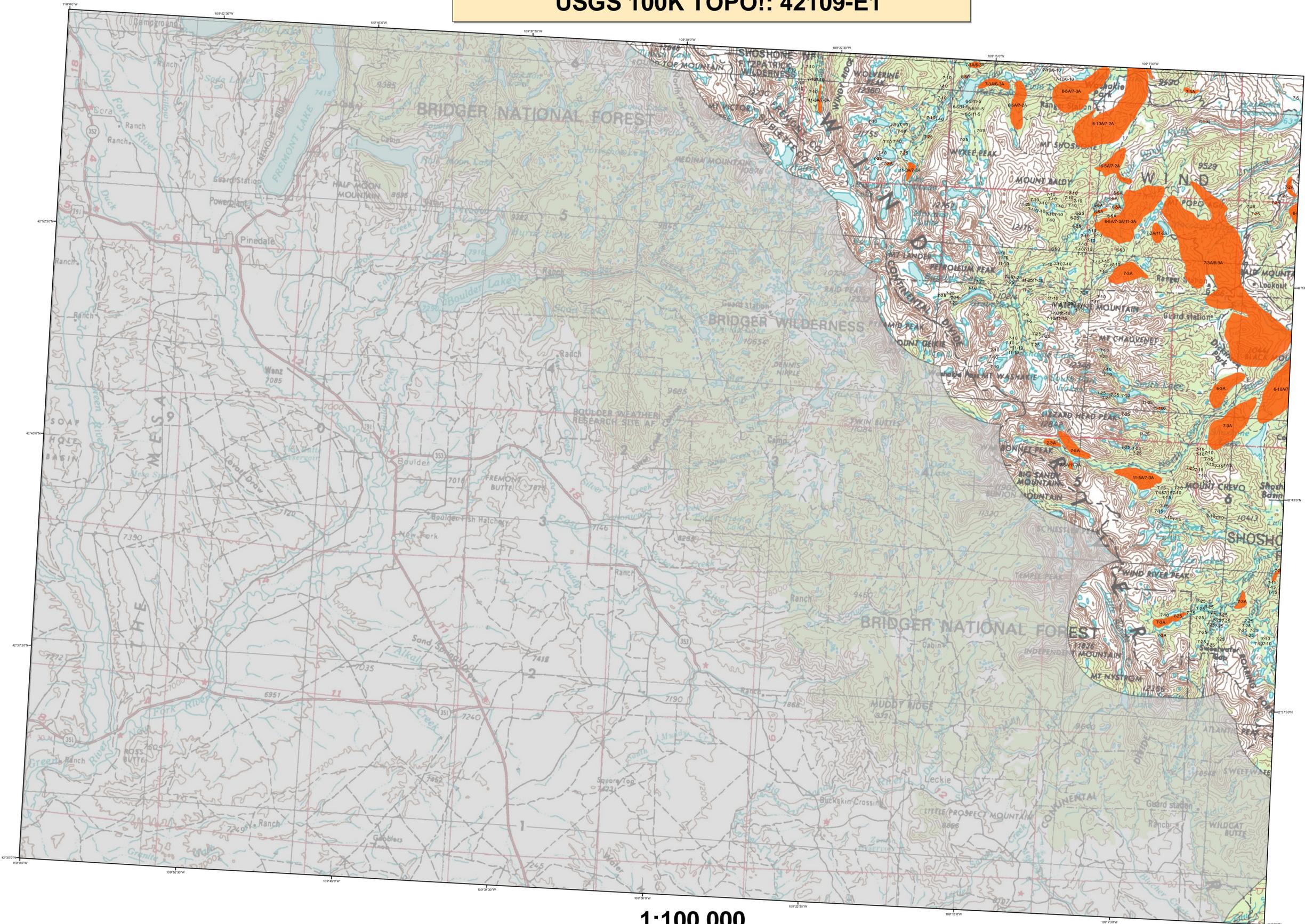


2010 Aerial Insect and Disease Survey Pinedale, Wyoming USGS 100K TOPO!: 42109-E1



1:100,000

Legend

Causal Agent(s) Not Flown

Use of the Number System
Example: 5-25 = The first number before the dash is the causal agent code. The number after the dash is the number of dead "fader" trees in the polygon or point. When recent dead trees are not counted, an intensity code of L-Light, M-moderate, and H-High may be used after the causal agent code. Periodically, trees per acreage estimates are used after the causal agent code instead of number of dead "fader" trees (or an intensity code). For example: 5-12A = The first number before the dash is the causal agent code. The number after the dash is an estimation of the number of dead "fader" trees in the polygon per acre. In this case it would be an estimation that, on the average, one tree per every two acres would be a dead "fader" tree. In another example: 5-3A = that on the average, an estimated three trees per acre are dead "fader" trees. A "7" is used as a separator when a point/polygon has more than one causal agent code.

Code	Causal Agent	Primary Host	Causal Agent	Primary Host	Code	Causal Agent	Primary Host
1	Douglas-fir beetle	Douglas-fir	109	109	109	109	109
2	Engelmann spruce beetle	Engelmann spruce	110	110	110	110	110
3	Mountain pine beetle	Ponderosa pine	111	111	111	111	111
4	Mountain pine beetle	Lodgepole pine	112	112	112	112	112
5	Mountain pine beetle	5-Needle Pine	113	113	113	113	113
6	Western pine beetle	Ponderosa pine	114	114	114	114	114
7	White fir	White fir	115	115	115	115	115
8	Douglas-fir engraver beetle	Douglas-fir	116	116	116	116	116
9	Western balsam bark beetle	Subalpine fir	117	117	117	117	117
10	Unidentified bark beetle	Softwoods	118	118	118	118	118
11	Pine engraver	Lodgepole pine	119	119	119	119	119
12	Pine engraver	Ponderosa pine	120	120	120	120	120
13	Pine engraver	Lodgepole pine	121	121	121	121	121
14	Pine engraver	Ponderosa pine	122	122	122	122	122
15	Pine engraver	Lodgepole pine	123	123	123	123	123
16	Pine engraver	Ponderosa pine	124	124	124	124	124
17	Jack pine budworm	Jack pine	125	125	125	125	125
18	Spruce budworm, light defol.	Douglas-fir	126	126	126	126	126
19	Spruce budworm, medium defol.	Douglas-fir	127	127	127	127	127
20	Spruce budworm, heavy defol.	Douglas-fir	128	128	128	128	128
21	Douglas-fir tussock moth	Douglas-fir	129	129	129	129	129
22	Pine butterfly	Ponderosa pine	130	130	130	130	130
23	Pine looper	Ponderosa pine	131	131	131	131	131
24	Pine tortrix	Ponderosa pine	132	132	132	132	132
25	Tart caterpillars	Hardwoods	133	133	133	133	133
26	Leaf beetles	Hardwoods	134	134	134	134	134
27	Oak leaf roller	Hardwoods	135	135	135	135	135
28	Pine needle-shaft miner	Ponderosa pine	136	136	136	136	136
29	Pine sawflies	Ponderosa pine	137	137	137	137	137
30	Pine sawfly moth	Ponderosa pine	138	138	138	138	138
31	Cankworms	Hardwoods	139	139	139	139	139
32	Variable oak leaf caterpillar	All Tree Species	140	140	140	140	140
33	Unidentified defoliator	All Tree Species	141	141	141	141	141
34	Heterodactylus annosus (Fomes annosus)	Softwoods	142	142	142	142	142
35	Amelara caryocarpa (Amelara melaleuca)	Softwoods	143	143	143	143	143
36	Pityopsis schweinitzii	Softwoods	144	144	144	144	144
37	Pityopsis schweinitzii	Softwoods	145	145	145	145	145
38	Phomopsis	All Tree Species	146	146	146	146	146
39	Cytospora	All Tree Species	147	147	147	147	147
40	Western gall rust	Unknown	148	148	148	148	148
41	Compsiloma rust	Unknown	149	149	149	149	149
42	Shab-former rust	Lodgepole pine	150	150	150	150	150

USGS 100K Quad - Location Map



Legend
 Flown Area
 State Boundaries
 Counties

How Aerial Surveys Are Conducted

Data represented on this map are based on aerial observations manually recorded onto a map. This procedure is considered both an art form and a form of scientific data collection, and is highly subjective. An observer only has 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 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.

Aerial surveys provide information on the current status for many causal agents, and are 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. Aerial surveys can be thought of as the first stage in a multi-stage sampling design. Other remote sensing approaches, including aerial photography, electro-optical sensors, and specially designed aerial surveys with modified flight patterns, can be used to more accurately delineate the extent and severity of a particular disturbance agent. The preceding methods are often more costly than overview surveys, and are generally reserved to address situations of sufficient environmental, economic, or political importance.

Map Created November 4 2010
 Projection: UTM NAD83 Zone 13
 Author: J. Ross, USDA Forest Service

A data dictionary and digital copies of this map and the insect and disease data are available at: <http://www.fs.fed.us/r2/resources/fhm/aerialsurvey/>

DIRECT ALL INQUIRIES TO:

Wyoming State Forestry Division
 1100 West 22nd Street
 Cheyenne, Wyoming 82002

USDA Forest Service, Region 2
 Renewable Resources
 Forest Health Management
 PO Box 25127
 Lakewood, Colorado 80225



*****DISCLAIMER*****
 Forest Health Protection (FHP) and its partners strive to maintain an accurate Aerial Detection Survey (ADS) Dataset, but due to the conditions under which the data are collected, FHP and its partners 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/aviation/qualityassurance.shtml>). Maps and data may be updated without notice. Please cite "USDA Forest Service, Forest Health Protection and its partners" as the source of this data in maps and publications.
 Due to the nature of aerial surveys, the data on this map will only provide rough estimates of location, intensity and the resulting trend information for agents detectable from the air. Many of the most destructive diseases are not represented on this map because these agents are not detectable from aerial surveys. The data presented on this map should only be used as a partial indicator of insect and disease activity, and should be validated on the ground for actual location and causal agent. Shaded areas show locations where tree mortality or defoliation were apparent from the air. Intensity of damage is variable and not all trees in shaded areas are dead or defoliated.
 The insect and disease data represented on this map are available digitally from the USDA Forest Service, Region Two Forest Health Management group. The cooperators reserve the right to correct, update, modify or replace GIS products. Using this map for purposes other than those for which it was intended may yield inaccurate or misleading results.