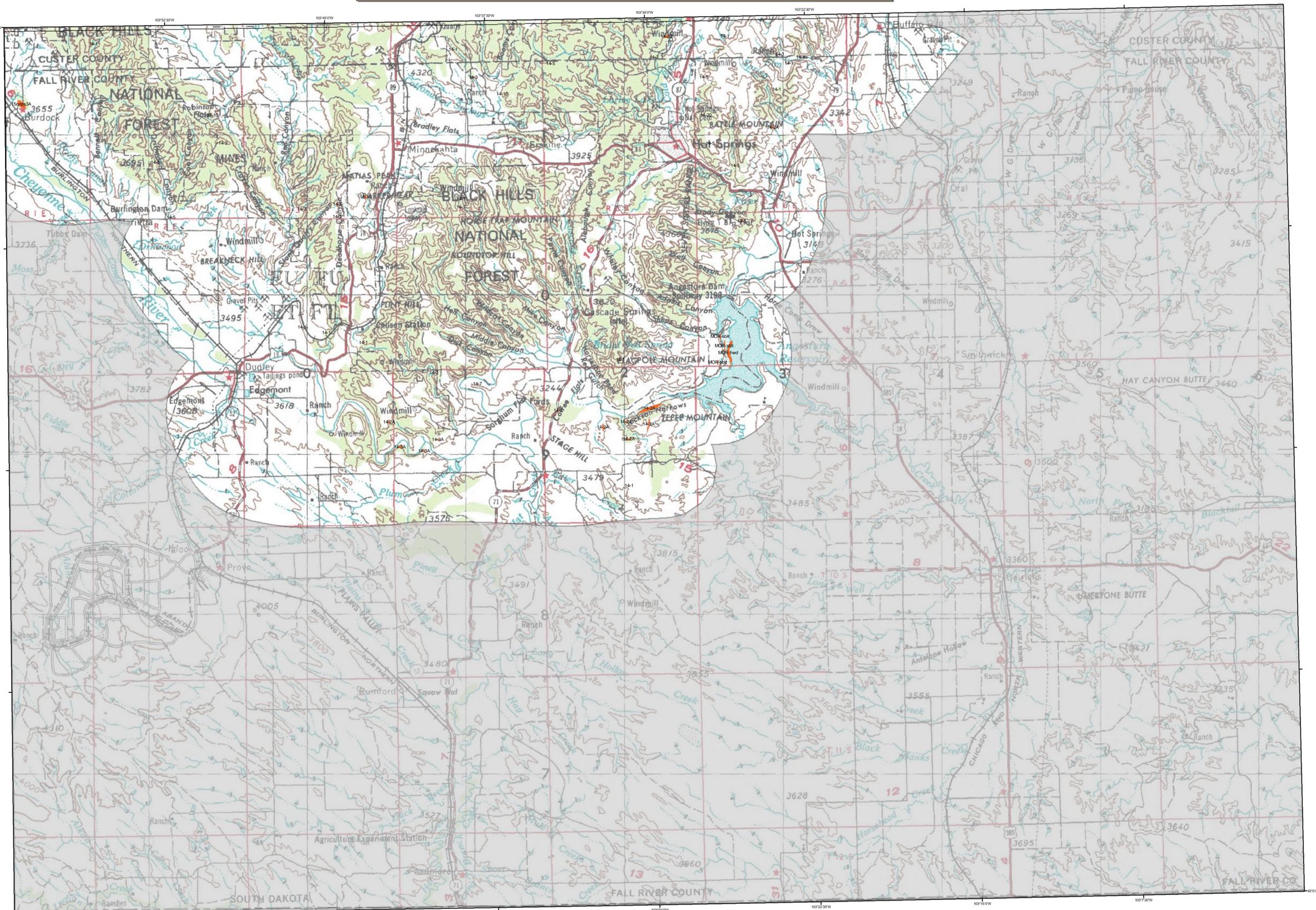


**\*\*DRAFT\*\***

# 2008 Aerial Insect and Disease Survey Hot Springs, South Dakota USGS 100K DRG: 43103-A1

**\*\*DRAFT\*\***



**1:100,000**

**Legend**      Causal Agent(s)      Not Flown

Use of the Number System  
Example: 5-28 = 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 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 "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 estimate of the number of dead "fader" 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 "fader" tree. In another example: 5-3A = that on the average, an estimated three trees per acre are dead "fader" trees. A "V" 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
1	Douglas-fir beetle	Douglas-fir	49	Atropis	Lodgepole Pine
2	Engelmann spruce beetle	Engelmann Spruce	50	White pine blister rust	Sitka Spruce
3	Mountain pine beetle	Ponderosa Pine	51	Dwarf mistletoe	Softwoods
4	Mountain pine beetle	Lodgepole Pine	52	Elyrodia	Ponderosa Pine
5	Mountain pine beetle	Sitka Spruce	53	Incidia W&S 5A & 6B	All Tree Species
6	Western pine beetle	Ponderosa Pine	54	Air pollutants	All Tree Species
7	Fire engraver	White Fir	55	Chemical damage	Softwoods
8	Douglas-fir engraver beetle	Douglas-fir	56	Loophole damage	Softwoods
9	Western balsam bark beetle	Subalpine Fir	57	Rhabdoline pseudotugae	Douglas-fir
10	Unidentified bark beetle	Softwoods	58	Loophole damage	Softwoods
11	Pine engraver	Lodgepole Pine	59	Leucostoma acicola	Softwoods
12	Pine engraver	Ponderosa Pine	60	Loophole damage	Softwoods
13	Pine engraver	Lodgepole Pine	61	Dichotoma pini	Softwoods
14	Ponderosa pine needle miner	Ponderosa Pine	62	Needle cast (Hypodematiaceae)	Softwoods
15	Lodgepole pine needle miner	Lodgepole Pine	63	Root Rot	All Tree Species
16	Jack pine budworm	Jack Pine	64	Unidentified disease	Softwoods
17	Spruce budworm, light defol.	Douglas-fir	65	Winter damage light	All Tree Species
18	Spruce budworm, medium defol.	Douglas-fir	66	Winter damage medium	All Tree Species
19	Spruce budworm, heavy defol.	Douglas-fir	67	Winter damage heavy	All Tree Species
20	Douglas-fir tussock moth	Ponderosa Pine	68	Diplolepis	Softwoods
21	Pine butterfly	Ponderosa Pine	69	Pinus bark stain	Common Pinus
22	Pine looper	Ponderosa Pine	70	Fire	All Tree Species
23	Leaf miner	Hardwoods	71	Fire	Softwoods
24	Leaf miner	Hardwoods	72	Windthrow	All Tree Species
25	Oak leaf roller	Hardwoods	73	High water damage	All Tree Species
26	Pine needle-shaft miner	Ponderosa Pine	74	Avocado	All Tree Species
27	Pine sawfly	Ponderosa Pine	75	Aspen dieback (multiple agents)	Quaking Aspen
28	Pine sawfly	Ponderosa Pine	76	Pinus pine mortality	Common Pinus
29	Pine sawfly	Ponderosa Pine	77	Pinus mortality (unknown agents)	Common Pinus
30	Pine sawfly	Ponderosa Pine	78	Pinus mortality (unknown agents)	Common Pinus
31	Variable oak leaf caterpillar	Hardwoods	79	Gambel oak decline (unknown agents)	Gambel Oak
32	Unidentified defoliator	All Tree Species	80	Limber pine decline (multiple agents)	Limber Pine
33	Unidentified defoliator	Softwoods	81	Hail damage	All Tree Species
34	Unidentified defoliator	Softwoods	82	Unknown polygon	Unknown
35	Popillia knowltoni	Softwoods	83	Unknown polygon	Common Pinus
36	Phomopsis	Softwoods	84	Unknown polygon	Lodgepole Pine
37	Cytospora	All Tree Species	85	EB	EB
38	Western gall rust	Ponderosa Pine	86	EB	Ponderosa Pine
39	Comandra rust	Unknown	87	EB	Spruce, White Spruce
40	Shadblow rust	Lodgepole Pine	88	EB	Narrowleaf Cottonwood
41	EB	Softwoods	89	EB	Softwoods
42	EB	Softwoods	90	EB	Softwoods
43	EB	Softwoods	91	EB	Softwoods
44	EB	Softwoods	92	EB	Softwoods
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