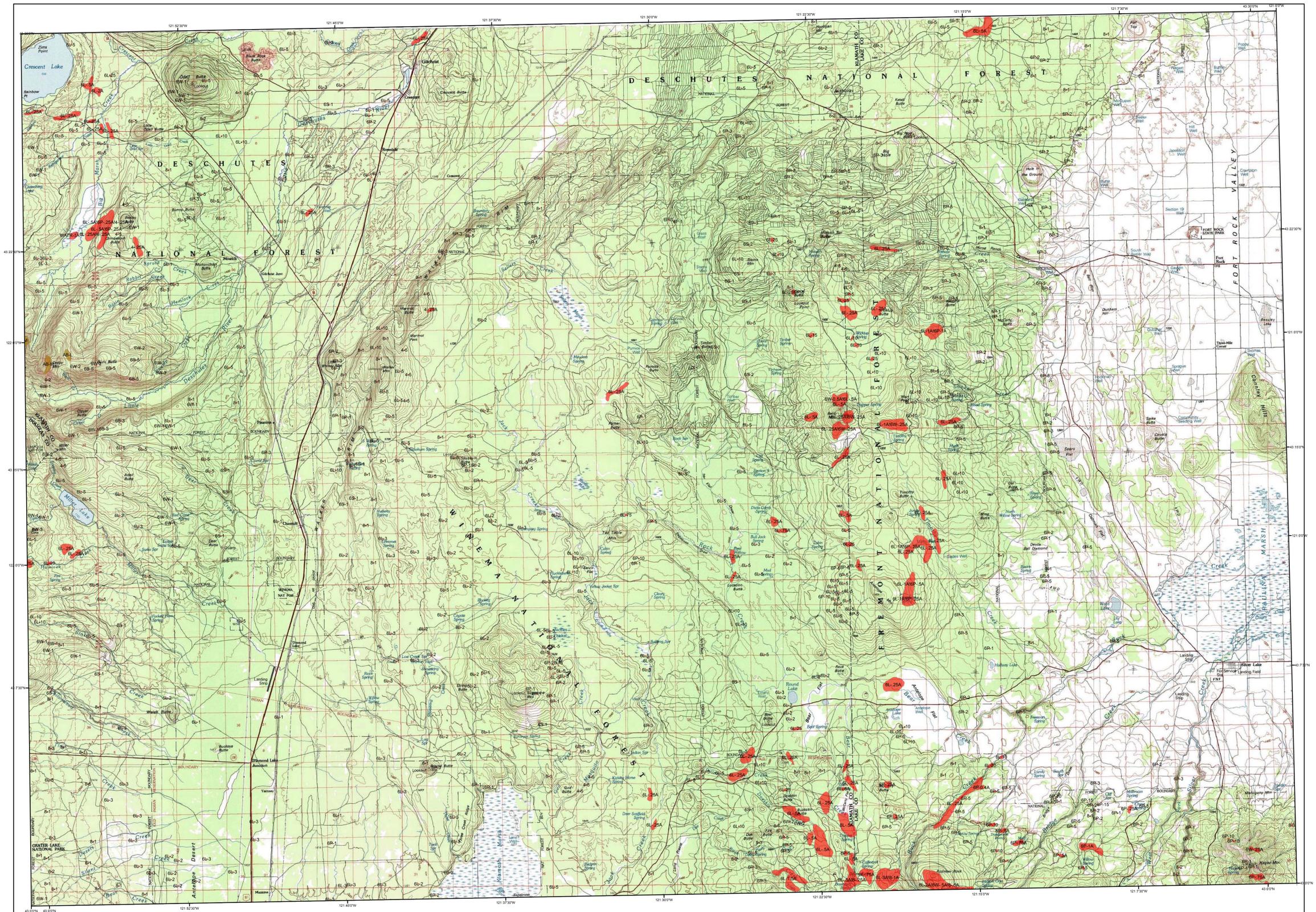


# 2009 Aerial Insect and Disease Survey

## USGS 100K Quad: Crescent - A143121; 4L



Defoliators		Mortality Agents	
Code	Damaging Agent	Code	Damaging Agent
AS	Spinec aphid	1	Douglas-fir beetle
BB	Western blackheaded budworm	2	Douglas-fir engraver
BM	Moose budworm	3	Spinec beetle
BP	Sugar pine tortrix	4	Fir engraver
BS	Western spruce budworm	5	Western balsam bark beetle
BY	Bryum's blight/Lophodermella	6	Mountain pine beetle
CH	Larch	6J	Mountain pine beetle
HL	Western hemlock looper	6L	Mountain pine beetle
LC	Green striped forest looper	6S	Mountain pine beetle
LL	Larch looper	6T	Mountain pine beetle
LS	Black pine needle scale	7	Western white pine
MD	Douglas-fir budmoth	7	Ponderosa lodgepole pines
ML	Larch budmoth	8	Ponderosa pine
MN	Douglas-fir needle midge	8B	Pole-sized ponderosa pine
MS	Spinec budmoth	8C	Silver fir sawfly
ND	Needle miner	BEAR	Bear damage
NJ	Needle miner	DF	Farmstead wood borer
NK	Needle miner	LW	Black stain root disease
NL	Needle miner	RD	Root rot disease
NP	Needle miner	WATR	Water damage
NT	Needle miner		
NV	Needle miner		
OB	Western oak looper		
PC	Pine butterfly		
PH	Phantom hemlock looper		
PK	Pine needle scale		
PN	Pine needles/health miner		
PS	Pine needle scale		
RC	Needle cast		
S	Spinec mite		
SA	Sawfly		
SB	Sawfly		
SC	Sawfly		
SD	Sawfly		
SE	Sawfly		
SH	Sawfly		
SK	Sawfly		
SL	Sawfly		
SM	Sawfly		
SN	Swain needle cast		
SP	Sawfly		
SW	Sawfly		
TA	Tent caterpillar/elder		
TC	Tent caterpillar/other		
TD	Douglas-fir tussock moth		
TM	Tent caterpillar/aspen		
TS	Tent caterpillar/aspen		

**USGS 100K Quad: Crescent - A143121; 4L**  
**2009 Aerial Insect and Disease Detection Survey**  
**Mapscale: 1:100,000**  
**Date: February 1, 2010**

### Legend

- Defoliating Agents
- Mortality Agents
- Other Damage

The map base was created with **TOPO!** (Copyright 2001, National Geographic), available online at: [www.ngmappstore.com](http://www.ngmappstore.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 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:**

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

-- OR --

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

Forest Health Protection (FHP) 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 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/forehealth/evaluation/qualityassurance.shtml>. Maps and data may be updated without notice. Please cite: USDA Forest Service, Forest Health Protection and Oregon Department of Forestry, "Forest Health Management" as the source of this data in maps and publications.