

Insects are major components of forest ecosystems, representing most of the biological diversity and affecting virtually all processes and uses. In the USA, bark beetles (Coleoptera: Curculionidae, Scolytinae) heavily influence the structure and function of these ecosystems by regulating certain aspects of primary production, nutrient cycling, ecological succession and the size, distribution and abundance of forest trees. The purpose of this report is to review tree and stand factors associated with bark beetle infestations and analyze the effectiveness of vegetation management practices for mitigating the negative impacts of bark beetles on forest ecosystems. We describe the current state of our knowledge and identify gaps for making informed decisions on proposed silvicultural treatments. This review draws from examination of 498 scientific publications (many of which are cited herein) on this and related topics.