

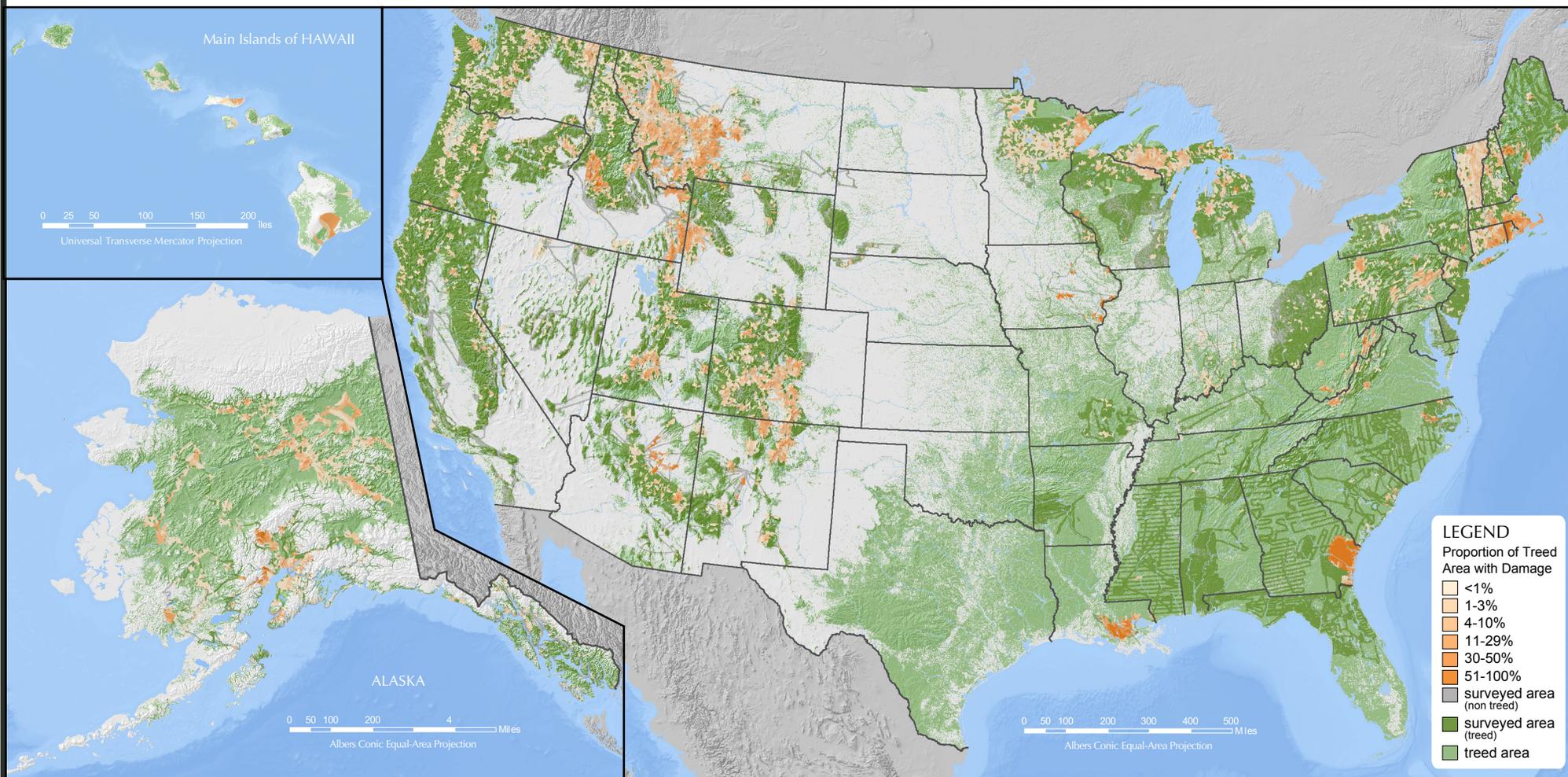


United States Department of Agriculture

FOREST HEALTH PROTECTION

2016 Damage* Detection Survey by Subwatersheds (6th Level HUCs)

Approximate Footprint Acres with Other Tree Damage: 8.6 million**



*Damage types include defoliation, discoloration, dieback, topkill, branch breakage, main stem broken/uprooted and branch flagging.

**Acres are summarized from current year's observations only and are not cumulative. The "footprint" total represents the affected area on the ground with no multiple counting of acres affected by multiple agents.

May 2017



2016 Forest Health Damage Detection Surveys – Acres with Other* Damage

Detection and Aerial Survey Overview

Aerial detection surveys are an efficient and economical method of collecting and reporting data on forest insects, diseases, and other disturbances. Aerial sketchmapping is the primary data-collection method: data are collected by aerial observers from the Forest Service and other cooperating state and federal agencies. Areas of damage are captured as polygons using an automated sketch mapping system; Digital Mobile Sketchmapping (DMSM) or the legacy Digital Aerial Sketchmapping (D-ASM). Both use a moving map display, GPS tracking, and touch screen technology to create a digital version of the data on-the-fly in the aircraft. It is important to note that sketch mapping is a valuable but subjective endeavor with inherent spatial and attribute inaccuracies.

Polygons are coded to identify the damage agent, damage type, host, and other attributes. For data collected with DMSM, damage intensity is characterized by the percent of live and standing dead trees affected in the feature area. For data collected with D-ASM, the same percent affected is collected in some regions, while others report the number of dead trees or dead trees per acre. Until all areas adopt this new percent affected measure, acres are reported as acres “with” mortality.

Areas with damage are summarized on this map by 12-digit or 6th-level USGS subwatersheds. These 10,000 to 40,000 acre units are consistent with those in the Forest Service Watershed Condition Framework (Potyondy and Geier 2011). At the national scale, watershed summarization makes it easier to visualize damage information. It especially helps highlight areas where activity consists of small and sparsely located polygons.

*Damage types include defoliation, discoloration, dieback, topkill, branch breakage, main stem broken/uprooted and branch flagging.

Resources:

A Guide to Conducting Aerial Sketchmapping Surveys. McConnell, T.J., Johnson, E.W., and Burns, B., USDA Forest Service Publication, FHTET 00-01, March 2000.

Digital Aerial Sketchmapping. Schrader-Patton, C., USDA Forest Service Remote Sensing Application Center publication, RSAC-LSP-3400-RPT2, May 2002.

Detection Surveys Overview, online at:

https://www.fs.fed.us/foresthealth/technology/detection_surveys.shtml, Aerial Survey Geographic Information System Handbook, November 2005, and Forest Health Monitoring Aerial Survey Standards, October 1999, online at: https://www.fs.fed.us/foresthealth/technology/ads_standards.shtml

Potyondy, John P.; Geier, Theodore W. 2011. Watershed condition classification technical guide. FS-978. U.S. Department of Agriculture, Forest Service. 41 p.

Online at:

https://www.fs.fed.us/publications/watershed/watershed_classification_guide.pdf.

Summary for 2016:

Footprint acres with other* tree damage: 8,618,000

Note: Acres are summarized from current year's observations only and are not cumulative. The "footprint" total represents the affected area on the ground with no multiple counting of acres affected by multiple agents.

Top 5 agents: Percent of footprint acres with damage

- Wind-Tornado/Hurricane 26%
- Spruce budworm (W&E) 29%
- Gypsy moth 12%
- Forest Tent Caterpillar 9%
- Aspen Leafminer 2%

Acres with other damage were reported in 45 states. Georgia reported the most with 2.2 million acres.

