

Cypress Facts for the South, 2010

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FOREST INVENTORY & ANALYSIS FACTSHEET



Cypress swamp.
(photo by Bill Lea)

Introduction

With the expansion of markets for cypress mulch, continued interest in cypress for use in construction and furniture manufacturing, and its prominence as a component of the South's forested wetlands, it is important to understand the status of this uniquely southern resource. This factsheet is intended to provide a brief look at the geographic occurrence and extent of cypress, recent changes in its volume, levels of production, and general ownership characteristics (public vs. private) in each Southern State and the region as a whole. These attributes are useful indicators of future sustainability of this species.

The factsheet utilizes U.S. Department of Agriculture (USDA) Forest Service, Forest Inventory and Analysis (FIA) data, the most comprehensive and current source of information about the forests of the South. Data presented in this factsheet represent "timberland" in the South, distinguished from "forest land" by virtue of its **potential** availability for future harvest. Forest land, as defined here, contains timberland plus "reserved" acreage. Reserved acreage is that set aside in wilderness or other preserves. About 13 percent (0.5 million acres) of the cypress resource is in "reserved" status, virtually all publicly owned.

Though there are some differences in the physical characteristics and distribution of baldcypress (*Taxodium distichum*) and pond cypress (*Taxodium distichum* var. *nutans*), their ranges overlap and their product uses are similar. For this reason they have been combined and called "cypress" for the purposes of this factsheet.

Methods

Figure 1 below depicts the distribution of FIA sample plots that recorded the presence of one or more cypress trees in the tree inventory on forest land in the South. The map reflects three stocking densities of cypress on the plots. Although a small part of west Texas is included in the native range of cypress (Burns and Honkala 1990), no FIA plots captured their occurrence.

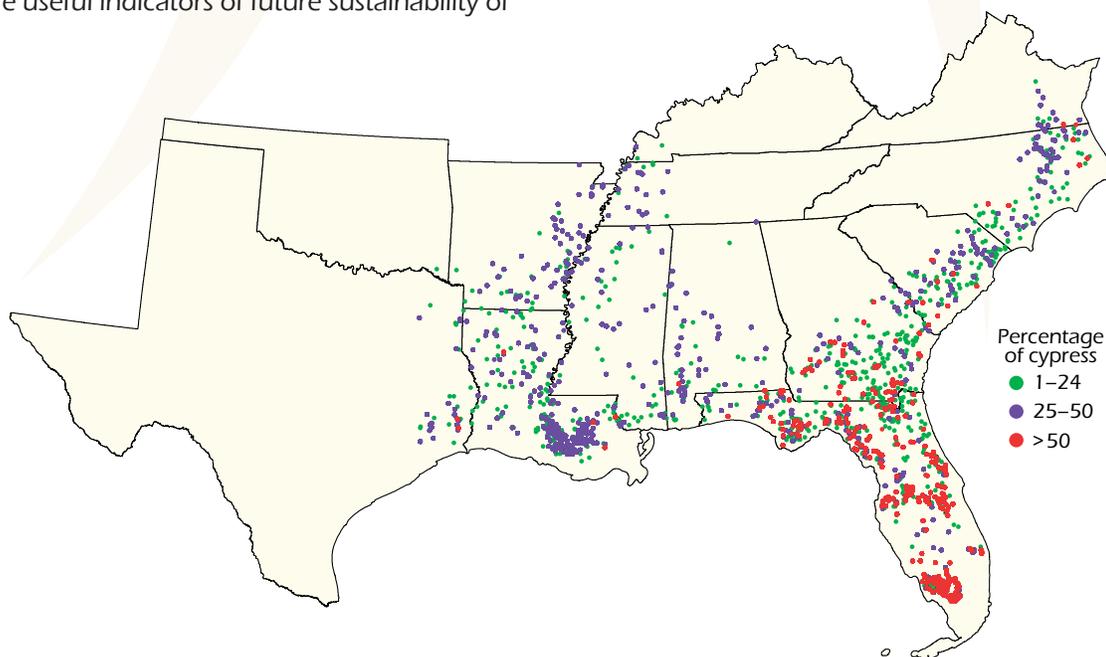
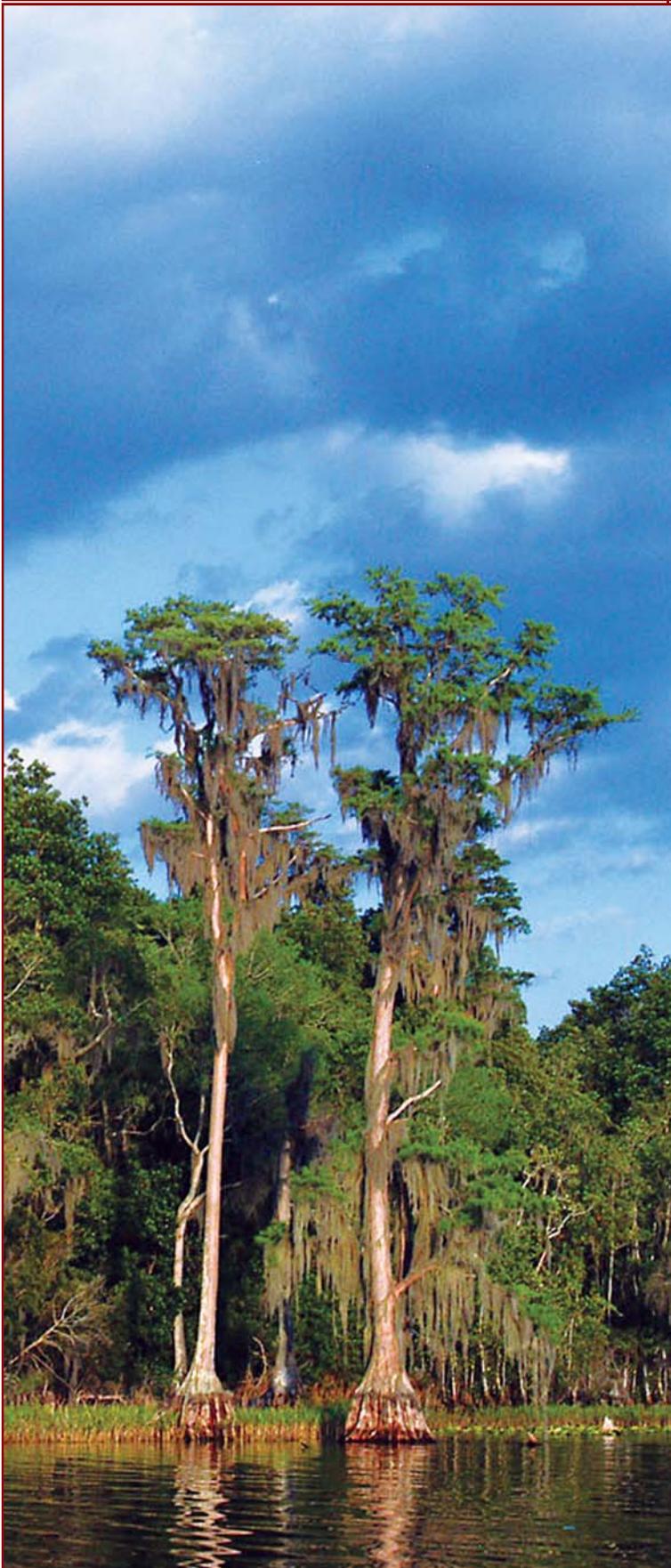


Figure 1—Occurrence of cypress trees on FIA plots in the South, by percentage of cypress tree stocking present, 2010.





Lakeshore/forest edge. (photo by Larry Korhnak, University of Florida)

Only those sample plots classified as timberland were used as the basis for data provided in this factsheet. Data were retrieved from the USDA Forest Service EVALIDator Web site using version 1.5 (Miles 2011). Data on area of timberland were based on a cypress-tupelo forest type developed from the addition of two FIA forest-type codes (U.S. Department of Agriculture 2007). These codes were 607 baldcypress/water tupelo and 609 baldcypress/pondcypress. Code 607 captures area with 25–50 percent stocking of cypress. Code 609 captures area with >50-percent stocking of cypress.

Volume data reflects that of cypress, not cypress-tupelo combined. These data are based upon summations of all individual cypress trees tallied on sample plots regardless of occurrence by forest type.

Area and volume information contained in this factsheet is based on an aggregation of 2010 inventory data for each State and the most recent comparable survey. Additional historical data exist and are available on the EVALIDator Web site, but because sampling methodology differed, these data are not directly comparable and are not valid indicators of trends.

Area

Less than 2 percent of the South's 210 million acres of timberland is in a cypress-tupelo forest type. More than one-half (56.3 percent) of the 3.4 million acres of cypress-tupelo acreage (fig. 2) is located in two States (Florida and Louisiana); and nearly two-thirds (64.7 percent) occurs in three States (Florida, Louisiana, and Georgia). About 94 percent of the acreage of this type is concentrated in 8 of the 13 Southern States, primarily the Atlantic and Gulf Coast States, with the exception being Arkansas.

Within the individual States, cypress-tupelo timberland is also relatively uncommon, comprising <2 percent of the total timberland acreage in 11 of the 13 States (fig. 3). In the two States with the most cypress-tupelo acreage (Florida and Louisiana), it comprises 6.3 and 6.2 percent of the total respectively, which is a relatively small share compared to other timberland forest types.

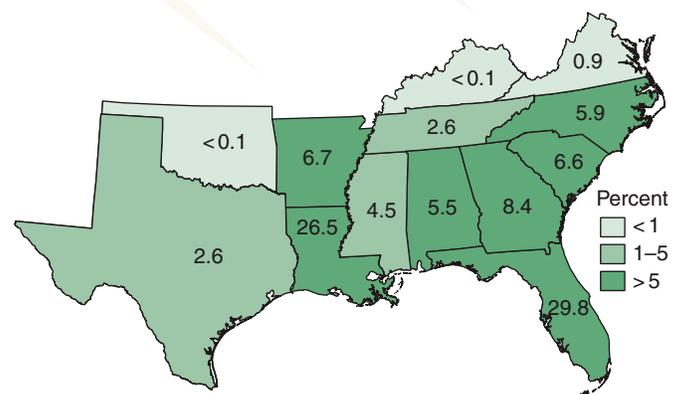


Figure 2—Percent distribution by State for the South's 3.4 million acres of timberland designated a cypress-tupelo forest type, 2010.

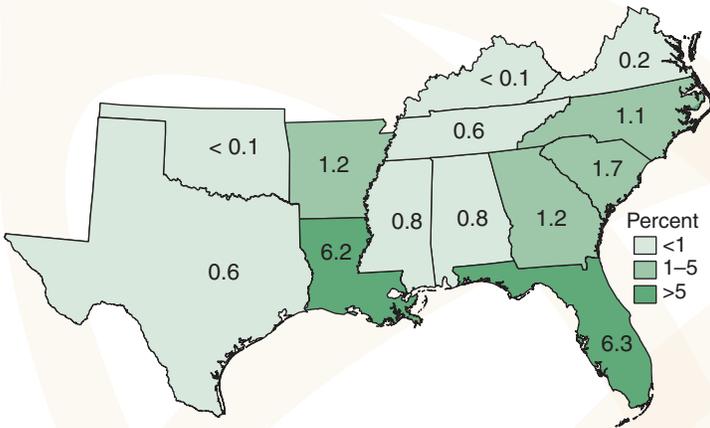


Figure 3—Percent that cypress-tupelo timberland comprises of total timberland within each State, 2010.

A comparison of the 2010 data with the most comparable previous FIA data in each Southern State revealed that cypress-tupelo acreage has increased in 7 of the 13 States, and decreased in 5 others (fig. 4). (Note: insufficient trend information exists in Oklahoma). Decreases were experienced in three of the four States containing the most cypress-tupelo acreage (Florida, Georgia, and South Carolina). Louisiana and Alabama showed the largest increase in cypress-tupelo acreage.



Baldcypress fruit/cone. (photo by Chris Evans, River to River CWMA, Bugwood.org)

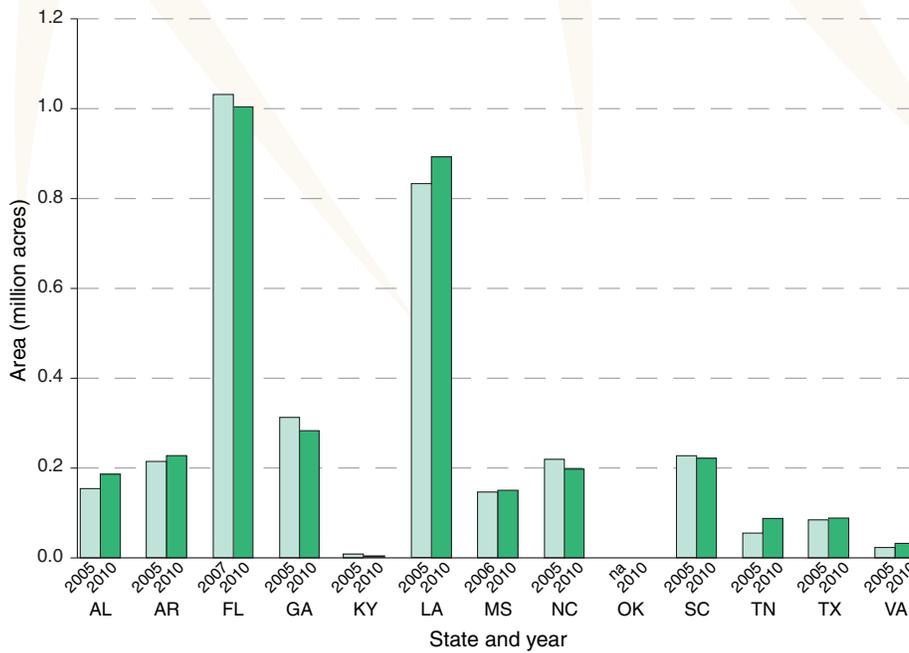


Figure 4—Trends in area of cypress-tupelo timberland by State (based on available FIA data) and year.

Volume

Figure 5 shows that more than one-half (54.7 percent) of the South's 7.7 billion cubic feet of cypress volume is found in two States (Florida and Louisiana) and more than two-thirds (66.6 percent) occurs in three States (Florida, Louisiana, and Georgia). About 93 percent of the cypress volume is concentrated in 8 of the 13 Southern States. These results reflect and are consistent with the distribution of cypress-tupelo acreage in the respective States.

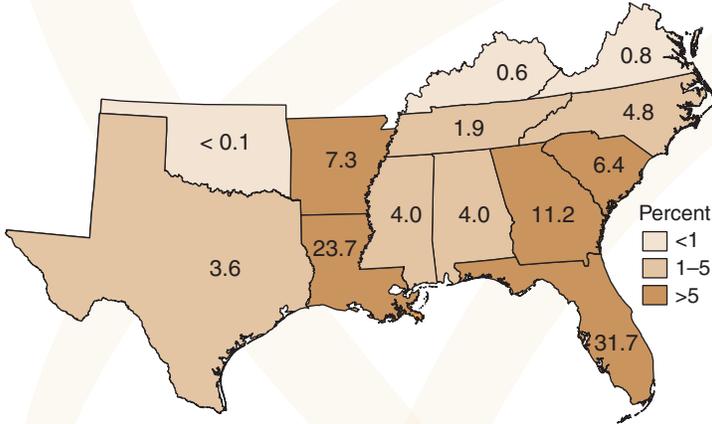


Figure 5—Percent distribution by State for the South's 7.7 billion cubic feet of all-live cypress wood volume, 2010.

The volume of cypress exceeds 5 percent of the total timberland volume in two States (Florida and Louisiana) and is ≤1 percent of total volume in seven States (fig. 6).

A comparison of the 2010 and most comparable previous FIA inventories in each Southern State reveals that cypress volume has increased in 8 of the 13 States, declined in 2 (Kentucky and North Carolina), and remained stable in 2 (Georgia and South Carolina). In the two States that dominate cypress-tupelo area, (Florida and Louisiana), volume of cypress increased (fig. 7) (Note: trend information is not available in Oklahoma). For each State, the changes in cypress volume between the latest comparable inventories are within the 90-percent confidence limits, indicating that recent change has not been statistically significant.



Baldcypress knees on Jones State Forest, Montgomery County, TX. (photo by Ron Billings, Texas Forest Service)

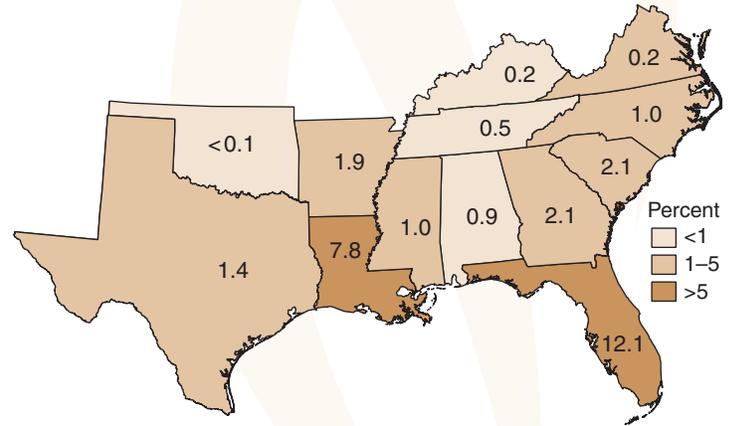


Figure 6—Percent that all-live cypress volume comprises of total wood volume for all tree species within each State, 2010.

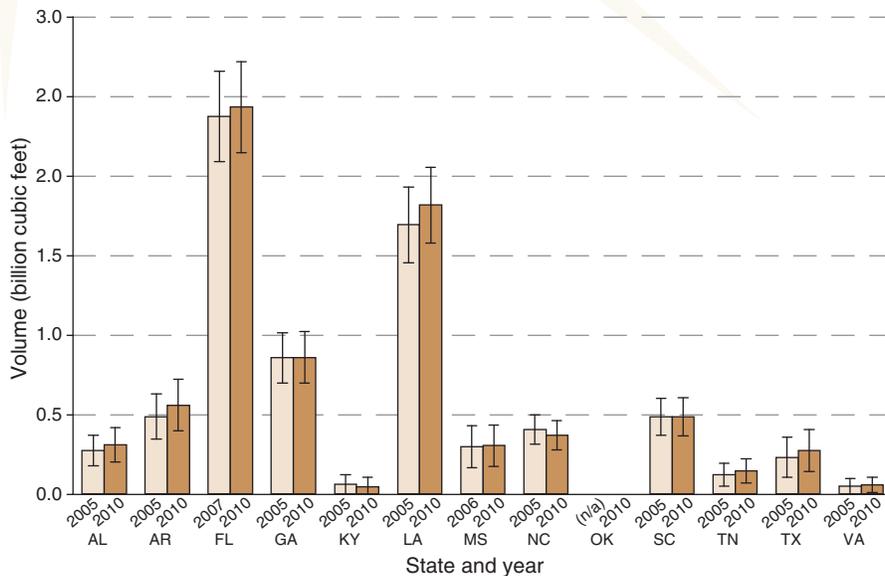


Figure 7—Trends in all-live cypress volume by State (based on available FIA data) and year with 90-percent confidence intervals applied.

Ownership

Three-quarters (75 percent) of the 3.4 million acres of cypress-tupelo forest-type timberland in the South is privately owned (fig. 8). Differences among States in public versus private ownership distribution of cypress-tupelo timberland are noteworthy. More than one-half (53 percent) of the privately owned cypress-tupelo timberland acreage occurs in Florida and Louisiana, which have relatively equal acreage of privately owned forests of this type. However, Florida alone accounts for nearly one-half (45 percent) of the publicly owned cypress-tupelo acreage in the South. Together with Louisiana, these two States contain almost two-thirds (65 percent) of the publicly owned cypress-tupelo timberland of the South.

Nearly three-fourths (73 percent) of the South's 7.7 billion cubic feet of cypress volume is privately owned (fig. 9). Differences exist between the public vs. private ownership distribution of the total cypress volume on timberland by State. More than one-half (52 percent) of the privately owned cypress volume occurs in Florida and Louisiana. Each State has about one-fourth (26 percent) or more of the privately owned cypress volume in the Southern United States. However, as with area, Florida alone accounts for nearly one-half (47 percent) of the publicly owned cypress volume in the South. (Note: data for Oklahoma are not available.) (Note: nominal acreage or unavailable data in some years or ownerships for Kentucky, Virginia, and Oklahoma limit their appearance on figs. 8 and 9.)

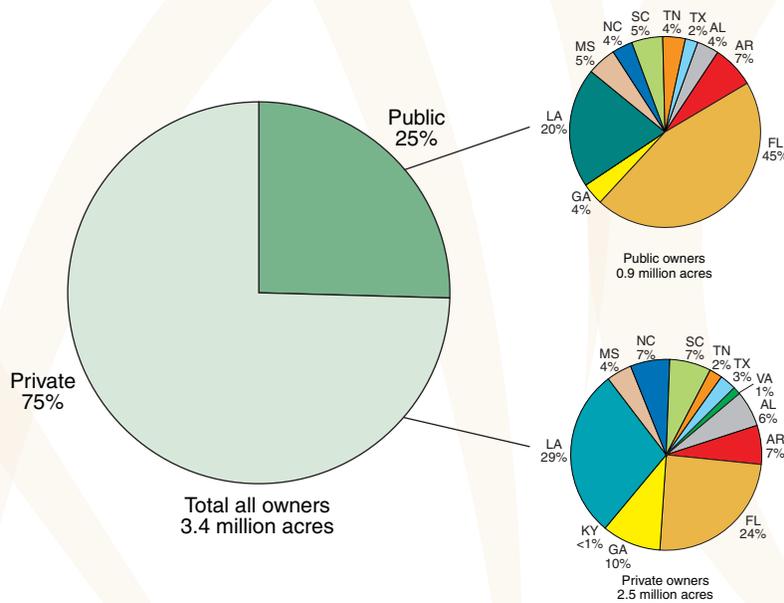


Figure 8—Percent distribution of cypress-tupelo timberland by general ownership classes in the South, 2010.

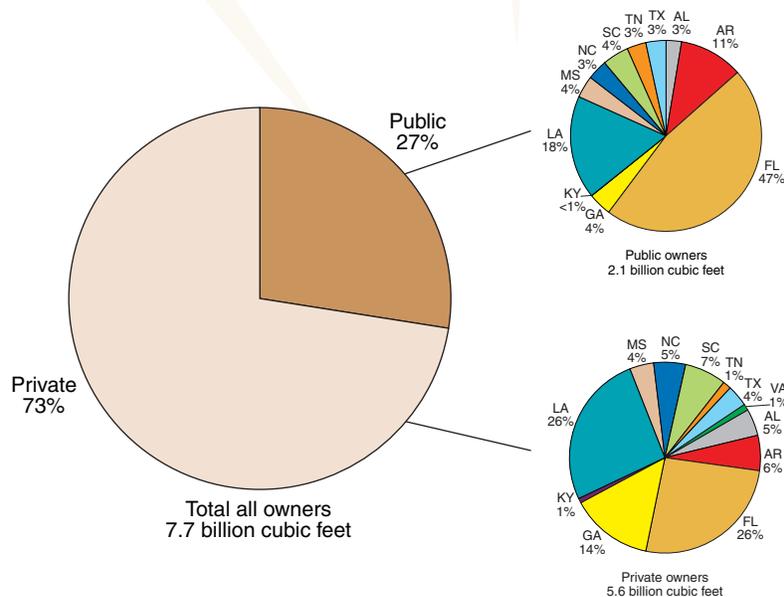


Figure 9—Percent distribution of cypress volume by general ownership classes in the South, 2010.



Timber Product Output

Estimates of timber product output (TPO) and plant residues were obtained from canvasses (questionnaires) sent to all major primary wood-using mills in the South. The canvasses are used to determine the types and amount of roundwood, or timber (i.e., saw logs, pulpwood, veneer logs, poles, etc.) received by each mill, their county of origin, the species used, and how the mills disposed of the bark and wood residues produced. The canvasses were conducted every 2 years by personnel from the Southern Research Station and State agency cooperators. These data are used to augment the FIA annual inventory of all-live timber removals by providing the proportions that are used for various timber products. These removals are from mixed as well as pure cypress stands.

In 2009, total cypress roundwood production amounted to 25.5 million cubic feet, less than one-half percent of the South's total roundwood production.¹ Saw logs and mulch were the principal roundwood products accounting for almost all the South's cypress production. Saw logs made-up 52 percent of the cypress production, while mulch comprised the remaining 48 percent. Cypress mulch production remained fairly stable from 1995 through 2002 (fig. 10). In 2003 cypress mulch reached a production high of 20.4 million cubic feet. Between 2003 and 2009 mulch production declined 40 percent. Cypress saw-log production has shown a steady increase between 1995 and 2007, where production

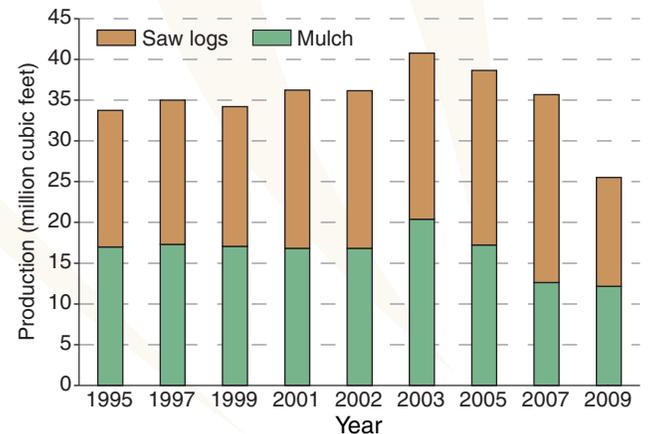


Figure 10—Cypress production by product and year in the South, 1995–2009.

reached a high of 23.0 million cubic feet, but dropped 34 percent between 2007 and 2009.

Florida led the 13 Southern States in cypress production with 12.3 million cubic feet, while Georgia was second with 5.0 million cubic feet. South Carolina and North Carolina followed with 2.9 and 2.2 million cubic feet, respectively (fig. 11). Combined output for these four States totaled 22.4 million cubic feet and accounted for 88 percent of the South's total cypress production. Three States (Florida, Georgia, and South Carolina) provided practically all of the mulch production in the South.

¹ Bentley, J.W. 2009. [Untitled]. Unpublished data. On file with: Southern Research Station, Forest Inventory and Analysis, 4700 Old Kingston Pike, Knoxville, TN 37919.

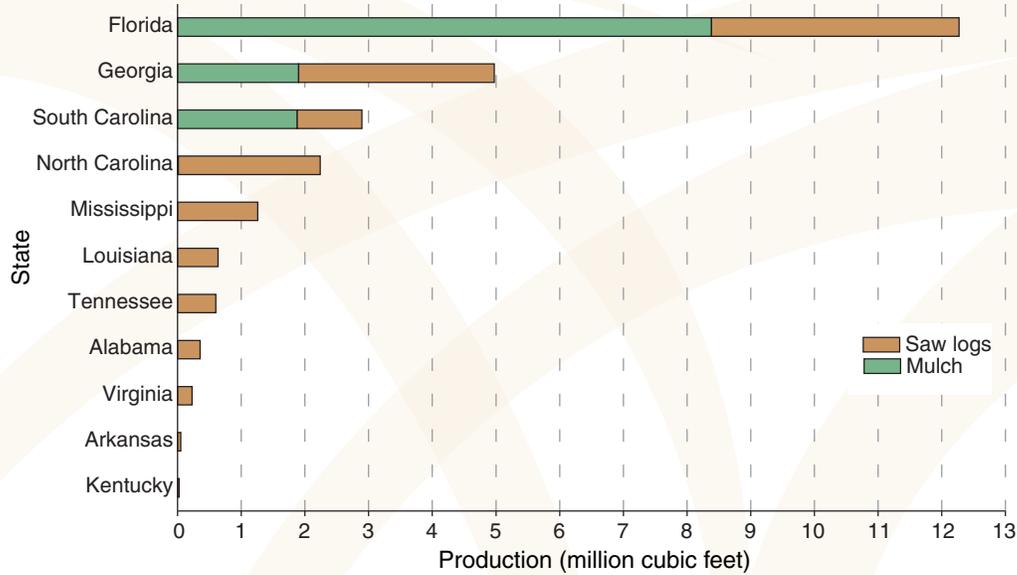


Figure 11—Cypress production by State and product in the South, 2009.

Figure 12 displays a further look into the role each State has played in total cypress roundwood production and the changes that have occurred over the last decade. Florida and Georgia peaked in cypress production in 2003 with 21.5 and 14.2 million cubic feet, respectively. Between 2003 and 2009 Florida showed a 43 percent decline in cypress production, while Georgia declined 65 percent.

Note: the above numbers for the South do not include Texas. Texas completes their industry survey and does not report

cypress production. Cypress trees continue to be harvested in Texas on a limited basis. It would appear based on anecdotal/qualitative-type information, that cypress utilization in Texas has remained fairly steady, but with small volumes, and with perhaps a decline in recent years due to the economic downturn.²

Note: data for Louisiana reflects cypress utilized by the primary wood producing mills only, which were the sources canvassed by the FIA TPO surveys.

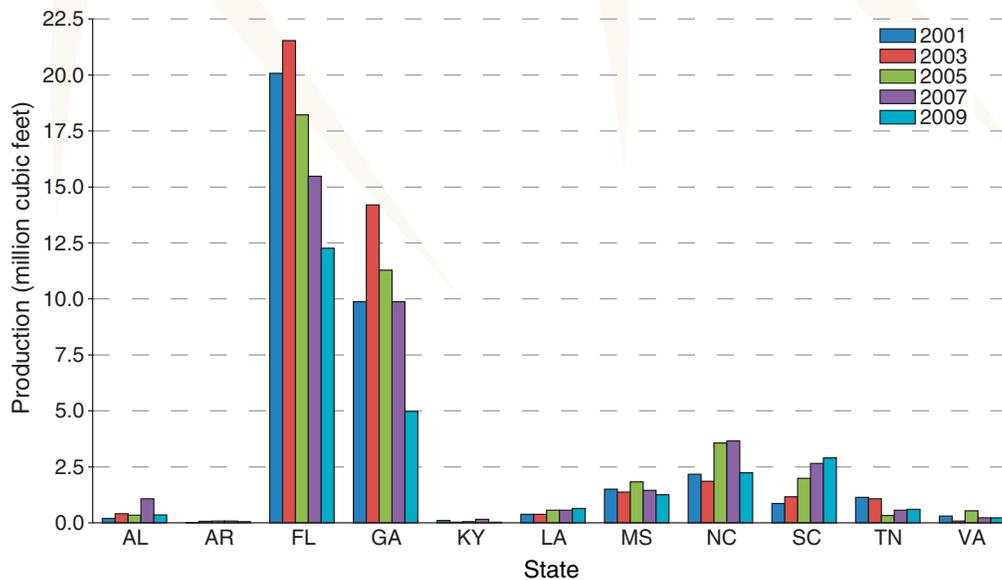


Figure 12—Cypress production by State and year in the South, 2001-09.

² Personal communication. 2012. Chris Edgar and Edward Dougal of the Texas Forest Service.

Conclusions

Cypress comprises a relatively small share of the acreage and volume of southern forests, yet this species group is perhaps the most emblematic of all southern tree species. Its characteristic appearance, distinct wood qualities, unique site and management requirements, ecological functions and relative scarcity combine to make cypress sustainability important to a wide variety of southerners. Though present in all 13 Southern States, its occurrence is concentrated in Florida and Louisiana, thus Southwide trends will be driven largely by changes occurring in these States.

While acreage, volume, and production vary over time due to market and other forces, data suggests relative stability Southwide in terms of both acreage and volume. It is important to note that while State and regional averages can be statistically valid at those scales, significant changes at sub-State scales can be masked. Similarly, trends observed at very small scales cannot be expected to represent State or regional trends.

Data reflecting the products for which cypress has been harvested indicates substantial use of cypress in most states for sawtimber, but mulch production is largely limited to Florida, Georgia, and South Carolina. TPO data indicate that sawtimber production has remained relatively steady until 2009, but use of cypress for mulch production has declined since its peak in 2003. Reasons for this are unclear, but could include increased use of artificial mulch, combining cypress with other species in bagged mulch, or other factors. Nonetheless, future demands for and production of cypress is likely to remain of keen interest.

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Cypress pond, FL. (photo by Bill Lea)

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