# A Longleaf Pine Restoration Project

by John Winn

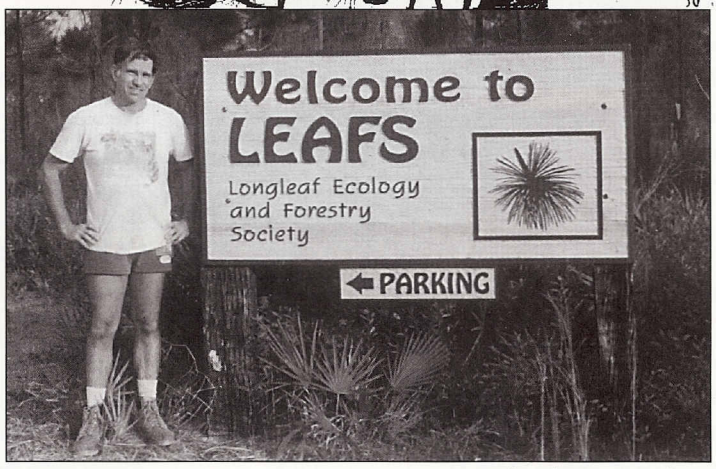
The Longleaf Ecology and Forestry Society (LEAFS) is a nonprofit land trust with a different approach to conservation. Instead of just setting aside land to preserve it from development, LEAFS works to encourage small private landowners who produce timber to reforest with longleaf pines and use prescribed burning to establish and maintain something approaching a naturally functioning ecosystem.

Most readers of The Palmetto don't need to be told of the sad decline of the longleaf pine ecosystem. Once covering something on the order of 70 million acres across the coastal plain of the southeast, a variety of factors have reduced natural stands of longleaf pines to a fraction of their former range. Chiefly responsible for the decline of longleaf pine forests are urbanization and land clearing for development or agricultural purposes, such as grazing or planted pine plantations. Even where natural stands of longleafs remain, fire exclusion may have caused them to decline. The longleaf ecosystem depends on frequent fires for its survival, so Smokey the Bear has been no friend to longleafs.

Despite all these problems, there are still millions and millions of longleaf pine trees, so the tree as a species is hardly endangered. But it is increasingly hard to locate an example of a fully functioning longleaf pine ecosystem, complete with a diverse understory of shrubs, herbs, and accompanying wildlife. So in 1990, when I found myself the owner of an old farm in eastern Alachua County, consisting of a small pecan grove surrounded by cut-over pine flatwoods, I thought it might be a good idea to restore the flatwoods to something approaching what might have been there years ago. I knew that meant planting longleafs, but I hadn't any clue as to how to begin.

I asked Bob Simons, a friend who is a forestry consultant, to have a look at the place and tell what needed to be done. Bob drew up a management plan which called for several years of prescribed burning to get rid of a very thick growth of water oaks and gallberries, followed by planting of longleaf seedlings and more prescribed burning once they were established.

ART BY SPENCE GUERIN




Founder John Winn at the entrance to the LEAFS project site near Waldo in Alachua County. To visit the project or for more information contact John at Route 1, Box 479, Waldo, FL 32694.

That's all been done now, but as the work went along, it occurred to me that what we were doing could easily be done by other small landowners. What also occurred to me was that if I'd started this reforestation 20 years ago, instead of having just a healthy stand of grass-stage longleafs, by now I'd have some good-sized trees. I'd lived on a part of the farm before in the 1970s, but I never thought to do what we were doing now. Somebody should have taken me by the hand, shown me a reforestation project, and said something like, "Hey, buddy, look what you could do with your place." Maybe then I would have gotten started a whole lot sooner!

Thinking about that was what brought about the Longleaf Ecology and Forestry Society (LEAFS). After

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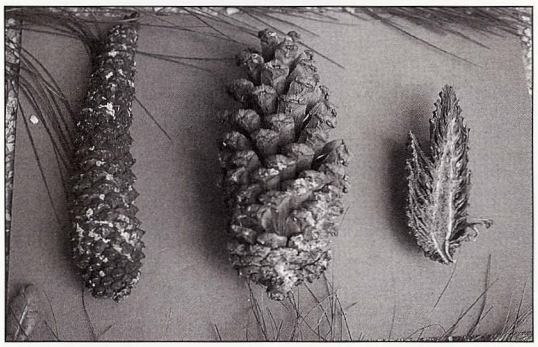
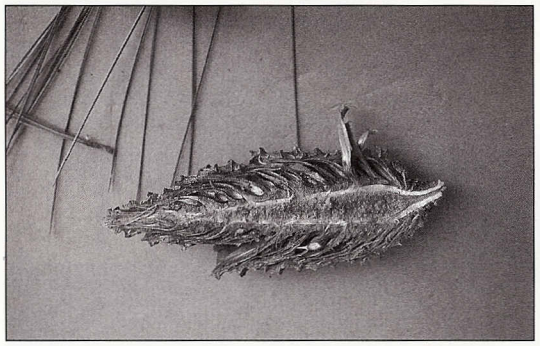
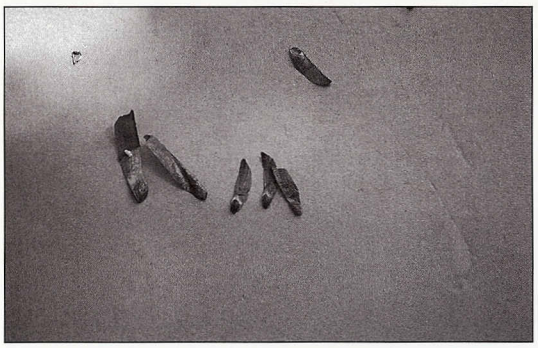
organizing and obtaining some funding from a conservation-minded foundation to acquire 90 acres across the road from where I live, LEAFS set up a demonstration project such as the one I should have seen 20 years ago, showing how longleaf pines can be used in reforestation. The project shows that planting longleaf pines and using prescribed burning for management and regeneration can be both economically feasible and harmonious with natural conditions. LEAFS has put in an interpretive trail explaining the various things being done to produce a timber crop, as well as how the management techiques employed have a minimal effect on understory plants and wildlife. The general public is invited to visit the property and use it for non-consumptive recreational purposes such as hiking or bird watching. Forestry consultants and propertymanagers can show clients the LEAFS project to help them visualize what might be done on their own property.







Photos, Betty Wargo.

ABOVE, FROM TOP: Longleaf pine cone closed, opening, and cross-section; close-up of cross-section; seeds of the longleaf compared with slash pine seeds.

The LEAFS tract is similar to the farm where I live in that it is pine flatwoods and the original longleafs were cut many years ago. Only a few old large trees were left, scarred with cat faces for turpentine production. Most pines remaining on the site were second or third growth, with slash pines becoming increasingly predominate among the younger trees due to years of fire exclusion. Additionally, hardwood trees, mostly water oaks, were encroaching and shading out pines.

Again Bob Simons prepared a management plan. It was very similar to the one I'd used at home. The first step was to employ Florida Forestry Services, a timber management firm in Gainesville, to burn the entire tract on a cold, still, and damp winter night. Such a prescribed burn would kill the encroaching hardwoods but not harm most of the pines. The many years of fire exclusion had allowed fuel to build up to a dangerous level, so that if conditions weren't just right, a fire could do extensive damage, particularly if it were to get out of hand, a true nightmare scenario. Fortunately, the precautions the foresters took prevented that possibility.

After the first fire in 1993, additional fires were prescribed, commencing in the spring of 1994. By then the tract had been divided into sections based on existing growth. One portion of the site is highter than any of the surrounding land and is, interestingly, a "mini-continental divide." Water draining to the east flows to the Suwannee River and then to the Gulf of Mexico, while water draining to the south flows to the St. Johns River and, ultimately, to the Atlantic Ocean. On this highter section, there was already a mixture of longleafs and other pines of various ages and sizes. In other areas, there were few pines of any sort. Although the soil of the LEAFS tract is sandy, it is underlain by a layer of clay which prevents rapid drainage. As a result, much of the LEAFS tract can be quite wet. After heavy rains, there are spots where there can be standing water for weeks. Since the site is relatively level — as is characteristic of a pine flatwoods site — the difference of a few feet (or even inches) can determine the stormwater drainage. The vegetation in low spots often differs substantially from that found only yards away, but on ground slightly higher.

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Following the series of prescribed burns, those sections with only scattered longleafs were planted with seedlings. A mixture of bare root seedlings and container-grown "tublings" was used, depending on the season; the bare root seedlings are planted December through February only, while the tublings can be planted for several months on either side of the winter months.

Once some planting had been completed, the interpretive trail through part of the LEAFS tract was laid out. A printed trail guide explains the management techniques

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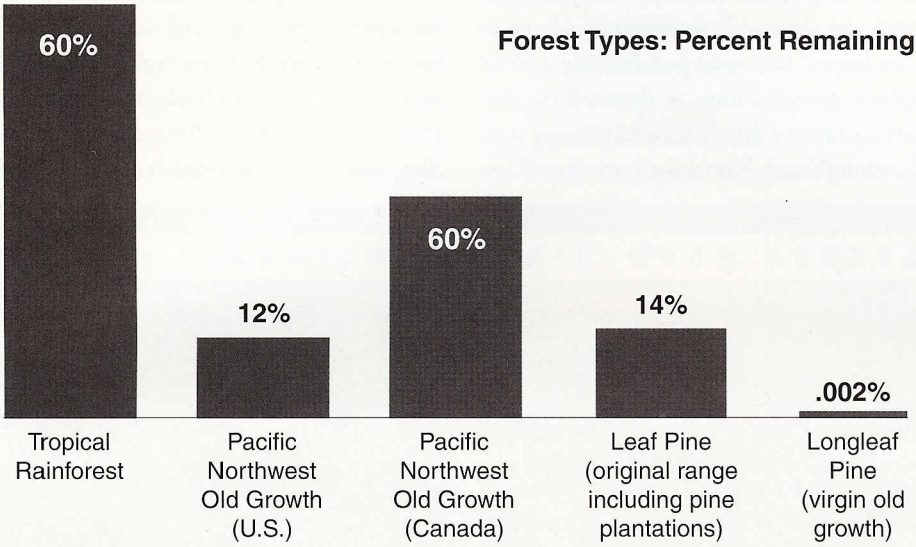
being utilized by LEAFS. While showing the economic aspects of the project, the trail guide also shows how restoration still preserves many natural features and diversity conducted. The importance of prescribed burning as a management tool is stressed, as is the relationship between fire and wildlife. For example, it's pointed out that many

## Longleaf Piney Woods: A Disappearing Ecosystem




The longleaf pine ecosystem — found only in the Southeastern United States — is one of the most endangered ecological systems in the world. The chart above compares the remaining amounts of well-known endangered forest types. The amounts are measured as a percentage of what is estimated to have been in existence at the time of Columbus' explorations.

which is often lacking in pine plantations where extensive site preparation has been

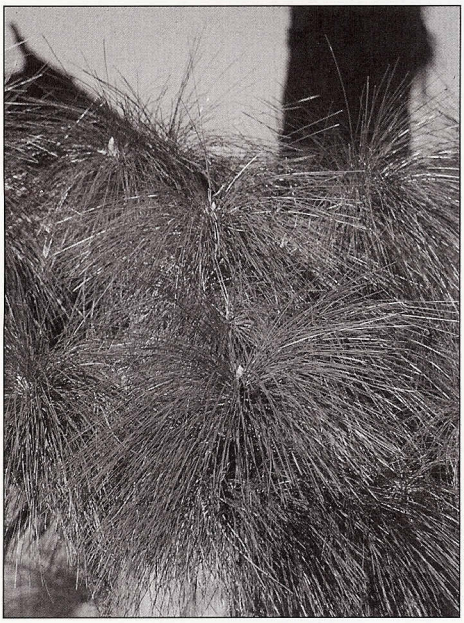


Photo by R. Cole, Ecostock

New buds ("candles") and lustrous long needles of *Pinus palustris*.

animals benefit from fire and barren areas, and the native vegetation quickly recovers and carpets the burned area with colorful wildflowers.

Although in many ways the LEAFS tract resembles a park or nature preserve, the interpretive materials make it clear that one of the objectives of LEAFS is production of timber and other forestry products, in addition to preservation of a longleaf pine ecosystem. This is due to the fact that most private landowners – the group which LEAFS seeks to influence – cannot be expected to manage their property in the same nonprofit manner as parks and nature preserves; private landowners generally must have some financial return from their land. Small landowners are LEAFS' target group because large timber companies are more likely to opt for extensive site preparation in pine plantations stocked with slash or loblolly pines. ✷