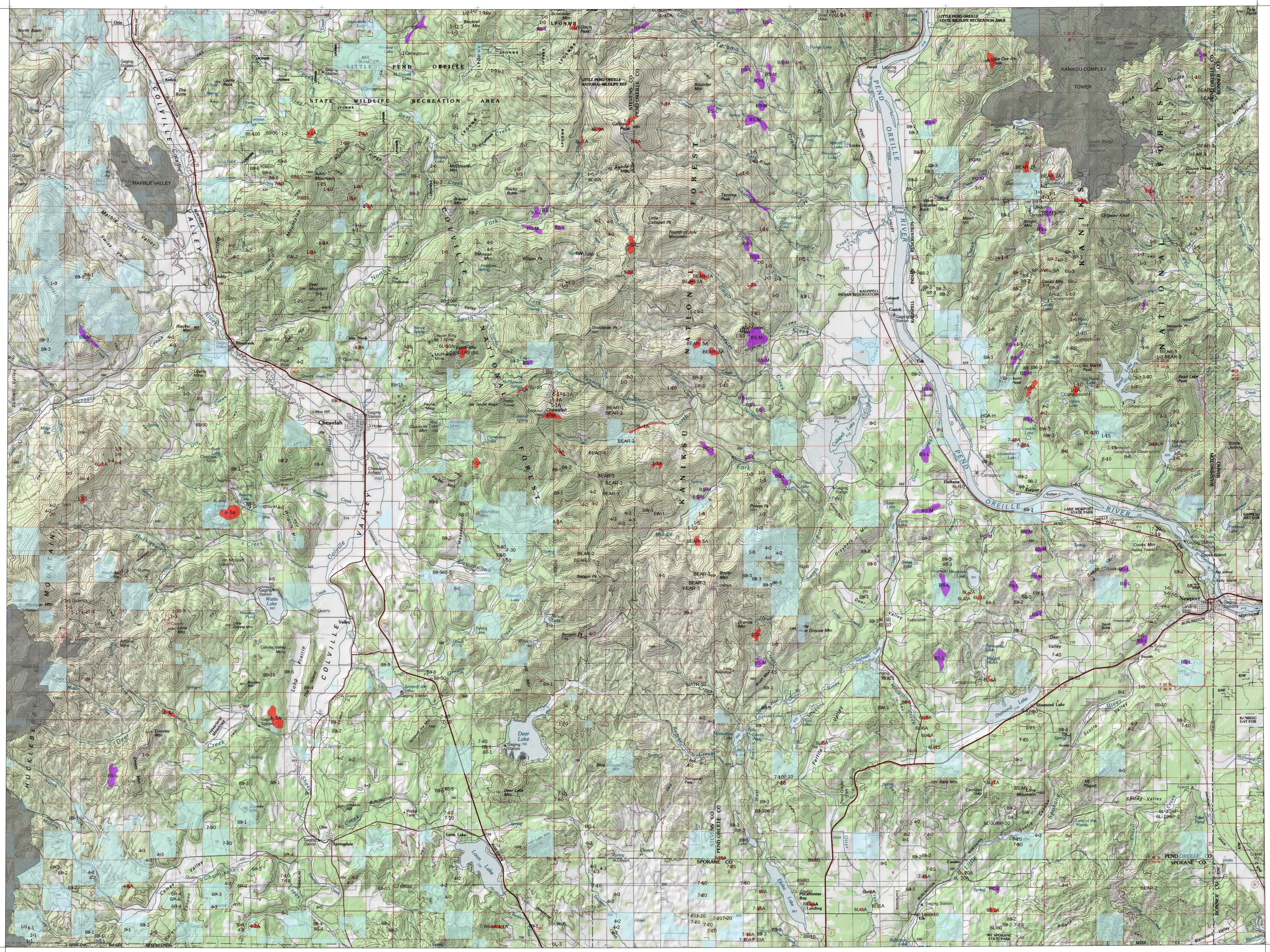
2015 Aerial Insect and Disease Survey
USGS 100K Quad: CHEWELAH - A148117; 8B



Mortality Agents

Code	Damaging Agent	Primary Host
1	Douglas-fir beetle	Douglas-fir
4	Fir engraver	True firs
5	W Balsam bark beetle	Subalpine fir
6L	Mtn. pine beetle	Lodgepole pine
6P	Mtn. pine beetle	Ponderosa pine
6W	Mtn. pine beetle	Western white pine
7	Oregon pine Ips	Ponderosa pine
8	W pine beetle	Ponderosa pine
88	W pine beetle pole	Ponderosa pine
BEAR	Bear	Conifer

Defoliators

Code	Damaging Agent	Primary Host
BS	W spruce budworm	True fir, Douglas-fir, spruce
PC	Needle cast	Ponderosa pine
RC	Needle cast	Western larch

NOTE: Only the damage agents present in this quad are listed in this legend. The cause of damage is described by an alpha numeric symbol on the map and is followed by the number of trees affected; number of trees per acre (example: 5A); or the intensity of damage (L- Light, M - Moderate, H - Heavy).

Other Damaging Agents

Code	Damaging Agent	Primary Host
FIRE	Fire	All species
HDA	Hardwood decline	Quaking aspen
WATR	Water damage	All species

USGS 100K Quad: CHEWELAH - A148117; 8B
2015 Aerial Insect and Disease Survey
Map Scale: 1:100,000
Date: 25 November 2015

0 0.5 1 2 3 4 Miles

N W E S

Legend

Defoliating Agents

Mortality Agents

Other Damage

WDNR Managed Lands

Source: Washington Dept. of Natural Resources

Areas Not Flown During Overview Survey

2015 Large Fires

Source: USGS GeoMAC - http://www.geomac.gov/

Vicinity Map

The basemap is an ESRI map service of TOPO! data (Copyright 2013 National Geographic) which is comprised of seamless, scanned images of USGS paper topographic maps. For more info on this map see http://goto.arcgisonline.com/maps/USA_Topo_Maps.

A data dictionary, digital copies of this map and geospatial insect and disease data are available at: http://www.fs.usda.gov/detail/r6/forest-grasslandhealth/insects-diseases/

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, the Washington Department of Natural Resources 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:

Washington State Department of Natural Resources
Wildfire Division
Forest Health
1111 Washington St. SE
Olympia, WA 98504

-- OR --

USDA Forest Service, Region 6
State and Private Forestry
Forest Health Protection
PO Box 3623
Portland, Oregon 97208

DISCLAIMER
Forest Health Protection (FHP), Washington Department of Natural Resources (WDNR) 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, WDNR 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/foresthealth/aviation/quality assurance.shtml. Maps and data may be updated without notice. Please cite: "USDA Forest Service, Forest Health Protection; Washington Department of Natural Resources, Wildfire Division, Forest Health; and Oregon Department of Forestry, Forest Health Management" as the source of this data.