

# 2012 Aerial Insect and Disease Survey

## USGS 100K Quad: HEPPNER - A145119; 6H



Mortality Agents			Other Damaging Agents		
Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host
1	Douglas fir beetle	Douglas fir	AB	Balsam woolly adelgid	True fir
2	Douglas fir engraver	Douglas fir	AM	Leaf discoloration	Maple
3	Spruce beetle	Spruce	BR	Bitter rot	Fireweed pines
4	Fir engraver	Spruce	CC	Cystipora canker	True fir
5	Western balsam hawk beetle	Subalpine fir	DH	Downy hemlock	Hemlock
6B	Mountain pine beetle	Whitebark pine	FIRE	Fire	All species
6L	Mountain pine beetle	Lodgepole pine	HDA	Hardwood decline	Hardwoods
6P	Mountain pine beetle	Ponderosa pine	HDD	Hardwood decline	Aspen
6W	Mountain pine beetle	Sugar pine	NFN	Areas not flown - non host	
7	Log-skip	Ponderosa, lodgepole pines	NFH	Areas not flown - host	Pacific madrone
8	Western pine beetle	Ponderosa pine	PMD	Pacific madrone decline	Rapies
8B	Western pine beetle	White-barked ponderosa pine	PIE	Leaf fall in poplars	All species
9	Silver fir beetle	Silver fir, true fir	RD	Red belt	All species
9B	Bear damage	Douglas fir	SLD	Slide	All species
FL	Flattened woodborer	Douglas fir, ponderosa pine	WIND	Windthrow	All species
FD	Root collar rot disease	Root collar rot	WINTD	Winter damage	All species
WD	Root disease	Canker			
WTR	Water Damage	All species			

  

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas-fir, spruce
CH	Larch casebearer/typhlocyba	Western larch
LC	Western hemlock looper	Western hemlock
LS	Black pine/leaf scale	Lodgepole pine
PS	Pine budworm	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
PN	Pine needle sheathminer	Ponderosa pine
NC	Needle cast	Western larch
SA	Sawfly	Canfield
SH	Sawfly	True fir
SK	Sawfly	Canfield
SL	Sawfly	Lodgepole pine
SN	Sawfly	Lodgepole pine
SNC	Sawfly	Lodgepole pine
TC	Tree collar/rot	Canfield
TI	Tree collar/rot	Canfield
TK	Tree collar/rot	Canfield
UNKD	Unknown defoliating agent	All species

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**Map Scale: 1:100,000**  
**Date: 17 January 2013**

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- Areas Not Flown

The cause of damage is described by a symbol above and is followed by: number of trees affected; number of trees (example: SA) or intensity of damage (L- Light, M- Moderate, H- Heavy).

The TOPIC maps used as background maps are seamless, scanned images of United States Geological Survey (USGS) paper topographic maps. For more information on this map, visit them online at: [http://gto.arcgis.com/arcgis/rest/services/USA\\_Topographic/MapServer](http://gto.arcgis.com/arcgis/rest/services/USA_Topographic/MapServer)

A data dictionary, digital copies of this map and Aerial Insect and Disease data are available at: [www.fs.usda.gov/gto/r6/fhp/ads](http://www.fs.usda.gov/gto/r6/fhp/ads)

#### How the Aerial Surveys Are Conducted

Data represented on this map are based on trees visibly affected by forest insects and diseases detected and recorded during aerial survey flights conducted by the USDA Forest Service, the Washington Department of Natural Resources and the Oregon Department of Forestry. Observers have just a few seconds to recognize the color difference between healthy and damaged trees of different species; diagnose causal agents correctly; estimate intensity; delineate the extent of damage; and precisely record this information on a georeferenced, digital map. Air turbulence, cloud shadows, distance from aircraft, haze, smoke, and observer experience can all affect the quality of the survey. These data summaries provide an estimate of conditions on the ground and may differ from estimates derived by other methods.

The aerial survey provides information on the current status for many causal agents, and is important when examining insect activity trends by comparing historical and current survey data over large areas.

Overview surveys are a 'snap shot' in time and therefore may not be timed to accurately capture the true extent or severity of a particular disturbance activity. Specially designed surveys with modified flight patterns and timing may be conducted to more accurately delineate the extent and severity of a particular disturbance agent. Special surveys, such as Swiss needle cast surveys, are conducted when resources are available to address situations of sufficient economic, political or environmental importance.

DIRECT ALL INQUIRIES TO:

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Forest Health Management  
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Salem, OR 97310

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USDA Forest Service, Region 6  
State and Private Forestry  
Forest Health Protection  
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Portland, Oregon 97208

DISCLAIMER  
Forest Health Protection (FHP), Washington Department of Natural Resources (WDNR) and Oregon Department of Forestry (ODF) strive to maintain an accurate Aerial Detection Survey (ADS) Database, but due to the conditions under which the data are collected, FHP, WDNR and ODF shall not be held responsible for missing or inaccurate data. ADS are not intended to replace more specific information. An accuracy assessment has not been done for this dataset; however, ground checks are completed in accordance with local and national guidelines. <http://www.fs.fed.us/foresthealth/ads/> quality assurance sheet. Maps and data may be updated without notice. Please cite: "USDA Forest Service, Forest Health Protection, Washington Department of Natural Resources, Resource Protection Division, and Oregon Department of Forestry, Forest Health Management" as the source of this data.