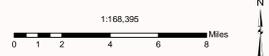
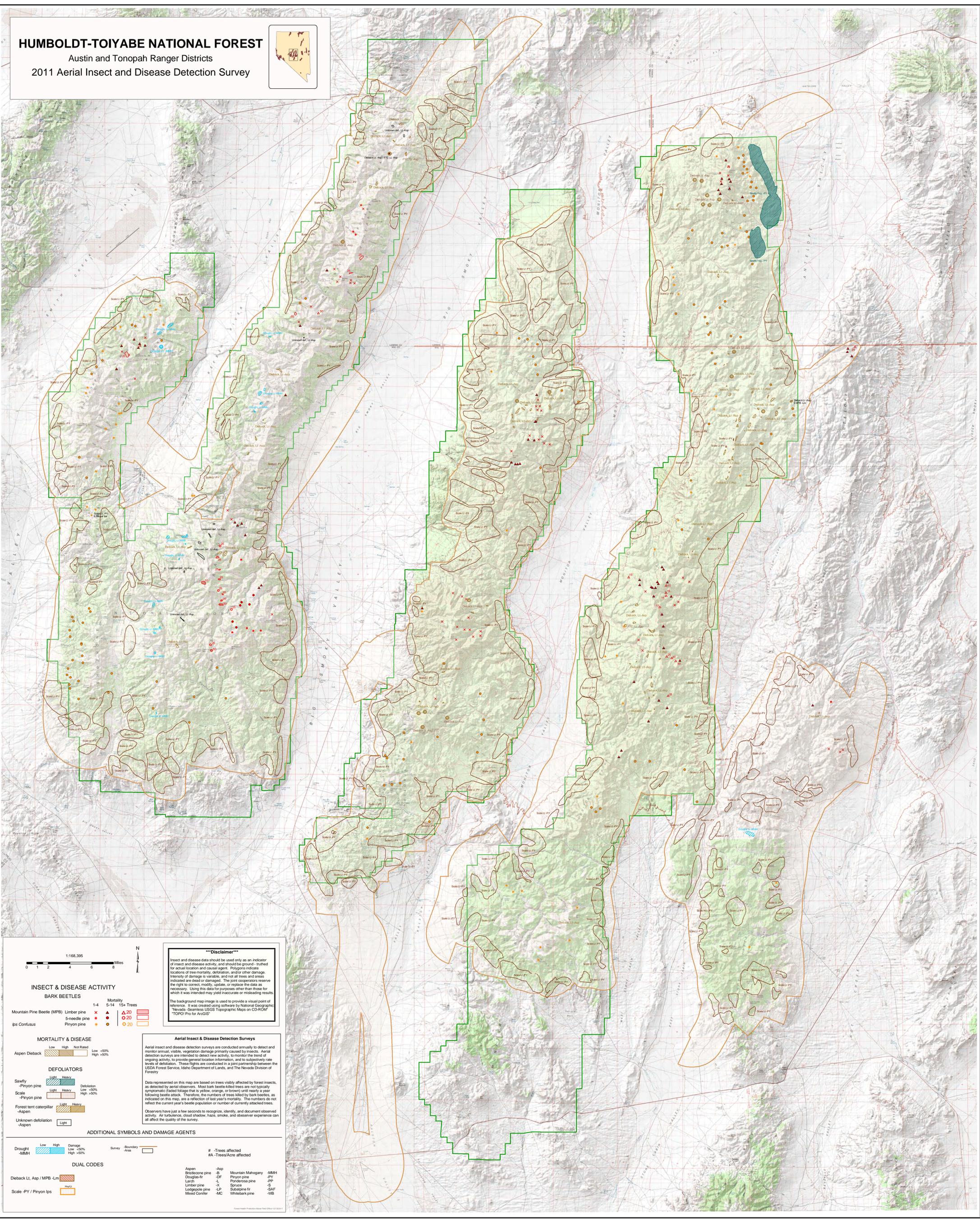


HUMBOLDT-TOIYABE NATIONAL FOREST

Austin and Tonopah Ranger Districts

2011 Aerial Insect and Disease Detection 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 a visual point of reference. It was created using software by National Geographic "Nevada - Seamless USGS Topographic Maps on CD-ROM" (TOPOM) Pro for ArcGIS®.

INSECT & DISEASE ACTIVITY

BARK BEETLES

Mountain Pine Beetle (MPB)	Limb pine	Mortality 1-4	▲
5-needle pine	●	Mortality 5-14	▲
15+ Trees	▲	Mortality >20	▲
Aspen Diaback	●	Mortality >20	▲
Aspen Diaback	●	Mortality >20	▲

MORTALITY & DISEASE

Aspen Diaback: Low, High, Not Rated, Low <50%, High >50%

DEFOLIATORS

Sawfly - Pinyon pine: Light, Heavy, Defoliation Low <50%, High >50%

Scale - Pinyon pine: Light, Heavy, Defoliation Low <50%, High >50%

Forest tent caterpillar - Aspen: Light, Heavy, Defoliation Low <50%, High >50%

Unknown defoliation - Aspen: Light

ADDITIONAL SYMBOLS AND DAMAGE AGENTS

Drought - MMH: Low, High, Damage Low <50%, High >50%

Survey - Boundary Area: Survey, Boundary Area

DUAL CODES

Diaback LI, Asp / MPB -Lm	Aspen	Asp	Mountain Mahogany	MMH
Scale -PY / Pinyon Ips	Bristlecone pine	B	Pinyon pine	PY
	Douglas fir	DF	Ponderosa pine	PP
	Larch	L	Sage	S
	Limb pine	LP	Subalpine fir	SAF
	Lodgepole pine	LP	Whitebark pine	WB
	Mixed Conifer	MC		

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 extent 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.