Preserving Longleaf Pine in Virginia

Restoring Our Native Species

Forestry Topics FT0008 September 2007

History

Longleaf pine forests once covered between 1 million and 1.5 million acres in Virginia south of the James River. But, today, there are only a few small stands and individual trees – just a few hundred individuals of seed-bearing age and size – that can be verified as "native" Virginia trees.

Why Longleaf?

Longleaf pine has a number of economic, ecosystem and aesthetic values. Historically, it provided lumber, poles, ship masts, turpentine, tar and pitch. Its understory provided grazing land for livestock. In recent years, it has become a preferred source of pine straw for landscaping uses. Longleaf forests are some of our most biologically diverse ecosystems; many species associated with longleaf ecosystems are threatened or endangered. Longleaf is highly resistant to pine beetles and fusiform rust; tolerant of wildfire and ice, and generally windfirm – longevity that translates into ecosystem stability and potential for long-term carbon sequestration.

VDOF Research

As part of its ongoing research program, the Virginia Department of Forestry (VDOF) has installed two studies in recent years to help us better understand how to restore longleaf pine stands in the Commonwealth.

- The first, established in early 2005, compares several site preparation methods, including mechanical scalping and combinations of various herbicides. After two years, it is clear that competition control is essential. Survival was increased 50 percent or more by either using herbicides for grass control or removing a four-inch layer of sod using a mechanical scalping device. An additional 10 percent survival was gained by planting the containerized seedlings shallow enough to expose ½ inch to 1 inch of the plug rather than flush with the soil surface.
- A second study compares survival and growth of native Virginia Longleaf seedlings to those originating from seed in eight "non-native" geographic areas from Mississippi to North Carolina. This provenance study was planted at three different locations in early 2006 with the goal of documenting the relative performance of these sources. After one season, the native Virginia seedlings have survived as well as or better than those from any other location (95 percent for native seedlings compared to 73 percent – 89 percent for the other sources).

Native Virginia Longleaf

- Inventory and Preservation – The VDOF and the Virginia Department of Conservation and Recreation's (DCR) Natural Heritage Program have worked together for a number of years to identify, map and preserve the remaining native Longleaf pines in Virginia. There are 134 individual trees in the data base that were living before 1950 (a cutoff prior to which little if any Longleaf planting is known to have been done) and show evidence of having grown in a natural or mixed stand throughout their lives. Each tree has been located by GPS, inventoried, painted and marked with a placard that explains its preservation value. Approximately 50 additional native trees have been located and are in the process of being cataloged.
- Seedling Production – VDOF and the DCR also collaborated in 2006 on the first-ever, large-scale effort to collect seed from these remaining known wild Virginia

Preserving Longleaf Pine in Virginia

Longleaf pines. More than 200 bushels of Longleaf cones that yielded 62 pounds of sound seed were gathered. As many as 150,000 native Virginia Longleaf pines may be grown from this collection and used in coming years for restoration efforts in southeast Virginia. Based on this success, plans are underway to collect cones again in 2007.

- Seed Production Area – With seed collected from individual native mother trees, VDOF personnel are raising seedlings to be used in establishing a seed production area at the Garland Gray Forestry Center. This will eventually allow seed collection to proceed much more efficiently and with a higher seed (and seedling) yield.

Cost-Share

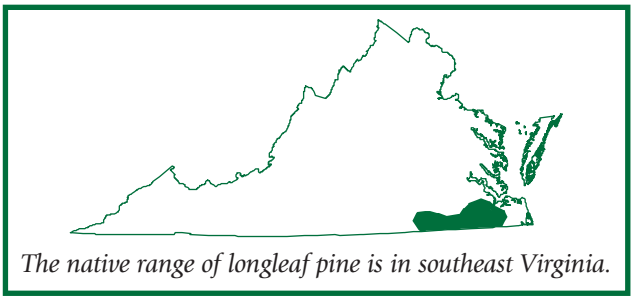
Because Longleaf pine is more resistant to southern pine beetle (and other bark beetles) than loblolly pine, cost-share money is available to landowners interested in establishing healthy, viable stands of Longleaf pine as part of their reforestation programs. Funds will support the costs associated with site preparation, planting and/or burning as necessary during the first five years of stand establishment.

Who Should Consider Longleaf?

Despite its intriguing history and characteristics, longleaf pine is not for everyone. Here are a few considerations to help decide where longleaf may fit in.

Longleaf may be a good idea for landowners who:

- Own land in the original native range of longleaf pine.
- Are interested in long-term ecosystem stability or aesthetics as a primary objective.
- Find the potential for periodic cash flows from the sale of pine-straw attractive.
- Want to preserve associated native plants (wiregrass, pitcher plants) and wildlife (bobwhite quail, red-cockaded woodpeckers).
- Need to reforest sites with sandy, well-drained, drought-susceptible soils.
- Seek to build resistance to southern pine beetle into their management plans.



The native range of longleaf pine is in southeast Virginia.

On the other hand, longleaf might not be appropriate for landowners who:

- Own land outside the native range of longleaf.
- Use financial return on investment as a primary objective.
- Need to reforest sites with heavy-textured or poorly drained soils.

Additional Information

For additional information about how to establish, grow and manage Longleaf pine in Virginia, refer to our Web site:

www.dof.virginia.gov/

Written by: Jerre Creighton, research program manager

Virginia Department of Forestry
Central Office
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903
www.dof.virginia.gov
Phone: (434) 977-6555
Fax: (434) 296-2369

VDOF FT0008; 09/2007