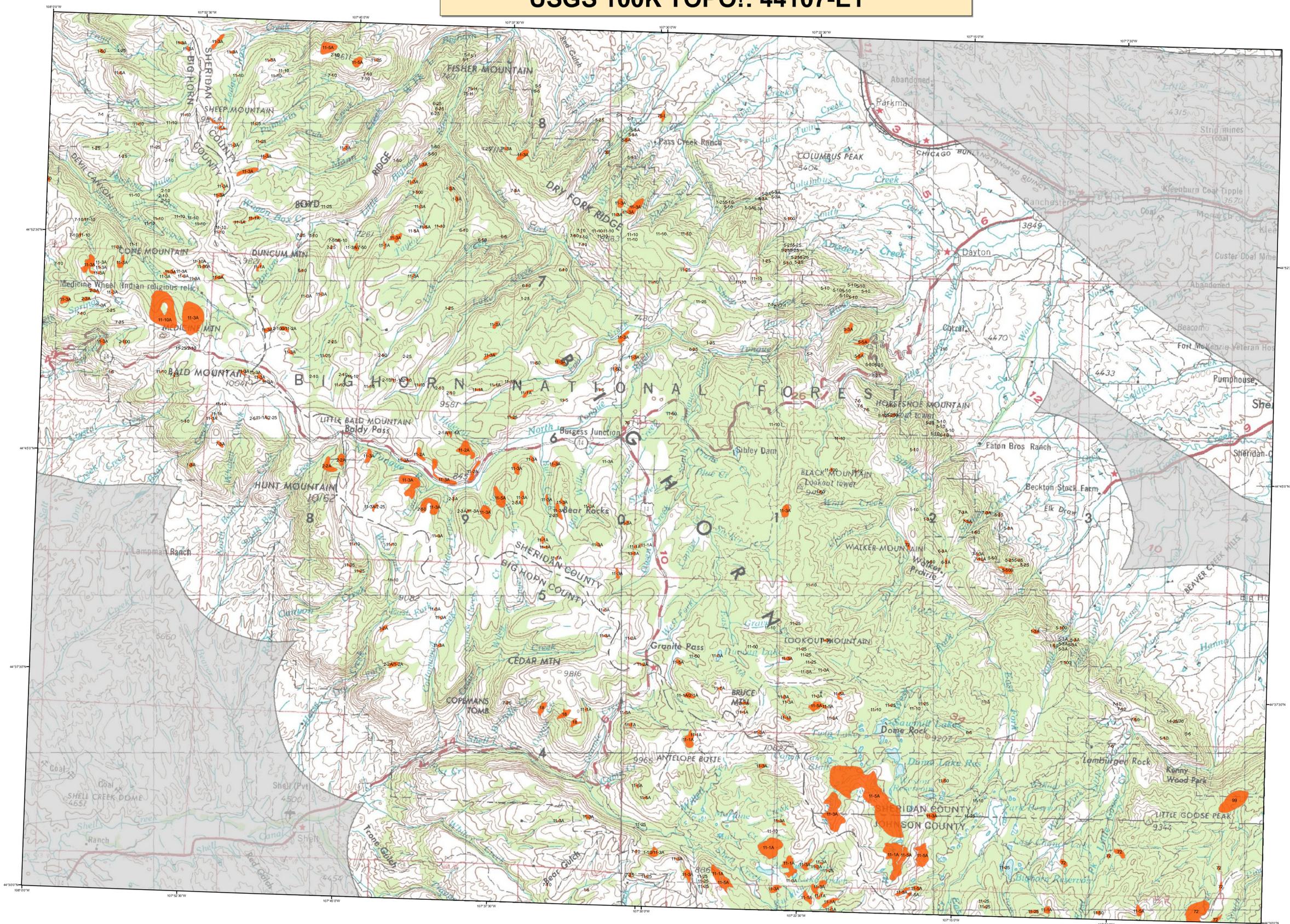


# 2010 Aerial Insect and Disease Survey Burgess Junction, Wyoming USGS 100K TOPO!: 44107-E1



1:100,000

## Legend

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 'faded' 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 acre estimates are used after the causal agent code instead of number of dead 'faded' trees (or an intensity code). For example: 5-10A = The first number before the dash is the causal agent code. The number after the dash is an estimation of the number of dead 'faded' 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 'faded' tree. In another example: 5-3A = that on the average, an estimated three trees per acre are dead 'faded' 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	49	Aspen sawfly	Lodgepole Pine	105	For squirrel flagging	Cottonwood/Poplar
2	Emerald Spruce Beetle	Engelmann Spruce	50	White pine blister rust	5-Needle Pine	107	Red weevil	Cottonwood/Poplar
3	Mountain pine beetle	Ponderosa Pine	51	Dwarf mistletoe	Softwoods	108	Road salt	Softwoods
4	Mountain pine beetle	Lodgepole Pine	52	Ephedra	Ponderosa Pine	109	Shredded nematode	Softwood Pine
5	Mountain pine beetle	5-Needle Pine	53	Insecticides #05, 05 & 09	All Tree Species	110	Oak wilt	Oak
6	Western pine beetle	Ponderosa Pine	54	Air pollutants	All Tree Species	111	Foliage disease	All Tree Species
7	Fire Engorged	White Fir	55	Chemical damage	All Tree Species	112	Spine disease	White Spruce
8	Douglas-fir engraver beetle	Douglas-fir	56	Lophodermium praeclarum	Softwoods	113	Twined chestnut borer	Oak
9	Western balsam bark beetle	Subalpine Fir	57	Rhabdocline pseudotsugae	Softwoods	114	ambrosia like foliar disease	Blue Oak
10	Unidentified bark beetle	Softwoods	58	Lophodermium arcutum	Softwoods	115	Diaback	All Tree Species
11	Pine engraver	Lodgepole Pine	59	Lecanostoma axioscia	Softwoods	116	Mortality	All Tree Species
12	Pine engraver	Ponderosa Pine	60	Lophodermium concolor	Softwoods	117	Discoloration	All Tree Species
13	Ponderosa pine needle miner	Lodgepole Pine	61	Dothiorama pin	Softwoods	118	Harbicide	All Tree Species
14	Lodgepole pine needle miner	Ponderosa Pine	62	Needle cast (Phytophthora)	Softwoods	119	Flagging	All Tree Species
15	Jack pine budworm	Jack Pine	63	Road Rot	All Tree Species	120	Aspen tentix	Quaking Aspen
16	Spine budworm, light defol.	Douglas-fir	64	Unidentified disease	Softwoods	121	Mascomia blight	Quaking Aspen
17	Spine budworm, medium defol.	Douglas-fir	65	Winter damage light	All Tree Species	200	Diaback (ash)	Ash
18	Spine budworm, heavy defol.	Douglas-fir	66	Winter damage medium	All Tree Species	201	Diaback (cottonwood)	Cottonwood/Poplar
19	Douglas-fir bark beetle	Douglas-fir	67	Winter damage heavy	All Tree Species	202	Diaback (hardwood)	Hardwoods
20	Spine budworm, heavy defol.	Douglas-fir	68	Diploida	All Tree Species	204	Diaback (oak)	Oak
21	Pine looper	Ponderosa Pine	69	Prion bark stain	Common Pinyon	210	Mortality (old cottonwood)	Cottonwood/Poplar
22	Pine tortrix	Ponderosa Pine	70	Pine	All Tree Species	211	Mortality (eastern cedar)	Eastern Red Cedar
23	Leaf caterpillars	Hardwoods	71	Phorognie	Softwoods	212	Mortality (hardwood)	Hardwoods
24	Leaf beetles	Hardwoods	72	Windthrow	All Tree Species	213	Mortality (oak)	Oak
25	Pine needle-chestnut miner	Ponderosa Pine	73	High water damage	All Tree Species	214	Mortality (spruce)	Spruce
26	Pine sawflies	Ponderosa Pine	74	Avulsion	All Tree Species	215	Discoloration (ash)	Ash
27	Pine sawflies	Ponderosa Pine	75	Aspen decline-multiple agents)	Quaking Aspen	221	Discoloration (conifer)	Softwoods
28	Pine sawflies	Ponderosa Pine	76	Prion mortality	Common Pinyon	222	Discoloration (hardwood)	Hardwoods
29	Carabid weevils	Hardwoods	77	Prion mortality (unknown agents)	Juniper	223	Discoloration (eastern cedar)	Eastern Red Cedar
30	Variable oak leaf caterpillar	Hardwoods	78	Gambel oak decline-unknown agents)	Gambel Oak	224	Discoloration (hardwood)	Hardwoods
31	Unidentified defolator	All Tree Species	79	Limb pine decline-multiple agents)	Limb Pine	225	Discoloration (oak)	Oak
32	Amelara catyana (Amelara melica)	Softwoods	80	Hail damage	All Tree Species	226	Discoloration (spruce)	Spruce
33	Poppyus schwartzii	Softwoods	81	Unknown polygon	Unknown	230	Harbicide (cottonwood)	Cottonwood/Poplar
34	Poppyus schwartzii	Softwoods	82	Unknown polygon	Unknown	231	Harbicide (eastern cedar)	Eastern Red Cedar
35	Poppyus schwartzii	Softwoods	83	Unknown polygon	Unknown	232	Discoloration (hardwood)	Hardwoods
36	Poppyus schwartzii	Softwoods	84	Unknown polygon	Unknown	233	Unidentified defolator (elm)	Elm
37	Poppyus schwartzii	Softwoods	85	Unknown polygon	Unknown	234	Unidentified defolator (hardwood)	Hardwoods
38	Poppyus schwartzii	Softwoods	86	Unknown polygon	Unknown	235	Mortality (pine)	Pine
39	Poppyus schwartzii	Softwoods	87	Unknown polygon	Unknown			
40	Poppyus schwartzii	Softwoods	88	Unknown polygon	Unknown			
41	Poppyus schwartzii	Softwoods	89	Unknown polygon	Unknown			
42	Poppyus schwartzii	Softwoods	90	Unknown polygon	Unknown			
43	Poppyus schwartzii	Softwoods	91	Unknown polygon	Unknown			
44	Poppyus schwartzii	Softwoods	92	Unknown polygon	Unknown			
45	Poppyus schwartzii	Softwoods	93	Unknown polygon	Unknown			
46	Poppyus schwartzii	Softwoods	94	Unknown polygon	Unknown			
47	Poppyus schwartzii	Softwoods	95	Unknown polygon	Unknown			
48	Poppyus schwartzii	Softwoods	96	Unknown polygon	Unknown			

## 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 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/aerialsurveys/>

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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 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 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.