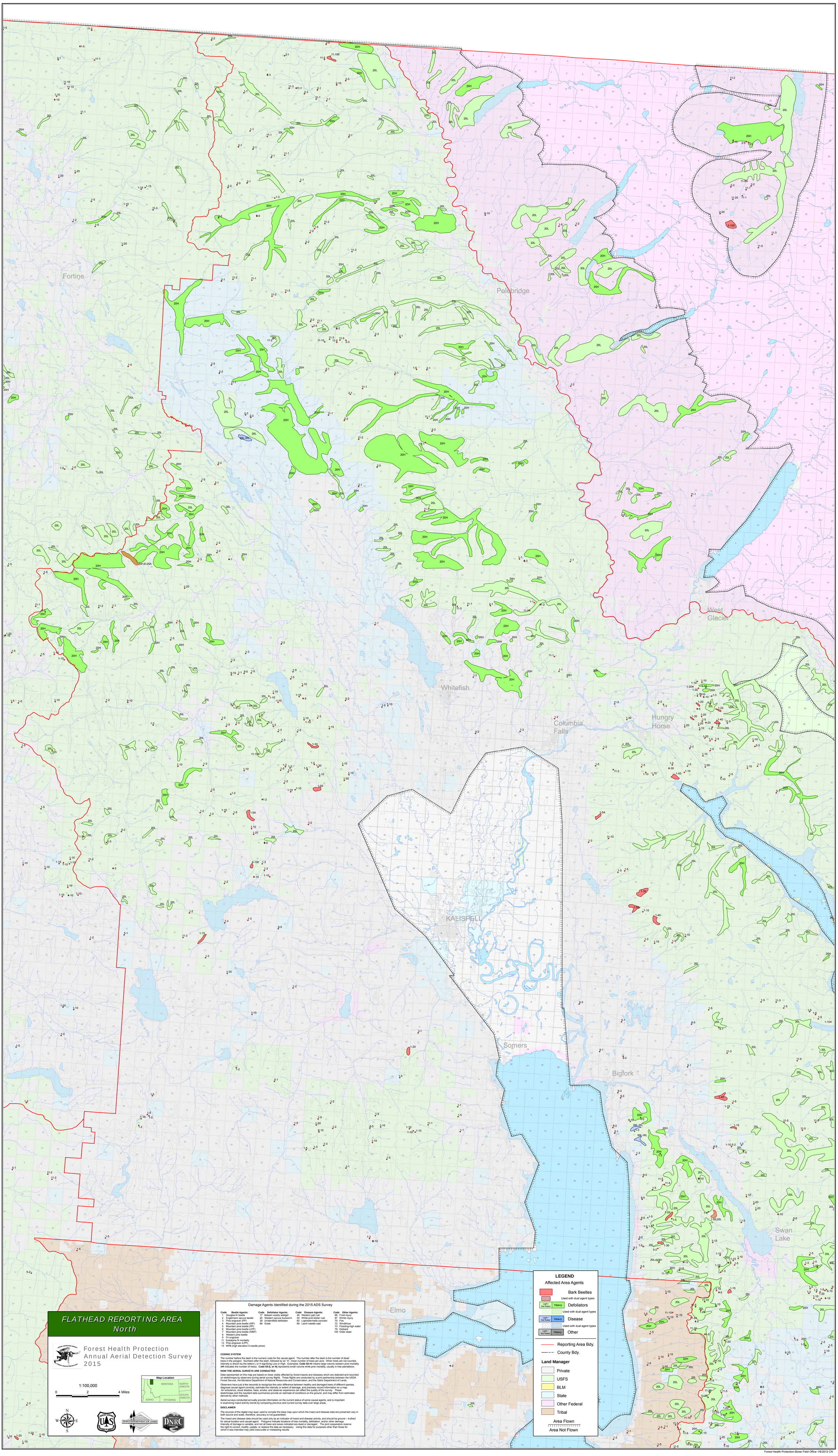

FLATHEAD REPORTING AREA
North

Forest Health Protection
Annual Aerial Detection Survey
2015

1:100,000

0 2 4 Miles

Map Location

MONTANA, NORTH DAKOTA, SOUTH DAKOTA, IDAHO, WYOMING

Damage Agents Identified during the 2015 ADS Survey

Code	Beetle Agents:	Code	Defoliator Agents:	Code	Disease Agents:	Code	Other Agents:
1	Douglas-fir beetle	17	Balsam woolly adelgid	46	Western gall rust	66	Frost injury
2	Engelmann spruce beetle	20	Western spruce budworm	50	White pine blister rust	67	Winter injury
3	Pine engraver (PP)	39	Unidentified defoliator	60	Lophodermella concolor	70	Fire
4	Mountain pine beetle (WP)	89	Scale	69	Larch needle cast	72	Windthrow
5	Mountain pine beetle (PP)					73	Flooding-high water
6	Mountain pine beetle (LPP)					79	Dieback
7	Mountain pine beetle (WBP)					100	Older dead
8	Western pine beetle						
9	Fir engraver						
11	Subalpine fir mortality						
13	Pine engraver (LPP)						
15	MPB (high elevation 5-needle pines)						

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.

LEGEND

Affected Area Agents

- Bark Beetles
- Used with dual agent types
- Light / Not Rated — Heavy: Defoliators
- Used with dual agent types
- Light / Not Rated — Heavy: Disease
- Used with dual agent types
- Light / Not Rated — Heavy: Other

- Reporting Area Bdy.
- County Bdy.

Land Manager

- Private
- USFS
- BLM
- State
- Other Federal
- Tribal

Area Flown

Area Not Flown

Forest Health Protection-Boise Field Office 1/6/2012 CN