**FOREST HEALTH PROTECTION**

SUMMARY FOR 2008

The top five mortality agents are:
- Mountain pine beetle: 66%
- Subalpine fir mortality (including western balsam bark beetle): 7%
- Aspen defoliation: 6%
- Fir engraver: 5%
- Bear damage: 4%

Approximate Footprint Acres with Mortality: 9.4 million*

2008 Acres with Tree Mortality

*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.

Revised June 2009
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 for this summary. In the case of SPB, survey data from past years often lacked a spatial component but was nonetheless included on the map. Beginning in 2007 only spatially-located SPB spots are depicted and therefore represent only a portion of the total SPB damage.

Bear damage is included because of the significant economic impact to conifers in the Pacific Northwest. Bears peel the bark in early spring to eat the inner tissue. There is evidence that for every tree killed by bears, there are two additional trees damaged. Damaged trees are more susceptible to insect and pathogen attack.

Resources: