

# HUMBOLDT-TOIYABE NATIONAL FOREST

Bridgeport Ranger District

2011 Aerial Insect and Disease Detection Survey

1:126,720



## INSECT & DISEASE ACTIVITY

### BARK BEETLES

Species	Symbol	Mortality
Mountain Pine Beetle (MPB)	Red star	1-4
Pine Engraver Beetle	Yellow star	5-14
Jeffrey Pine Beetle (JPB)	Orange star	15+
Fir Engraver Beetle (FEB)	Green star	1-4
<i>Ips confusus</i>	Black star	5-14
Lodgepole pine	Red circle	1-4
5-needle pines	Yellow circle	5-14
Lodgepole pine	Orange circle	15+
Jeffrey pine	Green circle	1-4
True fir	Black circle	5-14
Pinyon pine	Red circle	15+

### MORTALITY & DISEASE

Agent	Symbol	Severity
Decline -Aspen	Red hatched box	Light
Decline -Aspen	Orange hatched box	Heavy
Dieback -Aspen	Yellow hatched box	Low <50%
Dieback -Aspen	Orange hatched box	High >50%
Scale	Red hatched box	Light <50%
Scale	Orange hatched box	Heavy >50%
Defoliation	Yellow hatched box	Light <50%
Defoliation	Orange hatched box	Heavy >50%

### DEFOLIATORS

Agent	Symbol	Severity
Scale	Red hatched box	Light <50%
Scale	Orange hatched box	Heavy >50%
Defoliation	Yellow hatched box	Light <50%
Defoliation	Orange hatched box	Heavy >50%

### ADDITIONAL SYMBOLS AND DAMAGE AGENTS

Symbol	Description
Orange outline	Surveyed Area
Black outline	Fire -JP, WF, Pinyon
Red star	# -Trees affected
Yellow star	#A -Trees/Acre affected
Red circle	Aspen -Asp
Yellow circle	Douglas-fir -DF
Orange circle	Jeffrey pine -JP
Green circle	Larch -L
Black circle	Lodgepole pine -LPP
Red circle	Mixed Conifer -MC
Red star	Mountain mahogany -MMH
Yellow star	Pinyon pine -PY
Orange star	Ponderosa pine -PP
Green star	Spruce -S
Black star	Subalpine fir -SAF
Red star	Wstrn White pine -WWP
Black star	Whitebark pine -WBP
Red star	MPB-LPP / FEB
Yellow star	JPB / FEB
Orange star	MPB-LPP / JPB
Green star	Decline-Aspen / MPB-LPP
Black star	MPB-LPP / MPB-5 needle pines

### 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.

**\*\*\*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 an approximate visual point of reference for the survey data. It was created using software by National Geographic.  
 "Nevada - Seamless USGS Topographic Maps on CD-ROM"  
 "TOPO! Pro for ArcGIS"