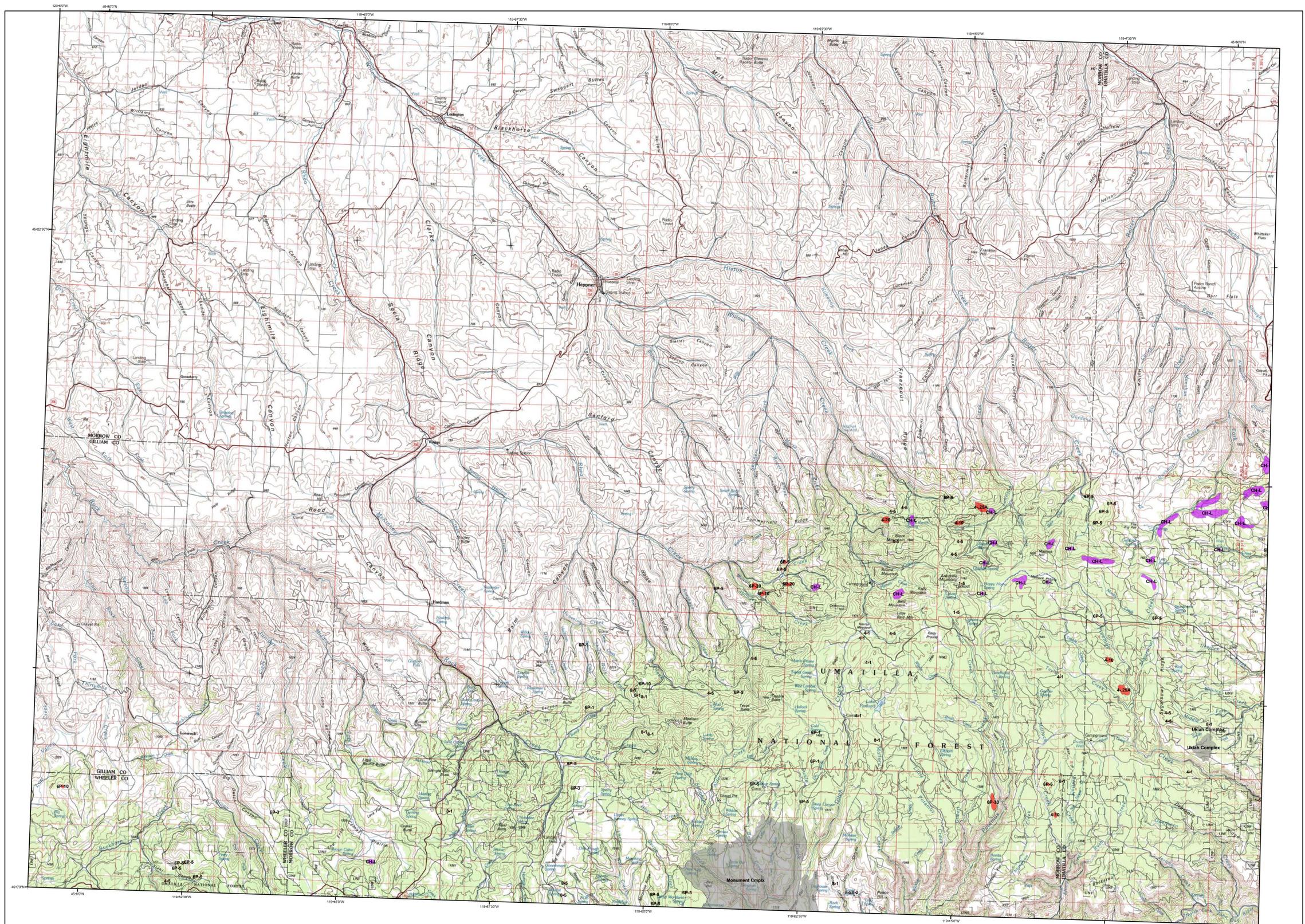


2007 Aerial Insect and Disease Survey

USGS 100K Quad: Heppner - A145119; 6H



Defoliators		Mortality Agents		Other Damaging Agents	
Code	Damaging Agent	Code	Damaging Agent	Code	Damaging Agent
AS	Spruce aphid	1	Douglas-fir beetle	AK	Balsam woolly adelgid
BB	Western blackheaded budworm	2	Douglas-fir engraver	AM	Cooley spruce gall adelgid
BM	Red-pine budworm	3	Spruce beetle	AN	Leaf discoloration
BP	Sugar pine tortrix	4	Fir engraver	AR	Bleater rust
BS	Western spruce budworm	5	Western balsam bark beetle	BR	Cystospora canker
BY	Bynum's light/ophodometra	6B	Mountain pine beetle	CC	Dying hemlock
CH	Larch	6J	Mountain pine beetle	CF	Fine-needle pines
HL	Western hemlock looper	6L	Mountain pine beetle	CH	Hemlock
LG	Green striped forest looper	6P	Mountain pine beetle	GP	Gauly pitch midge
LL	Larch looper	6S	Mountain pine beetle	HA	Hardwood decline
LS	Black pine needle scale	6W	Western white pine	HD	Hardwood decline
MD	Douglas-fir budmoth	6Y	Western larch	HF	Arisee root borer
ML	Larch budmoth	7	Ponderosa pine	OUT	No damage detected
MN	Douglas-fir needle midge	8	Western larch	PMO	Pacific mistletoe decline
MS	Spruce budmoth	8B	Western larch	PR	Rust fall in poplars
ND	Needle miner	8C	Spruce	RS	Rust fall
NJ	Needle miner	8D	Jeffrey pine	SLD	Slime
NK	Needle miner	8E	Knobcone pine	UNCD	Unknown debilitation
NL	Needle miner	8F	Lodgepole pine	UNCM	Unknown mortality
NI	Needle miner	8G	Ponderosa pine	WATR	Water damage
NM	Needle miner	8H	Needle miner	WHD	Wind throw
NS	Needle miner	8I	Sugar pine	WMO	Wind throw
NT	Needle miner	8J	True fir		
OL	Western oak looper	8K	Western white pine		
PB	Pine butterfly	8L	Ponderosa pine		
PC	Pine needle cast	8M	Ponderosa pine		
PH	Phantom hemlock looper	8N	Hemlock, Douglas-fir		
PM	Pine needle scale	8O	Ponderosa, Jeffrey pines		
PN	Pine needle/health miner	8P	Ponderosa, Jeffrey pines		
PS	Pine needle scale	8Q	Ponderosa, Jeffrey pines		
RC	Needle cast	8R	Western larch		
S	Spider mite	8S	Western larch		
SA	Needle cast	8T	Needle miner		
SD	Sawfly	8U	Douglas-fir		
SE	Sawfly	8V	True fir		
SH	Sawfly	8W	Hemlock		
SF	Sawfly	8X	Knobcone pine		
SL	Sawfly	8Y	Lodgepole pine		
SM	Sawfly	8Z	Lodgepole pine		
SN	Swiss needle cast	9	Douglas-fir		
SP	Sawfly	9A	Ponderosa pine		
SW	Sawfly	9B	Western larch		
TA	Tent caterpillar, alder	9C	Alder		
TC	Tent caterpillar, other	9D	Hardwoods		
TM	Douglas-fir tussock moth	9E	True fir, Douglas-fir		
TS	Tent caterpillar, aspen	9F	Aspen		

USGS 100K Quad: Heppner - A145119; 6H
2007 Aerial Insect and Disease Detection Survey
Mapscale: 1:100,000
Date: December 3, 2007

Legend

	Defoliating Agents		Mortality Agents
	Other Damage		2007 Large Fires

Source: Northwest Coordination Center

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/mr/fcd/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:

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USDA Forest Service, Region 6
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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.