Acres are summarized from current year’s observations only and are not cumulative. The “footprint” total represents the affected area on the ground with no multiple counting of acres affected by multiple mortality agents.

2007 Acres with Mortality
Approximate Footprint Acres with Mortality: 7 million*

SUMMARY FOR 2007
The top five mortality agents are:
- Mountain pine beetle: 55%
- Subalpine fir mortality (including western balsam bark beetle): 15%
- Fir engraver: 8%
- Spruce beetle: 5%
- Douglas-fir beetle: 4%

Total acres with mortality from insect and disease detection surveys:
- 2003: 8.5
- 2004: 12.5
- 2005: 5.5
- 2006: 1.3
- 2007: 0.6

Surveyed area acres:
- 2003: 2.0
- 2004: 1.0
- 2005: 0.0
- 2006: 4.0
- 2007: 6.0

LEGEND
- Mortality
- Forested lands
- Surveyed area (where provided)

June 2008
2007 Insect and Disease Detection Surveys – Acres with Mortality

Detection and Aerial Survey Overview

Aerial detection surveys are an efficient and economical method of collecting and reporting data on forest insects, diseases, and other disturbances. Aerial sketchmapping is the primary data-collection method: data are collected by aerial observers from the Forest Service and other cooperating state and federal agencies. Areas of damage are captured as polygons on hardcopy 1:100,000 scale maps or through a Digital Aerial Sketchmapping System (D-ASM). The D-ASM uses a moving map display, GPS tracking, and touch screen technology to create a digital version of the data on-the-fly in the aircraft. Regardless of the method, it is important to note that sketchmapping is a valuable but subjective endeavor with inherent spatial and attribute inaccuracies.

Polygons are coded to identify the damage agent, damage type, and other attributes. Reporting the number of dead trees or dead trees per acre is required for areas with mortality. In large areas where mortality is widely scattered, other attributes may be used to capture the pattern of damage, but are not required. In all cases, mortality may be continuous or discontinuous; therefore, acres are reported as acres “with” mortality.

Damage from some key species, such as emerald ash borer (EAB) and southern pine beetle (SPB), are not well represented on aerial survey maps. EAB damage is highly scattered and does not yield easily delineated polygons on a map. As a result, acres of sparse mortality have been eliminated in 2007. In the case of SPB, some past survey data was incomplete and lacked a spatial component; as a result, only known locations are represented on the 2007 Insect and Disease Survey map.

Resources:

Summary for 2007:

Footprint acres with mortality: 6,760,000

Note: Acres are summarized from current year’s observations only and are not cumulative. The “footprint” total represents the affected area on the ground with no multiple counting of acres affected by multiple mortality agents.

Top 5 mortality agents: Percent of footprint acres with mortality
- Mountain pine beetle 61%
- Subalpine fir mortality (including 13% western balsam bark beetle)
- Fir engraver 7%
- Spruce beetle 5%
- Douglas-fir beetle 4%

Acres with mortality were reported in 36 states. Colorado reported the most at 1.5 million acres.

The total cost of aerial survey is approx $5 million annually, or roughly $.01 per acre surveyed.