

RESOURCE MANAGEMENT GUIDE

Clark State Forest
Forester Greg Roeder
Management Cycle End Year 2028

Compartment 15 Tract 5
Date June 25, 2008
Management Cycle Length 20 Years

Provide succinct, detailed descriptions of the following.

Location

Compartment 15 Tract 5 is located in sections 3, 4, 33, and 34, T1N R6E of Carr Township in Clark County, approximately one mile east of Deam Lake.

General Description

C15T5 is a 157 acre tract in Clark State Forest. The south half of tract five is composed primarily of white oak sawtimber with pockets Virginia pine, chestnut oak, scarlet oak, and sugar maple. The north half of tract five is dominated by mixed Virginia pine and hardwoods.

History

This tract was acquired in 1940 from the Durham family in a 318 acre purchase. Management files indicate little to no forest management other than a 1975 resource guide and a 1986 inventory. The abundance of Virginia pine leads to the suspicion that this tract was grazed and Virginia pine was either planted to mediate erosion, or volunteered following state acquisition.

1975-Resource Management Guide-1,859 bf/ac Doyle

1986-Inventory- 4,897 bf/ac Doyle, 98 ft² basal area/ac

2008-Inventory- Management Guide 9,170 bf/ac Doyle, 102 ft² basal area/ac

Landscape Context

C15T5 is located near the southeastern end of the contiguous forest and is adjacent to flatter mixed use agriculture to east, and the Borden valley to the south.

Topography, Geology and Hydrology

Topography in the tract ranges from approximately 520 to 650 feet above sea level. A large hill dominates the north and west boundaries of the tract with a large hollow draining to the south via an unnamed intermittent stream. No karst or other geological features were observed in the tract.

Soils

Beanblossom silt loam (BcrAW)

Contains 1 to 3 percent slopes and is occasionally flooded for a brief duration. This soil type is deep, roughly 40 to 60 inches and is moderately well drained.

Coolville silt loam (ComC)

Contains 6 to 12 percent slopes. This soil type is typically found on hills underlain with shale or sandstone. It is typically deep, being around 40 to 60 inches to the bedrock and moderately well drained

Coolville-Rarden complex (ConD)

Contains 12 to 18 percent slopes and are mainly located on hills underlain with shale or siltstone. The Coolville soils are deep; being 40 to 60 inches to the bedrock and are moderately well drained. The Rarden soils are moderately deep, around 20 to 40 inches, and also moderately well drained

Deam silty clay loam (DbrG)

Contains 20 to 55 percent slopes and is mainly located on hills underlain with shale. These soils are moderately deep, 20 to 40 inches to bedrock, and are well drained.

Gnawbone-Kurtz silt loams (GmaG)

Contains 20 to 60 percent slopes and are located on hills underlain with siltstone. The Gnawbone soils are moderately deep, 20 to 40 inches, and are well drained. The Kurtz soils are deep, 40 to 60 inches, and likewise well drained.

Weddel silt loam (WedB2)

Contains 2 to 6 percent slopes and is typically eroded. These soils are located on dissected till plains and are typically very deep, being more than 60 inches to the bedrock. Likewise, they are moderately well drained soils.

Access

This tract can be accessed via Flower Gap Road which runs along the eastern edge of the tract or by the horse trails along the western side cutting into the northern portion of the tract.

Boundary

Both private and public land surrounds this tract. Along the eastern side the tract borders private landowners while the remainder shares boundaries with other tracts of Clark State Forest.

Wildlife

Wildlife noted in this tract and surrounding areas included: deer, box turtles, squirrels, reptiles such as snakes and lizards, and various birds including turkey, hawk, and various song birds. Bat management guidelines for preferred live trees are sufficient throughout the tract. Both snag size categories were deficient among preferred species. Additional

snags will likely be made through future T.S.I. operations. A Natural Heritage Database Review revealed no wildlife species of special concern.

Indiana Bat Habitat Guidelines

Inventory Filename: C:\Documents and Settings\Greg\My
 State Forest: Clark Compartment Number: 15 Tract: 05
 Reference Number: 6301505 Tract Acres: 157

Live Trees - Entire Tract - Desired Species Only*

	Required	Inventory	Available For Removal	Harvested	Remaining
11" DBH+	1413	4322	2909	0	0
20" DBH+	471	875	404	0	0

Snags - Entire Tract - All Species

9" DBH+	942	928	-14	0	0
19" DBH+	157	95	-62	0	0

*Desired Species Include: AME, BIH, BLA, BLL, COT, GRA, REO, POO, REE, SAS, SHH, ZSH, SHO, SIM, WHA, WHO

Target Snag Density

Diameter (DBH) Distribution	Maintenance-level ^a	Optimal
TOTAL minimum of snags per acre $\geq 5''$:	4	7
<i>Including</i> at least this many snags per acre $\geq 9''$:	3	6
<i>Including</i> at least this many snags per acre $\geq 19''$:	0.5	1

Communities

The primary plant community present in this tract is a dry-mesic upland oak association in the south with red maple, pignut hickory, white oak, and chestnut oak making up the regeneration layer. The northern half of the tract is made up of a mosaic of aforementioned oak overstory and small Virginia pine groups with red maple regeneration.

Japanese stilt grass was the primary invasive species noted within this tract. Stilt grass can be observed along trails, and in the intermittent drainage.

A Natural Heritage Database Review revealed no plant species, or communities of special concern within this tract.

Recreation

Equestrians and hikers both use this area for recreational purposes. The Knobstone Trail runs along the western edge of the tract along with a horse trail. The horse trail then cuts eastward into the northern section of the tract. This tract is also easily accessible to sportsmen and is likely hunted during various gaming seasons.

Cultural

There are no known cultural resources within this tract.

Tract Subdivision Description and Silvicultural Prescription

Hardwoods

Red maple stems dominated the submerchantable layer at 21 stems per acre (28%) followed by; pignut hickory 18 stems per acre (25%), white oak 11 stems per acre (15%) and chestnut oak nine stems per acre (12%). Oak-hickory species were well represented in the regeneration layer on drier sites under oak understory. Red maple pervaded in drainages and under Virginia pine stands.

Pole stems were observed as: white oak 11 stems per acre (43%), red maple 6 stems per acre (25%), and chestnut oak 5 stems per acre (20%). Strong oak numbers in the intermediate cohort suggests good oak retention through the next rotation.

Sawtimber throughout the tract is dominated by white oak at 25 stems per acre (48%), Virginia pine 11 stems per acre (20%), chestnut oak 7.6 trees per acre (14%), and scarlet oak (11%). See harvest/leave summary above for volume comparisons. The hardwood component of the tract is approximately 91% stocked by 106 ft² and 180 trees per acre.

Pine

The pine strata is currently 85% stocked at 102 ft² and 133 trees per acre.

Virginia pine covers about 20% of the tract and is limited to the northern half of C15T5. Pine poles were sampled at a rate of .68 stems per acre (2%) Pine sawtimber was estimated at 356 MBF across the entire tract. Pine sawtimber was estimated to comprise 50% of all harvest stock by volume.

Summary Tract Silvicultural Prescription and Proposed Activities

With a basal area of 102 square feet per acre (91% stocked) this tract needs a thinning to approximately 64.5 square feet per acre (59% stocked). 59% stocking is slightly below the B line on the Gingrich stocking chart, but is required to convert the low vigor Virginia pine stands to a more favorable hardwood timber type. A timber harvest in compartment 15, tract five should be designed to achieve two goals.

First, marking should aim to improve overall quality of oak stands. Dying, deformed, poor quality, and suppressed stems should be marked in order to raise the quality of the stand. Low quality black and scarlet oaks should be removed where they pose hindrance to potential white oak crop trees. Second, single and group selection of Virginia pine should be marked throughout the northern half of the tract in concert with attempted oak

regeneration practices. Timber stand improvement will follow the sale concentrating on culling any residual undesired stems.

Proposed Activities Listing

<i>Proposed Management Activity</i>	<i>Proposed Date</i>
Forest Inventory/Resource Management Guide	Spring 2008
Preharvest T.S.I.	Autumn 2008
Mark improvement/regeneration harvest	Autumn 2008
Archaeological survey	Winter 2009
Timber sale	Spring 2009
Post harvest T.S.I.	2011
Oak regeneration Rx (pine stands)	2011
Reinventory/Management Guide	2028

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 “Clark C15 T5” 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.

STATE FOREST ClarkCOMPARTMENT 15TRACT 5**INVENTORY SUMMARY**

ACREAGE IN:

Commercial Forest 157
 Non-Commercial Forest _____
 Recreation Use _____
 Permanent Openings _____
 Other Uses _____
 TOTAL AREA 157

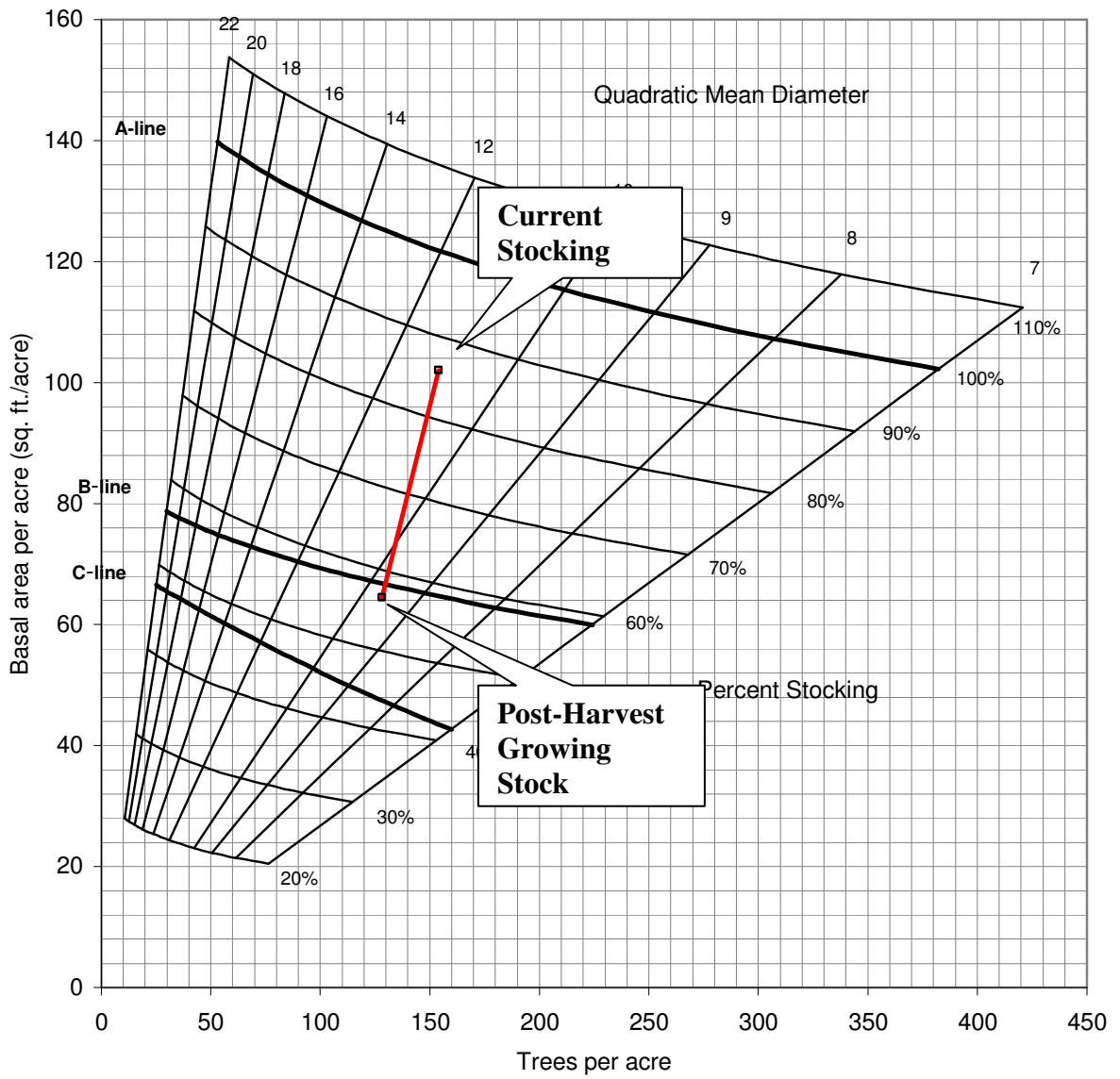
Average Site Index 50
 Total B.A./Acre 102
 B.A.-Trees $\geq 10''$ 96.2
 B.A. $\leq 10''$ 5.8

Estimated Per Acre Volumes for Commercial Forest Area - Bd., Ft., Doyle Rule

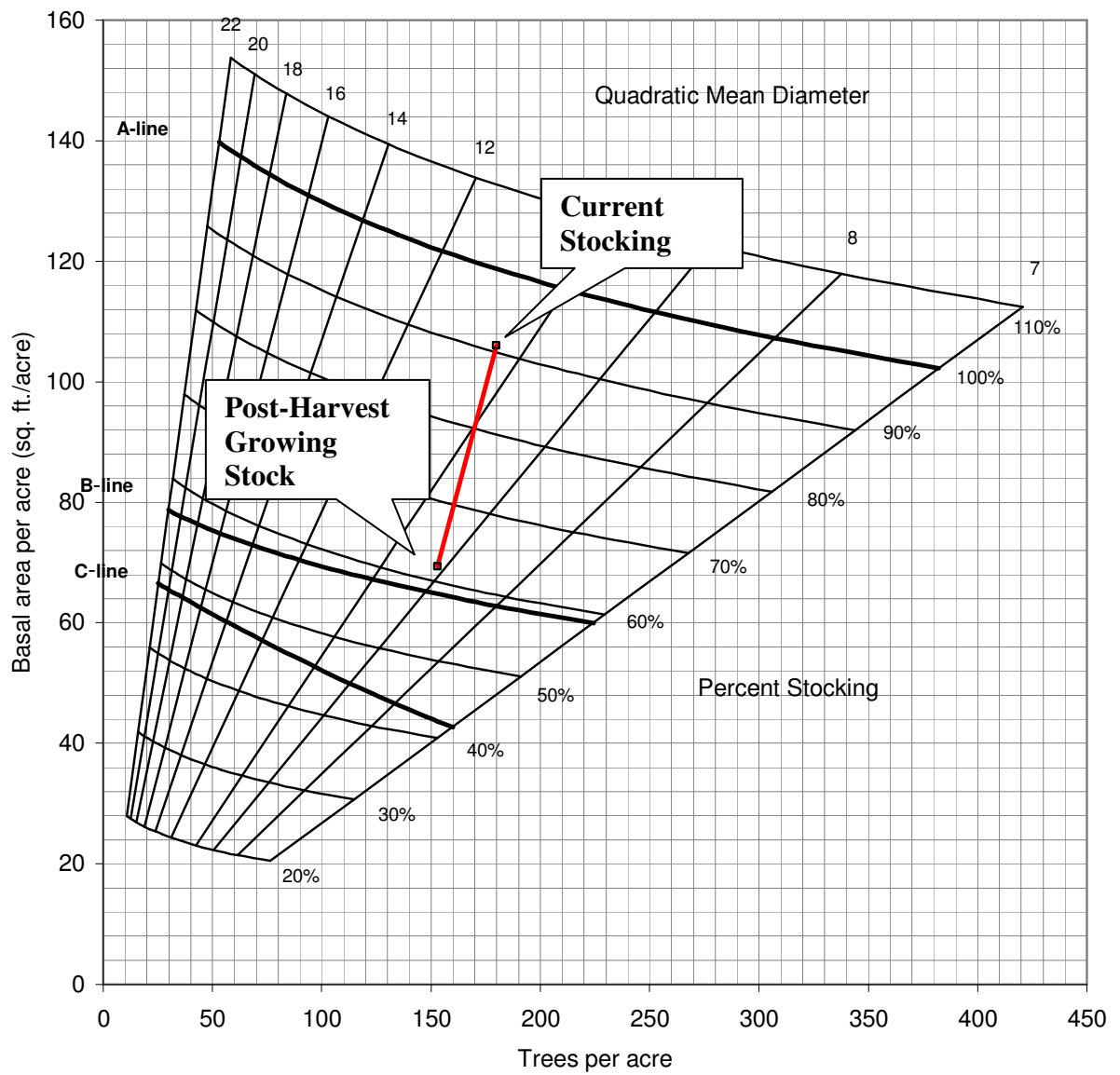
<u>Harvest / Leave Summary</u>				
Species	Harvest Stock MBF	Growing Stock MBF	Total MBF	MBF/Ac
black oak	36.78	19.44	56.22	.36
chestnut oak	32.49	108.46	140.95	.90
pignut hickory	.94	10.22	11.16	.07
scarlet oak	147.76	60.42	208.18	1.33
Virginia pine	349.46	7.4	356.86	2.27
white oak	143.3	523.24	666.54	4.25

Tract Totals (MBF)	710.73	729.18	1439.91	9.17
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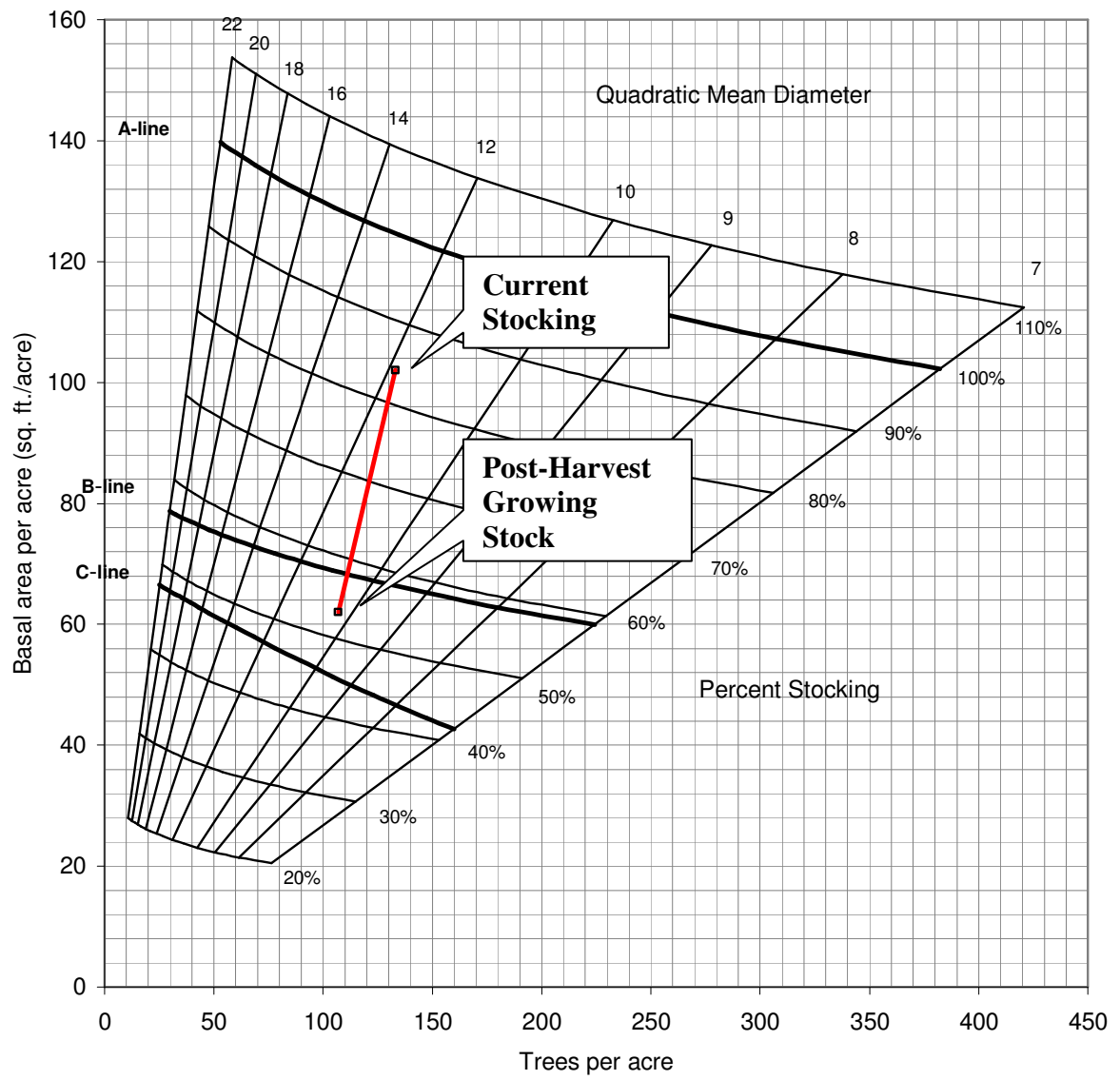
C15T5 Tract Level Stocking Guide



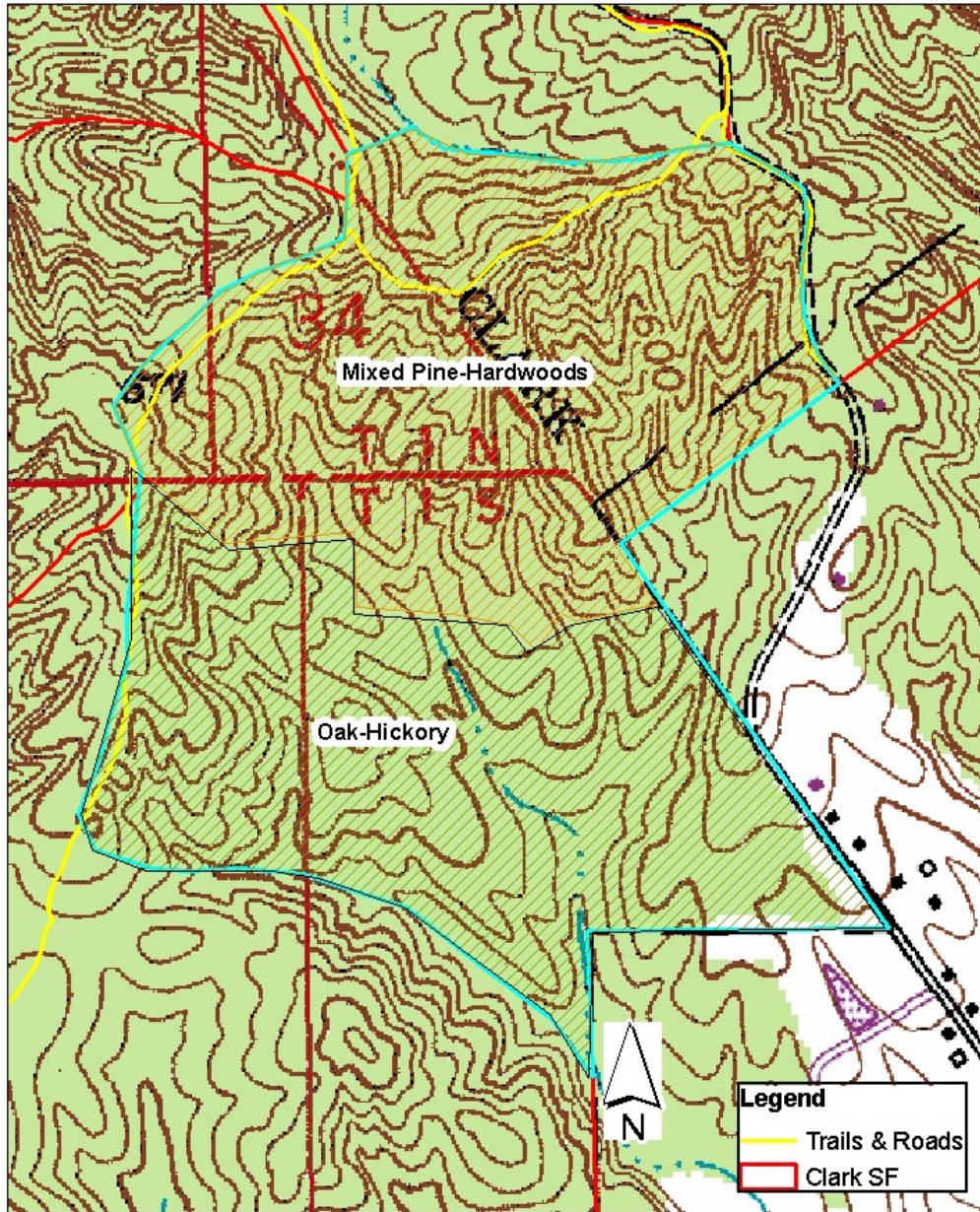
Hardwood Tract Subdivision Stocking Guide



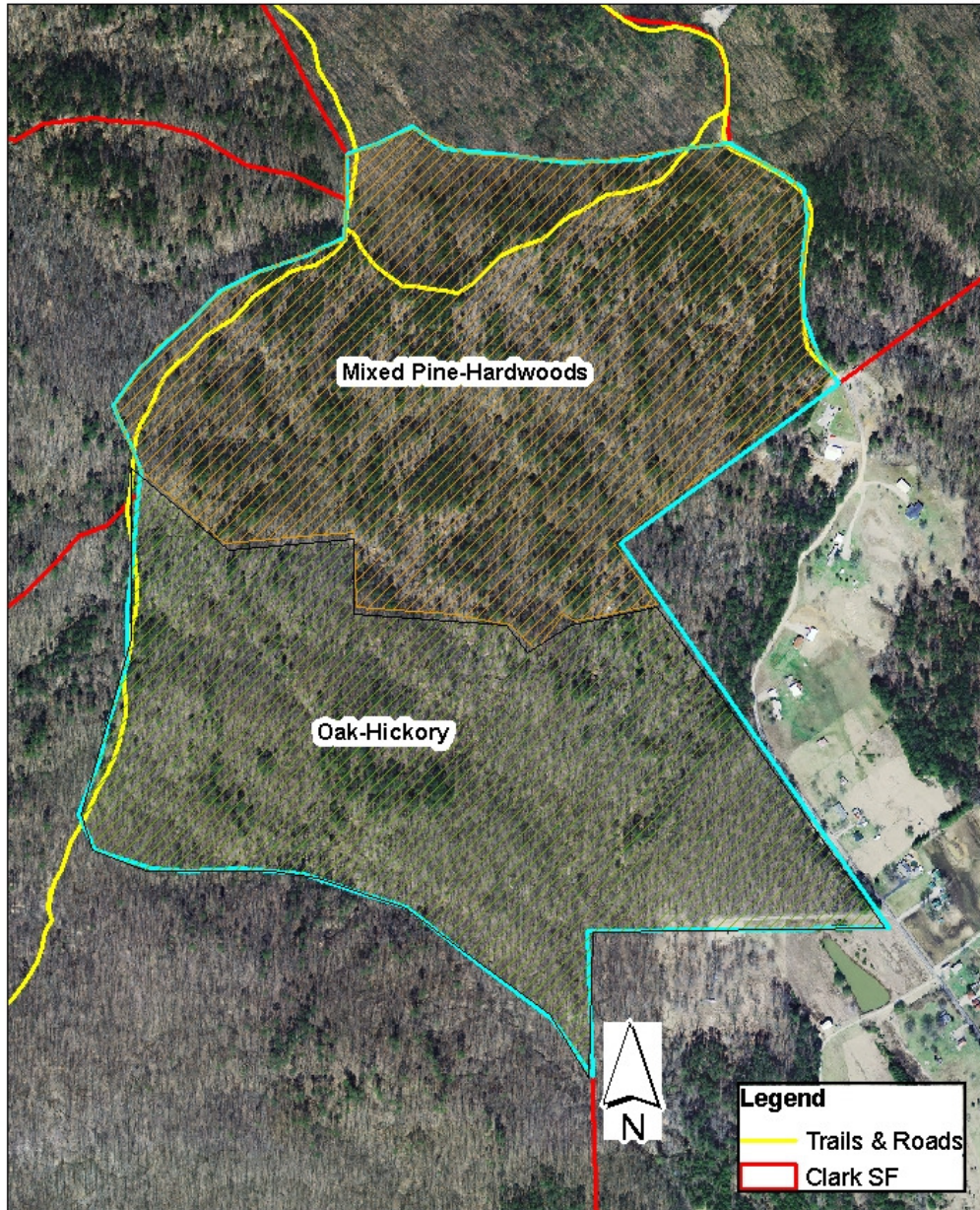
Pine Tract Subdivision Stocking Guide



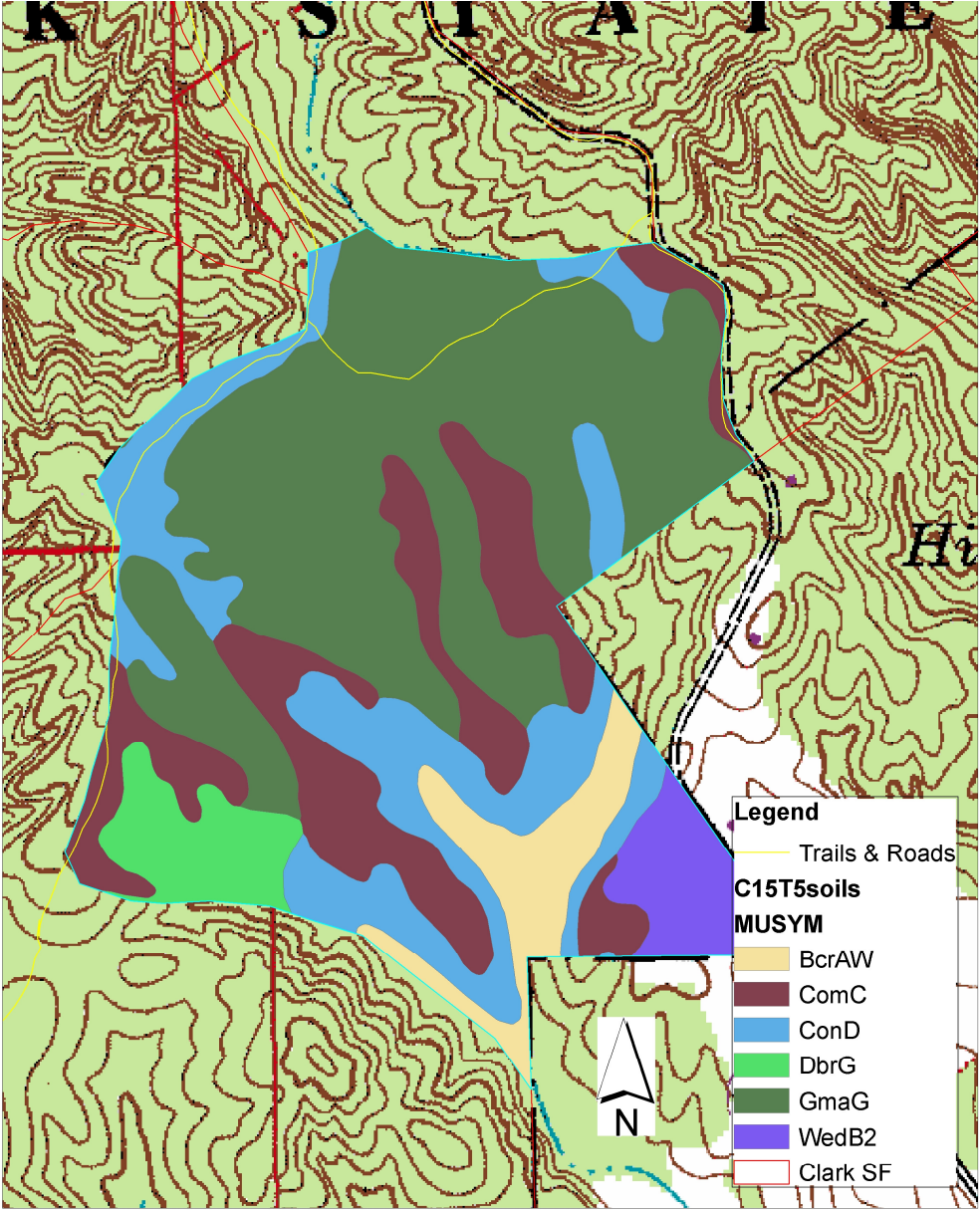
Clark State Forest Compartment 15 Tract 5

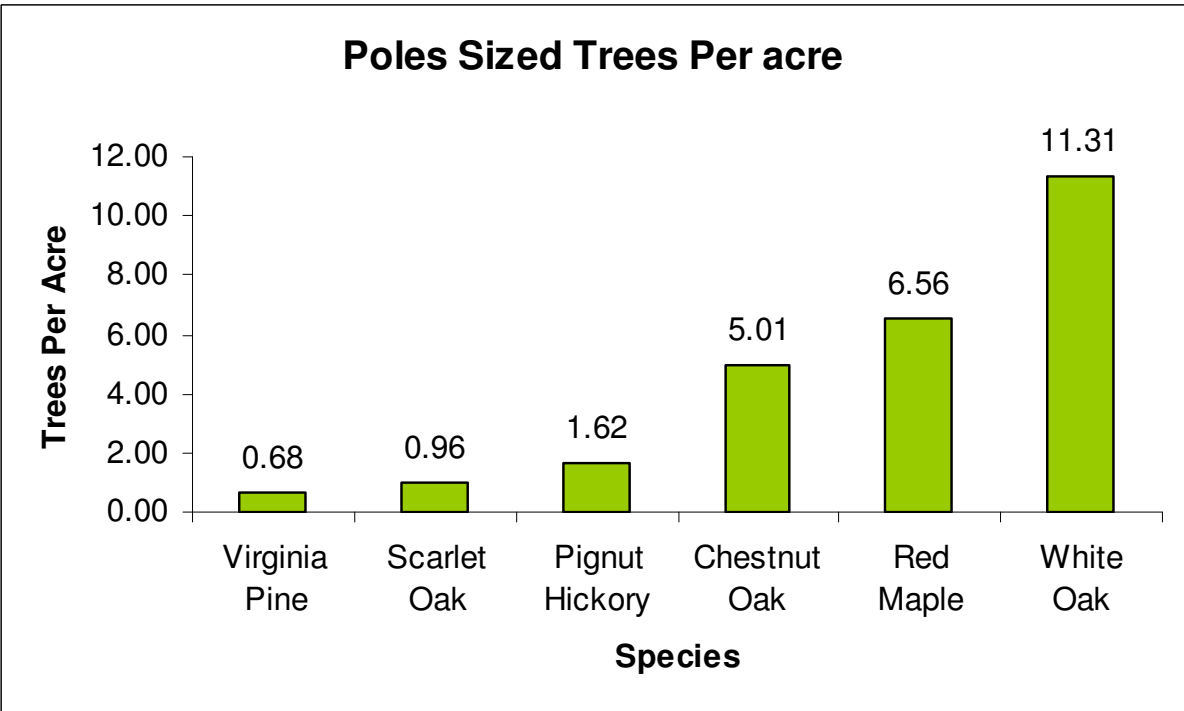
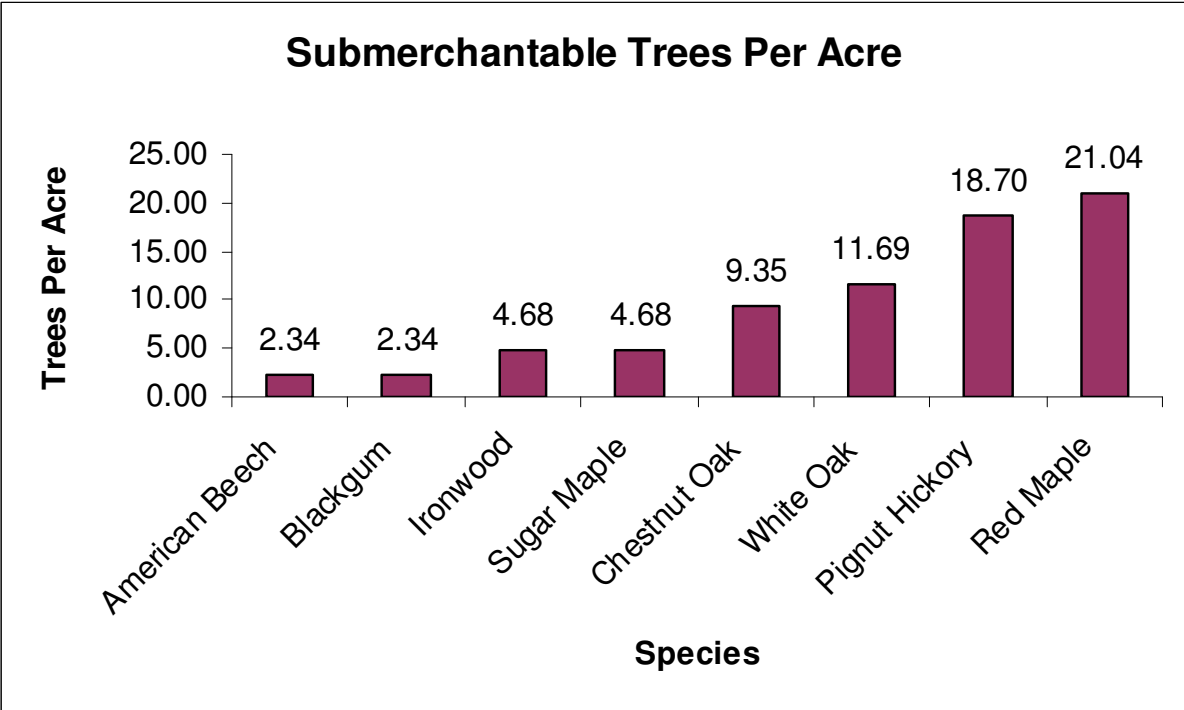


Clark State Forest Compartment 15 Tract 5



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Sawtimber Sized Trees Per Acre

