Technical Bulletin
Forest Health
Notes # 22
Issued: 7/2009

Southern Pine Beetle Predictions for 2009

The Mississippi Forestry Commission participates annually in a south-wide SPB survey. The Texas Forest Service has developed a reliable system for predicting SPB infestation trends (increasing, static, declining) and levels (low, moderate, high, outbreak) that 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.

During the spring of 2009 surveys were conducted by the Mississippi Forestry Commission (MFC) in the following counties: Attala, Carroll, Copiah, George, Itawamba, Kemper, Lincoln, Marion, Panola, Scott, Simpson, Smith, Stone, and Tishomingo. The U. S. Forest Service also conducted surveys on the following Ranger Districts in Mississippi: Bienville, Chickasawhay, Desoto, Holly Springs, Homochitto, and Tombigbee. These ranger districts were also surveyed during the fall of 2008.

Very few or no SPB infestations are expected again this year in Mississippi. Of the counties surveyed by the MFC SPB was trapped in only seven counties. In Stone, Kemper, Lincoln, Itawamba and Tishomingo counties there were less that 10 SPB trapped, in total, in each county. In Scott and Smith counties there were 53 and 24 SPB's trapped respectively. These numbers are extremely low but indicate that there still remains a very low residual population in the area. The results from the fall 2008 and the spring of 2009 surveys on the National Forests in Mississippi also indicate declining or low SPB activity for 2009.

Surveys utilize baited Lindgren funnel traps with the SPB attractant (frontalin) and host compounds (alpha-pinene and beta-pinene) set out in pine forests when dogwoods begin to bloom and pine pollen begins to fly. These events mark the primary dispersal season for the SPB as well as certain beneficial insects. The traps are monitored weekly for a 4-6 week period by federal and state cooperators. Of particular value for forecasting purposes are catches of clerids (also referred to as checkered beetles), know predators of SPB. Using data on the average number of SPB captured per trap per day and the relative proportion of SPB to checkered beetles, infestation trends for the current year can be forecast.

Annual predictions of infestation trends have proven to be 75-85% accurate. Collectively, trend predictions from numerous specific locations provide insight into SPB population shifts within a given state as well as across the South. Also, comparison of trapping results for the current year with those from the previous year for the same localities provides additional insight into SPB population changes.

In general, average trap catches that exceed 30 SPB per day, especially those in which SPB make up more than 35% of the total catch (of SPB and clerids), are indicative of increasing or continued high SPB infestation levels in the current year. Conversely, when catches of predators far outnumber those of SPB and fewer than 20 SPB adults are caught per day, infestation trends are likely to decline or remain at low levels. It is uncertain whether the predator population is directly responsible for declines in SPB outbreaks. Most likely, predators are just one of many contributing factors. It is interesting to note, however, that average trap catches of clerid beetles remained about the same as last year across the South (Average = 5.2 clerids/trap/day in 2009 versus 5.1 in 2008), down from a high of 16.8 clerids per trap in 2004.

Landowners with pine stands throughout the range of SPB are encouraged to take advantage of these low SPB population levels to thin overly-dense pine stands as a preventive measure before the next SPB outbreak occurs. Federal cost shares for precommercial thinning of natural or planted pine stands and first thinning of pulpwood stands are available in many states as part of the SPB

Southern Pine Beetle Predictions for 2009

Prevention Program. Contact your state forest pest specialist for details.

Appreciation is expressed to Dr. Ronald Billings, Texas Forest Service, at (979) 458-6650 or rbillings@tfs.tamu.edu for development of the system and for providing south-wide summaries and predictions of which portions have been included here. The results for the entire south-wide survey is posted on the Texas Forest Website http://txforestservice.tamu.edu/main/article.aspx?id=1209 scroll to the bottom of the page where you will see a link to the "Southern Pine Beetle South-wide Trend Predictions for 2009" a pdf file of the results.

For additional information contact:

Mississippi Forestry Commission Local Office or T. Evan Nebeker
Forest Resource Protection
(662) 418-9249
tevannebeker@bellsouth.net