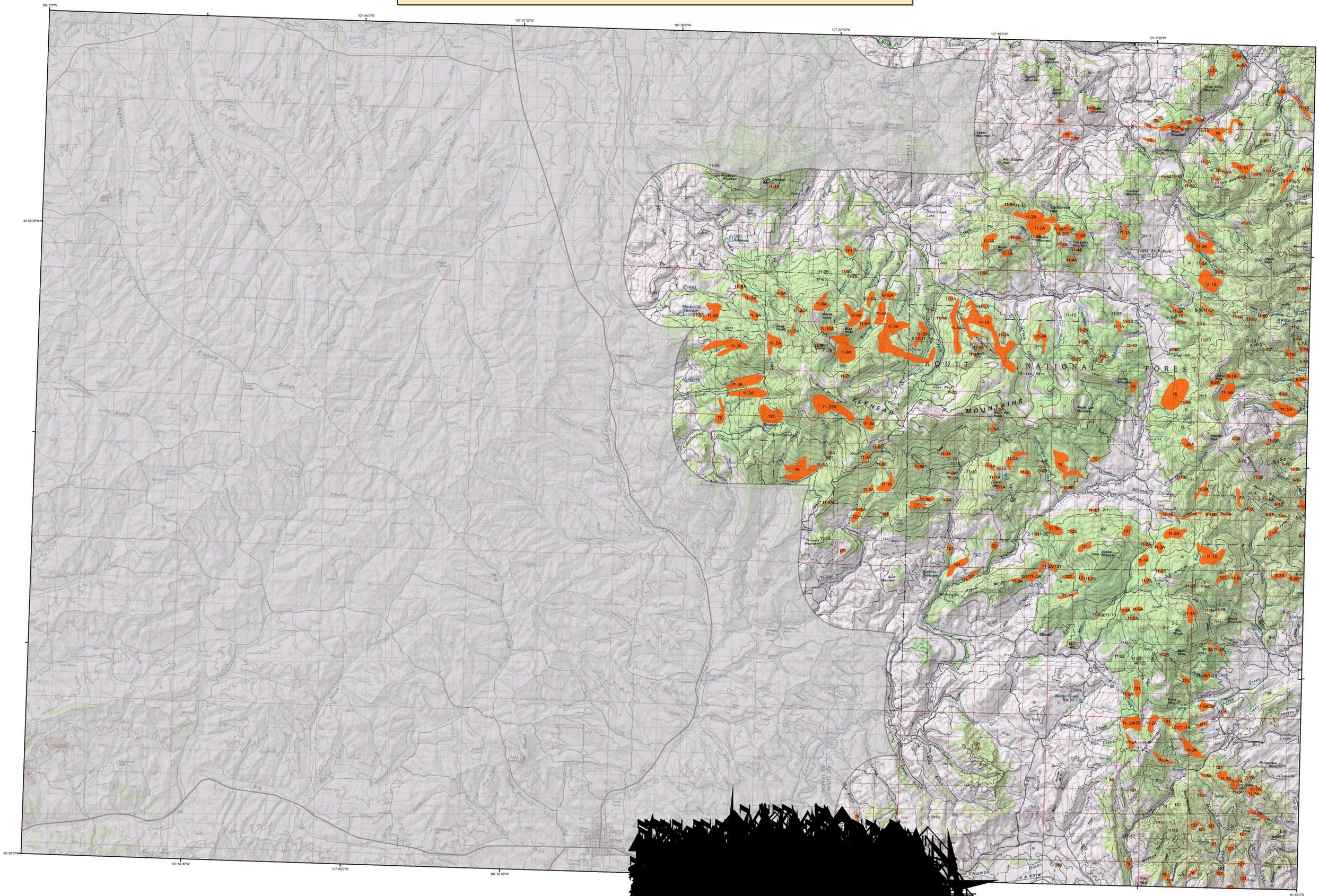


# 2005 Aerial Insect and Disease Survey Craig, Colorado USGS 100K DRG: 40107-E1



## Legend

**Causal Agent(s)** **Not Flown in 2005**

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), 2 (moderate), and 3 (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 "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 estimation of the number of dead "ladder" 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 "ladder" tree. In another example: 5-3A = that on the average, an estimated three trees per acre are dead "ladder" 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	Anoplia	Lodgepole Pine	102	fox skinned flagging	Cottonwood/Poplar
2	Engelmann Spruce Beetle	Engelmann Spruce	41	White pine blister rust	5-Needle Pine	107	fall webworm	Cottonwood/Poplar
3	Mountain pine beetle	Ponderosa Pine	51	Deaf mistletoe	Softwoods	108	road salt	Softwoods
4	Mountain pine beetle	Lodgepole Pine	52	Elytrodema	Ponderosa Pine	109	pinewood nematode	Scotch Pine
5	Mountain pine beetle	5-Needle Pine	53	Inclusus #05, 06 & 08	All Tree Species	110	oak wilt	Oak
6	Western pine beetle	Ponderosa Pine	54	Az. pollinaria	All Tree Species	111	sludge disease	All Tree Species
7	Fir Engriaver	White Fir	55	Chemical damage	All Tree Species	112	spuce ips	White Spruce
8	Douglas fir engraver beetle	Douglas fir	56	Lophodermium pinastri	Softwoods	113	bedford chestnut borer	Oak
9	Western balsam bark beetle	Subalpine Fir	57	Rhabdocline pseudotsugae	Douglas fir	114	anthracnose like foliar disease	Bur Oak
10	Unidentified bark beetle	Softwoods	58	Lophodermium arcauata	Softwoods	115	Diaback	All Tree Species
11	Pine engraver	Lodgepole Pine	59	Lophodermium concolor	Softwoods	116	Mortality	All Tree Species
12	Pine engraver	Ponderosa Pine	60	Lophodermium concolor	Softwoods	117	Discoloration	All Tree Species
13	Pine engraver	Lodgepole Pine	61	Dactylopusia om.	Softwoods	118	Herbicide	All Tree Species
14	Ponderosa pine needle miner	Ponderosa Pine	62	Needle cast (Hypodermataceae)	Softwoods	119	Flagging	All Tree Species
15	Lodgepole pine needle miner	Lodgepole Pine	63	Root Rot	All Tree Species	120	aspen tortix	Quaking Aspen
16	Jack pine budworm	Jack Pine	64	Unidentified disease	Softwoods	121	Marsdenia Blight	Quaking Aspen
17	Spruce budworm, light defol.	Douglas fir	65	Winter damage light	All Tree Species	200	Diaback (ash)	Ash
18	Spruce budworm, medium defol.	Douglas fir	66	Winter damage medium	All Tree Species	201	Diaback (cottonwood)	Cottonwood/Poplar
19	Spruce budworm, heavy defol.	Douglas fir	67	Winter damage heavy	All Tree Species	202	Diaback (hardwood)	Hardwoods
20	Douglas fir tussock moth	Douglas fir	68	Winter black stain	Common Pinyon	204	Diaback (oak)	Oak
21	Pine butterfly	Ponderosa Pine	69	Pinyon black stain	Common Pinyon	210	Mortality (old cottonwood)	Cottonwood/Poplar
22	Pine looper	Ponderosa Pine	70	Pine	All Tree Species	211	Mortality (eastern cedar)	Eastern Red Cedar
23	Pine tortix	Hardwoods	71	Fire	Softwoods	212	Mortality (hardwood)	Hardwoods
24	Tent caterpillars	Hardwoods	72	Windthrow	All Tree Species	213	Mortality (oak)	Oak
25	Leaf beetles	Hardwoods	73	High water damage	All Tree Species	214	Mortality (spruce)	Spruce
26	Oak leaf roller	Hardwoods	74	Avulsion	All Tree Species	220	Discoloration (ash)	Ash
27	Pine needle sheath miner	Ponderosa Pine	75	Aspen decline-multiple agents)	Common Pinyon	221	Discoloration (cedar)	Softwoods
28	Jack pine tussock moth	Ponderosa Pine	76	Pinyon pine mortality	Common Pinyon	222	Discoloration (cottonwood)	Cottonwood/Poplar
29	Cankerworms	Hardwoods	77	Juniper mortality-unknown agents)	Juniper	223	Discoloration (eastern cedar)	Eastern Red Cedar
30	Variable oak leaf caterpillar	Hardwoods	78	Quamb oak decline-unknown agents)	Gambel Oak	224	Discoloration (hardwood)	Hardwoods
31	Unidentified defoliator	All Tree Species	79	Limber pine decline-multiple agents)	Limber Pine	225	Discoloration (oak)	Oak
32	Heterostichus annosus (Fomes annosus)	Softwoods	80	Hail damage	All Tree Species	226	Discoloration (spruce)	Spruce
33	Armillaria ostoyae (Armillaria mellea)	Softwoods	81	Unknown polygon	Unknown	230	Herbicide (cottonwood)	Cottonwood/Poplar
34	Polyponus schweitzeri	Softwoods	100	old pinon mortality	Common Pinyon	231	Herbicide (eastern cedar)	Eastern Red Cedar
35	Phomopsis	Softwoods	101	road salt tip	Lodgepole Pine	240	Flagging (hardwood)	Hardwoods
36	Cytospora	All Tree Species	102	duch elm disease	Elm	250	Unidentified defoliator (cottonwood)	Cottonwood/Poplar
37	Western gall rust	Unknown	103	girdler blight	Ponderosa Pine	251	Unidentified defoliator (spruce)	Spruce
38	Chondria rust	Unknown	104	ips hunter	Spruce, White Spruce	252	Unidentified defoliator (hardwood)	Hardwoods
39	Stemcane rust	Lodgepole Pine	105	straght killed narrow leaf cottonwood	Narrowleaf Cottonwood	300	Mortality (pine)	Pine

## USGS 100K Quad - Location Map



**Legend**

- Flown Area in 2005
- State Boundaries
- Counties

## DIRECT ALL INQUIRIES TO:

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 Colorado State University  
 Fort Collins, Colorado 80523

USDA Forest Service, Region 2  
 Renewable Resources  
 Forest Health Management  
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\*\*\*\*\*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 operators 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/r2resources/fhm/aerialsurvey/>

Area surveyed by Erik Johnson & Bob Cain  
 7/25 - 7/29 2005  
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