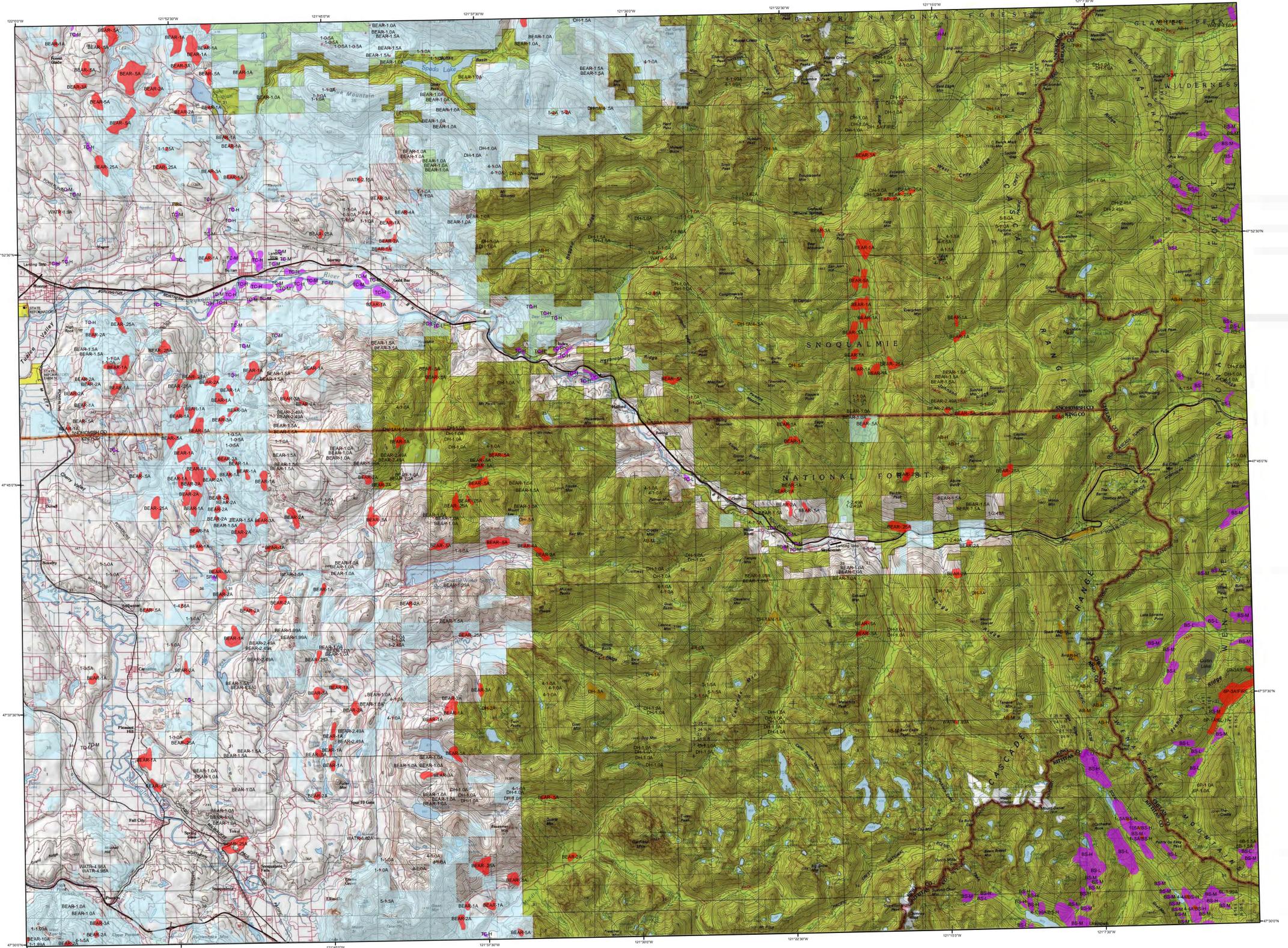


# 2012 Aerial Insect and Disease Survey

## USGS 100K Quad: SKYKOMISH RIVER - E147121; 4C



Mortality Agents		
Code	Damaging Agent	Primary Host
1	Douglas fir beetle	Douglas fir
2	Douglas fir engraver	Douglas fir
3	Spruce beetle	Spruce
4	Fir engraver	True fir
5	Western balsam bark beetle	Subalpine fir
6B	Mountain pine beetle	Whitebark pine
6L	Mountain pine beetle	Lodgepole pine
6P	Mountain pine beetle	Ponderosa pine
6W	Mountain pine beetle	Sugar pine
7	Western white pine	Ponderosa, lodgepole pines
8	Western pine beetle	Ponderosa pine
9	Western pine beetle	Pine-nut ponderosa pine
9A	Western pine beetle	Silver fir, true fir
9B	Bear damage	Douglas fir
FL	Flattened woodborer	Pine-Oak/cedar root disease
WD	Root disease	Carrier
WATR	Water damage	All species

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas fir, spruce
CH	Larva casebearer/woodpecker	Western larch
LC	Western hemlock looper	Western hemlock
LS	Black pine/needle scale	Ponderosa pine
PL	Pine needle scale	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
PN	Pine needle sheathminer	Ponderosa pine
NC	Needle cast	Western larch
SA	Sawfly	True fir
SA	Sawfly	Carline
SK	Sawfly	Kobovone pine
SL	Sawfly	Lodgepole pine
SM	Sawfly	Aspen
SNC	Swain needle cast	Douglas fir
TA	Tent caterpillar	Aspen
TC	Tent caterpillar	Western larch
TM	Douglas fir tussock moth	True fir, Douglas fir
UNWD	Unknown defoliating agent	All species

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**2012 Aerial Insect and Disease Survey**  
**Map Scale: 1:100,000**  
**Date: 11 December 2012**

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- WadNR Managed Lands
- Areas Not Flown
- 2012 Large Fires  
Source: Northwest Interagency Coordination Center

The cause of damage is described by a symbol above and is followed by the number of trees affected, number of trees (example: SA1) 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 Agents 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 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**

Washington State Department of  
Natural Resources  
Resource Protection Division  
Forest Health  
1111 Washington St. SE  
MS 47037  
Olympia, WA 98504-7037

-- OR --

USDA Forest Service, Region 6  
State and Private Forestry  
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) Database, 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.fed.us/foresthealth/assessment/> for quality assurance information. 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.