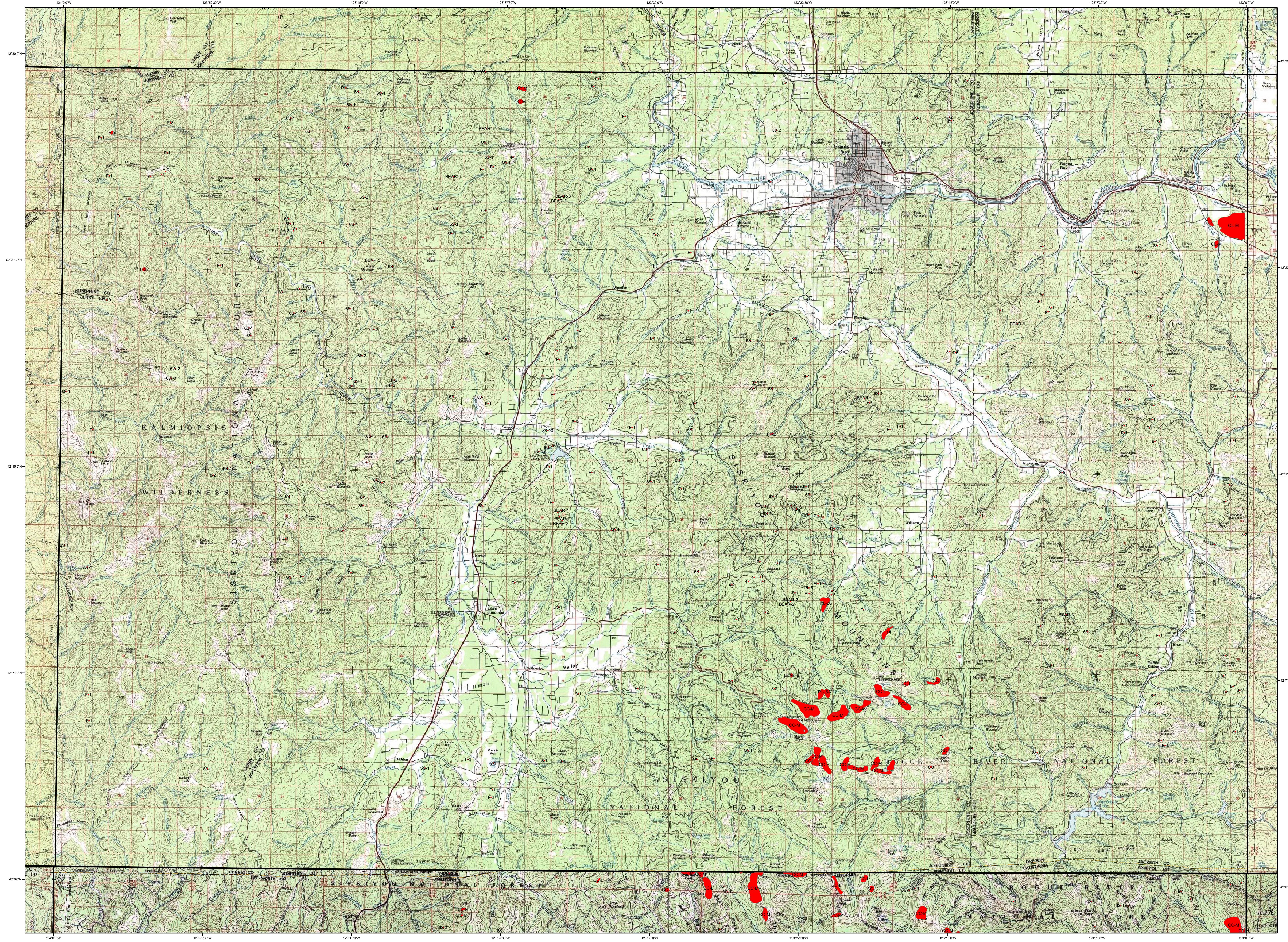


# **\*\*Draft\*\* 2008 Aerial Insect and Disease Survey \*\*Draft\*\***

## **USGS 100K Quad: Grants Pass 42123-A1**



# Legend

(For all Possible Agents)

Defoliating Agents



### **Defoliating Agents**

<b>Code</b>	<b>Damaging Agent</b>	<b>Primary Host</b>	<b>Code</b>
AS	Spruce aphid	Sitka spruce	1
BB	Western blackheaded budworm	Hemlock, spruce, true fir	2
BM	Modoc budworm	White fir	3
BP	Sugar pine tortrix	Lodgepole, ponderosa pines	4
BS	Western spruce budworm	True fir, Douglas-fir, spruce	5
BY	Bynum's blight/Lophodermella	Ponderosa pine	6B
CH	Larch	Western larch	6J
HL	Western hemlock looper	Western hemlock looper	6K
LG	Green striped forest looper	Douglas-fir, Western hemlock	6L
LL	Larch looper	Western larch	6P
LS	Black pine needle scale	Ponderosa pine	6S
MD	Douglas-fir budmoth	Douglas-fir	6W
ML	Larch budmoth	Western larch	7
MN	Douglas-fir needle midge	Douglas-fir	8
MS	Spruce budmoth	Spruce	88
ND	Needle miner	Douglas-fir	9
NJ	Needle miner	Jeffrey pine	BEAR
NK	Needle miner	Knobcone pine	F
NL	Needle miner	Lodgepole pine	LW
NM	Needle miner	Conifer	PL
NP	Needle miner	Ponderosa pine	RD
NS	Needle miner	Sugar pine	WATR
NT	Needle miner	True fir	
NW	Needle miner	Western white pine	
OL	Western oak looper	Oaks	
PB	Pine Butterfly	Ponderosa pine	
PC	Pine needle cast	Ponderosa pine	
PH	Phantom hemlock looper	Hemlock, Douglas-fir	
PM	Pandora moth	Ponderosa, Jeffrey pines	
PN	Pine needlesheath miner	Ponderosa, Jeffrey pines	
PS	Pine needle scale	Pines	
RC	Needle cast	Western larch	
S	Spider mite	Conifer	
SA	Sawfly	Conifer	
SD	Sawfly	Douglas-fir	
SF	Sawfly	True fir	
SH	Sawfly	Hemlock	
SK	Sawfly	Knobcone pine	
SL	Sawfly	Lodgepole pine	
SM	Satin moth	Aspen	
SNC	Swiss needle cast	Douglas-fir	
SP	Sawfly	Ponderosa pine	
SW	Sawfly	Western larch	
TA	Tent caterpillar, alder	Alder	
TC	Tent caterpillar, other	Hardwoods	
TM	Douglas-fir tussock moth	True fir, Douglas-fir	
TS	Tent caterpillar, aspen	Aspen	



## Mortality Agents

<b>Primary Host</b>
Douglas-fir
Douglas-fir
Spruce
True fir
Sub-alpine fir
Whitebark pine
Jeffrey pine
Knobcone pine
Lodgepole pine
Ponderosa pine
Sugar pine
Western white pine
Ponderosa, lodgepole pines
Ponderosa pine
Pole-dashed ponderosa pine
Silver fir, true fir
Conifer
Douglas-fir
Douglas-fir, ponderosa pine
Port Orford cedar
Conifer
All species



### **Other Damaging Factors**

<b>Code</b>	<b>Damaging Agent</b>	
AB	Balsam woolly adelgid	True
AC	Cooley spruce gall adelgid	Sp
AM	Leaf discoloration	Ma
BR	Blister rust	Five
CC	Cystospora canker	True
DH	Dying hemlock	He
FIRE	Fire	All
GP	Gouty pitch midge	Po
HAIL	Hail	All
HD	Hardwood decline	Ha
NF	Areas not flown	
OUT	No damage detected	
PMD	Pacific madrone decline	Pa
PR	Leaf rust in poplars	Po
RB	Red belt	All
SLID	Slide	All
UNKD	Unknown defoliation	
UNKM	Unknown mortality	All
WATR	Water damage	All
WIND	Wind-throw	All
WNTR	Winter Damage	All

Coding Conventions

The cause of damage is described by a code (example: *BS=western spruce budworm*) and is followed by a modifier. A modifier can be either: intensity of damage (*L=light*, *M=moderate*, *H=heavy*); or number of trees killed (example *1-20* = 20 trees killed by Douglas-fir beetle); or number of trees/acre killed (example: *4-4A* = 4 trees/acre killed by fir engraver). There can be up to three damaging agent-modifier combinations recorded for each polygon. Each agent-modifier combination is separated by a "!" (example: *BS-M!1-20!4-4A*). The color of the polygon is dictated by the first agent recorded.

Map base data created with TOPO!, Copyright 2001, National Geographic, All rights Reserved

# **\*\*Draft\*\***

## **Annual Insect and Disease Survey**

Mapscale: 1:100,000

# day, August 15, 1963

## Vicinity Map



#### 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

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.



# WASHINGTON STATE DEPARTMENT OF **Natural Resources**

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## **utherford - Commissioner of Public Lands**



**WASHINGTON STATE DEPARTMENT OF  
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**For More Information and Inquiries:**

**Oregon:**

on.gov/ODF/PRIVATE\_FORESTS/fh.shtml  
nformation@odf.state.or.us

**\*\*\*\*\*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