

SOUTHERN PINE BEETLE

Dendroctonus frontalis



Department of
Environmental
Conservation

What is the southern pine beetle (SPB)?

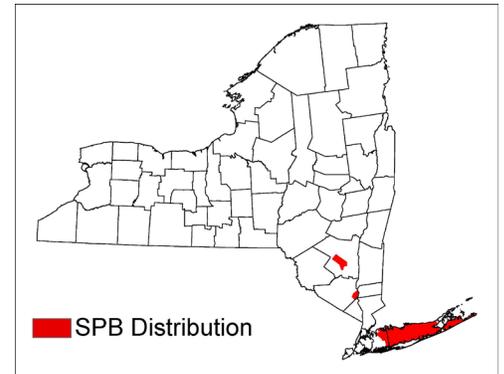
The southern pine beetle, or SPB, is a bark beetle that infests pine trees. The beetle is small, only 2-4 mm in length, about the size of a grain of rice, and is red-brown to black in color. SPB is native to the southeastern United States but has been expanding up the Eastern Seaboard in recent years. Warming of winter temperatures has most likely contributed to this range expansion.



Southern pine beetle
USDA Forest Service, Bugwood.org

Where is SPB located?

SPB was first reported in New York in late September, 2014 in Suffolk County on Long Island. It has now been found throughout Suffolk County, but the largest infestations are located in Wertheim National Wildlife Refuge, Connetquot River State Park, and the Henry's Hollow Pine Barrens State Forest. SPB has also been found in Bear Mountain State Park in Orange and Rockland Counties and in Minnewaska State Park in Ulster County.



SPB Distribution

What does it do to trees?

The adult beetle enters the tree through crevices in the bark and then creates S-shaped tunnels in the cambium tissue, just beneath the bark. This disrupts the flow of nutrients, killing the tree in typically 2-4 months. Most trees resist the initial attacks by secreting resin that can "pitch out" some adults and slow the entry of others, but trees almost always die as their defenses are overwhelmed by thousands of attacking beetles.

SPB has always been the most destructive pest of southern pine forests. From 1999-2002, an outbreak of the beetle in the southeastern US resulted in more than one billion dollars in loss for the timber industry, according to the US Forest Service. SPB populations naturally rise and fall. The beetle can persist for years at very low numbers, sometimes going unnoticed. At other times, however, the population can explode, rapidly killing pine trees across the landscape, as is currently occurring on Long Island. This switch between high and low population numbers is influenced by the availability of dense pine stands, the number of natural enemies, the types of fungus present, tree defenses, and changes in climate.

What trees are affected?

All pine trees are susceptible, including pitch pine, white pine, and red pine. In addition to pines, hemlocks and spruce may also be affected in highly infested areas. No hardwood tree species are affected.



Dead pitch pine trees

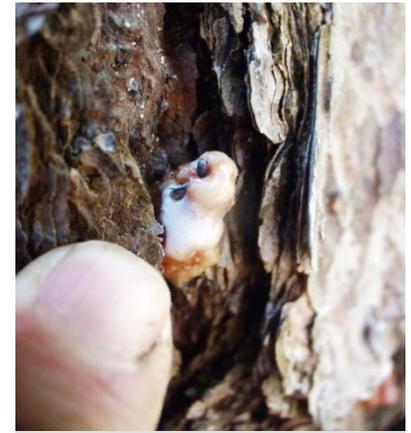
What are the signs of an infestation?

- Pitch tubes, or popcorn-shaped clumps of resin on the exterior of the bark
- Shotgun patterned holes on the exterior of the bark
- S-shaped tunnels under the bark
- Pine tree that have recently died; characterized by reddish-brown needles

What is being done?

SPB has existed for many years in other regions of the country, and information sharing has been very valuable in creating a plan to address this pest and minimize its impacts on our forests. DEC has reached out to experts including state, federal, and local agencies with SPB experience, as well as academic experts to apply the best and most up to date science to determine priorities for management activities.

Eradication of this pest is not feasible because it is widespread, moves quickly, and is present in neighboring states. As a result, forest health management conducted by the State is focused on protecting the large forested blocks and unique habitats, such as the Core Preservation Area of the Long Island Central Pine Barrens. Management efforts include aerial and ground surveys, cutting infested trees, and thinning uninfested trees. So far, more than 8,000 trees have been cut in the Core Preservation Area in suppression efforts to slow the spread of SPB and protect surrounding trees.



SPB entering pitch tube

Why do trees need to be cut if the goal is not eradication?

Cutting infested trees in the winter can reduce the SPB population by killing the brood that was overwintering within the tree. Thinning tree stands is also beneficial because increasing the distance between the trees disrupts the beetles' ability to communicate using pheromones, making it more difficult for them to attack trees in great numbers. Thinning also reduces competition among trees, creating a healthier stand that is better able to fend off attack by SPB and other pests.

What can I do?

- If you have dead pine trees, consider risk and liability. Remove standing dead trees if they have the potential to fall on people, structures, roads or utility lines. Dead trees no longer have living SPB in them so they can be left standing if they do not pose a threat.
- If you have living infested trees, surrounding uninfested trees are at risk. To keep SPB from spreading, remove and dispose of infested pines. Infested trees should not be cut and moved to new areas during the summer unless they will immediately be destroyed.
- If you have uninfested trees, you may choose to protect them with preventive insecticides. Recommendations can be obtained by contacting Cornell Cooperative Extension of Suffolk County.
- Consider contacting a certified arborist for a consultation.
- Report recently dead pine trees with the infestation signs listed above to the NYS DEC Forest Health. Sending pictures of suspect pine trees with something included for scale, such as a penny, will help in identifying potential problems.



Is there funding for tree removal on private property?

There are currently no state or federal funds available to provide financial assistance to private homeowners for the removal of individual trees attacked or killed by SPB.

CONTACT INFORMATION

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