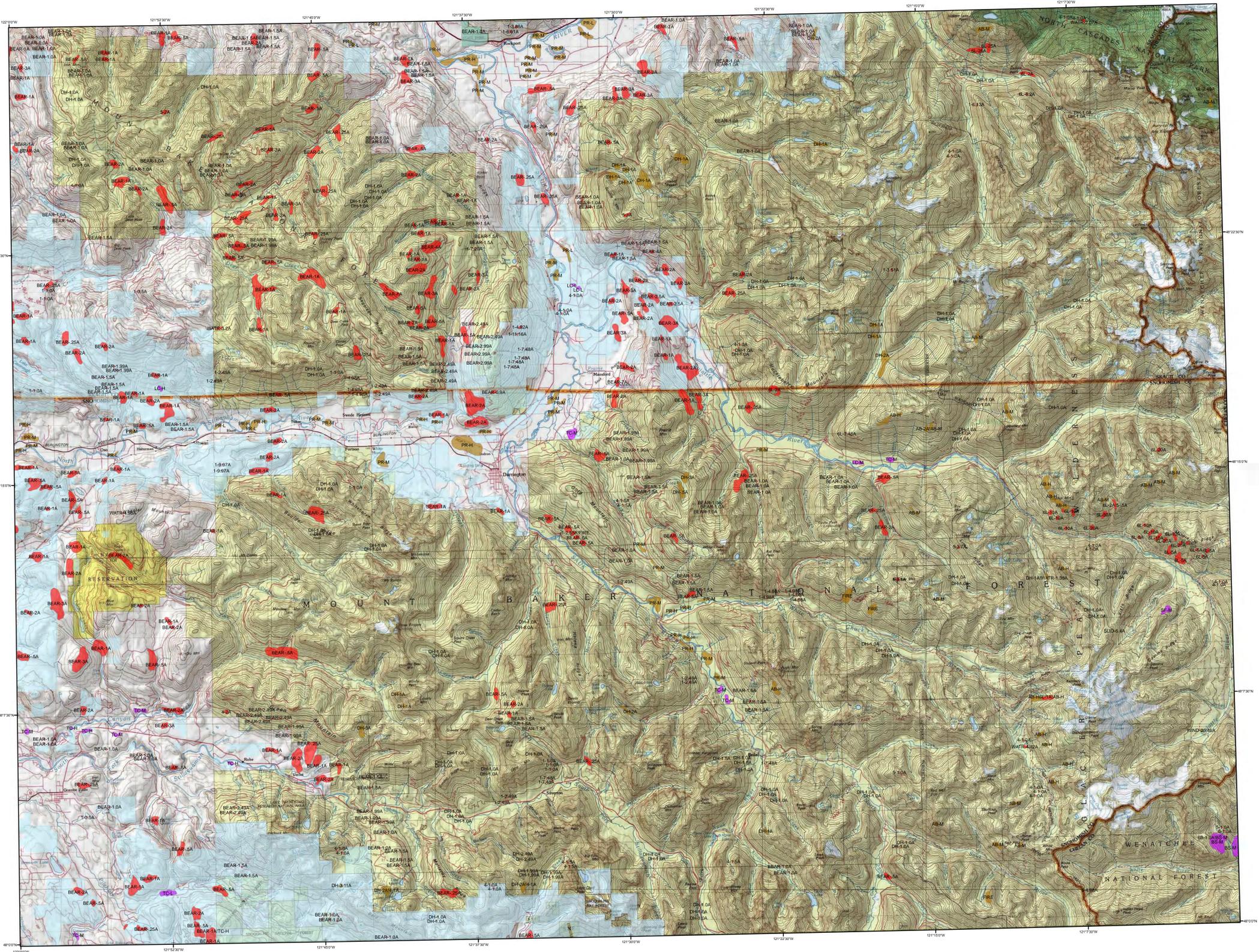


2012 Aerial Insect and Disease Survey

USGS 100K Quad: SAUK RIVER - A148121; 4B



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	Brown rot	Pine/needle pines
4	Fire engraver	True fir	CC	Cystipora canker	True fir
5	Western balsam bark beetle	Subalpine fir	CH	Chloroannular canker	Maple
6B	Mountain pine beetle	Ponderosa pine	FIRE	Fire	All species
6L	Mountain pine beetle	Lodgepole pine	HDD	Hardwood decline	Hardwoods
6P	Mountain pine beetle	Ponderosa pine	HDD	Hardwood decline	Aspen
6W	Mountain pine beetle	Western white pine	NFN	Needle fall - non host	Oak
7	Wet spruce beetle	Ponderosa, lodgepole pines	NFN	Needle fall - non host	Oak
8	Western pine beetle	Ponderosa pine	PMD	Pacific madrone decline	Pacific madrone
9	Western pine beetle	Pine-nutted ponderosa pine	PR	Pine resin canker	Poplars
BEAR	Bear damage	Silver fir, true fir	RD	Rust leaf blight	All species
FL	Flame-weevil woodborer	Douglas fir, ponderosa pine	SAD	Silver leaf	All species
WD	Root collar root disease	Pine, Douglas fir	WINT	Winter damage	All species
WD	Root disease	Conifer			
WATR	Water damage	All species			

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas fir, spruce
CH	Larva casebearer/needleminer	Western larch
LC	Western hemlock looper	Western hemlock
LS	Black pine/needle scale	Ponderosa pine
PE	Pine needle scale	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
PN	Pine needle sheathminer	Ponderosa pine
RC	Needle cast	Western larch
SA	Sawfly	Conifer
SK	Sawfly	Knobcone pine
SK	Sawfly	Lodgepole pine
SM	Satin moth	Aspen
SNC	Swainson's sawfly	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

USGS 100K Quad: SAUK RIVER - A148121; 4B
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

Source: Washington Dept. of Natural Resources

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 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/maps/usa/Topo_Maps

A data dictionary, digital copies of this map and Aerial Insect and Disease data are available at: 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 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
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 (WDNR) and Oregon Department of Forestry (ODF) strive to maintain an accurate Aerial Insect and Disease Survey (AIDS) 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. AIDS 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/operations/qualityassurance.shtml>. 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.