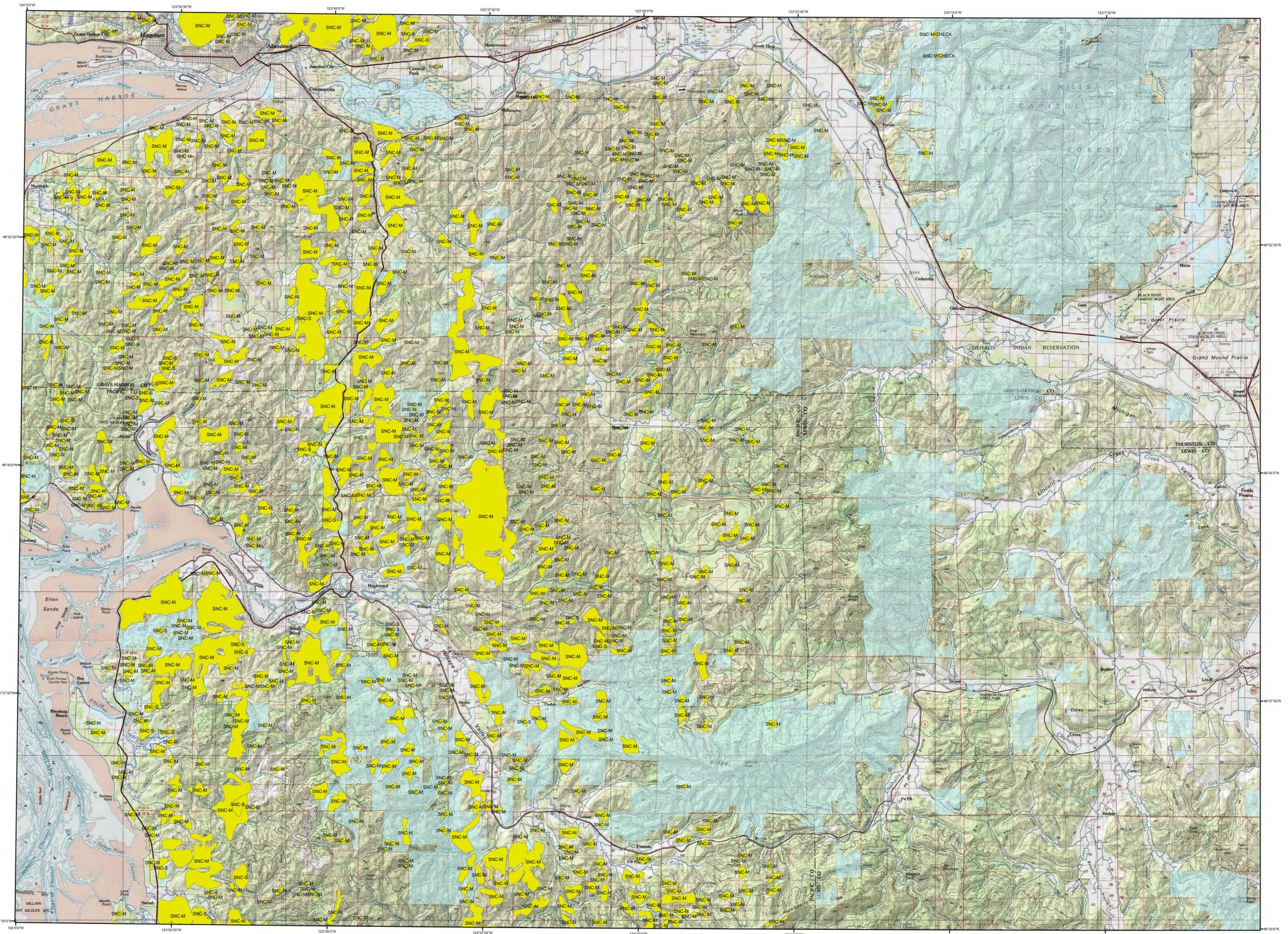


DRAFT-2012 Aerial Insect and Disease Survey

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



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	AC	Cooley spruce gall adelgid	Sitka spruce, Douglas fir
3	Spineless bark beetle	Spineless bark beetle	AM	Leaf discoloration	Various
4	Pit engraver	True fir	BR	Bleater rust	True fir
5	Western balsam bark beetle	Sub-alpine fir	CC	Chrysomelid canker	Pine needles pines
6B	Mountain pine beetle	Whitebark pine	DI	Dying hemlock	Hemlock
6L	Mountain pine beetle	Lodgepole pine	DR	Dry rot	All species
6P	Mountain pine beetle	Ponderosa pine	FD	Fungus wood decline	Hardwoods
6S	Mountain pine beetle	Sitka spruce	HD	Hardwood decline	Hardwoods
6W	Mountain pine beetle	Western white pine	HDC	Hardwood decline	Aspen
7	Sitka spruce	Ponderosa, lodgepole pines	MD	Mistletoe	Aspen, fir, true fir
8	Western pine beetle	Ponderosa pine	MR	Mistletoe	Aspen, fir, true fir
8B	Western pine beetle	Pine-needle ponderosa pine	PA	Pacific madrone decline	Pacific madrone
9	Bear damage	Various	PD	Pine needle cast	Various
9B	Flattened woodborer	Douglas fir	RD	Rust leaf	All species
FR	Black stain root disease	Pine, Douglas fir	SL	Shade	All species
FL	Pine-Oak root disease	Pine-Oak root disease	WD	Water damage	All species
RD	Root disease	Various	WTR	Winter damage	All species
WATR	Water Damage	Various	WNTR	Winter damage	All species

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas fir, spruce
CH	Larch casebearer/hippodamia	Western larch
HL	Western hemlock looper	Western hemlock
LD	Needle cast	Lodgepole pine
LS	Black pine leaf scale	Ponderosa pine
ML	Larch budmoth	Western larch
PH	Pine budworm	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
HC	Needle cast	Various
SP	Sawfly	True fir
SM	Salt moth	Aspen
SN	Swiss needle cast	Douglas fir
SP	Sawfly	Ponderosa pine
TA	Tent caterpillar, alder	Alder
TM	Douglas fir tussock moth	True fir, Douglas fir

USGS 100K Quad: CHEHALIS RIVER - E146123; 2E
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 TOPO! 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://goto.arcgisonline.com/maps/USA_Topo_Maps

A data dictionary, digital copies of this map and Arctis insect and disease data are available at: www.fs.usda.gov/gto/rc/fhp/pds

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
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/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.