

# Guidelines for Southern Pine Beetle Suppression Treatments

Southern pine beetle (SPB) threatens northeastern pitch pine forest types. Suppression techniques developed in southeastern forests and now implemented in the northeast have successfully disrupted infestations. SPB suppression methods, along with other management tools, provide opportunities for natural resource managers to reduce the impact of this insect in at-risk forests.

## What is SPB Suppression?

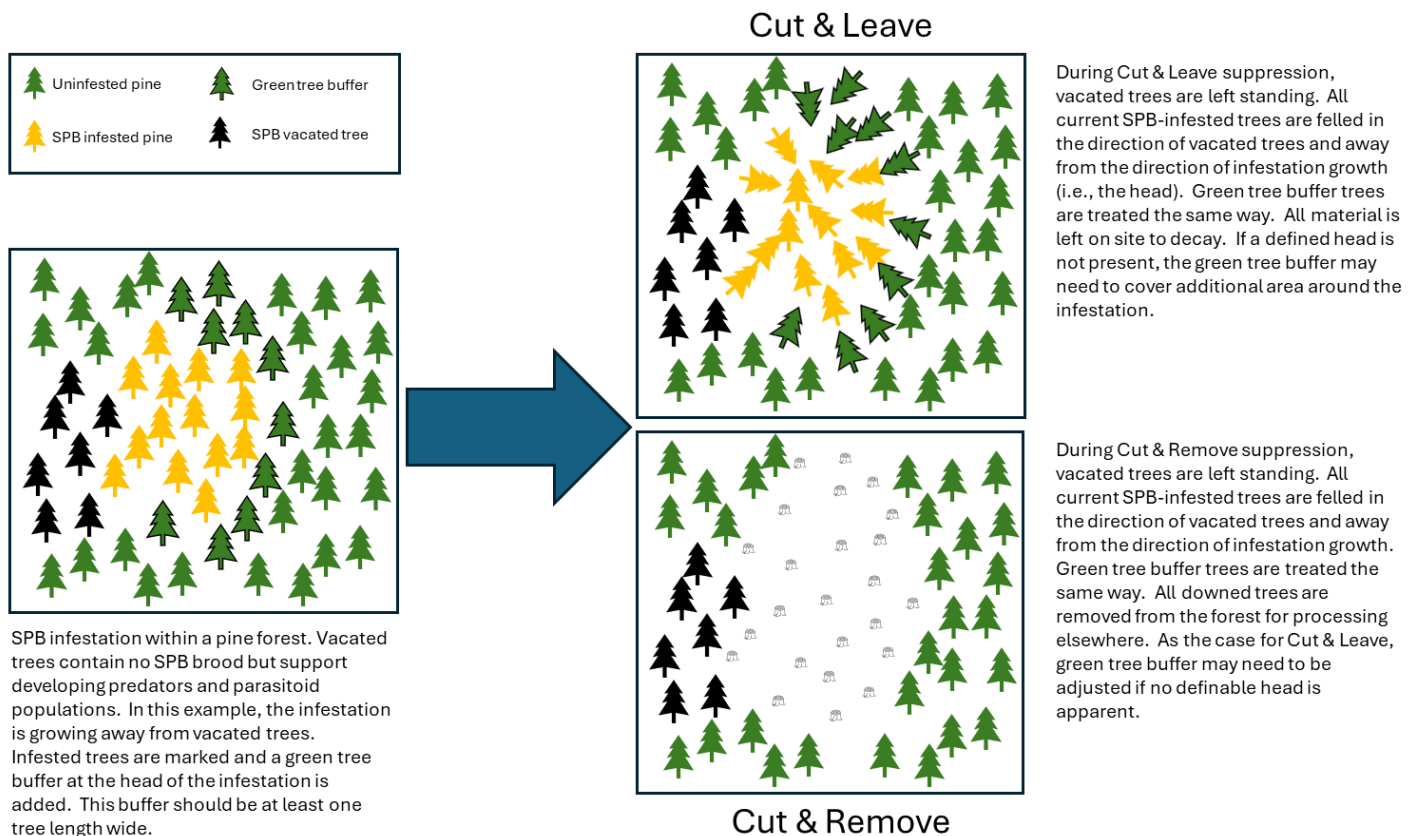
- SPB suppression is an infestation disruption tactic and not a method of directly killing SPB adults and offspring within trees. It involves detecting infestations early, marking infested trees, determining the direction of spread (i.e., the spot head if present), defining a green tree buffer that will also be cut, and the felling of trees according to protocols.
- SPB suppression (1) increases the distance between sources of beetles (infested trees) and uninfested trees, and (2) disrupts pheromone signals that SPB use to successfully locate each other on new host trees after emergence from previously killed trees within an infestation. Emerging beetles thus have difficulty locating and aggregating in synchrony on new trees for successful mass attack and instead disperse out of the area in search of hosts and other beetles elsewhere.

## How is SPB Suppression Implemented?

- **Cut & Leave:** Currently infested trees and a green tree buffer of unattacked trees are cut and left on site to disrupt infestation growth. Trees are felled in the opposite direction of uninfested trees.
- **Cut & Remove:** Currently infested trees and a green tree buffer of unattacked trees are cut and removed from the forest for commercial use or off-site destruction/disposal



Recently emerged SPB on the bark of a pitch pine on Long Island, NY



## Considerations Before Implementing Suppression Treatments

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- **Season.** SPB infestations grow from early summer to early winter. As temperatures cool, SPB activity ceases, making late-season suppression treatments unwarranted. Consider suppressing active infestations only during the summer months, or early fall. After that, most infestations die out naturally.
- **Infestation size.** Spots with  $\geq 20$  trees containing both SPB brood and successful fresh attacks should be prioritized for suppression. Infestations with smaller numbers of infested trees often die-out on their own. Infestations with 100s of infested trees may be difficult to control with suppression cuts.
- **Stand hazard.** SPB excels in overstocked pine stands. Stands with basal area over 100 sq. ft/ac are particularly at risk to supporting SPB infestation growth. Stands with  $\leq 60$  sq. ft/ac of basal area are much less susceptible to SPB damage in the northeastern US.
- **Growth potential.** SPB can quickly kill large numbers of trees if stand conditions are conducive to spot growth and susceptible trees are readily available (i.e., within 20-25 ft) for infestations to continue to grow. Prioritize suppression in areas where large numbers of uninfested pines are present or nearby, or in ecologically important, rare, sensitive, or otherwise valuable habitats, where protection of the live-pine resource is paramount.

## Post Suppression Considerations

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- **Monitoring.** If suppression is attempted, post-treatment surveys are important to ensure the infestation does not continue to grow. Standardized methods are available for [download](#).
- **Preventative silvicultural treatments.** These are key to protecting pitch pine forests against SPB and improving resilience in these forests. In most cases restoration treatments involve one or two overstory removal treatments, as well as understory treatments that include prescribed fire. Once conditions are improved in the stand, scheduled maintenance treatments should be followed.



Examples of SPB Cut & Leave suppression treatments on private (left) and federal (right) lands on Long Island, NY.