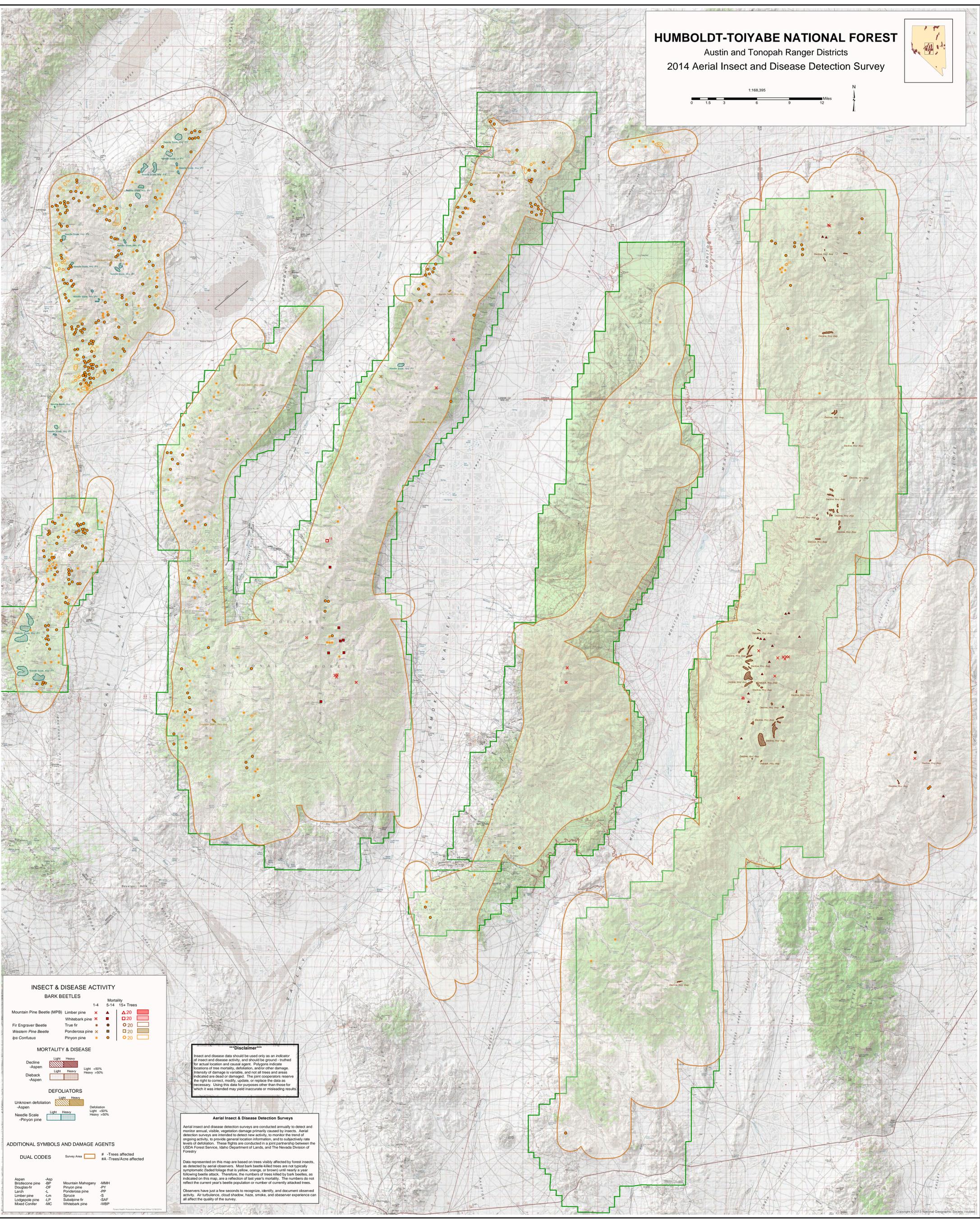


HUMBOLDT-TOIYABE NATIONAL FOREST

Austin and Tonopah Ranger Districts

2014 Aerial Insect and Disease Detection Survey



INSECT & DISEASE ACTIVITY

BARK BEETLES

Species	Mortality	Symbol
Mountain Pine Beetle (MPB)	1-4	Small red triangle
Mountain Pine Beetle (MPB)	5-14	Medium red triangle
Mountain Pine Beetle (MPB)	15+	Large red triangle
Mountain Pine Beetle (MPB)	1-4	Small red square
Mountain Pine Beetle (MPB)	5-14	Medium red square
Mountain Pine Beetle (MPB)	15+	Large red square
Fir Engraver Beetle	1-4	Small orange circle
Fir Engraver Beetle	5-14	Medium orange circle
Fir Engraver Beetle	15+	Large orange circle
Western Pine Beetle	1-4	Small yellow circle
Western Pine Beetle	5-14	Medium yellow circle
Western Pine Beetle	15+	Large yellow circle
Yps Confusus	1-4	Small blue circle
Yps Confusus	5-14	Medium blue circle
Yps Confusus	15+	Large blue circle

MORTALITY & DISEASE

Decline - Aspen: Light <50%, Heavy >50%

Dieback - Aspen: Light <50%, Heavy >50%

DEFOLIATORS

Unknown defoliation - Aspen: Light <50%, Heavy >50%

Needle Scale - Piñon pine: Light <50%, Heavy >50%

ADDITIONAL SYMBOLS AND DAMAGE AGENTS

DUAL CODES: Survey Area (orange outline), # - Trees affected, #A - Trees/Acre affected

Aspen	-Asp	Mountain Mahogany	-MMH
Bristlecone pine	-BP	Piñon pine	-PP
Douglas-fir	-DF	Ponderosa pine	-PP
Larch	-L	Spruce	-S
Limber pine	-Lm	Subtropical fir	-Sf
Lockwood pine	-LP	Whitebark pine	-WBP
Mixed Conifer	-MC		

*****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.

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 (barked 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.