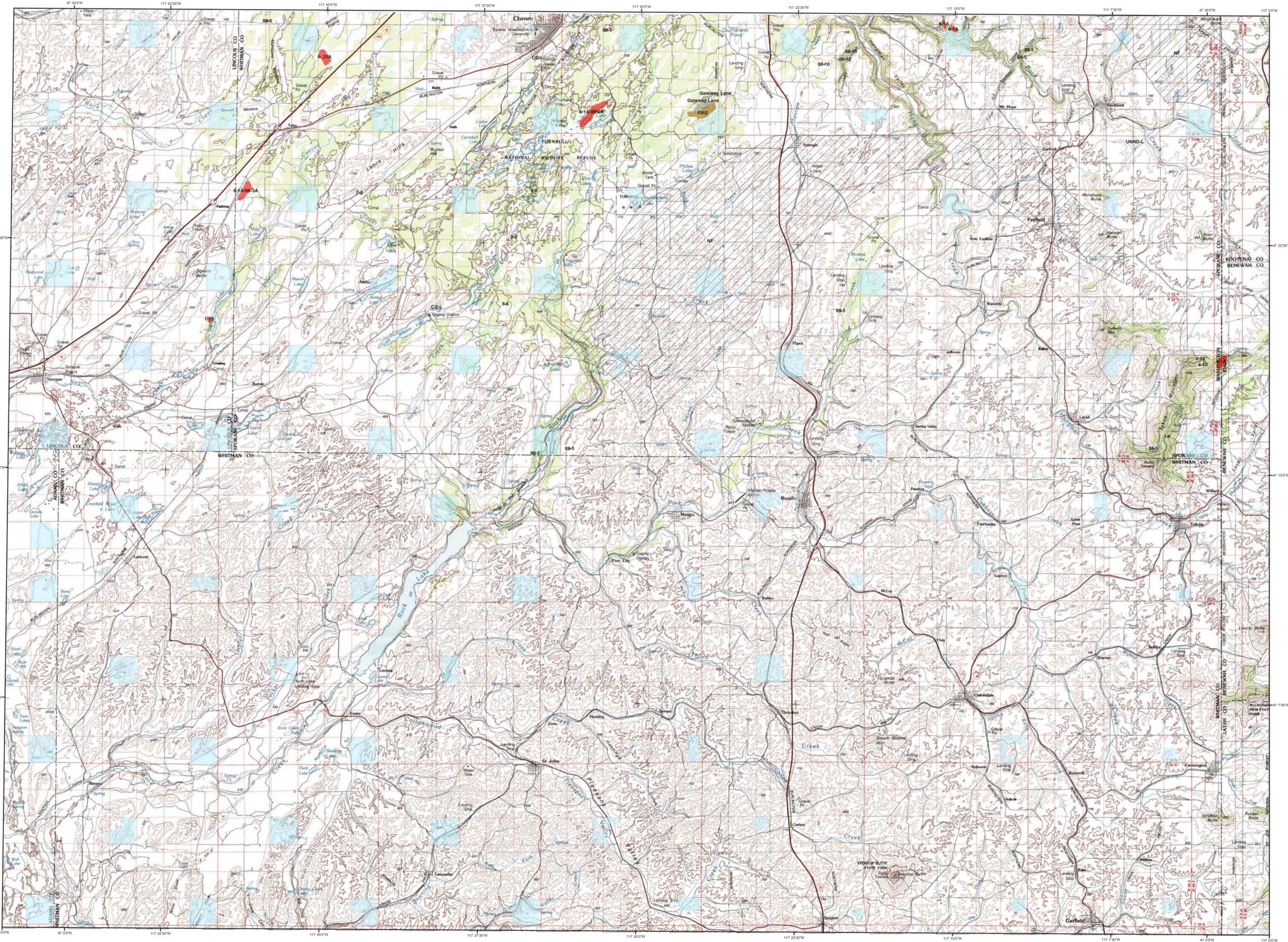


# 2006 Aerial Insect and Disease Survey

## USGS 100K Quad: Rosalia - A147117; 8D



Defoliators		Mortality Agents	
Code	Damaging Agent	Code	Damaging Agent
AS	Spruce aphid	1	Douglas-fir beetle
BB	Western blackheaded budworm	2	Douglas-fir engraver
BM	Modoc budworm	3	Spruce beetle
BP	Sugar pine tortrix	4	Fire engraver
BS	Western spruce budworm	5B	Western balsam bark beetle
BY	Bryant's light/Lophodermella	6B	Mountain pine beetle
CH	Larch	6C	Mountain pine beetle
HL	Western hemlock looper	6D	Mountain pine beetle
LH	Green striped forest looper	6E	Mountain pine beetle
LL	Larch looper	6F	Mountain pine beetle
LS	Black pine needle scale	6G	Mountain pine beetle
MD	Douglas-fir budmoth	6H	Mountain pine beetle
ML	Larch budmoth	6I	Mountain pine beetle
MN	Douglas-fir needle midge	6J	Mountain pine beetle
MS	Spruce budmoth	6K	Mountain pine beetle
NJ	Needle miner	6L	Mountain pine beetle
ND	Needle miner	6M	Mountain pine beetle
NK	Needle miner	6N	Mountain pine beetle
NL	Needle miner	6O	Mountain pine beetle
NM	Needle miner	6P	Mountain pine beetle
NP	Needle miner	6Q	Mountain pine beetle
NS	Needle miner	6R	Mountain pine beetle
NT	Needle miner	6S	Mountain pine beetle
NV	Needle miner	6T	Mountain pine beetle
OC	Western oak looper	6U	Mountain pine beetle
PB	Pine butterfly	6V	Mountain pine beetle
PC	Pine needle cast	6W	Mountain pine beetle
PH	Phantom hemlock looper	6X	Mountain pine beetle
PM	Pandora moth	6Y	Mountain pine beetle
PN	Pine needle scale	6Z	Mountain pine beetle
PS	Pine needle scale	7	Isis spp.
RC	Needle cast	8	Western pine beetle
R	Needle rate	8A	Western pine beetle
SA	Sawfly	8B	Western pine beetle
SB	Sawfly	8C	Western pine beetle
SC	Sawfly	8D	Western pine beetle
SD	Sawfly	8E	Western pine beetle
SE	Sawfly	8F	Western pine beetle
SH	Sawfly	8G	Western pine beetle
SI	Sawfly	8H	Western pine beetle
SK	Sawfly	8I	Western pine beetle
SL	Sawfly	8J	Western pine beetle
SM	Sawfly	8K	Western pine beetle
SN	Sawfly	8L	Western pine beetle
SO	Sawfly	8M	Western pine beetle
SP	Sawfly	8N	Western pine beetle
SW	Sawfly	8O	Western pine beetle
TA	Tent caterpillar, alder	8P	Western pine beetle
TC	Tent caterpillar, other	8Q	Western pine beetle
TD	Douglas-fir tussock moth	8R	Western pine beetle
TE	Tent caterpillar, aspen	8S	Western pine beetle

**USGS 100K Quad: Rosalia - A147117; 8D**  
**2006 Aerial Insect and Disease Detection Survey**  
**Mapscale: 1:100,000**  
**Date: December 5, 2006**

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- 2006 Large Fires
- Areas Not Flown
- WadNDR Managed Lands

Source: Washington Dept. of Natural Resources

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/fid/data.shtml](http://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:

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 Natural Resources  
 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 for which it was intended may yield inaccurate or misleading results.