

# HUMBOLDT-TOIYABE NATIONAL FOREST

Las Vegas Ranger District

2014 Aerial Insect and Disease Detection Survey

1:126,720



**\*\*\*Disclaimer\*\*\***

Insect and disease data should be used only as an *indicator* of insect and disease activity, and should be ground-truthed for actual location and causal agent. Polygons indicate locations of tree mortality, defoliation, and/or other damage. Intensity of damage is variable, and not all trees and areas indicated are dead or damaged. The joint cooperators reserve the right to correct, modify, update, or replace the data as necessary. Using this data for purposes other than those for which it was intended may yield inaccurate or misleading results.

The background map image is used to provide a visual point of reference and may contain errors or omissions.

## INSECT & DISEASE ACTIVITY

### BARK BEETLES

Insect	Tree Species	Mortality		
		1-5	5-14	15+ Trees
Mountain Pine Beetle	Limber pine	X	▲	▲ 20
	True fir	*	●	○ 20
Fir Engraver Beetle (FEB)	Ponderosa pine	X	■	■ 20
	Pinyon pine	*	●	○ 20
Western Pine Beetle (WPB)				
Pinyon ips				

### MORTALITY & DISEASE

#### DEFOLIATORS

Defoliator	L	H	Notes
Needle Scale	[Pattern]	[Pattern]	L < 50% crown affected H > 50% crown affected
-PY	[Pattern]	[Pattern]	

## ADDITIONAL SYMBOLS AND DAMAGE AGENTS

Survey	-Boundary	[Line]	Water Damage	◆
	-Area	[Box]		

# -Trees affected  
#A -Trees/Acre affected

Aspen	-Asp
Bristlecone pine	-B
Douglas-fir	-DF
Larch	-L
Limber pine	-X, Lm
Lodgepole pine	-LP
Pinyon pine	-PY
Ponderosa pine	-PP
Spruce	-S
Subalpine fir	-SAF
Whitebark pine	-WBP

Dual Codes:

### Aerial Insect & Disease Detection Surveys

Aerial insect and disease detection surveys are conducted annually to detect and monitor annual, visible, vegetation damage primarily caused by insects. Aerial detection surveys are intended to detect new activity, to monitor the trend of ongoing activity, to provide general location information, and to subjectively rate levels of defoliation. These flights are conducted in a joint partnership between the USDA Forest Service, Idaho Department of Lands, and The Nevada Division of Forestry.

Data represented on this map are based on trees visibly affected by forest insects, as detected by aerial observers. Most bark beetle-killed trees are not typically symptomatic (faded foliage that is yellow, orange, or brown) until nearly a year following beetle attack. Therefore, the numbers of trees killed by bark beetles, as indicated on this map, are a reflection of last year's mortality. The numbers do not reflect the current year's beetle population or number of currently attacked trees.

Observers have just a few seconds to recognize, identify, and document observed activity. Air turbulence, cloud shadow, haze, smoke, and observer experience can all affect the quality of the survey.