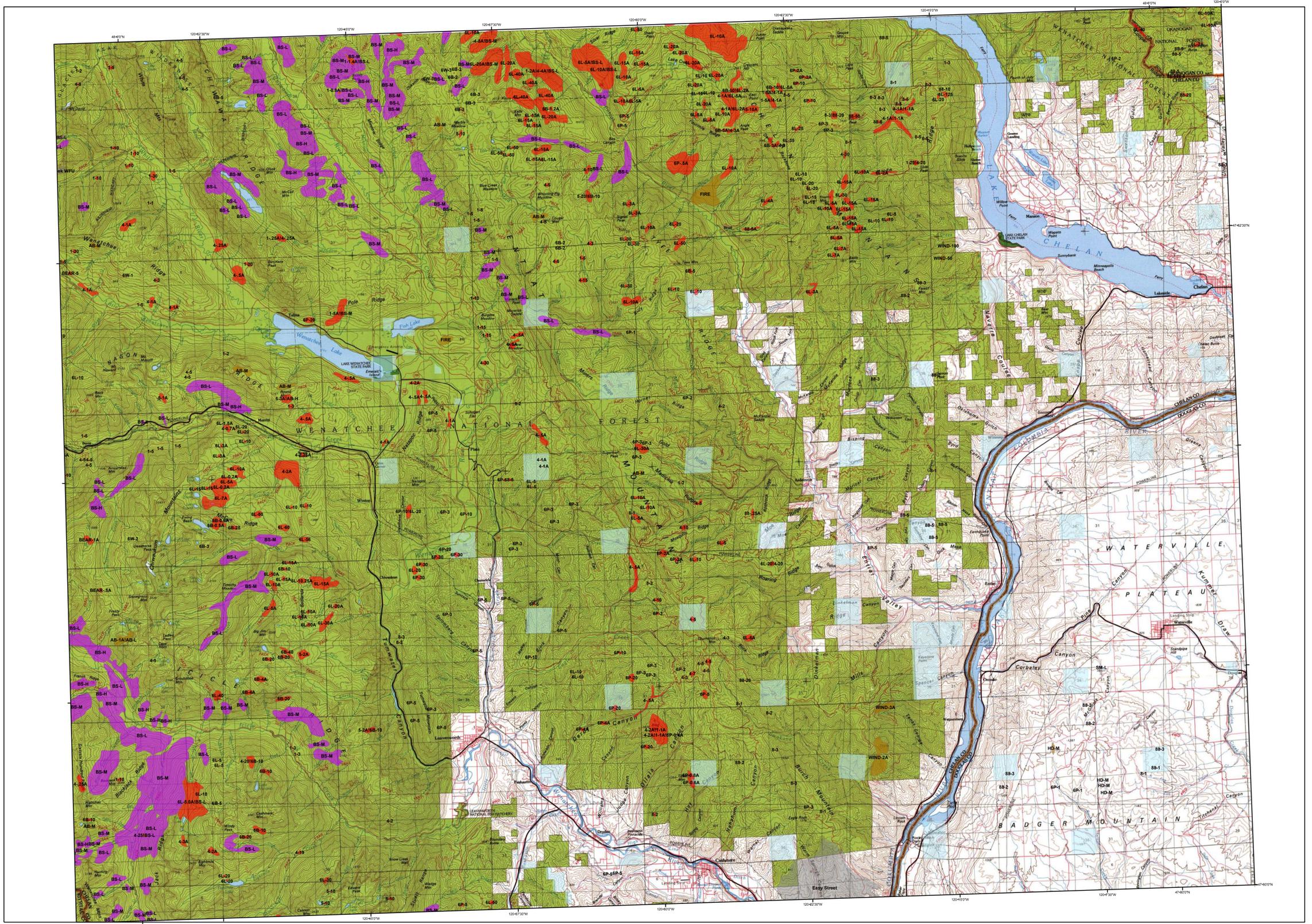


# 2007 Aerial Insect and Disease Survey

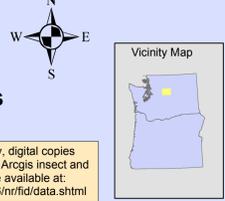
## USGS 100K Quad: Chelan - E147120; 5C



USGS 100K Quad: Chelan - E147120; 5C  
 2007 Aerial Insect and Disease Detection Survey  
 Mapscale: 1:100,000  
 Date: November 30, 2007

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- WadNR Managed Lands
- 2007 Large Fires  
Source: Northwest Coordination Center



The map base was created with TOPO! (Copyright 2001, National Geographic), available online at: [www.ngmapstore.com](http://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](http://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 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 Natural Resources  
 Forest Health Protection  
 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 for which it was intended may yield inaccurate or misleading results.

Defoliators		Mortality Agents	
Code	Damaging Agent	Code	Damaging Agent
AS	Spruce aphid	1	Douglas-fir beetle
BS	Western blackheaded budworm	2	Douglas-fir engraver
BP	Modoc budworm	3	Spruce beetle
BP	Sugar pine tortrix	4	White fir
BS	Western spruce budworm	5	True fir, Douglas-fir, spruce
BY	Byrrhus blight/ophiomella	6	Western balsam bark beetle
CH	Larch	6J	Mountain pine beetle
HL	Western hemlock looper	6K	Mountain pine beetle
LG	Green striped forest looper	6L	Mountain pine beetle
LL	Larch looper	6M	Mountain pine beetle
LS	Black pine needle scale	6N	Mountain pine beetle
MD	Douglas-fir budmoth	6O	Mountain pine beetle
ML	Larch budmoth	6P	Mountain pine beetle
MN	Douglas-fir needle midge	6Q	Mountain pine beetle
ND	Needle miner	6R	Mountain pine beetle
NJ	Needle miner	6S	Mountain pine beetle
NK	Needle miner	6T	Mountain pine beetle
NL	Needle miner	6U	Mountain pine beetle
NM	Needle miner	6V	Mountain pine beetle
NP	Needle miner	6W	Mountain pine beetle
NT	Needle miner	6X	Mountain pine beetle
NW	Needle miner	6Y	Mountain pine beetle
OL	Western oak looper	6Z	Mountain pine beetle
PI	Pine butterfly	7	Mountain pine beetle
PC	Pine needle cast	7A	Mountain pine beetle
PH	Phantom hemlock looper	7B	Mountain pine beetle
PM	Pondosa moth	7C	Mountain pine beetle
PN	Pine needle sheath miner	7D	Mountain pine beetle
PS	Pine needle scale	7E	Mountain pine beetle
RC	Needle cast	7F	Mountain pine beetle
SA	Sawfly	7G	Mountain pine beetle
SD	Sawfly	7H	Mountain pine beetle
SF	Sawfly	7I	Mountain pine beetle
SH	Sawfly	7J	Mountain pine beetle
SK	Sawfly	7K	Mountain pine beetle
SL	Sawfly	7L	Mountain pine beetle
SM	Sawfly	7M	Mountain pine beetle
SNC	Swiss needle cast	7N	Mountain pine beetle
SP	Sawfly	7O	Mountain pine beetle
SW	Sawfly	7P	Mountain pine beetle
TA	Tent caterpillar, aspen	7Q	Mountain pine beetle
TC	Tent caterpillar, other	7R	Mountain pine beetle
TM	Douglas-fir tussock moth	7S	Mountain pine beetle
TS	Tent caterpillar, aspen	7T	Mountain pine beetle