USDA United States Department of Agriculture

Southern Research Station Experimental Forests Network Facts

Current Research in the Network - Southern Pines

Beautiful longleaf pine savannahs used to grace much of the southern landscape. Photo courtesy of Wikimedia Commons.

Key Messages

- Southern pines are important to the forest industry and are thus a research priority in experimental forests
- Many facets of southern pines such as regeneration and silvicultural practices are researched on experimental forests
- Conserving, understanding, and regenerating longleaf pine is particularly important due to its historical significance in the region
- Experimental forests allow research projects to naturally build on top of previous projects
- New research on the Santee EF is studying the hydrologic effects of replacing loblolly pine with longleaf pine

An Introduction

Because each experimental forest houses a specific ecosystem or forest type, they each present scientists different research opportunities. This versatility gives the SRS Experimental Forests and Ranges Network the potential to answer big questions and compare findings across the region. This factsheet gives a brief summary of some current research across the Network.

Longleaf Pine Research

Experimental forests such as Escambia, Santee, and Palustris contribute greatly to longleaf pine research. Longleaf pine is a key priority to the Southern Research Station as its current habitat extent is only 2% of its historic range, and the primary forest extent is much lower. Moreover, longleaf pine ecosystems are highly fragmented. Longleaf pine regeneration, restoration and management, seedling quality, and flower and cone physiology are studied across the Network. Because of the nature of the experimental forests, new research can quickly take shape and build upon existing projects. An example of this is on the Escambia EF – home to a long-term study on the effects of uneven aged silvicultural methods on longleaf pine restoration. When Hurricane Ivan hit the region, SRS scientists were able to study the effects

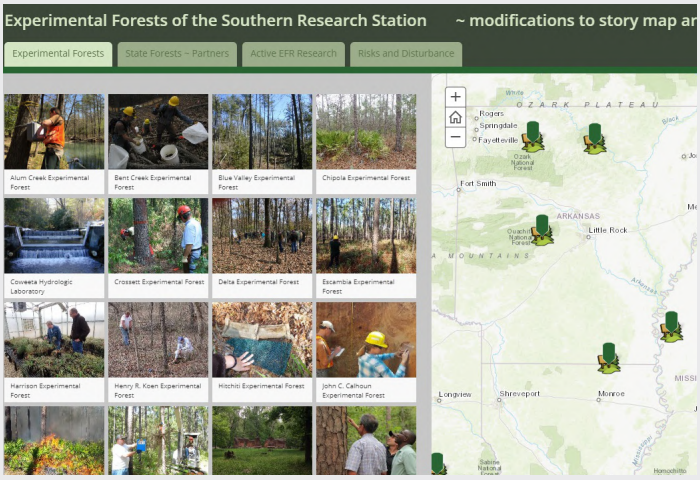
Longleaf pine regeneration is important. A recent study used Escambia EF data to find bursts in longleaf pine cone production. By understanding "seed burstiness", managers can plan restoration efforts farther into the future. USFS photo of longleaf pine seedling.

of hurricane disturbance on the uneven aged longleaf pine stand – on top of their previous research plans. The storm also provided new opportunities to clear some stands and study the effects of intensive management practices on accelerating restoration. The advantage of having long term research facilities like Escambia and other experiments forests is the ability to apply treatments to forests and study the effects over long periods – enabling a wider range of discoveries. Recent projects are bringing new longleaf pine forests to the Santee EF in order to study the effects of various restoration treatments.

Other Pine Research

Loblolly and shortleaf pine research is also important in the Network, most notably at the Crossett EF in Arkansas. Various pine-improvement studies have previously been conducted on the Crossett EF and trees from that era of research still live on the forest. They have recently been studied to examine the long-term impacts of forest genetic and pine improvement programs. The Crossett EF is also a good place to study pine regeneration and silvicultural methods as Crossett has long-term data on pine seed production dating back to the 1970s. Pine stands across the south are an important part of the forest industry. Therefore, findings from Crossett EF, as well as other EFs in the Network, have direct impacts on the southeastern economy.

The loblolly pine is an important tree to southern forestry. Photo by Woodlot under CC License.



Learn more about ongoing research in the Network through an interactice story map available here.

References

CompassLive
https://www.srs.fs.usda.gov/compass/2019/06/13/longleaf-pine-on-the-santee-experimental-forest/

SRS Publications
https://www.fs.usda.gov/treesearch/pubs/43224
https://www.fs.usda.gov/treesearch/pubs/56966
https://www.fs.usda.gov/treesearch/pubs/52257

EF&R Publication
https://www.fs.usda.gov/treesearch/pubs/7403

Other Resources

FS EF&R
https://www.fs.fed.us/research/efr/

Contacts

Johnny Boggs - EFR Network Co-lead
johnny.boggs@usda.gov

Stephanie Laseter - EFR Network Co-lead
stephanie.laseter@usda.gov

Factsheet by Ivan Garcia
PICS Summer Intern 2020