Products of the Longleaf Pine

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The history of longleaf pine, both enduring and rich as its beauty, began in the South where virgin forests covered more than 100,000 square miles. These forests, averaging 125 miles in width, ran from Virginia to central Florida, and westward along the Gulf Coast as far west as Texas. This forest of longleaf pine as discovered by colonists consisted of majestic trees reaching 125 feet or more in height that took 150 to 400 years to mature and seemed to exist in limitless supply.

Longleaf pine, or *Pinus palustris*, has been referred to by many names in the South. For example, the Gulf Coast states have referred to it as "fat" pine; the Atlantic states call it "longleaf;" "turpentine" or "rosemary" in North Carolina; "orchard" in Texas; and "brown" in Tennessee. The forest products industry traditionally has referred to it as "southern," "yellow," "heart" or "pitch."

Historical Uses

The colonists discovered that longleaf could be utilized for a great variety of purposes. They found the straight grain, dense and resinous wood to be an exceptional building material. The wood was unsurpassed for dimension stock, posts, piles and joists, especially in bridge, railroad trestle, warehouse and factory construction.

The strength of longleaf pine made it suitable for railroad cars and ties, sailing masts, farm implements, paving blocks and flooring. As a matter of fact, the keel of the U.S.S. Constitution, the legendary revolutionary warship, was made with a single heart pine timber. In American ports from New York to New Orleans, wharves were constructed with longleaf pine. The colonists in the Carolinas, Georgia and Florida built 75 percent of the houses and commercial structures from longleaf. Longleaf pine tar and pitch extracts were used for caulking wooden ships and were exported from Virginia as early as 1608.

Revolutionary Symbol

The Boston Tea Party has historically been proclaimed as a symbolic act of defiance to the British crown. However, an earlier act of civil disobedience directed toward the crown resulted from an edict issued by King George II concerning longleaf pines. He declared, due to the scarcity of lumber in Europe, that all straight pines over 24 inches in diameter be marked as the property of the crown and henceforth, branded with a broad arrow by the king's surveyors. The colonists, realizing the value of the resource to the future of the colonies, promptly demonstrated their proprietary rights to the longleaf pine by tarring and feathering the king's surveyors.

Longleaf Pine Decline and Renewal

Longleaf pine forests originally contained an estimated 200 billion board feet. Following European settlement in Virginia, human impact on the longleaf forest was minor and limited to Virginia, North Carolina, and the major river courses for more than 250 years. To about 1900, sawmills consisted mostly of small tidewater operations along coastal areas. The vast interior longleaf forest was relatively intact.

Events would greatly accelerate the longleaf harvest. Locomotives specifically designed for logging increased accessibility, steam skidders increased the number of logs that could be hauled, and new band saws increased milling capacity tenfold. The period between 1900 and 1930 witnessed the establishment of large inland mills. The longleaf pine harvest peaked in 1909, and by 1935 the once vast longleaf forest was one-third its original size, or about 20 million acres. After 1930, the species continued its drastic decline due to the clearing of land for agriculture and development, regeneration failures, and replacement by faster growing loblolly and slash pines. The most recent data show only 3 million acres of longleaf remaining, which is less than 5 percent of its original extent. The longleaf pine had become a victim of the American industrial revolution and the ever-increasing demand for wood products by an expanding population.

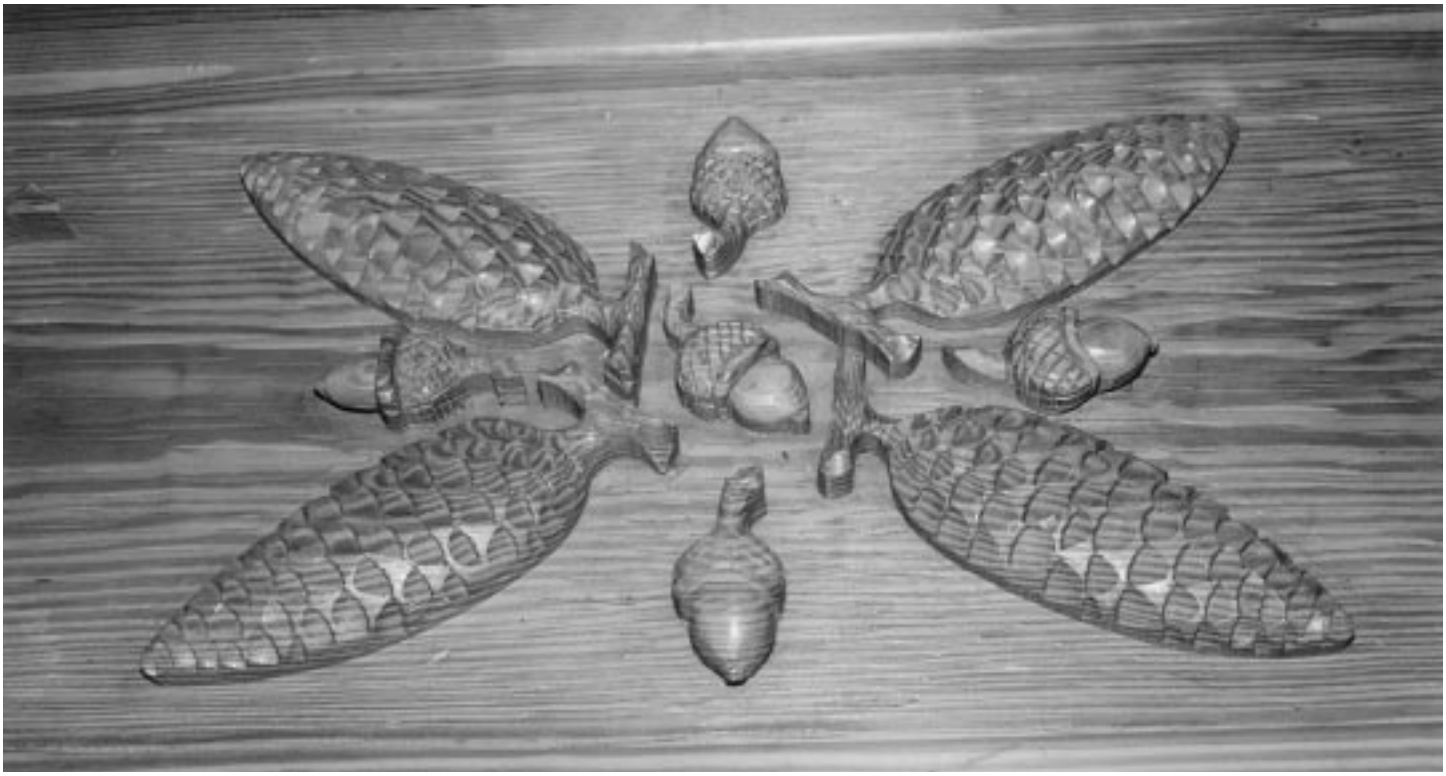
Forest landowners and others have become increasingly interested in restoring longleaf pine to its natural range. There are many reasons for the renewed interest in longleaf pine. Today's wood products capture the strength and enduring characteristics of longleaf pine. Utility poles, glue-laminated beams, modern wooden bridge components, recycled longleaf timbers made into flooring and panels, as well as other traditional products drive the renewed interest in maintaining and expanding the longleaf back from its decline.

Fiber Strength and Utility

The four major Southern pines include longleaf pine, shortleaf pine, loblolly pine, and slash pine. Overall, longleaf pine has the better strength and product utility. As compared to the other Southern pine species, longleaf pine is classified as heavy, strong, stiff, hard, and moderately high in shock resistance. Industry standards single out lumber made from longleaf pine because of the density of the growth rings and its good mechanical properties indicating clear straight-grained wood. For example, the lumber that is classified as longleaf in the domestic trade is known also as pitch pine in the export trade.

Selected Manufactured Products

Poles—For landowners and the forest products industry, the longleaf pine has potential financial advantages over loblolly and slash pines, particularly in sawtimber-length rotations. Longleaf pine stands usually produce a greater percentage of high-valued poles than other species of pine. The natural form of longleaf pine is characterized by above average height and straight, knot-free boles. On average, studies show approximately two-thirds of longleaf pine sawtimber-sized trees could be manufactured



While poles may be the most traditional use of longleaf pine, the wood has many uses, such as for this table at the Alabama Forestry Association building in Montgomery. Carvings on the table make it more than just a functional piece of furniture.

into poles. The percentage of slash and loblolly pine sawtimber meeting pole market specifications is much less.

Flooring and Paneling—The beauty of longleaf pine is being projected by the recycling of large longleaf timbers retrieved from buildings constructed many years ago, most in the 1800s. These timbers are being made into "antique" or longleaf "heart" flooring, paneling, molding, and beams. The recycled timbers contain a dense, straight grain and rich color ranging from a light honey to dark reddish-brown. The beauty of the heartwood characteristics of longleaf pine (growth rings being very dense or close together with very little sapwood) intensify with age, and due to its high resin content the wood is virtually impervious to bug infestation and rot.

Structural Glue-laminated Beams and Timber Bridge Components—The inherent strength, straight bole, and knot-free sawtimber-length rotation advantages over other pine species makes longleaf pine a preferred choice by manufacturers of structural glue-laminated beams and timber bridge components. Glue-laminated beams, primarily used in building structures where structural strength and aesthetics are desired, and glue-laminated bridge timbers, used to maintain and replace the nation's aging bridge infrastructure, are produced by laminating together, face-to-face, individual pieces of solid-sawn lumber. Glue and intense pressure are applied in the manufacturing process.

Conclusion

With (1) markets for wood products manufactured from longleaf pine expanding; (2) the importance of the longleaf pine ecosystem to plant and animal life being expounded; and (3) the increased access that forest landowners have to knowledge and techniques to largely overcome factors that limit initial reforestation efforts with longleaf pine, the renewed interest in restoring longleaf pine to its natural range will continue.

References

America Heart Pine, Incorporated-Antique Timber Specialist, "A History of Heart Pine," Memphis, Tennessee.

Mississippi State University Extension Service, "Longleaf Pine in Mississippi," by Glenn Hughes, Forestry Specialist.

Forest Products Development Center—School Of Forestry, Auburn University, Alabama.

Flomaton Natural Area

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Randolph home and behold what the Flomaton Natural Area provided. There you can get a sense for what and how the early settlers utilized longleaf pine. Better yet, visit the Flomaton Natural Area and experience what the Native Americans and early settlers saw, including some of the same trees they did. In front of you is a living museum of longleaf pine. We have the opportunity to see an example of a pre-settlement forest here in our great state when visiting the Flomaton Natural Area. We need to afford that opportunity to our children's children. We can ask: "How much old-growth is enough?" The answer has to be: "All that we can possibly have." It would be a social crime to have some construction piece in Colonial Williamsburg as the only place to view old-growth longleaf pine. The Flomaton Natural Area was, is, and should always be one of *Alabama's* ***Treasured*** *Forests.*