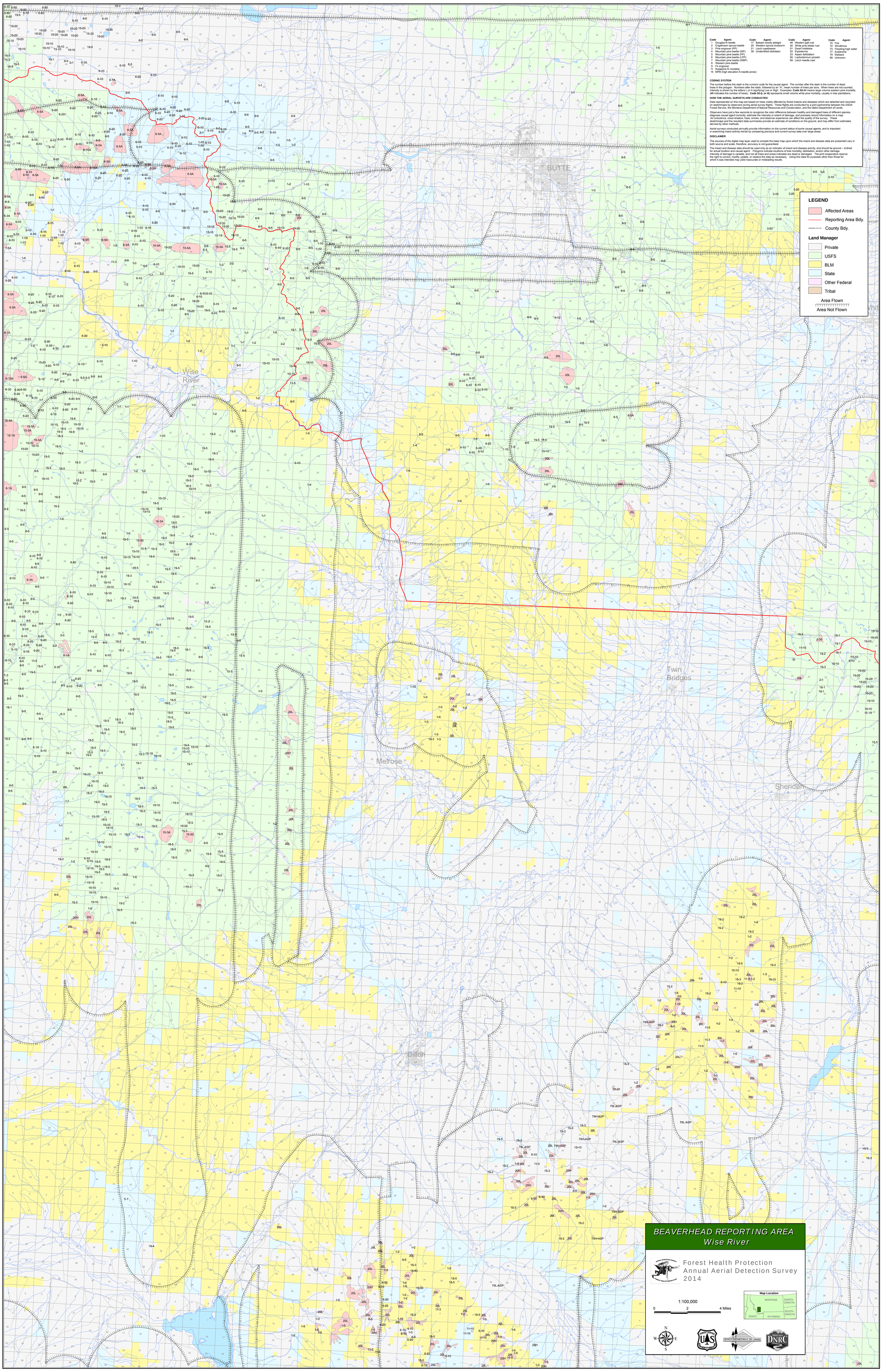


| Code | Agent: |
|---|---|
| 1 | Douglas-fir beetle |
| 2 | Engelmann spruce beetle |
| 3 | Pine engraver (PP) |
| 4 | Mountain pine beetle (WP) |
| 5 | Mountain pine beetle (PP) |
| 6 | Mountain pine beetle (LPP) |
| 7 | Mountain pine beetle (WBP) |
| 8 | Western pine beetle |
| 9 | Fir engraver |
| 11 | Subalpine fir mortality |
| 15 | MPB (high elevation 5-needle pines) |
| 17 | Balsam woolly adelgid |
| 20 | Western spruce budworm |
| 21 | Larch casebearer |
| 39 | Unidentified defoliator |
| 46 | Western gall rust |
| 50 | White pine blister rust |
| 51 | Dwarf mistletoe |
| 52 | Elytroderma |
| 53 | Aspen defoliation |
| 56 | Lophodermium pinastri |
| 69 | Larch needle cast |
| 70 | Fire |
| 72 | Windthrow |
| 73 | Flooding-high water |
| 77 | Avalanche |
| 79 | Dieback |
| 99 | Unknown |

**CODING SYSTEM**

The number before the dash is the numeric code for the causal agent. The number after the dash is the number of dead trees in the polygon. Numbers after the dash, followed by an "A", mean number of trees per acre. When trees are not counted, intensity is shown by the letters L or H signifying Low or High. Examples: **Code 50-##** means large volume western pine mortality (*##* indicates the number of trees). **Code 50-L or H)** represents small volume white pine mortality, usually in tree plantations.

**HOW THE AERIAL SURVEYS ARE CONDUCTED**

Data represented on this map are based on trees visibly affected by forest insects and diseases which are detected and recorded on sketchmaps by observers during aerial survey flights. These flights are conducted by a joint partnership between the USDA Forest Service, the Montana Department of Natural Resources and Conservation, and the Idaho Department of Lands.

Observers have just a few seconds to recognize the color difference between healthy and damaged trees of different species, diagnose causal agent correctly, estimate the intensity or extent of damage, and precisely record information on a map. Air turbulence, cloud shadow, haze, smoke, and observer experience can affect the quality of the survey. These sketchmaps and the resultant data summaries provide an estimate of conditions on the ground, and may differ from estimates derived by other methods.

Aerial surveys conducted annually provide information on the current status of some causal agents, and is important in examining insect activity trends by comparing previous and current survey data over large areas.

**DISCLAIMER**

The sources of the digital map layer used to compile the base map upon which the insect and disease data are presented vary in both source and scale, therefore, accuracy is not guaranteed.

The insect and disease data should be used only as an indicator of insect and disease activity, and should be ground – truthed for actual location and causal agent. Polygons indicate locations of tree mortality, defoliation, and/or other damage. Intensity of damage is variable, and not all trees and areas indicated are dead or damaged. The joint cooperators reserve the right to correct, modify, update, or replace the data as necessary. Using this data for purposes other than those for which it was intended may yield inaccurate or misleading results.