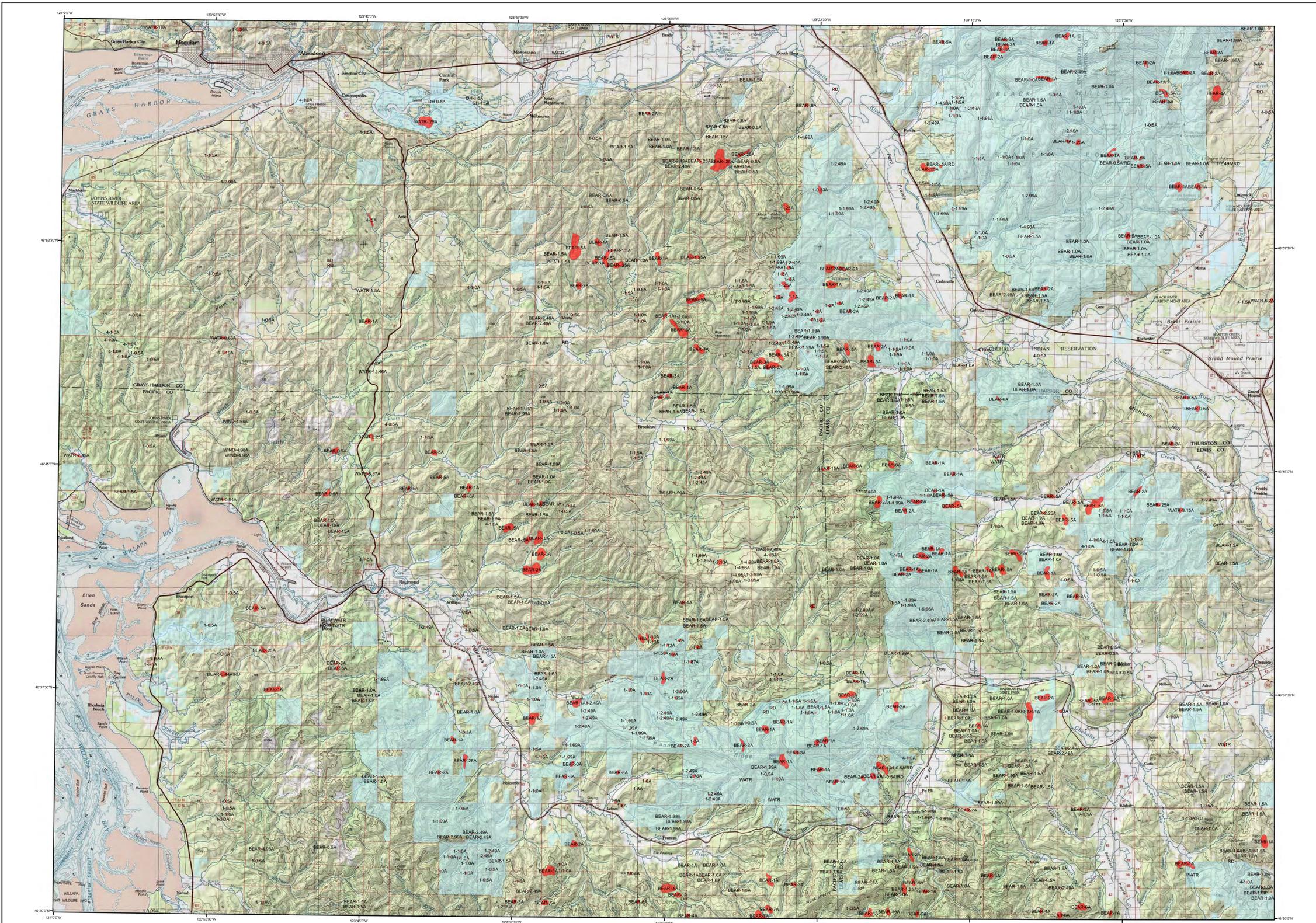


# 2011 Aerial Insect and Disease Survey

## USGS 100K Quad: CHEHALIS RIVER - E146123; 2E



Mortality Agents		
Code	Damaging Agent	Primary Host
2	Douglas fir beetle	Douglas fir
3	Spineless wood borer	Spineless wood borer
4	Pine engraver	True fir
5	Western balsam bark beetle	Sub-spruce fir
6B	Mountain pine beetle	Whitebark pine
6L	Mountain pine beetle	Lodgepole pine
6P	Mountain pine beetle	Ponderosa pine
6W	Mountain pine beetle	Western white pine
7	Western white pine sawfly	Ponderosa pine
8	Western white pine sawfly	Pacific ponderosa pine
9	Western white pine sawfly	Sliver fir, true fir
10	Western white pine sawfly	Sliver fir, true fir
11	Western white pine sawfly	Sliver fir, true fir
12	Western white pine sawfly	Sliver fir, true fir
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99	Western white pine sawfly	Sliver fir, true fir
100	Western white pine sawfly	Sliver fir, true fir

USGS 100K Quad: CHEHALIS RIVER - E146123; 2E  
2011 Aerial Insect and Disease Survey  
Map Scale: 1:100,000  
Date: 13 December 2011

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- WaDNR Managed Lands
- Areas Not Flown
- 2011 Large Fires

Source: Northwest Interagency Coordination Center

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

The TOPOI maps are seamless, scanned images of United States Geological Survey (USGS) paper topographic maps. For more information on this map, visit us online at [http://gto.arcgisonline.com/maps/USA\\_Topo\\_Maps](http://gto.arcgisonline.com/maps/USA_Topo_Maps)

A data dictionary, digital copies of this map and Arctics insect and disease data are available at [www.fs.usda.gov/gto/r/fhp/ads](http://www.fs.usda.gov/gto/r/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 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 agent. 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:

Washington State Department of Natural Resources  
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1111 Washington St. SE  
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Natural Resources  
Forest Health Protection  
PO Box 3623  
Portland, Oregon 97208

DISCLAIMER  
Forest Health Protection (FHP), Washington Department of Natural Resources (WONR) and Oregon Department of Forestry (ODF) strive to maintain an accurate Aerial Detection Survey (ADS) Dataset, but due to the conditions under which the data are collected FHP, WONR 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.usda.gov/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.