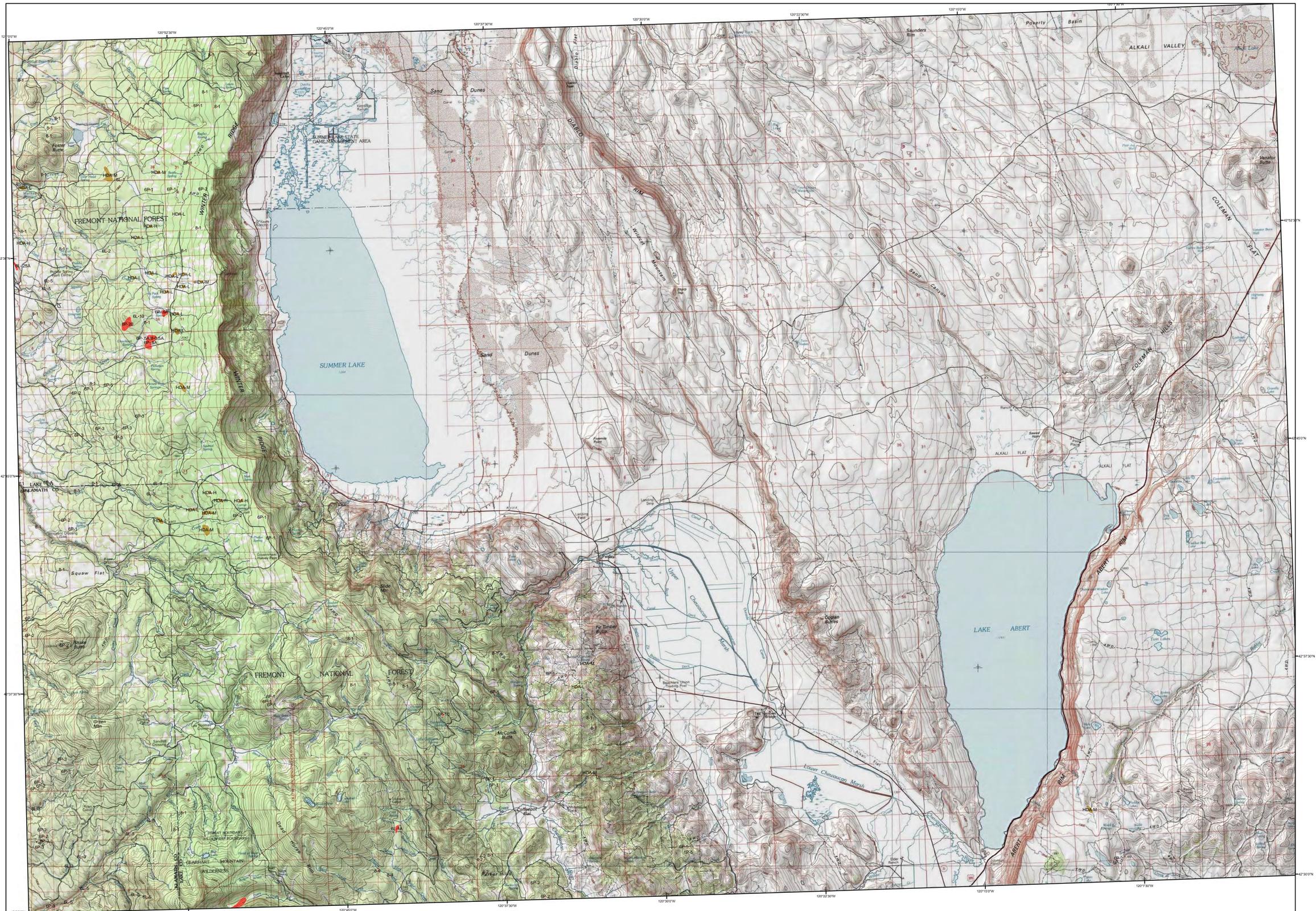


2012 Aerial Insect and Disease Survey

USGS 100K Quad: LAKE ABERT - E142120; 5M



Mortality Agents			Other Damaging Agents		
Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host
1	Douglas fir beetle	Douglas fir	AB	Balsam woolly adelgid	True fir
2	Douglas fir engraver	Douglas fir	AM	Leaf discoloration	Maple
3	Spruce beetle	Spruce	BR	Bitter rot	Fireweed/pine
4	Fire engraver	True fir	CC	Cystipora canker	True fir
5L	Western balsam hawk beetle	Sub-alpine fir	DH	Dying hemlock	Hemlock
6B	Mountain pine beetle	Viburnum pine	FIRE	Fire	All species
6S	Mountain pine beetle	Longspine pine	HDA	Hardwood decline	Hardwoods
6P	Mountain pine beetle	Ponderosa pine	HDD	Hardwood decline	Aspen
6W	Mountain pine beetle	Sage pine	HDF	Hardwood decline	Aspen
7	True spruce beetle	Western white pine	NFN	Areas not flown - non host	
8	Western pine beetle	Ponderosa, lodgepole pines	NFN	Areas not flown - host	
9B	Western pine beetle	Pine-bark ponderosa pine	PMD	Pacific madrone decline	Pacific madrone
9S	Western pine beetle	Pine-bark ponderosa pine	PIE	Leaf fall in poplars	Poplars
9W	Western pine beetle	Silver fir, true fir	RD	Red belt	All species
BEAR	Bear damage	Douglas fir	SAD	Slide	All species
FL	Flattened woodborer	Douglas fir, ponderosa pine	WIND	Windthrow	All species
FO	Foot rot/collar root disease	Root collar rot	WTR	Water damage	All species
WD	Water damage	Canker			
WTR	Water damage	All species			

Defoliators		
Code	Damaging Agent	Primary Host
BS	Western spruce budworm	True fir, Douglas fir, spruce
CH	Larch casebearer/epidemia	Western larch
LC	Needle cast	Western hemlock
LS	Black pine/leaf scale	Lodgepole pine
PB	Pine budworm	Ponderosa pine
PC	Pine needle cast	Ponderosa pine
PN	Pine needle sheathminer	Ponderosa pine
RC	Needle cast	Western larch
SA	Sawfly	Cedar
SH	Sawfly	True fir
SK	Sawfly	Kobresia pine
SL	Sawfly	Lodgepole pine
SM	Sawfly	Douglas fir
SNC	Needle cast	Aspen
TC	Terrestrial caterpillar	Hardwoods
TD	Douglas fir tick/needle moth	True fir, Douglas fir
UNKD	Unknown defoliating agent	All species

USGS 100K Quad: LAKE ABERT - E142120; 5M
2012 Aerial Insect and Disease Survey
Map Scale: 1:100,000
Date: 08 January 2013

Legend

Defoliating Agents Areas Not Flown

Mortality Agents

Other Damage

The cause of damage is described by a symbol above and is followed by: number of trees affected; number of trees (example: SA) or intensity of damage (L- Light, M- Moderate, H- Heavy).

The TOPOI maps used as background maps are seamless, scanned images of United States Geological Survey (USGS) paper topographic maps. For more information on this map, visit them online at: http://gto.arcgisonline.com/maps/USA_Topo_Maps

A data dictionary, digital copies of this map and ArGIS insect and disease data are available at: www.fs.usda.gov/gto/r6/fhp/ads

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:

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

-- 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) Database, 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/ads/> quality assurance.shtml. Maps and data may be updated without notice. Please cite: "USDA Forest Service, Forest Health Protection, Washington Department of Natural Resources, Resource Protection Division, and Oregon Department of Forestry, Forest Health Management" as the source of this data.