

DRAFT-2012 Aerial Insect and Disease Survey

USGS 100K Quad: PORT ANGELES - A148123; 2B



Mortality Agents		
Code	Damaging Agent	Primary Host
1	Douglas fir beetle	Douglas fir
2	Douglas fir engraver	Douglas fir
3	Spotted lanternfly	Spine
4	Pine engraver	True fir
5	Western balsam bark beetle	Sub-alpine fir
6B	Mountain pine beetle	Whitebark pine
6L	Mountain pine beetle	Lodgepole pine
6P	Mountain pine beetle	Ponderosa pine
6S	Mountain pine beetle	Sugar 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	Silver fir, true fir
9A	Western white pine sawfly	Pacific ponderosa pine
9B	Western white pine sawfly	Pacific ponderosa pine
9C	Western white pine sawfly	Pacific ponderosa pine
9D	Western white pine sawfly	Pacific ponderosa pine
9E	Western white pine sawfly	Pacific ponderosa pine
9F	Western white pine sawfly	Pacific ponderosa pine
9G	Western white pine sawfly	Pacific ponderosa pine
9H	Western white pine sawfly	Pacific ponderosa pine
9I	Western white pine sawfly	Pacific ponderosa pine
9J	Western white pine sawfly	Pacific ponderosa pine
9K	Western white pine sawfly	Pacific ponderosa pine
9L	Western white pine sawfly	Pacific ponderosa pine
9M	Western white pine sawfly	Pacific ponderosa pine
9N	Western white pine sawfly	Pacific ponderosa pine
9O	Western white pine sawfly	Pacific ponderosa pine
9P	Western white pine sawfly	Pacific ponderosa pine
9Q	Western white pine sawfly	Pacific ponderosa pine
9R	Western white pine sawfly	Pacific ponderosa pine
9S	Western white pine sawfly	Pacific ponderosa pine
9T	Western white pine sawfly	Pacific ponderosa pine
9U	Western white pine sawfly	Pacific ponderosa pine
9V	Western white pine sawfly	Pacific ponderosa pine
9W	Western white pine sawfly	Pacific ponderosa pine
9X	Western white pine sawfly	Pacific ponderosa pine
9Y	Western white pine sawfly	Pacific ponderosa pine
9Z	Western white pine sawfly	Pacific ponderosa pine
10	Water damage	All species

Other Damaging Agents		
Code	Damaging Agent	Primary Host
AB	Balsam woolly adelgid	True fir
AC	Cooley spruce gall adelgid	Spine, Douglas fir
AD	Leaf discoloration	Spine
AE	Blister rust	True fir
AF	Chrysomelid canker	True fir
AG	Pinyon hemlock	All species
AH	Fire	All species
AI	Hardwood decline	Hardwoods
AJ	Hardwood decline	Aspen
AK	Hardwood decline	Oak
AL	Arava nut brown - non host	All species
AM	Arava nut brown - host	All species
AN	Pacific madrone decline	Pacific madrone
AO	Leaf roll in poplars	Poplars
AP	Rail rust	All species
AQ	Water damage	All species
AR	Wind	All species
AS	Winter damage	All species

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas fir, spruce
CH	Larch casebearer/typhlocyba	Western larch
CL	Western hemlock looper	Western hemlock
LD	Needle cast	Lodgepole pine
LE	Black pine leaf scale	Ponderosa pine
ML	Larch budmoth	Western larch
PL	Pine budworm	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
PD	Needle cast	Ponderosa pine
PE	Sawfly	True fir
SE	Sawfly	Aspen
SM	Satin moth	Douglas fir
SN	Swainson's sawfly	Ponderosa pine
SP	Sawfly	Ponderosa pine
TA	Tent caterpillar, alder	Alder
TM	Douglas fir tussock moth	True fir, Douglas fir

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2012 Aerial Insect and Disease Survey
Map Scale: 1:100,000
Date: 22 May 2012

Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- 2012 Special Swiss Needle Cast Survey

More information about this special survey and the related data is located here: <http://www.oregon.gov/ODF/privateforests/Maps.shtml>

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.arcgis.com/arcgis/rest/services/USA_Topographic

A data dictionary, digital copies of this map and Arctis insect and disease data are available at: 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:

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Washington State Department of
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Forest Health
1111 Washington St. SE
MS 47037
Olympia, WA 98504-7037

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USDA Forest Service, Region 6
Natural Resources
Forest Health Protection
PO Box 3623
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) Dataset, 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/assess/> 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.