

American Forest Foundation

Problem: Add detailed spatial content to the large national Tree Farm database.

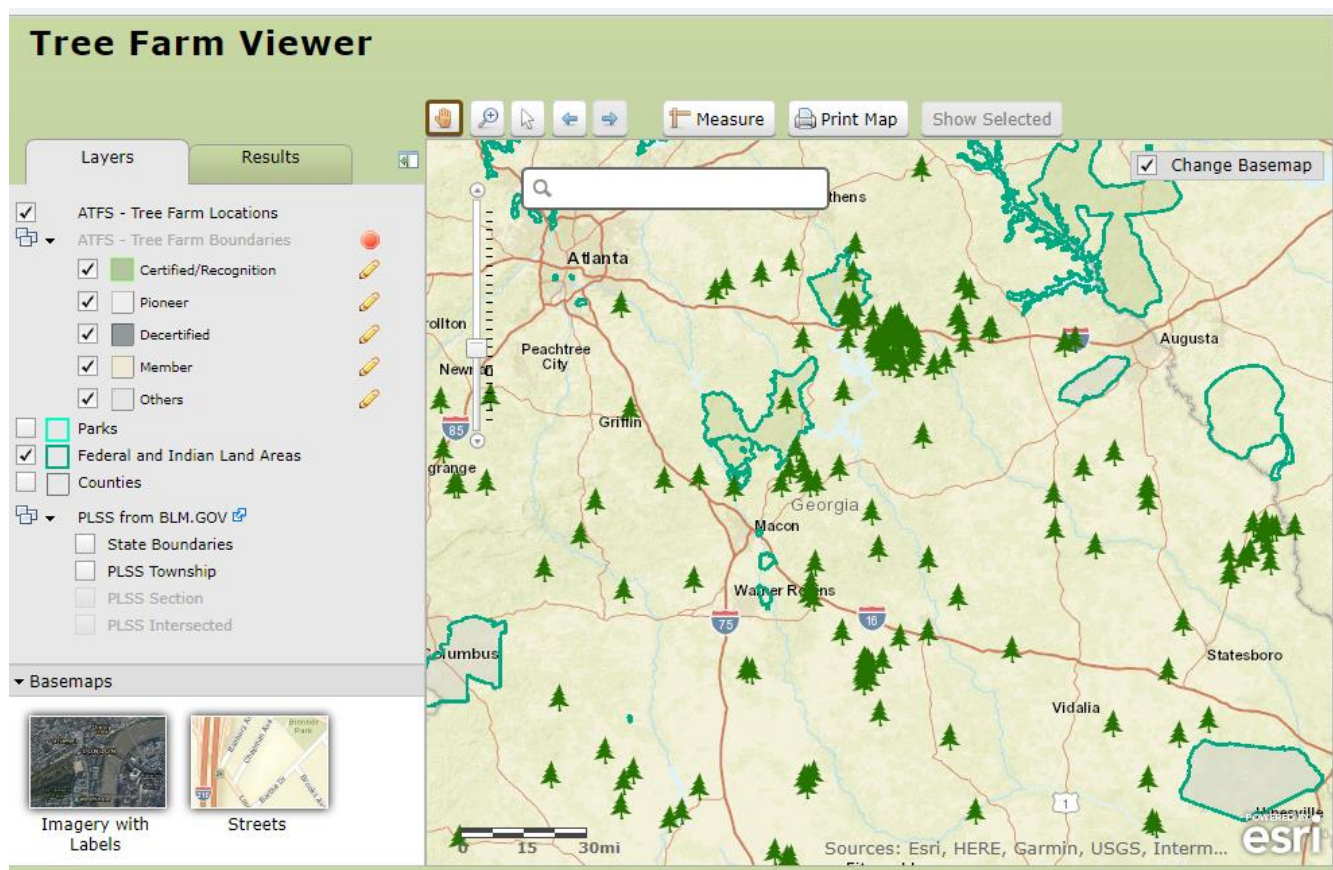
The American Forest Foundation (AFF) has become increasingly aware of the power of spatial analysis to advance their mission to promote stewardship and protect our nation's forest heritage by working on-the-ground with family forest owners, partners and elected officials. Their flagship program, the American Tree Farm System (ATFS), relies on volunteers throughout the states to maintain data on more than 77,000 certified Tree Farms using a secure web-based software application. The database, in use for several decades, has limited location data for the Tree Farm properties. Some have a single location point expressed as a latitude and longitude, while many just have generalized location descriptions. AFF cannot effectively relate existing Tree Farm locations to conservation priority maps or other spatial content.

Solution: Add geospatial data containers and services, validate and load all existing location data, add map display and spatial editing software components to the existing workflow and business logic.

Several states provided shapefile data with the boundaries of most of the state's Tree Farms. This data was loaded and made available when the spatial display features were launched, assuring that the map displays were useful on "day one".

The Viewer is integrated with existing search and reporting tools. A tree symbol at the polygon center point is shown at small scale ranges. The polygon boundary is shown once the display is zoomed in sufficiently.

Figure 1. Tree Farm Locations in a Portion of Georgia with Federal Lands



In addition to the Viewer as a “report” option, location and boundary editing are added into the normal editing workflow for Tree Farm data.

Figure 2. Tree Farm Boundary Displayed (with Create/Edit option) in the Editing Workflow

Updating Tree Farm Record - Tree Farm Location

Create or Update Tree Farm Location

* = Required fields

Tree Farm Location

Esri, HERE, Garmin, INCREMENT ... esri

CREATE / UPDATE

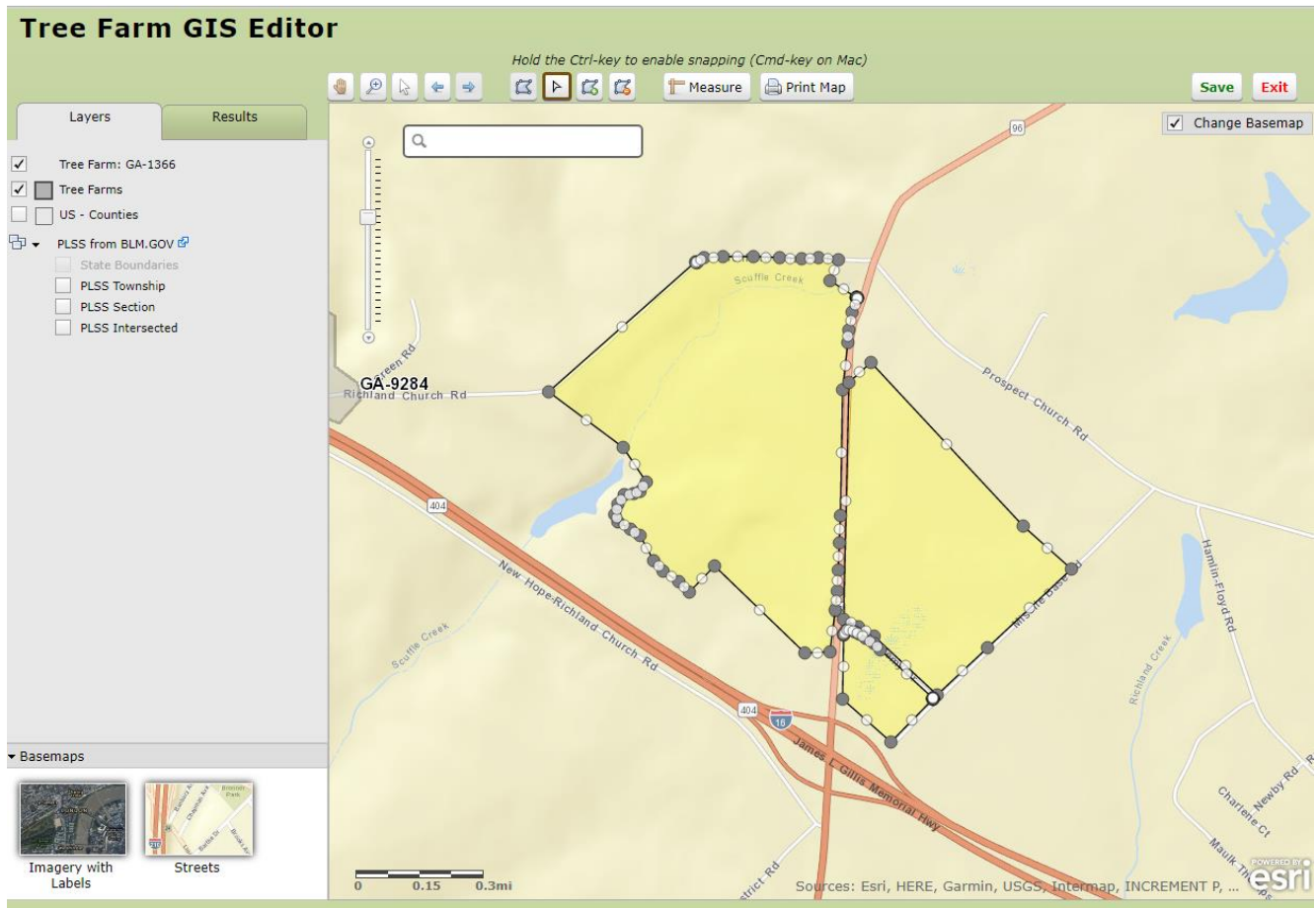
Note that Forested Acres will be automatically updated from the spatial geometry whenever a spatial change is made. The value may be manually changed below if needed.

*Forested Acres:

County:

If a boundary has been created, it is displayed – otherwise a blank map of the state is shown and the display will zoom to the extent of the given county. Create/Update brings up a GIS Editor focused on the subject Tree Farm.

Figure 3. Popup GIS Editor



A map layer is created to contain only the Tree Farm being edited.

The GIS Editor has four simple controls – *create* (draw), *edit vertices* (shown in Figure 3), *add part* (for cases when a Tree Farm is made up of more than one polygon), and *erase* (for creating “donut holes”).

PLSS layers can be made visible and traced using a snapping mode. Various base map layers can be used as the background. Volunteers quickly become productive, and the quantity of boundary data is building over time.

All of the spatial display and editing is bound within the privacy and security controls that are built into the ATFS database.

With thanks to The American Forest Foundation and it's American Tree Farm System.

