

Redbay Mortality Survey in South Carolina

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The South Carolina Forestry Commission received funding from USFS-Forest Health to perform a survey of redbay mortality in the state. Georgia received similar funding and the surveys were standardized to the extent possible.

A 10 minute Latitude by 10 minute Longitude grid was overlain on South Carolina over the range of redbay (all land south of US highway #1). This resulted in a predicted 153 plots to be checked. These grids were transferred to county road maps and then to existing color infrared photographs. In addition to this plot grid, one plot for each state park was also added to the plot array.

These photographs were taken to the field and the closest redbay stand to the optimal plot center was chosen for survey. Plot accessibility was also considered so that all plots were reasonably close to roads. Once an appropriate stand was found, the surveyor entered the woods and established a beginning point for the plot. All plots began at a redbay. Hip chain thread was tied to the beginning tree and the plot was measured. (Plots were 1/10 acre in size and were strip plots 13.2 by 330 feet). The plot origin point was saved to a GPS and recorded as the actual plot (as opposed to the optimal plot center from the statewide grid). A compass course was run, generally parallel to the base road, and the compass direction was recorded on the plot data sheet. All redbay on the plot larger than one inch caliper were tallied as healthy, flagging or dead. The actual plot location was noted on the photograph for future reference.

As of January 19th, 47 plots had been measured in eight South Carolina counties. Overall, 708 redbay were tallied. Of this total, 188 (27%) were healthy, 293 (41%) were alive with flagging and 227 (32%) were dead. Mortality was confirmed in seven counties. These were Allendale, Bamberg, Beaufort, Charleston, Colleton, Hampton and Jasper. Mortality was highest in counties which were detected first (2004) with *Xyleborus glabratus* and *Ophiostoma* sp. (anamorph = *Raffaelea* sp.)

This survey will continue through the winter and is anticipated to be completed by April. Once the original 153 optimal plots and state parks have been completed, we will move back to the area of spreading mortality and intensify the grid to 5 minutes latitude by 5 minutes longitude. Any mortality found in advance of the area of natural spread will also be surveyed at the more intensive level.