

Environmental Edition: May, August, November, February – Mary Lovings, Editor Gardening: June, September, December, March - Linda Doiron, Editor Landscape Design: July, October, January, April – Suzanne Finger, Editor

Pine Whisperings

We sing songs about them, our homes are built of them and we live and work beneath their long shadows. Pine trees are a part of any life lived in our great state of Georgia. Most of us could walk out of our home or business and point out a pine tree. They are all around us. I thought it would be nice if we were to get to know them a little better. Did you know that there are eleven different types of pines that are native to Georgia? Out of that eleven, I would like to focus on the iconic and storied Longleaf Pine. Also, I will touch on its differences with the Loblolly Pine and Slash Pine as well as a few other facts that are universal to all of our pines.

Long Live the Longleaf!

Pinus palustris is the botanical name for the Longleaf Pine. Experts estimate that the longleaf forest was once one of the most extensive ecosystems in North America, covering over 90 million acres! Sadly, less than three percent of that acreage still exists and only a tiny fraction of that, is old-growth.



William Bartram wrote the following after his travels through Georgia and other parts of the southeast in 1791:

"We find ourselves on the entrance of a vast plain which extends west sixty or seventy miles... This plain is mostly a forest of the great long-leaved pine, the earth covered with grass, interspersed with an infinite variety of herbaceous plants, and embellished with extensive savannas, always green, sparkling with ponds of water..." The Longleaf Pine proved to be a bountiful resource for the early settlers of the Southeast, and was once called the tree that built America. The strong wood was invaluable in the construction industry. Ship masts were made of the tall, straight trunks and resin from the tree was tapped to produce other naval stores such as turpentine, pitch and tar. Georgia's longleaf forests dwindled rapidly due to the intense harvesting of these resources and clearing for farm land in the 19th and early 20th century.

The reestablishment and replanting of the Longleaf Pine forests were hindered by multiple factors. One of which was the lack of understanding of the importance of fire to the health of the Longleaf Ecosystem, and the fact that the seed was dependant on fire to allow it to touch the mineral soil to germinate. Also, the curious grass stage of the Longleaf Pine that could last from three to twelve years before height growth, frustrated their efforts to quickly reestablish the forests.



The photo at left, shows longleaf seedlings that have left the grass stage and are at different levels of their height growth.

During its grass stage, the longleaf seedling is highly resistant to fire and this stage can last several years. This special trait protected the young seedlings from natural fires caused by lightning. The fires were also necessary for many of the other understory species that thrived in the longleaf ecosystem. Wiregrass (picutured below only one week after a prescribed fire), a dominant species in this ecosystem, produces viable seeds only after a lightning season fire.



Conservationists are now scrambling to try to preserve the remaining remnants of this very rich ecosystem. Private and public lands are now being managed with prescribed fire in efforts to preserve the precious remnant of our longleaf forests.

A Few Special Critters

Although the longleaf forest has a beautiful simplicity to its appearance, a longleaf pine stand that has been maintained by fire, is one of the most biologically diverse habitats in the United

States. Those of us living in the "plantation belt" are familiar with the the Bobwhite Quail which thrives in the Longleaf Pine Ecosystem but a sampling of other notable creatures that call these forests home are the endangered Red-cockaded Woodpecker, the Eastern Indigo Snake, the Fox Squirrel and my personal favorite, the Gopher Tortoise.

Before I get back to pine trees, I must chase a quick rabbit (or tortoise). There are a few facts about two of these Georgia natives, the Gopher Tortoise and the Eastern Indigo Snake, that will make you beam with pride! Did you know that the gopher tortoise is considered a "keystone species" because he is kind enough to share his burrows with more than 350 other species? Leave it to a Georgian to be so hospitable! They can also live to be over one hundred years old, so if you happen to have one on your property, he may be your neighbor for a good long while.

For any of you that happen to have an affinity for snakes, I must share a little fact about the Eastern Indigo Snake that my daughter shared with me. She recently studied this special snake at school and informed me that it is one of the only snakes that can create a noticeable bond with its owner! I know at this point you are putting on your boots and are about to rush out the door to find one of these snakes to bring it home; however, before you do, please note that because this snake is listed on the threatened species list, it is illegal to take one from the wild.

Identifying the Longleaf Pine

Much of the southeast that was formerly occupied by the Longleaf Pine has now been replaced by Slash and Loblolly Pines. I would like to go over a few recognizable traits of the Longleaf that will help you distinguish it from the Slash and Loblolly.

After many years in the field and looking up into the canopies of these trees, I have found that the first thing I notice about the Longleaf is actually not the long needles but the thick branches and stems. Some Slash pines can have needles just as long as an adjacent Longleaf; however the stems are much thicker on the Longleaf. The next most recognizable trait for me would be the way the needles on a Longleaf create an almost circular, large, ball-like shape on the end of the stem. If you are still stumped, the huge pinecones (some up to ten inches long) of the Longleaf are great indicators of the tree.

If you are able to get a closer look and pick a few needles off the tree or up off the ground, the sure-fire sign is the long fascicle sheath. The fascicle sheath is the paper-like covering at the base of the needles that binds the needles together. This sheath on the Longleaf is usually much longer than that of the Loblolly or Slash (up to an inch long). A quick rule of thumb for needle identification between these three species is the following: the two species that begin with "L" have needles in groups of three with the Loblolly needles shorter than the Longleaf. Slash has needles primarily in groups of two with some threes.

Please see the following table to compare a few traits of these different pine species.

	Longleaf Pine	Loblolly Pine	Slash Pine
	(Pinus palustris)	(Pinus taeda)	(Pinus elliottii)
Needles	3 needles in fascicle sheath	3 needles in fascicle sheath	2 and 3 needles in fascicle sheath
	10" to 18" long	6" to 9" long	7" to 12" long
	Fascicle sheath ½" to 1" long	Fascicle sheath ¼" to ½" long	Fascicle sheath ½" to ¾" long
	Long f	ascicle earth fascia	Short -
Cones	Longleaf		Slash

Pinestraw – Slash vs. Longleaf

Is Longleaf pinestraw a better mulch than that of Slash? In short, yes. The Longleaf needle is thicker and has a glossy exterior that causes it to have a slower deterioration rate. The longer needle allows it to lock together and stay in place well. Aesthetically, it has more of a reddish brown color than that of Slash. This allows it to contrast well with a green lawn and help to create a crisp visual edge to the planting bed. After you have paid your yard service a premium for your Longleaf straw, be sure to inspect the needles to be sure you get what you paid for. Slash pine needles are usually in groups of two with some three's and longleaf needles are primarily in groups of three. Look for that long fascicle sheath as well.

The Southern Pine Beetle



Unfortunately, sights like the one in the photo on the left are becoming all too common. The Southern Pine Beetle (SPB) although a tiny little insect, has made a big impact on the health of so many of our native pines. The Longleaf Pine is the most resistant to the beetle infestations; however, it is possible for the insect to infest the tree.

The SPB causes damage between the bark and wood of the tree and introduces the blue-staining fungi that usually brings the kiss of death to the already damaged tree. The beetles are attracted to the smell of sap and trees that may already be under stress. Trees that have been struck by lightning are frequent targets for the beetles. The Geogia Forestry Commission has a great publication the Southern Pine Beetle that you can find using this link:

www.gatrees.org/forest-management/foresthealth/pine-bark-beetles/SPBBrochure.pdf

Lost Leaders

Lastly, I would like to discuss something that many of you may have witnessed and some may have wondered about. The next time you are near several mature pine trees together, look for one that has a strange looking shape. You will usually find one that looks like it wants to try out for a place in a Dr. Seuss book illustration. That tree has at one point lost its leader. Pine trees like most conifers, have a strong central leader or vertical stem that leads the vertical growth of the tree. If this leader is compromised in some way, the stems beneath it begin to compete for the position of the leader. This causes several things to happen. Now, more than one branch reaches upward, and thickens in an effort to become the leader and you end up with a forked trunk or sometimes a strong limb that gets abnormally thick and squirrels off in a strange direction. The cause of this could have been anything from a storm that broke off the tip of a young tree, to Peter Rabbit snipping off the top of a little seedling with his sharp teeth.



Now, next time you are out to lunch with a friend, and you spot one of these misshapen pines, you can flip your hair back over your shoulder and in your most academic sounding tone, tell them, "That *Pinus palustris* has lost its leader." I'm sure they will be most impressed! In all seriousness, I hope some of these facts about our pines will prove to be helpful and that all of us will have a greater appreciation for the Longleaf Pine.

Over the years I have had the privilege to work on properties that featured beautiful, mature longleaf stands and listening to the wind kick up and stir the needles of these tall pines is a real treat. As the wind crosses from one hill to the next, the whirring sound created is both subtle and magnificent as if these giants were whispering a tall tale. Their story is part of ours and their whisperings are certainly worth listening to.

All photos by Suzanne Finger