

Southern Research Station Experimental Forests Network Facts

FIA Plots in the Network



An FIA technician collects data on inventory markers such as types of trees and vegetation in the forest. USFS Photo.

FIA in Experimental Forests

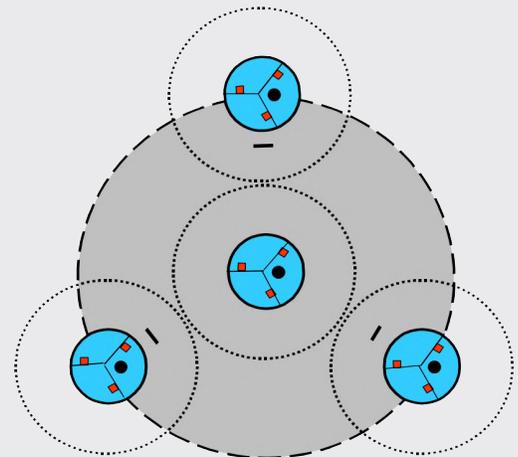
The Forest Inventory and Analysis (FIA) program of the Forest Service regularly conducts inventory surveys to assess the state of U.S. forests. They collect data on species, size, and health of trees in a forests as well as data on other vegetation. The data from the surveys help FIA report on trends in forests such as amount of forested area gained or lost in a state or the spread of invasive plants in a region. FIA measurements are conducted nationwide and inform management decisions. These standard measurement are soon coming to all experimental forests in the southern Network.

How FIA Collects Data

FIA conducts their forest analyses through the use of FIA plots - small, representative portions of a larger forest area. The goal is to measure forest data accurately and efficiently. Usually, forests have about one FIA plot per 6,000 acres but due to the dynamic nature of experimental forests and the need for more accurate measurements, there will be about one FIA plot per 92 acres. The FIA plots will be revisited for measurements on 5 year cycles. The FIA team recently completed the task of establishing the grid on which the plots will be located. Plot installation is expected to begin later in 2020.

Key Messages

- FIA is the nation's forest census and measures vital data about tree and other vegetation growth
- FIA plots are small, representative portions of a larger forest area
- FIA measurements will be conducted on all SRS experimental forests
- Having a consistent set of measurements across all EFs is vital to a connected network
- FIA plots and measurements across the Network provide the infrastructure necessary to conduct large-scale experiments across the southeastern region
- Five-year cycles will help track how experimental forests change over time



An FIA plot consists of 4 subplots arranged as shown above. This plot design measures a representative portion of the forest while still being cost efficient and accurate. Adapted from USFS publication.

Why FIA in the Network?

As the Network strengthens its connections, it is increasingly important to have a common set of measurements across all experimental forests. FIA helps the Network accomplish just that - with robust systems of data collection and analysis already developed over the years. "The purpose for establishing the plots is to generate baseline data about tree attributes and forest health, create a universal sampling method, and provide an infrastructure for long-term complementary studies across the EF network," says Network co-lead Johnny Boggs. Conducting FIA analyses across the network will help track the changes in the ever-evolving forests and inform scientists of possible research projects.

Why Now?

FIA plots and data collection methods are a low-cost, reliable way of developing a consistent set of measurements across the Network. The decision is also influenced by a 2009 pilot study in which 50 FIA plots were installed on the Coweeta, Calhoun, and Santee Experimental Forests. That study examined how findings from experimental forests can be applied to the broader landscape. The study found that with FIA data collection, there may be greater opportunity to design Network-wide experiments. These larger experiments would allow scientists to extrapolate regional takeaways from results gathered throughout the experimental forests.



A mature longleaf pine stand on the Santee Experimental Forest. USFS Photo.



Due to the dynamic nature of forests, it is important to gather data on their development. Unforested land may become forested land and vice versa. USFS photo.

References

SRS Experimental Forests

<https://www.srs.fs.usda.gov/locations/forests/>

EF&R Publication

<https://www.fs.usda.gov/treesearch/pubs/7403>

Other Resources

Forest Service EF&R

<https://www.fs.fed.us/research/efr/>

FIA

<https://www.fs.usda.gov/srsfia/>

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