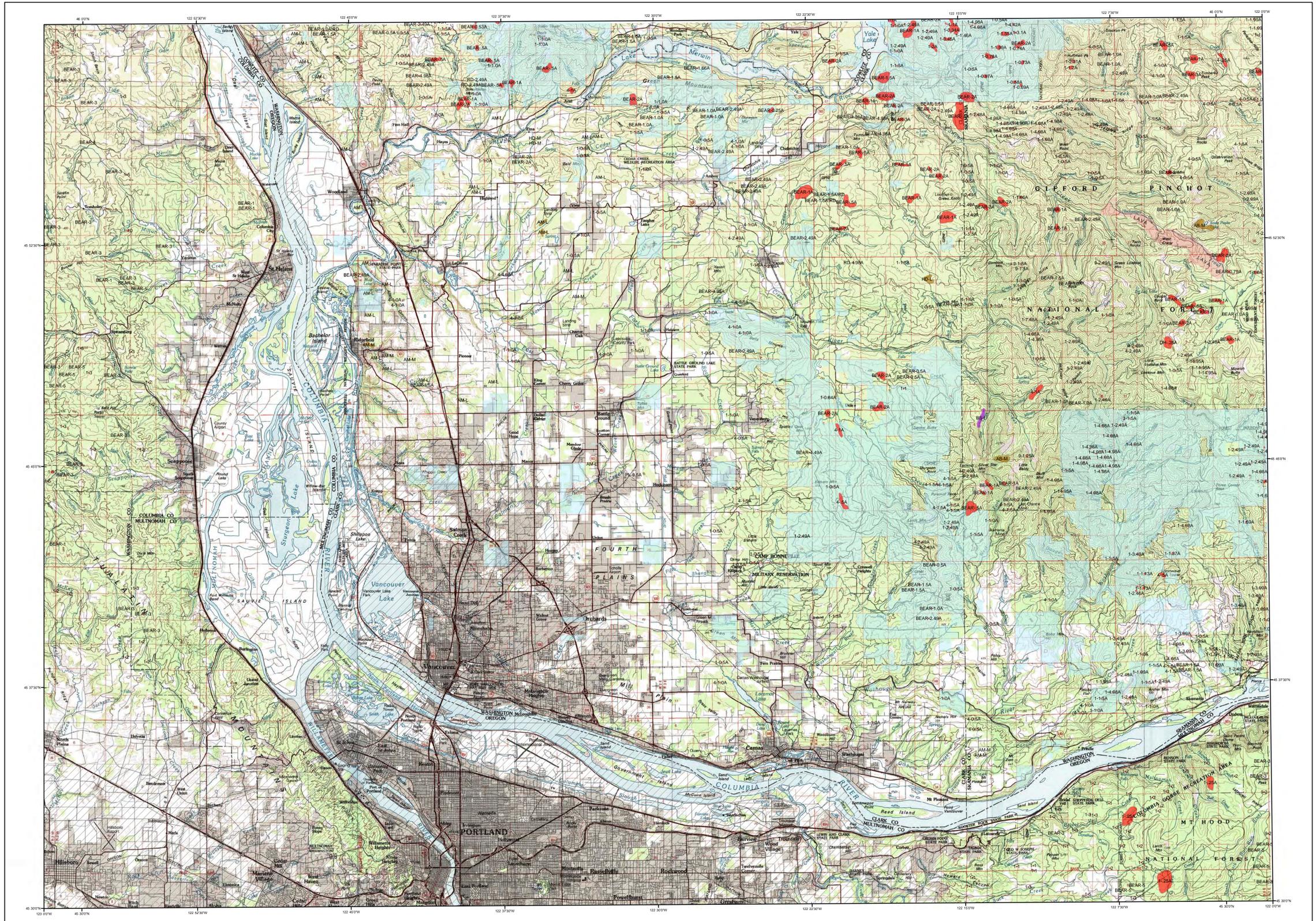


2010 Aerial Insect and Disease Survey

USGS 100K Quad: Vancouver - E145122; 3G



USGS 100K Quad: Vancouver - E145122; 3G
 2010 Aerial Insect and Disease Detection Survey
 Mapscale: 1:100,000
 Date: January 20, 2011

Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- WadNR Managed Lands
- Areas Not Flown



The map base was created with TOPOI (Copyright 2001, National Geographic); available online at: www.ngmapstore.com

A data dictionary, digital copies of this map and ArcGIS insect and disease data are available at: www.fs.fed.us/r6/nr/rid/data.shtml

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
 Resource Protection Division
 Forest Health Section
 1111 Washington St. SE
 Olympia, WA 98504

— OR —

Oregon Department of Forestry
 Forest Health Management
 2600 State Street
 Salem, OR 97310

— 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 (WadNR) 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, WadNR 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/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.

Defoliators		Mortality Agents	
Code	Damaging Agent / Primary Host	Code	Damaging Agent / Primary Host
AS	Spruce aphid / Sitka spruce	1	Douglas-fir beetle / Douglas-fir
BA	Western black-headed budworm / Hemlock, spruce, true fir	2	Douglas-fir engraver / Spruce
BB	Mudoc budworm / White fir	3	Spruce beetle / True fir
BP	Sugar pine borer / Lodgepole, ponderosa pines	4	Fire engraver / Sub-alpine fir
BS	Western spruce budworm / True fir, Douglas-fir, spruce	5	Western balsam bark beetle / Mountain pine beetle
BY	Byrrhus bilgii/lypodermella / Ponderosa pine	6J	Mountain pine beetle / Jeffrey pine
CH	Larch casebearer / Western larch	6K	Mountain pine beetle / Knobcone pine
HL	Western hemlock looper / Western hemlock	6L	Mountain pine beetle / Lodgepole pine
LD	Green striped forest looper / Douglas-fir, Western hemlock	6M	Mountain pine beetle / Ponderosa pine
LL	Larch looper / Western larch	6S	Mountain pine beetle / Sugar pine
LS	Black pine leaf scale / Ponderosa pine	6W	Mountain pine beetle / Western white pine
MD	Douglas-fir budmoth / Douglas-fir	7	Urk sap / Ponderosa, lodgepole pines
ML	Larch budmoth / Western larch	8	Ponderosa pine / Silver fir, true fir
MN	Douglas-fir needle midge / Douglas-fir	8B	Pine sawfly / Conifer
ND	Spruce budmoth / Spruce	BEAR	Bear damage / Douglas-fir, ponderosa pine
NJ	Needle miner / Jeffrey pine	LD	Lodged wood borer / Douglas-fir
NK	Needle miner / Ponderosa pine	LW	Black stain root disease / Pure Octal cedar root disease
NL	Needle miner / Lodgepole pine	WD	Water damage / Conifer
NP	Needle miner / Conifer		
NS	Needle miner / Ponderosa pine		
NT	Needle miner / True fir		
NW	Needle miner / Western white pine		
OL	Western oak looper / Oaks		
PH	Pine butterfly / Ponderosa pine		
PI	Pine needle cast / Ponderosa pine		
PM	Phantom hemlock looper / Hemlock, Douglas-fir		
PN	Needle miner / Ponderosa, Lodgepole pines		
PS	Pine needle scale / Ponderosa, Jeffrey pines		
RC	Needle cast / Western larch		
SE	Sooty mistle / Conifer		
SA	Sawfly / Hemlock		
SD	Sawfly / Knobcone pine		
SE	Sawfly / Douglas-fir		
SF	Sawfly / True fir		
SH	Sawfly / Hemlock		
SK	Sawfly / Knobcone pine		
SL	Sawfly / Douglas-fir		
SM	Satin moth / Lodgepole pine		
SN	Swiss needle cast / Ponderosa pine		
SP	Sawfly / Conifer		
SW	Sawfly / Western larch		
TC	Tent caterpillar, alder / Hardwoods		
TD	Tent caterpillar, other / True fir, Douglas-fir		
TM	Douglas-fir tussock moth / Aspen		
TS	Tent caterpillar, spruce / Aspen		

The cause of damage is described by a symbol above and is followed by: number of trees affected; number of trees/acre (example: 5A); or intensity of damage (L - Light, M - Moderate, H - Heavy).