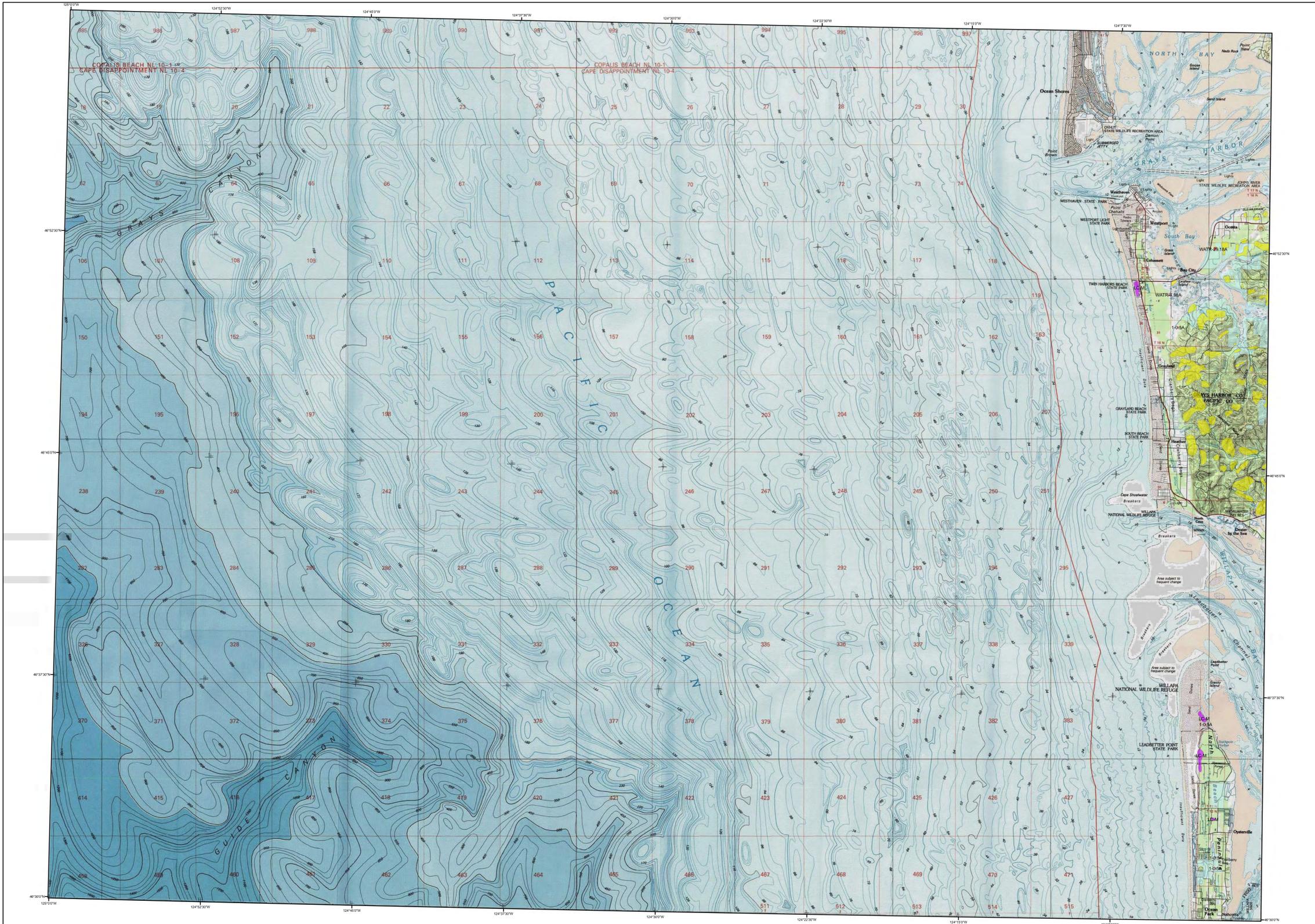


# 2012 Aerial Insect and Disease Survey

## USGS 100K Quad: WESTPORT - E146124; 1E



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	Bitter rot	Pine needles
4	Fir engraver	Douglas fir	CC	Cystiporia canker	True fir
5	Western balsam bark beetle	Sub-spruce fir	CH	Cherry hornet	Hemlock
6B	Mountain pine beetle	Whitebark pine	FIRE	Fire	All species
6L	Mountain pine beetle	Lodgepole pine	HDA	Heartwood decline	Heartwoods
6P	Mountain pine beetle	Ponderosa pine	HDD	Heartwood decline	Aspen
6S	Mountain pine beetle	Sugar pine	NFN	Areas not flown - non host	Oak
6W	Mountain pine beetle	Incense cedar	NPH	Areas not flown - host	Pacific madrone
7	Western white pine	Ponderosa, lodgepole pines	PMD	Pacific madrone decline	Maples
8	Western white pine	Pine-stem ponderosa pine	PR	Rust leaf miner	All species
9	Western white pine	Silver fir, true fir	RD	Rust leaf miner	All species
BEAR	Bear damage	Douglas fir	SLD	Slit	All species
FL	Flame-weed woodborer	Pine-Oak-river root disease	WIND	Windthrow	All species
RD	Root disease	Port-Oak-river	WDR	Water damage	All species
WATER	Water damage	Conifer			

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas fir, spruce
CH	Larch casebearer/epidemia	Western larch
LC	Western hemlock looper	Western hemlock
LS	Black pine/leaf scale	Lodgepole pine
PB	Pine budworm	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
PN	Pine needle sheathminer	Ponderosa pine
RC	Needle cast	Western larch
SA	Sawfly	Conifer
SF	Sawfly	True fir
SH	Sawfly	Conifer
SK	Sawfly	Kobresia pine
SL	Sawfly	Lodgepole pine
SM	Sawfly	Aspen
SN	Swainson's sawfly	Incense cedar
TC	Tent caterpillar	Maple
TR	Douglas fir trunk moth	Headwoods
UNKD	Unknown defoliating agent	True fir, Douglas fir

**USGS 100K Quad: WESTPORT - E146124; 1E**  
**2012 Aerial Insect and Disease Survey**  
**Map Scale: 1:100,000**  
**Date: 12 December 2012**

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- 2012 Special Swiss Needle Cast Survey
- Areas Not Flown
- WadNR Managed Lands

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://goto.arcgisonline.com/maps/USA\\_Topo\\_Maps](http://goto.arcgisonline.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/goto/r6/fhp/ads](http://www.fs.usda.gov/goto/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**

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Resource Protection Division  
Forest Health  
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Olympia, WA 98504-7037

-- OR --

USDA Forest Service, Region 6  
State and Private Forestry  
Forest Health Protection  
PO Box 3623  
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DISCLAIMER  
Forest Health Protection (FHP), Washington Department of Natural Resources (WONR) 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, WONR 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.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.