

**EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]:** State in layman's terms the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

Bark beetles cause yearly timber losses estimated in the billions of dollars and radically increase fire danger for hundreds of communities. The southern California firestorms of 2003 were greatly exacerbated by the forest destruction caused by bark beetles. Although researchers have been trying to control outbreaks of this beetle for many years, most control strategies developed thus far are too cumbersome and expensive. This proposed research aims to develop safe and cost-effective methods of bark beetle biological control based on viruses that specifically target the fungi and bacteria used by these beetles to kill host trees. Similar approaches have worked very well in the control of other pest organisms and, when successful, such biological control strategies perform better than chemical or mechanical control methods at much lower cost.