

New Jersey Fact Sheet: Southern Pine Beetle

Introduction

Southern Pine Beetle (*Dendroctonus frontalis*) is a native bark beetle and a well-known pest of Southern forests. Outbreaks of this pest have historically been less common in New Jersey than in many other states, but the state has experienced an increase in outbreaks since 2001.

Impacts of a Southern Pine Beetle (SPB) outbreak can include loss of timber value, loss of wildlife habitat value, increased risk of severe wildfire, and loss of aesthetic and recreational values. Significant tree mortality is often associated with larger SPB outbreaks, typically occurring when trees in a forest are already stressed. Some common causes of stress are drought and high forest density. Management practices that reduce forest density lower stress on individual trees, increasing their resilience to SPB.

Signs

The first signs of an outbreak a landowner might see are pitch tubes on the tree's bark. When adult beetles bore into the tree to lay their eggs, the tree exudes natural resins called pitch, in order to fill the hole and stop the beetle. Another symptom of SPB is a change in the color of the needles from a healthy green color



Adult male Southern Pine Beetle (Gerald J. Lenhard, LSU, Bugwood.org)

to yellow to brown in a relatively short period of time. A landowner may find S-shaped galleries or tunnels under the bark of an infected tree. These galleries are where the larvae feed on the living tissue, known as cambium, of the tree. Other signs of a recent attack are exit holes where adult beetles have emerged, and sawdust from those exit holes at the base of the tree. Other pine bark beetles can create some of the above symptoms, so the unique shape of the SPB galleries may be the best diagnostic tool for assessing their presence. A trained forester can help differentiate between infestations of SPB and other bark beetles.

Spread

SPB uses pheromones, or chemical signals, to spread en masse from one tree to the next. The adult beetles release a pheromone trail that attracts other beetles over relatively short distances between trees.



Signs of SPB infestation. Above left: Pitch tubes on a pine tree. (James R. Meeker, USDA Forest Service, Bugwood.org) Above center: Infestation of Southern Pine Beetle moving from right to left. (Robert L. Anderson, USDA Forest Service, Bugwood.org) Above right: The S-shaped galleries created by Southern Pine Beetle feeding on the cambium. (Ronald F. Billings, Texas Forest Service, Bugwood.org)

SPB Outbreak Management Options

One method to suppress an SPB outbreak is the “cut and leave” method. The infested trees and a buffer of uninfested trees are felled so that their crowns point in the direction of where the infestation started (see figure A). The other recommended method is “cut and salvage.” In this case, infested trees and a buffer of uninfested trees are cut and removed from the site (see figure B). Each of these plans may require review or permitting by local authorities and for properties within the Pinelands, by the Pinelands Commission. A forester will be able to plan the suppression effort and assist landowners with the permitting process. Private landowners may need assistance to suppress an outbreak on their property. Landowners who have

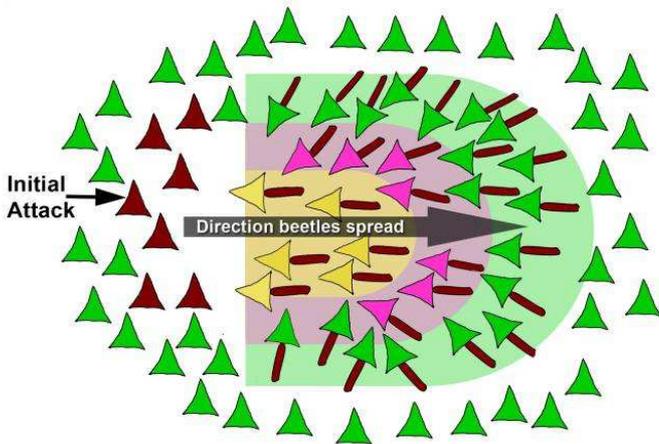


Figure A (above). Cut and leave. In this method of suppression, infested trees and a 40- to 70-foot buffer of uninfested trees are felled toward the initial attack. Green trees are living, brown are dead. Pink and yellow represent different levels of infestation. (From the NJ Southern Pine Beetle Action Kit.)

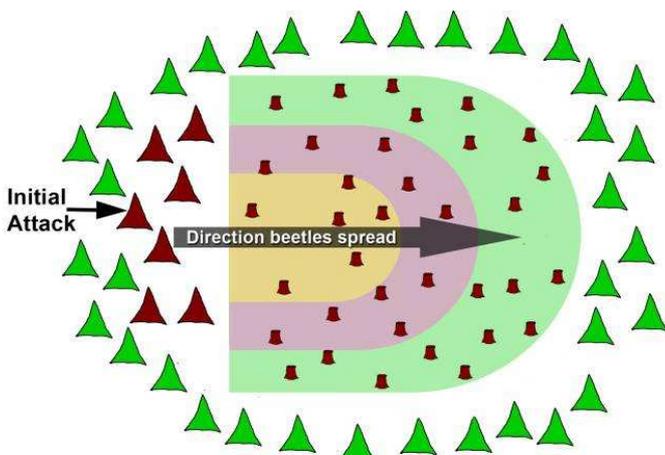


Figure B. Cut and salvage. In this method of suppression, infested trees and a 40- to 70-foot buffer of uninfested trees are removed from the site. Green trees are living, brown are dead. Pink and yellow represent different levels of infestation. (From the NJ Southern Pine Beetle Action Kit.)

either a Forest Management Plan or a Forest Stewardship Plan are eligible for cost-share assistance through the New Jersey Forest Service.

More detailed information about New Jersey’s Southern Pine Beetle outbreak, including information about state-administered financial assistance for SPB suppression, can be found at: www.southernpinebeetle.nj.gov

Prevention of SPB through Responsible Forest Management

Many land managers believe that the most effective method of managing SPB is by preventing outbreaks by maintaining healthy forests. Active management is often the primary tool for making forests less susceptible to an SPB outbreak. A forester can help a landowner maintain or improve forest health by evaluating the existing conditions and developing a written plan of forest management strategies.

Forest management assistance is available to landowners through their local Natural Resources Conservation Service (NRCS) service center. Landowners with more than 10 acres of forest land may be eligible for cost-share assistance to develop a Forest Stewardship Plan. A Forest Stewardship Plan is a document that takes into consideration a landowner’s goals to develop a plan for ecologically sound management on the property. Forest Stewardship Plans cost-shared by NRCS must be developed by an NRCS-approved Technical Service Provider (TSP). A landowner with a Forest Stewardship Plan may be eligible for the Environmental Quality Incentives Program (EQIP), which can help cost-share forest management practices that are prescribed in their plan. This includes Forest Stand Improvement (FSI) activities that will help reduce the chance of a SPB outbreak. For information contact your local NRCS office.

NRCS office locations and more detailed information about NRCS assistance and the EQIP program can be found at: <http://www.nj.nrcs.usda.gov/>

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