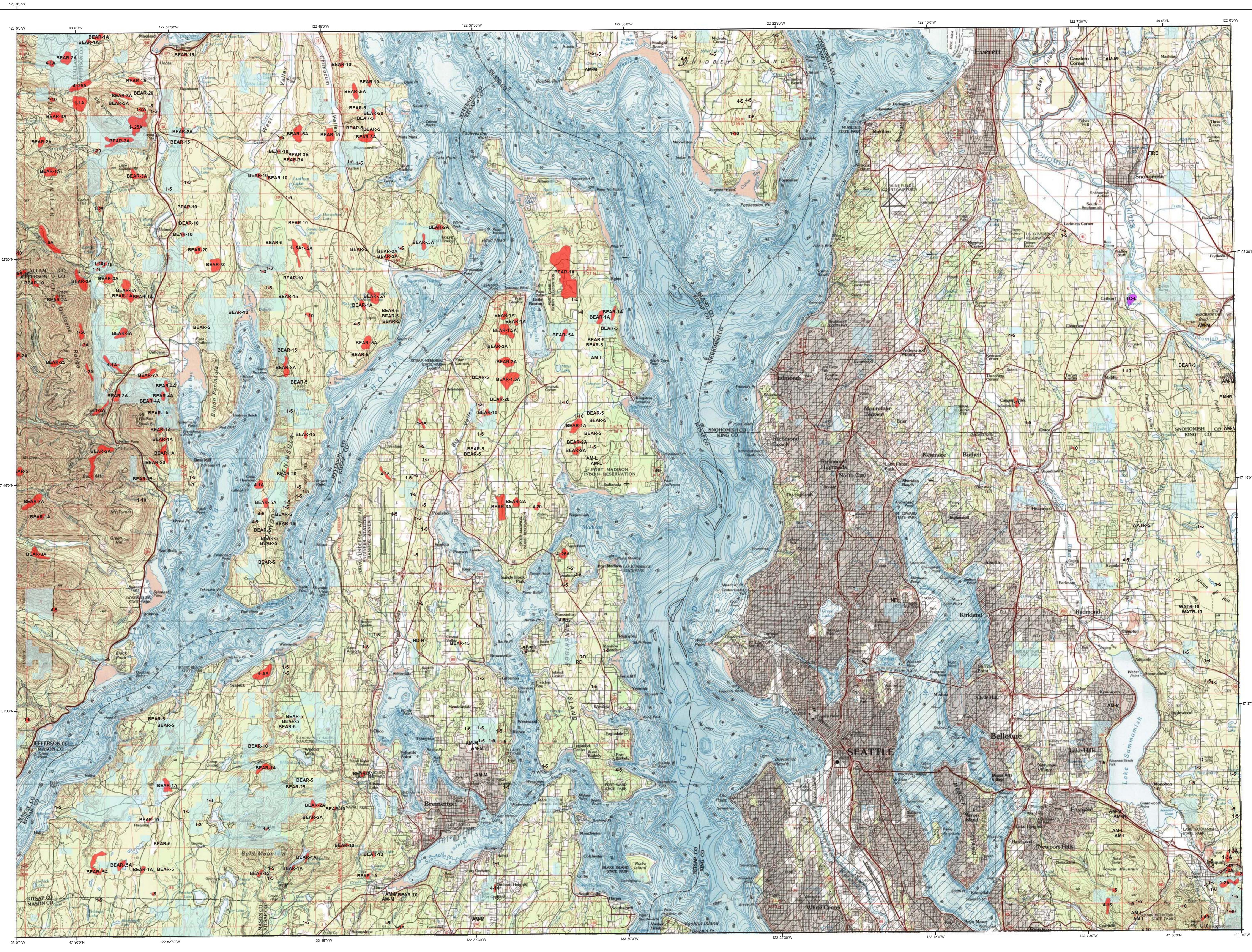


2006 Aerial Insect and Disease Survey

USGS 100K Quad: Seattle - E147122; 3C

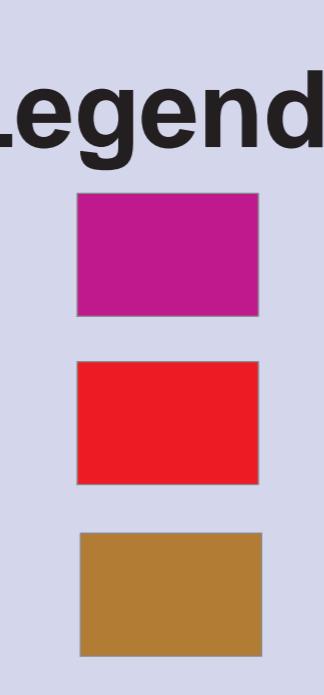


Defoliators			Mortality Agents		
Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host
AS	Spruce gallid	Siske spruce	1	Douglas-fir	Douglas-fir
BB	Western blackheaded budworm	Hemlock, spruce, true fir	2	Douglas-fir engraver	Spruce
BM	Modoc budworm	White fir	3	Douglas-fir engraver	Spruce
BP	Black pine borer	Lowland ponderosa pines	4	Fir engraver	Spruce
BS	Western spruce budworm	True fir, Douglas-fir, spruce	5B	Mountain pine beetle	Subpine fir
BY	Brynia's blight/Lophodermella	Ponderosa pine	6J	Mountain pine beetle	Whitebark pine
CH		Jeffrey pine	6M	Mountain pine beetle	Krookpine
HL	Western hemlock looper	Western hemlock	6L	Mountain pine beetle	Lodgepole pine
LG	Green striped forest looper	Douglas-fir, Western hemlock	6S	Mountain pine beetle	Ponderosa pine
LL		Western white pine	6W	Mountain pine beetle	Sugar pine
LS	Black pine needle scale	Ponderosa pine	7	Mountain pine beetle	Western white pine
MD	Douglas-fir budmoth	Douglas-fir	8	Mountain pine beetle	Ponderosa pine
MJ		Western white pine	8B	Mountain pine beetle	Ponderosa pine
MN	Douglas-fir needle midge	Douglas-fir	9	Bear damage	Silver fir
MS	Spruce budmoth	Spruce	10	Balsam woolly adelgid	Conifer
ND		True fir	11	Balsam woolly adelgid	Douglas-fir
NJ	Needle miner	Jeffrey pine	12	Balsam stain root disease	Port Orford cedar
NK	Needle miner	Krookpine	13	Port Orford cedar root disease	Port Orford cedar
NL		Lodgepole pine	RD	Root disease	Cedar
NM	Needle miner	Ponderosa pine	WATER	Water damage	All species
NP		Conifer			
NS		Sugarcane			
NT	Needle miner	True fir			
NW	Needle miner	Western white pine			
OL		Oak			
PB	Pine Butterfly	Ponderosa pine			
PC	Pine needle cast	Ponderosa pine			
PH	Pinus strobus looper	Pinus strobus			
PM	Pandora moth	Ponderosa, Jeffrey pines			
PN	Fine needleshell miner	Ponderosa, Jeffrey pines			
PS	Pinus strobus scale	Western larch			
RC	Needle cast	Conifer			
S	Spider mite	Conifer			
SA		Douglas-fir			
SD	Sawfly	True fir			
SF	Sawfly	Hemlock			
SH	Sawfly	Krookpine			
SK	Sawfly	Lodgepole pine			
SL	Sawfly	Whitebark pine			
SM	Sawfly	Alder			
SNO	Sawfly	Western larch			
SP	Sawfly	Douglas-fir			
SW	Sawfly	Ponderosa pine			
TA	Tent caterpillar, alder	Alder			
TC	Tent caterpillar, other	Hemlock			
TM	Tent caterpillar, Douglas-fir	Douglas-fir			
TS	Tent caterpillar, aspen	Aspen			

The cause of damage is described by a symbol above and is followed by a letter of these three: L (Light), M (Moderate), H (Heavy).

USGS 100K Quad: Seattle - E147122; 3C
2006 Aerial Insect and Disease Detection Survey
Mapscale: 1:100,000
Date: November 27, 2006

Legend



- Defoliating Agents**
- Mortality Agents**
- Other Damage**
- Areas Not Flown**

Source: Washington Dept. of Natural Resources

The map base was created with TOPO! (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/fid/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 and the Washington Department of Natural Resources. 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.

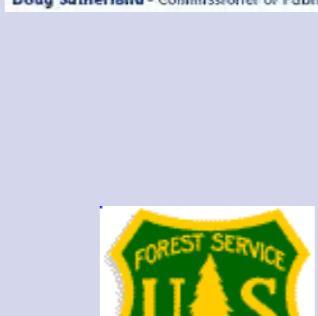
Overview surveys are a 'snap shot' in time and therefore may not be timed to accurately capture the true extent or severity of a particular disturbance activity. Specially designed surveys with modified flight patterns and timing may be conducted to more accurately delineate the extent and severity of 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
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Resource Protection
Forest Health
1111 Washington St. SE
Olympia, WA 98504

-- OR --

USDA Forest Service, Region 6
Natural Resources
Forest Health Protection
PO Box 3623
Portland, Oregon 97208



*****DISCLAIMER*****
The insect and disease data presented should only be used as an indicator of insect and disease activity, and should be ground-checked for precise location, extent, severity and causal agent.

Color coded polygons show locations where trees were recently killed or defoliated. Intensity of damage is variable and not all trees within coded polygons are dead or defoliated.

The cooperators reserve the right to correct, update, modify or replace GIS products without notice. Using this map for purposes other than those it was intended may yield inaccurate or misleading results.