Volume tables have been compiled with data collected in Maryland, South Carolina, and Louisiana, presumably from baldcypress trees (Mattoon, 1915). In these tables, diameter at 6 meters (20 feet) above ground, number of merchantable logs, and diameter at the top of the first 5-meter (16-foot) log are related to board feet using the Scribner, Doyle, and two-thirds log rules.

A table for well-managed, even-aged tupelo stands that could be "roughly adjusted" for application to cypress relates average diameter above bottleneck (measured at 0.60 to 0.75 meter [2 to 2.5 feet] above the butt swell) to basal area, number of trees, and average volume per acre (Putnam et al., 1960). For fully stocked oak-gum-cypress stands on medium and high sites, tables of volumes per acre, basal area per acre, and number of live trees per acre by dbh class were formulated by McClure and Knight (1984).

Volume tables constructed for pondcypress in north central Florida relate total height and either dbh or "diameter head height" (taken at 2 meters [6.5 feet] above the ground) to volume in cubic feet and in board feet (Scribner rule) (Swinford, 1948). Swinford also assembled a table relating dbh and number of 5-meter (16-foot) logs to volume in board feet (Scribner rule). Volumes calculated from diameter head height were more accurate than those calculated from dbh, because the former point is less affected by butt swell than the latter.

Two tables of merchantable volume are available for baldcypress in the south Delta region of Louisiana, using diameter taken at 45 centimeters (18 inches) above butt swell (called "normal diameter") or at 3 meters (10 feet) above ground (Hotvedt and Parresol, 1982). The volume equation based on diameter at 3 meters fits the data more reliably than the equation based on normal diameter. Using diameter at 3 meters also yielded more accurate equations for total volume than did normal diameter when a larger sample size was used (Hotvedt et al., 1985). Regression equations for estimating biomass of pondcypress and baldcypress using dbh are listed by Brown (1978).

Another difficulty in cypress mensuration arises in measuring the age of cypress trees. False rings, which may result from soil-moisture fluctuations, are common in cypress trees; including false rings in a tree-ring count can lead to overestimates of age and, consequently, underestimates of growth rates. Planted cypress averaged 28 rings in 17-year-old trees, 30 rings in 19-year-old trees, and 32 rings in 20-year-old trees. A magnification of at least 20X facilitates distinguishing false rings from true ones (Beaufait and Nelson, 1957). If growth rates rather than ages are desired, averaging growth estimates over 6 to 10 years reduces the error associated with false rings (Ewel and Parendes, 1984).

Timber Production and Standing Stocks

No surveys are available that differentiate between pondcypress and baldcypress volumes. The earliest appraisal of total standing cypress sawtimber was made in 1897 by Mohr (in Mattoon, 1915), who estimated 33 billion board feet. (These data cannot be converted easily into metric units.) That figure was revised to 40 million board feet in 1909; nearly 39% of all standing sawtimber - approximately 15.7 billion board feet - was in Louisiana (U.S. Department of Commerce, Bureau of Corporations, 1914).

Early in the twentieth century, new markets for cypress were opened by the expansion of the railroad system (Sternitzke, 1972), and cypress dealers mounted a massive effort to develop a national market (Burns, 1980). The publicity campaign started out by suggesting the use of cypress for "necessities and conveniences" such as trellises and garden furniture, and later promoted its use in farm buildings and "homemade furniture and knick-knacks" (Anonymous, 1916). Uses of cypress ranged from installation of hollowed logs for water mains in New Orleans to the manufacture of birdhouses and beehives from knees.

The advertising campaign was successful. Production of cypress lumber went from 495 million board feet in 1899 to a peak of 1,097 million board feet in 1913 (Betts, 1938); from 1899 to 1925, average annual production of cypress lumber was 798 million board feet (U.S. Department of Agriculture, 1927).

In 1920, the U.S. Forest Service calculated that the amount of standing cypress sawtimber had dropped to 22.9 billion board feet, a decline of more than 40% since the 1909 survey (Betts, 1938). In 1933, the Forest Service's estimate of standing sawtimber fell to 4.1 billion board feet, about 10% of the 1909 figure.

The cypress industry collapsed even faster than it had boomed. By the Great Depression, most of Louisiana's virgin cypress forests had been cut over, and most of the state's cypress mills had been shut down (Burns, 1980). The decline in the harvest of cypress has been attributed to economic and physical constraints imposed on forestry operations by wet site conditions (Jackson and Morris, 1986). In addition, most of the larger, readily accessible stands of old-growth timber had already been cut. In 1933, cypress lumber production had fallen to 158 million board feet; in the early 1930s, Florida overtook Louisiana as the leading cypress-producing state. In 1931, 144 million board feet were produced in Florida, while only 52 million board feet came from Louisiana (Anonymous, 1934).

By 1936, total production had risen again to 441 million board feet (Betts, 1938), but by 1943 it had dropped back to 254 million board feet (Betts, 1945a).