

Report RCSC-17-03

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## 2016 FOREST HEALTH HIGHLIGHTS: BIGHORN NATIONAL FOREST

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- Western balsam bark beetle killed varying amounts of subalpine fir on an estimated 4,000 acres in 2016 (**Fig. 1 & 4**). In other National Forests in the Rocky Mountain Region, *Armillaria* root disease contributes to subalpine fir mortality, but it has not been detected in subalpine fir in the Bighorn National Forest.



**Figure 1.** From left to right, female western balsam bark beetle, western balsam bark beetle in its gallery, recent western balsam bark beetle damage, and older western balsam bark beetle stand damage. Photos by K. Schotzko.

- Overall, detection of mountain pine beetle-caused mortality of pines increased by over 500 acres in the past year. In 2016, a total of roughly 580 acres were affected by mountain pine beetle, of which 290 acres were lodgepole pine, 2 acres were ponderosa pine, and an additional 290 acres were 5-needle pines (**Fig. 4**).
- Spruce beetle activity has increased since 2015, from 70 acres to 160 acres affected in 2016.

- Douglas-fir beetle caused mortality levels are currently low, and in 2016 only six acres were detected (**Fig. 2**).

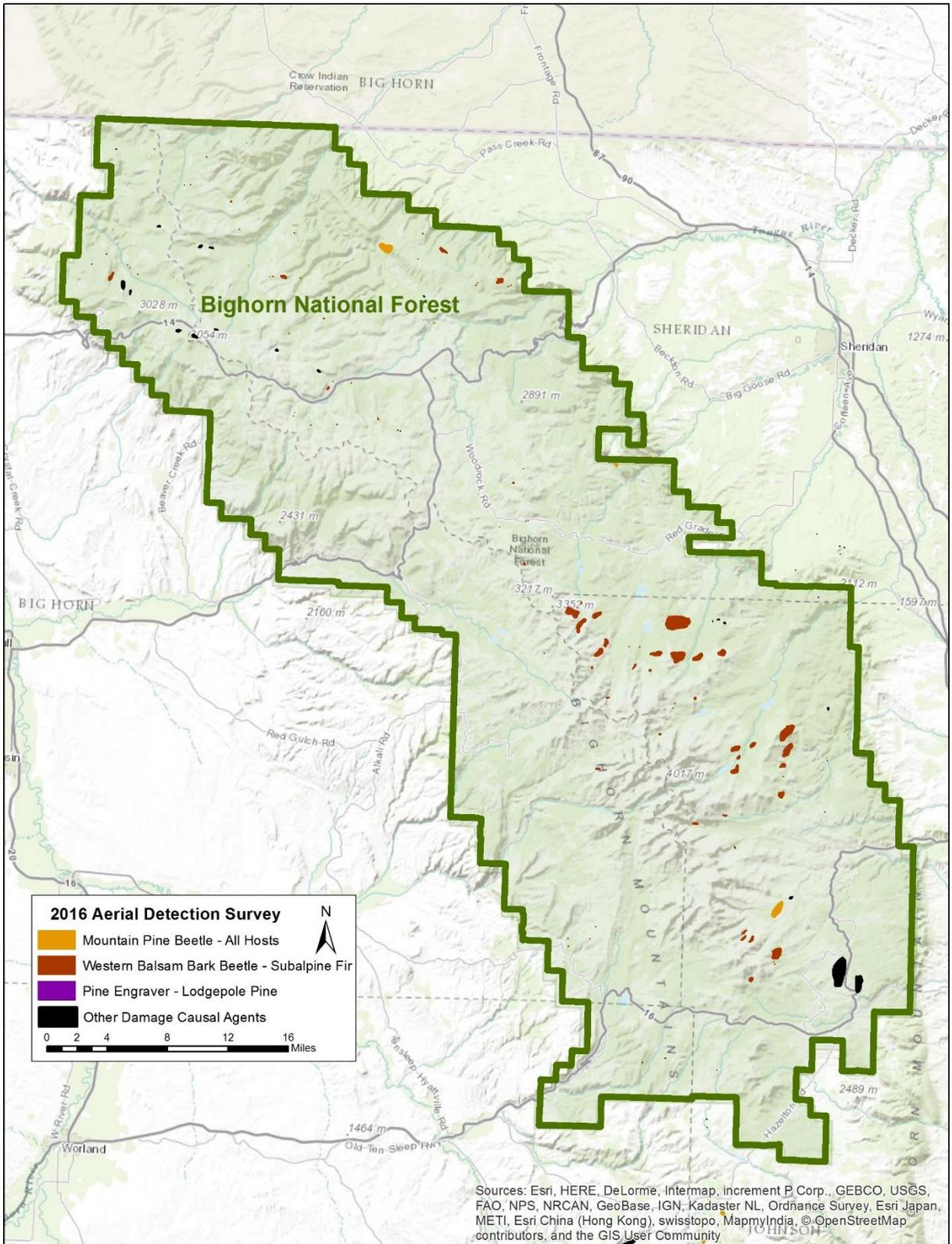


**Figure 2.** From left to right, old Douglas-fir beetle gallery in on dead Douglas-fir, old Douglas-fir beetle caused mortality in Douglas-fir stand, and fresh frass accumulating at the base of a Douglas-fir recently attacked by Douglas-fir beetle. Photos by K. Schotzko.

- Within aspen stands, only five acres were detected by aerial survey with dieback and mortality and no notable defoliation was observed. Sooty bark canker, followed by Cytospora canker, are typically the most damaging agents in aspen stands. White mottled rot is damaging in select aspen stands.
- Dwarf mistletoe continues to be a problem in lodgepole pine stands, but suppression treatments are improving stand conditions or regenerating new uninfected stands.
- White pine blister rust disease is found in most limber pines stands throughout the forest and continues to spread and intensify. Limber pine mortality is especially notable in Ten Sleep and Shell Canyons.



**Figure 3.** Vista in the Bighorn National Forest with aspen stand in foreground. Photo by K. Schotzko.



**Figure 4.** Aerial detection survey map of the Bighorn National Forest: 2016.