

Pest Fact Sheet 2007

Positive Impacts, Future Needs....

The SPB initiative has positively impacted southern States. The program has encouraged thinning and hazard fuel reduction on more than 400,000 acres across the South, educated thousands of landowners about SPB challenges, and provided additional knowledge and application information through collaborative research projects. SPB management approaches are now more proactive, and current accomplishments will have long lasting impacts on forest health. In 2007, SPB activity increased in several States, therefore continued cooperation among Federal, State, and private partners is critical. Ongoing cooperative support will better prepare the forestry community to identify and address future SPB outbreaks throughout the South.

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www.srs.fs.usda.gov/4501

 Forest Service
Forest Health Protection, Region 8
& Southern Research Station
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Cover Photo: Mixed pine-hardwood forest. (Photo by Bill Lea, U.S. Forest Service, retired)

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Southern Pine Beetle Prevention Initiative: Working for Healthier Forests

U.S. Department
of Agriculture
Forest Service
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Program Overview

From 1999 to 2003, southern pine beetle (SPB) caused unprecedented damage to pine forests in southern Appalachian mountains. These losses severely impacted the natural resource base that supports the South's tourism and wood-based manufacturing industries and also destroyed the habitat of threatened and endangered species, such as the red-cockaded woodpecker. Since then, Forest Health Protection (FHP) and the Southern Research Station (SRS) received funding through the SPB initiative to cooperatively focus more resources on SPB prevention work. FHP developed the SPB Prevention and Restoration Program and is working with 12 national forests and all 13 States in the Southern Region. The SRS Insects, Diseases, and Invasive Plants of Southern Forests Research Work Unit is working to enhance basic understanding of the insect, its population dynamics, and the best management strategies for preventing and suppressing outbreaks.

The Southern Pine Beetle Prevention Initiative

Funding for the SPB initiative has totaled \$63 million since 2003—making it one of the larger Federal bark beetle prevention programs in the history of forest health management. FHP has allocated approximately \$60 million (Fig. 1) to State forestry agencies and national forests. SRS designated \$3 million to fund in-house and extramural projects to increase understanding of the insect and to enhance the ability to reduce its negative impacts.

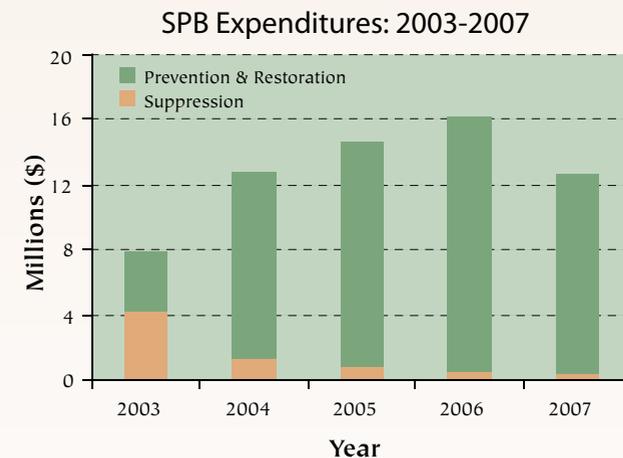


Figure 1. Forest Health Protection southern pine beetle prevention and suppression funds allocated by year to 12 National Forests and 13 Southern States.

A healthy longleaf pine forest in the Coastal Plain. (Photo by Bill Lea, U.S. Forest Service, retired)

Program Implementation

On-the-Ground Accomplishments

Pre-commercial and First Thinning. Thinning is preferred for reducing a forest stand's susceptibility to SPB and represents the predominant strategy of prevention efforts (Fig. 2). Thinning stands to a threshold of about 80 ft² of basal area decreases the frequency and severity of SPB infestations. Program guidelines set targets to thin down to at least 450 stems per acre for pre-commercial thinning and to a basal area of 80 ft² per acre for first thinnings. During the program's first four years, more than 154,000 acres were treated and an additional 70,000 acres are scheduled for treatment in 2007. Thinning is best accomplished during periods when SPB populations are low. Fortunately, SPB populations have been low regionally since the program's inception in 2003, providing the perfect window to thin as many acres as possible.



Figure 2. The Southern Pine Beetle Prevention and Restoration Program encourages thinning forest stands as a strategy to lessen southern pine beetle impacts. (Photo by Jim Meeker, FHP, Pineville, LA)

Restoration. Restoration is another main forest management treatment of the program. Thousands of acres in States east of the Mississippi River were impacted by SPB in the last major outbreak from 1999-2003. Restoration efforts include re-planting lower density stands on SPB-impacted sites and planting less susceptible species, such as longleaf pine, on appropriate sites (Fig. 3). Program guidelines set a maximum planting density of 550 stems per acre for all pine species. Lower initial planting densities should reduce overcrowding in later years, which will delay or alleviate the need for



Figure 3. The Southern Pine Beetle Prevention and Restoration Program supports forest stands planted with longleaf pine, a less-susceptible species to the insect. (Photo by David Stephens, Bugwood.org)

future forest health treatments. During the program's first four years, nearly 63,000 acres were planted and an additional 30,000 acres are scheduled for planting in 2007.

Prescribed Burning. Prescribed burning is a forest management tool commonly used in southern pine forests to reduce understory competition (Fig. 4). It can be used to treat a large number of acres at a low cost relative to other treatments. During the program's first four years, about 75,000 acres were prescribed burned on State and private lands. An estimated 36,000 acres will be treated under this practice in 2007. Prescribed burning is also a standard site preparation treatment for establishing and propagating longleaf pine, which is a fire-dependent species.



Figure 4. A pine stand following a prescribed burn used to control understory vegetation competition and lessen southern pine beetle infestation. (Photo by David Stephens, Bugwood.org)

National Forests. Nearly 95,000 acres of SPB prevention practices will be completed on national forests by the end of 2007, in addition to practices being completed on State and private forests. Work includes restoration and thinning in areas considered high priority from a forest health perspective. Considerable effort is underway to integrate SPB prevention work with other national forest objectives, including fire hazard reduction, red-cockaded woodpecker habitat protection, and timber stand improvement.

Landowner Education

Many landowners in the South are unaware that SPB is a source of timber loss or they have little interest in limiting SPB impact. This lack of awareness creates an opportunity to educate landowners about the benefits of healthy forest management and SPB prevention. Several States have well-developed landowner education programs incorporated in their SPB prevention programs. Educational materials include online publications, posters, and brochures. A special effort is progressing in several States to reach traditionally underserved and minority landowners.

Research and Development

Forest management tools and strategies associated with the SPB program are easy to understand and proven effective; further research may enhance effectiveness and reveal novel approaches. SRS funded a variety of projects focusing on the following research areas: 1) determining risks and costs, 2) preventing and controlling outbreaks, and 3) recovering from outbreaks. SRS scientists have contributed to SPB research in tandem with significant studies conducted by research scientists at universities, private companies, and State forestry agencies. Non-Federal research is supported through a competitive request-for-proposals process administered by SRS. One project immediately impacting pest management is development of SPB stand hazard maps for each State in the Southern Region. This is a cooperative effort involving State and Federal scientists and is spearheaded by the Forest Health Technology Enterprise Team in Ft. Collins, CO. The project is jointly funded by FHP and State forestry agencies.