

2016 FOREST HEALTH HIGHLIGHTS: SHOSHONE NATIONAL FOREST

Kurt Allen, Entomologist
Kendra Schotzko, Entomologist
Jim Blodgett, Pathologist
Al Dymerski, Forestry Technician

8221 S Highway 16, Rapid City, SD 57702
phone: 605-343-1567; kallen@fs.fed.us

- There has been an ongoing spruce beetle epidemic in the Shoshone National Forest. Acreage affected decreased dramatically between 2015 and 2016, with 35,000 acres reported in 2015 and only 7,500 acres detected in 2016. The epicenter of activity continues on the Wind River Ranger District. (**Fig. 1 & 4**). Preventive spraying with Carbaryl is used to protect trees in campgrounds.



Figure 1. From left to right, spruce beetle mortality near Brooks Lake, and hazard tree removal burn pile and residual spruce beetle killed trees within Brooks Lake Campground. Photos by K. Schotzko.

- Western spruce budworm activity has fluctuated over the past few years, but remains elevated. In 2016, 14,000 acres were affected (**Fig. 2 & 4**); mostly in the Clarks Fork drainage and surrounding areas. The heaviest defoliation is occurring on Douglas-fir, often with defoliation of 50-100% of mature tree crowns. Seedlings and saplings are also being heavily defoliated in these areas.



Figure 2. Western spruce budworm defoliation. Photos by K. Schotzko.

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- Mountain pine beetle mortality of five-needle and lodgepole pine decreased dramatically from 14,000 acres in 2015 to 490 acres in 2016. Two hundred acres of the mortality was in 5-needle pines, and 290 acres were in lodgepole pine (**Fig. 3 & 4**). At this point, mountain pine beetle activity is mostly in the south, northwest of Lander. There are scattered remnant pockets of mortality throughout the rest of the forest. Verbenone is being used to protect high value 5-needle pines. Those areas treated with verbenone do seem to have reduced tree mortality versus untreated areas.



Figure 3. Mountain pine beetle mortality in 5 needle pines on Blue Ridge. Photo by K. Schotzko.

- Western balsam bark beetle-caused mortality of subalpine fir was detected on 2,000 acres (**Fig. 4**). Subalpine fir decline is often attributed to damage from western balsam bark beetle, *Armillaria* root disease, and potentially other damage agents.
- In general, aspen is in good shape. As older trees die, the stands often regenerate from root suckers. Sooty bark canker continues to be the most damaging agent in aspen stands, followed by *Cytospora* canker and bronze poplar borer.
- Persistent disease problems that are often not detected during aerial detection survey include:
 - White pine blister rust, which continues to intensify and cause limber and whitebark pine mortality. White pine blister rust can be particularly damaging on seedlings and small trees, which is exacerbating the widespread mortality that has been caused by mountain pine beetle to the overstory over the past 10 years.
 - Dwarf mistletoe continues to affect lodgepole, limber, and whitebark pines.
 - Comandra blister rust disease is found at high levels in lodgepole pines, particularly on the Wind River Ranger District.

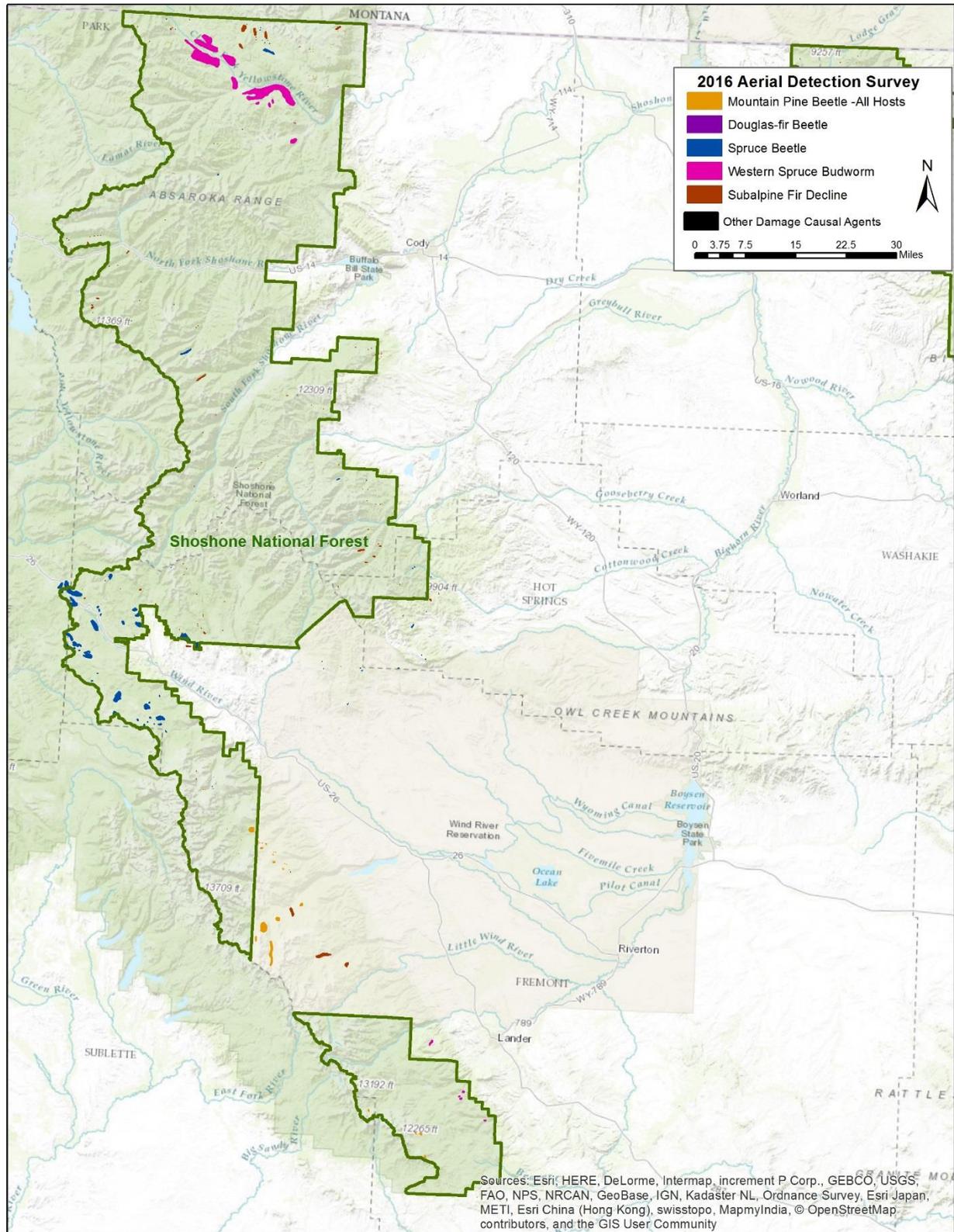


Figure 4. Aerial detection survey map of the Shoshone National Forest: 2016.