

2006 Aerial Insect and Disease Survey Rock River, Wyoming USGS 100K TOPO! 41105-E1

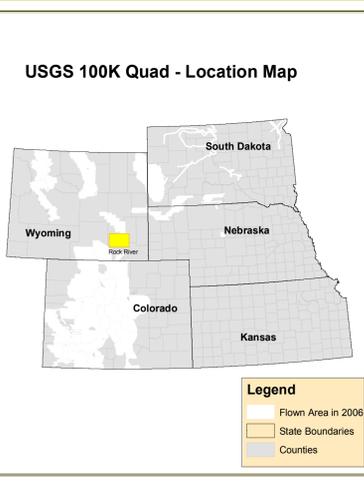


1:100,000

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 "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 // 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	40	Arquitia	Lodgepole Pine	105	Top Insect Haggling	Cottonwood/Poplar
2	Englemann Spruce Beetle	Englemann Spruce	50	White pine blister rust	5-Needle Pine	107	fall webworm	Cottonwood/Poplar
3	Mountain pine beetle	Ponderosa Pine	51	Dwarf mistletoe	Softwoods	108	road salt	Softwoods
4	Mountain pine beetle	Lodgepole Pine	52	Elytromedea	Ponderosa Pine	109	pineewood nematode	Softwoods
5	Mountain pine beetle	5-Needle Pine	53	Includes #05, 06 & 06	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	White Fir	White Fir	55	Chemical damage	All Tree Species	112	spruce Ips	White Spruce
8	Douglas-fir engraver beetle	Douglas-fir	56	Lophodermium praeusta	Softwoods	113	leaf-miner chestnut borer	Oak
9	White Fir	White Fir	57	Rhabdoline pseudotsugae	Douglas-fir	114	anthracnose like foliar disease	Bur Oak
10	Douglas-fir engraver beetle	Douglas-fir	58	Lophodermium araucariae	Softwoods	115	Diaback	All Tree Species
11	Western balsam bark beetle	Subalpine Fir	59	Lecanostoma acicola	Softwoods	116	Mortality	All Tree Species
12	Unidentified bark beetle	Lodgepole Pine	60	Lophodermium concolor	Softwoods	117	Discoloration	All Tree Species
13	Pine engraver	Lodgepole Pine	61	Cochranella sp.	Softwoods	118	Hartbeise	All Tree Species
14	Pine engraver	Ponderosa Pine	62	Neelce cast (hypodemateaceae)	Softwoods	119	Flagging	All Tree Species
15	Ponderosa pine needle miner	Lodgepole Pine	63	Flood Rot	All Tree Species	120	aspen tortrix	Quaking Aspen
16	Lodgepole pine needle miner	Lodgepole Pine	64	Unidentified disease	Softwoods	121	Marsipposia Bright	Quaking Aspen
17	Jack pine budworm	Jack Pine	65	Winter damage light	All Tree Species	200	Diaback (ash)	Ash
18	Spruce budworm, light defol.	Douglas-fir	66	Unidentified disease	All Tree Species	201	Diaback (cottonwood)	Cottonwood/Poplar
19	Spruce budworm, medium defol.	Douglas-fir	67	Winter damage medium	All Tree Species	202	Diaback (hardwood)	Hardwoods
20	Spruce budworm, heavy defol.	Douglas-fir	68	Winter damage heavy	All Tree Species	203	Diaback (oak)	Oak
21	Douglas-fir tussock moth	Douglas-fir	69	Winter black stain	All Tree Species	204	Mortality (old cottonwood)	Cottonwood/Poplar
22	Pine butterfly	Ponderosa Pine	70	Fire	All Tree Species	211	Mortality (eastern cedar)	Eastern Red Cedar
23	Pine looper	Ponderosa Pine	71	Pineup	Softwoods	212	Mortality (spruce)	Spruce
24	Pine tortrix	Softwoods	72	Windthrow	All Tree Species	213	Mortality (oak)	Oak
25	Leaf caterpillars	Hardwoods	73	High water damage	All Tree Species	214	Mortality (spruce)	Spruce
26	Leaf beetles	Hardwoods	74	Avalanche	All Tree Species	220	Discoloration (ash)	Ash
27	Oak leaf roller	Hardwoods	75	Aspen decline-multiple agent(s)	Quaking Aspen	221	Discoloration (cottonwood)	Softwoods
28	Pine needle-shaft miner	Ponderosa Pine	76	Pinon pine mortality	Common Pinyon	222	Discoloration (eastern cedar)	Eastern Red Cedar
29	Pine sawflies	Ponderosa Pine	77	Juniper mortality-unknown agent(s)	Juniper	223	Discoloration (oak)	Oak
30	Variable oak leaf caterpillar	Hardwoods	78	Chimble oak decline-unknown agent(s)	Chimble Oak	224	Discoloration (spruce)	Spruce
31	Unidentified defoliator	All Tree Species	79	Limber pine decline-multiple agent(s)	Limber Pine	225	Discoloration (oak)	Oak
32	Unidentified defoliator	Softwoods	80	Hail damage	All Tree Species	226	Discoloration (spruce)	Spruce
33	Unidentified defoliator	Softwoods	81	Unknown polygon	Softwoods	227	Discoloration (cottonwood)	Cottonwood/Poplar
34	Harlequinian arizonum (Fomes arizonae)	Softwoods	82	old pinon mortality	Common Pinyon	231	Harlequin (eastern cedar)	Eastern Red Cedar
35	Amelara caryocarpae (Amelara meliae)	Softwoods	83	road salt top	Lodgepole Pine	240	Flagging (hardwood)	Hardwoods
36	Polygonus schweinfeltii	Softwoods	100	dutch elm disease	Elm	250	Unidentified defoliator (cottonwood)	Cottonwood/Poplar
37	Phomopsis	Softwoods	101	dogwood blight	Ponderosa Pine	251	Unidentified defoliator (elm)	Elm
38	Cylindropuntia	All Tree Species	102	nutch elm disease	Elm	252	Unidentified defoliator (hardwood)	Hardwoods
39	Western gill rust	Unknown	104	Ips humiferi	Spruce, White Spruce	300	Mortality (pine)	Pine
40	Comandra rust	Unknown	105	drought killed narrow leaf cottonwood	Narrowleaf Cottonwood			
41	Shalactiforme rust	Lodgepole Pine						



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.

Area surveyed by Al Dymerski & Brian Howell 07/25/2006
Map Created: 12/20/2006
Projection: UTM NAD83 Zone 13
Author: J. Ross, USDA Forest Service

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

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.

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/>