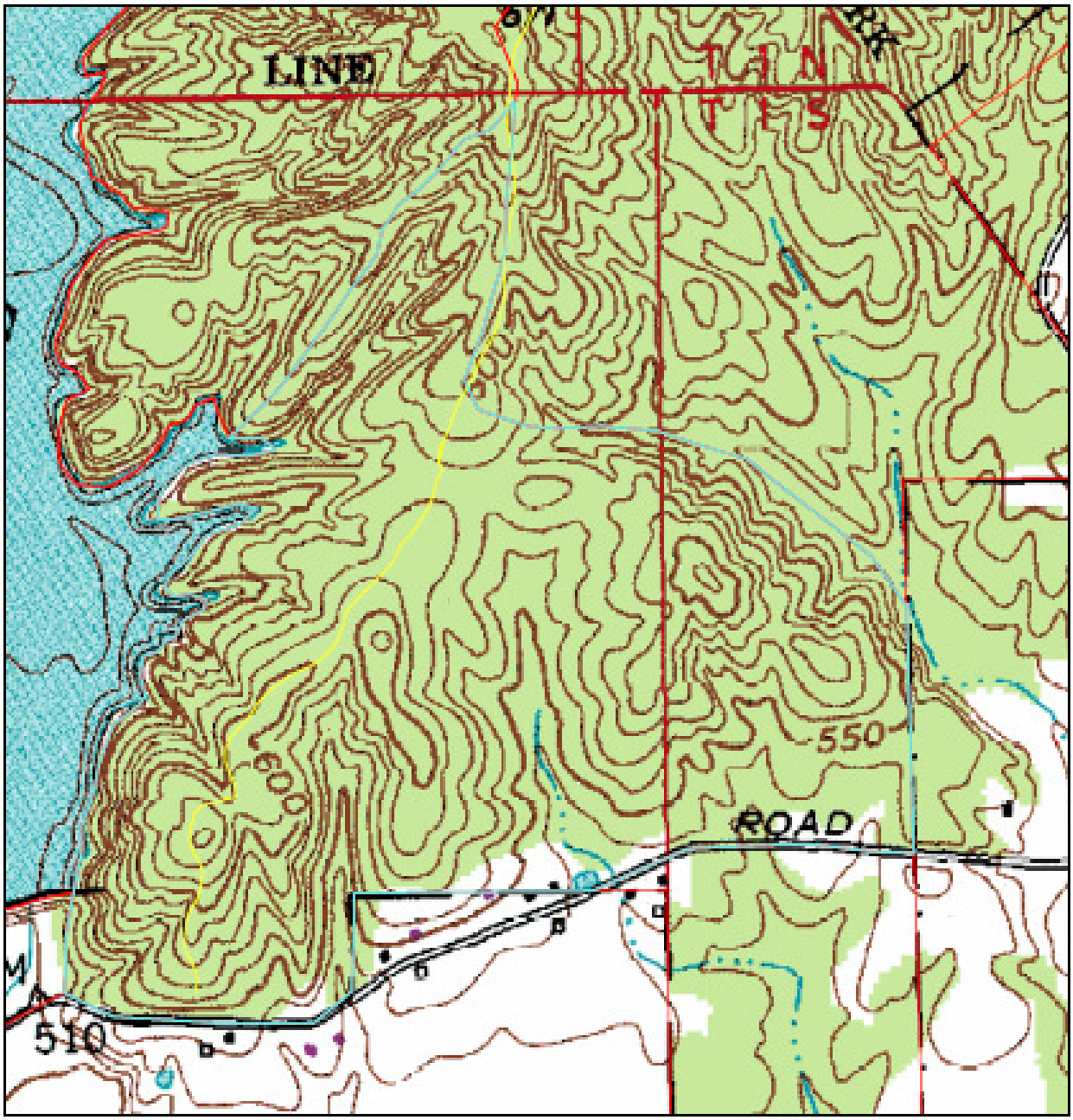
Clark State Forest
Compartment 15
Tract 7



Legend
Trails & Roads

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