

# Bark beetle management and ecology in southern pine forests

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Periodic outbreaks of bark beetles can cause annual losses of millions of dollars and pose serious challenges for forest managers, and the suppression of outbreaks is particularly difficult and expensive.

According to T. D. Schowalter, author of a new open-access article in the *Journal of [Integrated Pest Management](#)* called "[Ecology and Management of Bark Beetles \(Coleoptera: Curculionidae: Scolytinae\) in Southern Pine Forests](#)," [preventative measures](#) are most effective in minimizing losses to these beetles, and several factors should be considered in planning bark beetle management in southern pine forests.

First, managers should consider the fact that the effects of these beetles on ecosystem services are not necessarily destructive and, in some cases, may contribute to management objectives in multiple-use forests. Second, these beetles are controlled naturally by environmental factors that can be manipulated through management practices.

The keys to managing [bark beetles](#) are maintaining a diversity of healthy, site-adapted tree species and adequate spacing between [host trees](#).

The diversity of site-adapted tree species reduces the likelihood of beetle outbreaks because a mixture of tree species creates a more complex environment within which beetles must detect and reach suitable hosts.

Selective thinning of pine density also lowers the risk of beetle outbreaks by reducing resource availability for beetle populations, and by reducing

competition between trees for water and nutrients, which can minimize or delay the effects of drought. In addition, thinning the trees creates a more open canopy, which reduces the effectiveness of pheromone communication between beetles.

**More information:** [dx.doi.org/10.1603/IPM11025](https://doi.org/10.1603/IPM11025)

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