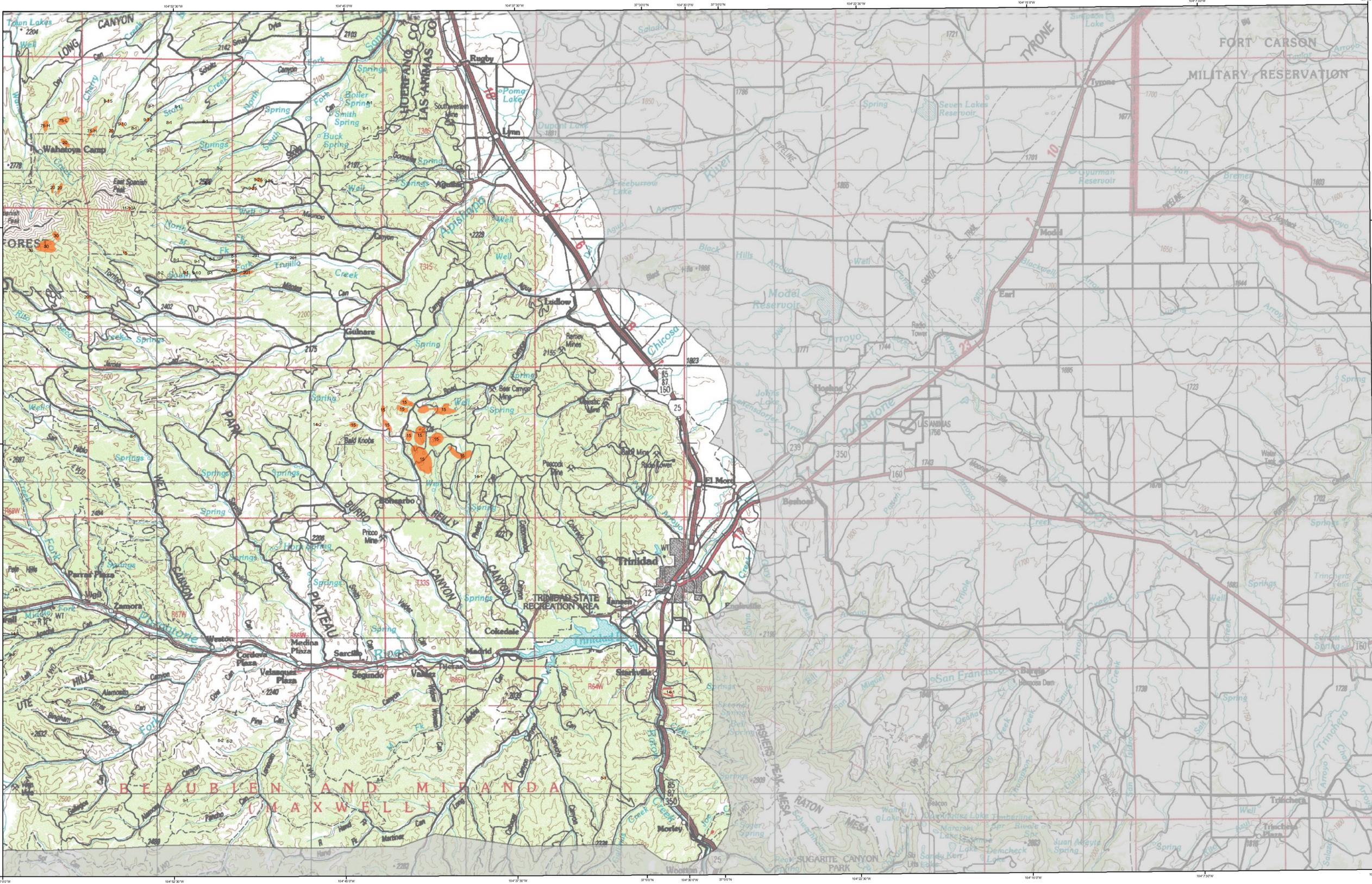


2010 Aerial Insect and Disease Survey Trinidad, Colorado USGS 100K TOPO!: 37104-A1



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 "ladder" trees in the polygon or point. When recent dead trees are not counted, an intensity code of 1-light, Moderate, and 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 "ladder" 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 estimate of the number of dead "ladder" trees in the polygon per acre. In this case it would be an estimate that, on the average, one tree per every two acres would be a dead "ladder" tree. In another example: 5-2A = that on the average, an estimated three trees per acre are dead "ladder" trees. A "7" is used as a separator when a point/polygon has more than one causal agent code.

Code	Causal Agent	Primary Host	Code	Causal Agent	Primary Host	Code	Causal Agent	Primary Host
1	Douglas-fir beetle	Douglas-fir	69	White pine blister rust	Lodgepole Pine	107	for squirrel trapping	Cottonwood/Poplar
2	Engelmann Spruce Beetle	Engelmann Spruce	70	Dwarf mistletoe	Softwoods	108	road salt	Softwoods
3	Mountain pine beetle	Lodgepole Pine	71	Epilobium	Ponderosa Pine	109	pine/cedar nematode	South Pine
4	Mountain pine beetle	Lodgepole Pine	72	Indus 405, 55 & 65	All Tree Species	110	oak wilt	Oak
5	Western pine beetle	Ponderosa Pine	73	Air pollution	All Tree Species	111	foliar disease	All Tree Species
6	White Fir	Douglas-fir	74	Chemical damage	Softwoods	112	snipe Ips	White Spruce
7	White Fir	Douglas-fir	75	Lophodermium pini	Softwoods	113	leaf-miner chestnut borer	Oak
8	Douglas-fir engraver beetle	Subalpine Fir	76	Rhabdoline pseudotsugae	Douglas-fir	114	anthracnose like foliar disease	Bur Oak
9	Western balsam bark beetle	Subalpine Fir	77	Lophodermium arcuta	Softwoods	115	Dieback	All Tree Species
10	Western balsam bark beetle	Subalpine Fir	78	Laricobornia acicola	Softwoods	116	Mortality	All Tree Species
11	Western balsam bark beetle	Subalpine Fir	79	Lophodermium concolor	Softwoods	117	Discoloration	All Tree Species
12	Western balsam bark beetle	Subalpine Fir	80	Lophodermium pini	Softwoods	118	Mortality	All Tree Species
13	Pine engraver	Lodgepole Pine	81	Needle cast (Hypodermataceae)	Softwoods	119	Flagging	Quaking Aspen
14	Pine engraver	Lodgepole Pine	82	Root Rot	Softwoods	120	aspen tortrix	Quaking Aspen
15	Ponderosa pine needle miner	Ponderosa Pine	83	Undersized disease	All Tree Species	121	Matsucora blight	Ash
16	Lodgepole pine needle miner	Lodgepole Pine	84	Winter damage light	All Tree Species	201	Dieback (oak)	Cottonwood/Poplar
17	Jack pine budworm	Jack Pine	85	Winter damage medium	All Tree Species	202	Dieback (hardwood)	Hardwoods
18	Jack pine budworm, light defol.	Douglas-fir	86	Winter damage heavy	All Tree Species	203	Dieback (oak)	Oak
19	Jack pine budworm, medium defol.	Douglas-fir	87	Winter damage medium	All Tree Species	204	Mortality (oak)	Oak
20	Jack pine budworm, heavy defol.	Douglas-fir	88	White bark stain	All Tree Species	205	Mortality (eastern cedar)	Eastern Red Cedar
21	Douglas-fir tussock moth	Douglas-fir	89	Diplotis	Softwoods	206	Discoloration (hardwood)	Hardwoods
22	Pine tiper	Ponderosa Pine	90	Prionus black stain	Common Piñon	207	Mortality (oak)	Oak
23	Pine tiper	Ponderosa Pine	91	Prionus black stain	Common Piñon	208	Mortality (hardwood)	Hardwoods
24	White fir tiper	Subalpine Fir	92	Prionus black stain	Common Piñon	209	Mortality (oak)	Oak
25	White fir tiper	Subalpine Fir	93	Prionus black stain	Common Piñon	210	Mortality (eastern cedar)	Eastern Red Cedar
26	White fir tiper	Subalpine Fir	94	Prionus black stain	Common Piñon	211	Mortality (oak)	Oak
27	White fir tiper	Subalpine Fir	95	Prionus black stain	Common Piñon	212	Mortality (hardwood)	Hardwoods
28	White fir tiper	Subalpine Fir	96	Prionus black stain	Common Piñon	213	Mortality (oak)	Oak
29	White fir tiper	Subalpine Fir	97	Prionus black stain	Common Piñon	214	Mortality (hardwood)	Hardwoods
30	White fir tiper	Subalpine Fir	98	Prionus black stain	Common Piñon	215	Mortality (oak)	Oak
31	White fir tiper	Subalpine Fir	99	Prionus black stain	Common Piñon	216	Mortality (hardwood)	Hardwoods
32	White fir tiper	Subalpine Fir	100	Prionus black stain	Common Piñon	217	Mortality (oak)	Oak
33	White fir tiper	Subalpine Fir	101	Prionus black stain	Common Piñon	218	Mortality (hardwood)	Hardwoods
34	White fir tiper	Subalpine Fir	102	Prionus black stain	Common Piñon	219	Mortality (oak)	Oak
35	White fir tiper	Subalpine Fir	103	Prionus black stain	Common Piñon	220	Mortality (hardwood)	Hardwoods
36	White fir tiper	Subalpine Fir	104	Prionus black stain	Common Piñon	221	Mortality (oak)	Oak
37	White fir tiper	Subalpine Fir	105	Prionus black stain	Common Piñon	222	Mortality (hardwood)	Hardwoods
38	White fir tiper	Subalpine Fir	106	Prionus black stain	Common Piñon	223	Mortality (oak)	Oak
39	White fir tiper	Subalpine Fir	107	Prionus black stain	Common Piñon	224	Mortality (hardwood)	Hardwoods
40	White fir tiper	Subalpine Fir	108	Prionus black stain	Common Piñon	225	Mortality (oak)	Oak
41	White fir tiper	Subalpine Fir	109	Prionus black stain	Common Piñon	226	Mortality (hardwood)	Hardwoods
42	White fir tiper	Subalpine Fir	110	Prionus black stain	Common Piñon	227	Mortality (oak)	Oak
43	White fir tiper	Subalpine Fir	111	Prionus black stain	Common Piñon	228	Mortality (hardwood)	Hardwoods
44	White fir tiper	Subalpine Fir	112	Prionus black stain	Common Piñon	229	Mortality (oak)	Oak
45	White fir tiper	Subalpine Fir	113	Prionus black stain	Common Piñon	230	Mortality (hardwood)	Hardwoods
46	White fir tiper	Subalpine Fir	114	Prionus black stain	Common Piñon	231	Mortality (oak)	Oak
47	White fir tiper	Subalpine Fir	115	Prionus black stain	Common Piñon	232	Mortality (hardwood)	Hardwoods
48	White fir tiper	Subalpine Fir	116	Prionus black stain	Common Piñon	233	Mortality (oak)	Oak
49	White fir tiper	Subalpine Fir	117	Prionus black stain	Common Piñon	234	Mortality (hardwood)	Hardwoods
50	White fir tiper	Subalpine Fir	118	Prionus black stain	Common Piñon	235	Mortality (oak)	Oak
51	White fir tiper	Subalpine Fir	119	Prionus black stain	Common Piñon	236	Mortality (hardwood)	Hardwoods
52	White fir tiper	Subalpine Fir	120	Prionus black stain	Common Piñon	237	Mortality (oak)	Oak
53	White fir tiper	Subalpine Fir	121	Prionus black stain	Common Piñon	238	Mortality (hardwood)	Hardwoods
54	White fir tiper	Subalpine Fir	122	Prionus black stain	Common Piñon	239	Mortality (oak)	Oak
55	White fir tiper	Subalpine Fir	123	Prionus black stain	Common Piñon	240	Mortality (hardwood)	Hardwoods
56	White fir tiper	Subalpine Fir	124	Prionus black stain	Common Piñon	241	Mortality (oak)	Oak
57	White fir tiper	Subalpine Fir	125	Prionus black stain	Common Piñon	242	Mortality (hardwood)	Hardwoods
58	White fir tiper	Subalpine Fir	126	Prionus black stain	Common Piñon	243	Mortality (oak)	Oak
59	White fir tiper	Subalpine Fir	127	Prionus black stain	Common Piñon	244	Mortality (hardwood)	Hardwoods
60	White fir tiper	Subalpine Fir	128	Prionus black stain	Common Piñon	245	Mortality (oak)	Oak
61	White fir tiper	Subalpine Fir	129	Prionus black stain	Common Piñon	246	Mortality (hardwood)	Hardwoods
62	White fir tiper	Subalpine Fir	130	Prionus black stain	Common Piñon	247	Mortality (oak)	Oak
63	White fir tiper	Subalpine Fir	131	Prionus black stain	Common Piñon	248	Mortality (hardwood)	Hardwoods
64	White fir tiper	Subalpine Fir	132	Prionus black stain	Common Piñon	249	Mortality (oak)	Oak
65	White fir tiper	Subalpine Fir	133	Prionus black stain	Common Piñon	250	Mortality (hardwood)	Hardwoods
66	White fir tiper	Subalpine Fir	134	Prionus black stain	Common Piñon	251	Mortality (oak)	Oak
67	White fir tiper	Subalpine Fir	135	Prionus black stain	Common Piñon	252	Mortality (hardwood)	Hardwoods
68	White fir tiper	Subalpine Fir	136	Prionus black stain	Common Piñon	253	Mortality (oak)	Oak
69	White fir tiper	Subalpine Fir	137	Prionus black stain	Common Piñon	254	Mortality (hardwood)	Hardwoods
70	White fir tiper	Subalpine Fir	138	Prionus black stain	Common Piñon	255	Mortality (oak)	Oak
71	White fir tiper	Subalpine Fir	139	Prionus black stain	Common Piñon	256	Mortality (hardwood)	Hardwoods
72	White fir tiper	Subalpine Fir	140	Prionus black stain	Common Piñon	257	Mortality (oak)	Oak
73	White fir tiper	Subalpine Fir	141	Prionus black stain	Common Piñon	258	Mortality (hardwood)	Hardwoods
74	White fir tiper	Subalpine Fir	142	Prionus black stain	Common Piñon	259	Mortality (oak)	Oak
75	White fir tiper	Subalpine Fir	143	Prionus black stain	Common Piñon	260	Mortality (hardwood)	Hardwoods
76	White fir tiper	Subalpine Fir	144	Prionus black stain	Common Piñon	261	Mortality (oak)	Oak
77	White fir tiper	Subalpine Fir	145	Prionus black stain	Common Piñon	262	Mortality (hardwood)	Hardwoods
78	White fir tiper	Subalpine Fir	146	Prionus black stain	Common Piñon	263	Mortality (oak)	Oak
79	White fir tiper	Subalpine Fir	147	Prionus black stain	Common Piñon	264	Mortality (hardwood)	Hardwoods
80	White fir tiper	Subalpine Fir	148	Prionus black stain	Common Piñon	265	Mortality (oak)	Oak
81	White fir tiper	Subalpine Fir	149	Prionus black stain	Common Piñon	266	Mortality (hardwood)	Hardwoods
82	White fir tiper	Subalpine Fir	150	Prionus black stain	Common Piñon	267	Mortality (oak)	Oak
83	White fir tiper	Subalpine Fir	151	Prionus black stain	Common Piñon	268	Mortality (hardwood)	Hardwoods
84	White fir tiper	Subalpine Fir	152	Prionus black stain	Common Piñon	269	Mortality (oak)	Oak
85	White fir tiper	Subalpine Fir	153	Prionus black stain	Common Piñon	270	Mortality (hardwood)	Hardwoods
86	White fir tiper	Subalpine Fir	154	Prionus black stain	Common Piñon	271	Mortality (oak)	Oak
87	White fir tiper	Subalpine Fir	155	Prionus black stain	Common Piñon	272	Mortality (hardwood)	Hardwoods
88	White fir tiper	Subalpine Fir	156	Prionus black stain	Common Piñon	273	Mortality (oak)	Oak
89	White fir tiper	Subalpine Fir	157	Prionus black stain	Common Piñon	274	Mortality (hardwood)	Hardwoods
90	White fir tiper	Subalpine Fir	158	Prionus black stain	Common Piñon	275	Mortality (oak)	Oak
91	White fir tiper	Subalpine Fir	159	Prionus black stain	Common Piñon	276	Mortality (hardwood)	Hardwoods
92	White fir tiper	Subalpine Fir	160	Prionus black stain	Common Piñon	277	Mortality (oak)	Oak
93	White fir tiper	Subalpine Fir	161	Prionus black stain	Common Piñon	278	Mortality (hardwood)	Hardwoods
94	White fir tiper	Subalpine Fir	162	Prionus black stain	Common Piñon	279	Mortality (oak)	Oak
95	White fir tiper	Subalpine Fir	163	Prionus black stain	Common Piñon	280	Mortality (hardwood)	Hardwoods
96	White fir tiper	Subalpine Fir	164	Prionus black stain	Common Piñon	281	Mortality (oak)	Oak
97	White fir tiper	Subalpine Fir	165	Prionus black stain	Common Piñon	282	Mortality (hardwood)	Hardwoods
98	White fir tiper	Subalpine Fir	166	Prionus black stain	Common Piñon	283	Mortality (oak)	Oak
99	White fir tiper	Subalpine Fir	167	Prionus black stain	Common Piñon	284	Mortality (hardwood)	Hardwoods
100	White fir tiper	Subalpine Fir	168	Prionus black stain	Common Piñon	285	Mortality (oak)	Oak
101	White fir tiper	Subalpine Fir	169	Prionus black stain	Common Piñon	286	Mortality (hardwood)	Hardwoods
102	White fir tiper	Subalpine Fir	170	Prionus black stain	Common Piñon	287	Mortality (oak)	Oak
103	White fir tiper	Subalpine Fir	171	Prionus black stain	Common Piñon	288	Mortality (hardwood)	Hardwoods
104	White fir tiper	Subalpine Fir	172	Prionus black stain	Common Piñon	289	Mortality (oak)	Oak
105	White fir tiper	Subalpine Fir	173	Prionus black stain	Common Piñon	290	Mortality (hardwood)	Hardwoods
106	White fir tiper	Subalpine Fir	174	Prionus black stain	Common Piñon	291	Mortality (oak)	Oak
107	White fir tiper	Subalpine Fir	175	Prionus black stain	Common Piñon	292	Mortality (hardwood)	Hardwoods
108	White fir tiper	Subalpine Fir	176	Prionus black stain	Common Piñon	293	Mortality (oak)	Oak
109	White fir tiper	Subalpine Fir	177	Prionus black stain	Common Piñon	294	Mortality (hardwood)	Hardwoods
110	White fir tiper	Subalpine Fir	178	Prionus black stain	Common Piñon	295	Mortality (oak)	Oak
111	White fir tiper	Subalpine Fir	179	Prionus black stain	Common Piñon	296	Mortality (hardwood)	Hardwoods
112	White fir tiper	Subalpine Fir	180	Prionus black stain	Common Piñon	297	Mortality (oak)	Oak
113	White fir tiper	Subalpine Fir	181	Prionus black stain	Common Piñon	298	Mortality (hardwood)	Hardwoods
114	White fir tiper	Subalpine Fir	182	Prionus black stain	Common Piñon	299	Mortality (oak)	Oak
115	White fir tiper	Subalpine Fir	183	Prionus black stain	Common Piñon	300	Mortality (hardwood)	Hardwoods

USGS 100K Quad - Location Map



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 1 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:

Colorado State Forest Service
 Colorado State University
 Fort Collins, Colorado 80523

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/forehealth/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 the 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 debilitation were apparent from the air. Intensity of damage is variable and not all trees in shaded areas are dead or debilitated.

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.