



**LOLO REPORTING AREA**  
*Seely*

Forest Health Protection  
Annual Aerial Detection Survey  
2015

1:100,000  
0 2 4 Miles

Map Location  
MONTANA  
NORTH DAKOTA  
SOUTH DAKOTA  
IDAHO WYOMING

**LEGEND**

**Affected Area Agents**

- Bark Beetles
- Used with dual agent types
- Defoliators
- Used with dual agent types
- Disease
- Used with dual agent types
- Other

Reporting Area Bdy.  
County Bdy.

**Land Manager**

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

Area Flown  
Area Not Flown

**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	Western woolly adelgid	46	Frost injury	66	Frost injury
2	Campoplex spruce beetle	18	Western spruce budworm	47	White pine blister rust	67	White pine blister rust
3	Pine engraver (PP)	19	Unidentified defoliator	48	Loopholella concolor	68	Loopholella concolor
4	Mountain pine beetle (MPB)	20	Scale	49	Larid needle cast	69	Larid needle cast
5	Mountain pine beetle (PP)					70	Fire
6	Mountain pine beetle (WSP)					71	Windthrow
7	Mountain pine beetle (WSP)					72	Flooding-high water
8	Western pine beetle					73	Obstruction
9	Pine engraver					74	Obstruction
10	Substrate for rot					75	Obstruction
11	Substrate for rot					76	Obstruction
12	Pine engraver (LSP)					77	Obstruction
13	Pine engraver (LSP)					78	Obstruction
						79	Obstruction
						80	Obstruction
						81	Obstruction
						82	Obstruction
						83	Obstruction
						84	Obstruction
						85	Obstruction
						86	Obstruction
						87	Obstruction
						88	Obstruction
						89	Obstruction
						90	Obstruction
						91	Obstruction
						92	Obstruction
						93	Obstruction
						94	Obstruction
						95	Obstruction
						96	Obstruction
						97	Obstruction
						98	Obstruction
						99	Obstruction
						100	Obstruction

**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 (Spotting Low or High). Examples: Code 50-20 means large volume western pine mortality (PP) 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 reported on aircraft 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 State Department of Lands. Observers have just a few seconds to recognize the color difference between healthy and damaged trees of different species, determine causal agent correctly, estimate the intensity or extent of damage, and precisely record information on a map. Air turbulence, cloud shadows, haze, smoke, and observer experience can affect the quality of the survey. These shortcomings and the resultant data uncertainties 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 forest causal agents, and is important in examining insect activity trends by comparing previous and current survey data over large areas.**

**DISCLAIMER**  
The source 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 causal agent, intensity, 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.