

Southern Pine Beetle South-wide Trend Predictions for 2016

SPB Activity Expected to Increase in a Few Southern States

by

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Southern pine beetle (SPB) activity increased slightly last year in several southern states. A total of 793 infestations (spots) were reported across the South, compared to 390 in 2014 and 216 in 2013. The SPB spots reported in 2015 were distributed among five southern states, as follows: Mississippi (335 spots), Alabama (388 spots), Georgia (50 spots), Florida (11 spots), and Virginia (9 spots). No SPB activity was reported in the other southern states in 2015, although the SPB outbreak continued in New Jersey and New York. In 2015, SPB adults were found in survey traps in Connecticut, Rhode Island and Massachusetts at the northern extreme of the SPB range. At the southern extreme of the SPB range, a severe outbreak of SPB, in conjunction with the newly described species *Dendroctonus mesoamericanus*, continues in native pine forests in Honduras. Over one million acres have been infested in this outbreak and control efforts continue.

The southern pine beetle, *D. frontalis*, has earned a reputation as the most destructive forest pest of pine forests in the South. In 2000, for example, nearly 60,000 multiple-tree infestations were detected on federal, state, and private forest lands east of the Mississippi River, resulting in the loss of millions of dollars of resources. By 2008, the number of SPB infestations had declined to 1,433 spots detected in 16 states, with most spots occurring in Alabama, North Carolina and South Carolina. SPB activity continued to remain low from 2009 to 2015, providing a reprieve for forest landowners throughout the South.

A reliable system for predicting SPB infestation trends (increasing, static, declining) and levels (low, moderate, high, outbreak) using pheromone traps has been implemented across the South since 1986. This information provides forest managers with valuable insight for better anticipating SPB outbreaks and more lead time for scheduling detection flights and preparing suppression programs. Each spring, traps baited with the SPB attractant (frontalin) and host compounds (alpha-pinene and beta-pinene) are set out in pine forests when dogwoods begin to bloom. Dogwood blooms are believed to coincide with the primary dispersal season for populations of the destructive SPB as well as certain beneficial insects. Federal and state cooperators monitor the traps weekly for a 4-6 week period. Of particular value for forecasting purposes are catches of clerids (also called checkered beetles), known predators of SPB, which readily respond to SPB attractants. Using data on the average number of SPB captured per trap per day and the relative proportion of SPB to total catch of SPB and clerid beetles (%SPB), infestation trends for the current year are forecasted. The predictions for 2015 were for SPB populations in certain southern states to increase slightly from 2014 levels, a forecast that proved to be true.

The results from the 2016 prediction survey ([Table 1](#)), based on 200 trapping locations (counties and National Forests) within 15 states, indicate continued low SPB activity in most southern states, with the possibility of infestations in a few areas of Mississippi, Alabama, Florida and possibly Maryland and Louisiana. A state-by-state summary of trap catches for SPB and clerids for 2015 and 2016, together with SPB predictions for 2016, are listed in [Table 2](#). Of those locations surveyed in the southern U. S., the Bienville and Homochitto National Forests, and Franklin, Lincoln and Smith counties in Mississippi, the Oakmulgee Ranger District and Barbour County in Alabama and Putnam County in Florida are most likely to see increased SPB activity in 2015, based on elevated trap catches of SPB this spring. No severe outbreaks are anticipated anywhere throughout the range of SPB in the southern U. S. this year.

Interestingly, a few SPB adults were collected in multiple parishes – Caldwell, Catahoula, Desoto, Evangeline, Franklin, La Salle, Rapides, Sabine, St. Helena and West Feliciana – in Louisiana in 2016. Numbers of SPB in survey traps have been zero or very low west of the Mississippi River since 1999, so the low number caught this year in numerous parishes suggests that SPB populations are present and perhaps are beginning to build up in Louisiana following nearly two decades of no infestations.

No SPB were caught in Arkansas, Oklahoma, Texas, Tennessee, or Kentucky in 2016. Predatory clerid beetles were present in most traps but mean numbers were significantly less compared to 2015 in most states (see [Table 2](#)). On average, clerid beetles outnumbered SPB by a ratio of 2.7 to 1 in 2016 (versus 13.7 to 1 in 2015).

Clerids are able to maintain high populations by feeding on *Ips* engraver beetles when SPB - their preferred prey - is not available. Trapping data from New Jersey, New York and non-federal forestlands in Arkansas are not yet available.

Appreciation is expressed to the many state and federal cooperators who provided the data for this annual survey. If you have questions, contact Dr. Ronald Billings, Texas A&M Forest Service, at (979) 458-6650 or by e-mail at rbillings@tfs.tamu.edu.