

Southern Pine Beetles:

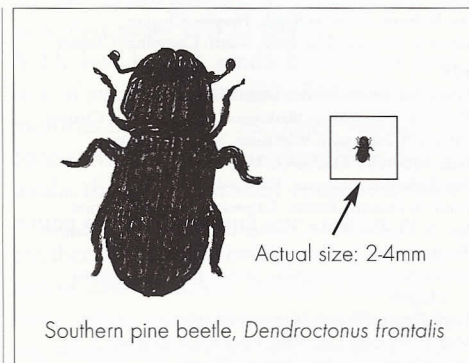
What Do They Do & What Should We Do?

by John L. Foltz, Forest Entomologist, Univ. of Florida Dept. of Entomology & Nematology

In the November 2001 (Vol. 21, #1, pp. 14-15) issue of *The Palmetto*, FNPS published an article derived from a letter written by Paynes Prairie member Carol Lippincott, an ecologist and resident of Gainesville. The letter was published in the *Gainesville Sun* in July 2001. Lippincott disagreed with the City of Gainesville's decision to request that the Florida Dept. of Agriculture and Consumer Services (FDACS) declare a state of emergency in Gainesville because of the southern pine beetle outbreak. A state of emergency would have authorized FDACS Division of Forestry staff to inspect private property without permission and to remove trees at property owner expense if the property owner failed to do so within 25 days after notification of a problem. FDACS decided not to declare a state of emergency, instead declaring the outbreak an "incident," which enables funding (and thus staff) to be allocated to further study of the problem. Subsequent to FNPS publishing Lippincott's article, we received a request from John Foltz to respond with his view of what the appropriate response should be.

In the November issue of *The Palmetto*, Carol Lippincott expressed her opinion regarding the legal aspects of suppressing a southern pine beetle (SPB) outbreak. As a forest entomologist whose experience with the SPB spans more than 25 years, I'd like to provide some information about the biology, ecology, and impact of the insect; and then discuss questions Lippincott raises about mandatory control of a native insect. Here are some key points bearing on the discussion:

- Most of the time the SPB is an uncommon and beneficial insect, being one of many species that exists as scavengers of dead and moribund trees.
- The SPB is an unusual species in that populations occasionally explode to levels where mass attacks rapidly kill numerous healthy trees.
- Beetle colonization kills the tree, even though needles may remain green for several months.
- Parent beetles spend about one week laying eggs in the inner bark, then emerge to seek additional trees for producing second and third broods.
- The new generation of beetles develops rapidly and emerges from the tree in 30 to 50 days.
- Emerging beetles are capable of flying two miles, although most probably attack trees within 1/2 mile of where they develop.
- Unmanaged outbreaks will likely persist for a year or more before changing weather and the numerical responses of natural enemies are able to initiate population decline. The decline may take an additional year, during which time thou-



sands of additional pines may be attacked and killed.

- Management of SPB outbreaks through the rapid detection and treatment of all infested trees over a large area will significantly decrease the duration and severity of the outbreak within the area.

During the Gainesville outbreak of SPB in 1994-1995, the SPB killed about 42,000 trees. Private individuals and public agencies spent considerable time and money dealing with dead trees. A large tree close to a building may cost \$1000 to remove. Dead trees falling on electrical lines may leave scores of homes powerless for extended periods of time.

SPB populations again reached outbreak levels in Gainesville in the spring of 2001. On April 30, the City Commission declared a tree emergency, implemented a citywide suppression program, and authorized the expenditure of public funds for the effort. The objective of the program was to locate and treat infested trees before the beetle brood could mature and disperse to kill neighboring trees. One option for owners was to pay the city \$110 to have an infested tree felled and then sprayed with chlorpyrifos (Dursban). Many owners, however, pre-

ferred to contract a tree service to cut, remove, and treat infested trees. Occasionally there were situations where loggers were willing to pay owners for the infested trees.

A SPB Technical Advisory Committee (SPBTAC) was established by the City to oversee the community-wide suppression program and develop solutions for problems as they were encountered. The committee consisted of three forest entomologists representing the Division of Forestry (DOF), Division of Plant Industry, and the University of Florida; the area manager for the Florida DOF, a member of the City's Tree Advisory Board, and a staff member from Alachua County's Environmental Protection Department. Additional city and county staff, Florida Park Service personnel, and concerned citizens participated in the biweekly meetings.


The public, in general, understood and supported the suppression program. Unfortunately, however, there were a few properties with large numbers of infested trees where owners were absent or unwilling to engage in any SPB suppression. The city, lacking an ordinance to compel suppression, therefore asked that the Florida Department of Agriculture and Consumer Services (FDACS) utilize its statutory authority to assure treatment on such properties.

Here is the procedure the SPBTAC proposed to FDACS. (1) The statutory 10-day period for owners to treat infested pines would begin when DOF personnel verified the infestation and notified the owner. (2) If appropriate treatment were not initiated within 10 days, then a Risk Assessment Team would meet on site to assess the risk

to surrounding uninfested pines and the possibilities for implementing timely and appropriate treatments. Members of the risk assessment team would include a DOF forester, a Ph. D. forest entomologist, and the city arborist or another city employee. (3) The SPBTAC would review the risk assessment report. If control measures were deemed necessary, a report with recommendations would be forwarded to the Commissioner of Agriculture.

Considering the initial 10-day period and another 10 days for the risk assessment and reviews by the SPBTAC and FDACS, an Immediate Final Order might be issued about 20 days after an infestation was discovered. State-initiated control action, if necessary, would occur about 25 days after the infestation was discovered. The SPBTAC certainly hoped that landowners would recognize the advantages of treating promptly on a voluntary basis and that action by FDACS would rarely be necessary.

Is such action by the state to treat dead, SPB-infested trees an unwarranted seizure of private property? I think not. We all recognize that uncontrolled fires pose a threat to surrounding property. Uncontrolled SPBs likewise threaten adjoining property. Unanswered, however, is the question of who should pay the costs of beetle suppression. For fire, we all pay taxes and insurance premiums based on many factors such as property location, type of construction, and a selected deductible. There is no charge by the fire department to suppress a fire, and insurance pays most of the cleanup and restoration of insured structures. Our society has no similar system for SPB suppression and restoration.

Once the present outbreak is over, what can we do to reduce the frequency and severity of future outbreaks? Basically, we must recognize that the great abundance and low vigor of loblolly pine in our state is the primary fuel for the initiation of outbreaks. Wider spacing of pines, removal of overmature trees, and encouragement of other species are practices that will minimize SPB problems. 

EDITOR'S NOTE: For additional information on Gainesville's SPB suppression program and the SPB in Florida, see Foltz' website, <http://eny3541.ifas.ufl.edu>.

ERRATA: In the introduction to Lippincott's article, the editor incorrectly stated that the southern pine beetle was a problem after Hurricane Andrew and the wildfires of 1998. It was not.