

## **APPENDIX A**

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### **BLUE RIVER WATERSHED STAKEHOLDERS**

**Table A-1. Blue River Watershed Stakeholders List**

**Blue River Stakeholder List - January 25<sup>th</sup>, 2011**

Organization	Last	First	Phone	email
BLM	Paul	Doug	970.244.3106	<a href="mailto:Douglas_Paul@blm.gov">Douglas_Paul@blm.gov</a>
Blue River Watershed Group	McCold	Cora	970.485.5581	<a href="mailto:cora@blueriverwatershed.org">cora@blueriverwatershed.org</a>
Blue Valley Ranch	Kossler	John	970.724.3768	<a href="mailto:jkoss70@gmail.com">jkoss70@gmail.com</a>
Breckenridge Ski Resort	Sramik	Rick	970.453.3211	<a href="mailto:rsramek@vailresorts.com">rsramek@vailresorts.com</a>
City of Aurora	McHugh	Mike	303.739.7006	<a href="mailto:mmchugh@auroragov.org">mmchugh@auroragov.org</a>
Colorado Department of Health and Environment	Duggan	John	303.692.3534	<a href="mailto:john.duggan@state.co.us">john.duggan@state.co.us</a>
Colorado Division of Water Resources	Hummer	Scott	970.468.2442	<a href="mailto:Scott.Hummer@state.co.us">Scott.Hummer@state.co.us</a>
Colorado Environmental Coalition	Smith	Lisa	303.405.6707	<a href="mailto:lisa@cecenviro.org">lisa@cecenviro.org</a>
Colorado Environmental Coalition	Long	Becky	303.405.6714	<a href="mailto:becky@cecenviro.org">becky@cecenviro.org</a>
Colorado River Water Conservation District	Treese	Chris	(970) 945-8522	<a href="mailto:ctreese@crwcd.org">ctreese@crwcd.org</a>
Colorado River Water Conservation District	Eytel	Michael	970.945.8522	<a href="mailto:meytel@crwcd.org">meytel@crwcd.org</a>
Colorado Springs Utilities	Howell	Eric	719.668.4554	<a href="mailto:ehowell@csu.org">ehowell@csu.org</a>
Colorado State Forest Service	Cousineau	Ron	970.887.3121	<a href="mailto:roncous@lamar.colostate.edu">roncous@lamar.colostate.edu</a>
Colorado State Forest Service	Cada	Paul	970.887.3121	<a href="mailto:Paul.Cada@colostate.edu">Paul.Cada@colostate.edu</a>
Colorado State Senator	Gibbs	Dan	970.333.4707	<a href="mailto:sendangibbs@gmail.com">sendangibbs@gmail.com</a>
Colorado Timber Industry Association	Fishing	Nancy	(970) 209-1767	<a href="mailto:mqm@montrose.net">mqm@montrose.net</a>
Copper Mountain Resort	Hodson	Bruce	970.390.5196	<a href="mailto:hodsonb@coppercolorado.com">hodsonb@coppercolorado.com</a>
Denver Water	Kennedy	Don	303.628.6528	<a href="mailto:don.Kennedy@denverwater.org">don.Kennedy@denverwater.org</a>
Dillon Valley Water	Winston	Francis	970.921.3738	<a href="mailto:winstonwaterworks@msn.com">winstonwaterworks@msn.com</a>
East Dillon, Hamilton Creek and Mesa Cortina Metro Dist.	Polich	Bob	970.453.4600	<a href="mailto:admin@eastdillon.com">admin@eastdillon.com</a>
Everist Materials/Maryland Creek Ranch	Everist	Steve	734.645.5549	<a href="mailto:steverist@mac.com">steverist@mac.com</a>
Forest Health Task Force	Briggs	Sandy	970.389.0987	<a href="mailto:ForestHealthTF@aol.com">ForestHealthTF@aol.com</a>
Forest Restoration Solutions	Dennis	Chuck	303.659.4381	<a href="mailto:cdennis@lamar.colostate.edu">cdennis@lamar.colostate.edu</a>
Friends of the Lower Blue River	Richardson	Marty		<a href="mailto:friendsofthelowerblueriver@gmail.com">friendsofthelowerblueriver@gmail.com</a>
Greenlands Reserve	Hallman	Howard	970.468.9134	<a href="mailto:future1946@yahoo.com">future1946@yahoo.com</a>
Intrawest Colorado	Baum	Bill	970.726.9806	<a href="mailto:bbaum@skiwinterpark.com">bbaum@skiwinterpark.com</a>
Keystone Science School	Miller	Dave	970.455.4229	<a href="mailto:dmliller@keystone.org">dmliller@keystone.org</a>
Middle Park Conservation District	Koblitz	Bonnie	970-724-3456	<a href="mailto:bonnie.koblitz@co.nacdnet.net">bonnie.koblitz@co.nacdnet.net</a>
Northwest Council of Governments	Koenig	Shanna	970.468.0295 ext117	<a href="mailto:QQWater@colorado.net">QQWater@colorado.net</a>
Pebble Creek Ranch/Friends of the Lower Blue River	Kirk	Sam	970-468-2649	<a href="mailto:samkirk@wildblue.net">samkirk@wildblue.net</a>
Representative Polis CO-2	Erickson	Nissa	970.409.7301	<a href="mailto:Nissa.Erickson@mail.house.gov">Nissa.Erickson@mail.house.gov</a>
Summit County	Huron	Beth	970.668.3595	<a href="mailto:bethh@co.summit.co.us">bethh@co.summit.co.us</a>
Summit County Commissioner	French	Bob	970.453.3411	<a href="mailto:bofb@co.summit.co.us">bofb@co.summit.co.us</a>
Summit County Commissioner	Stiegelmeier	Karn	970.468.9013	<a href="mailto:karns@co.summit.co.us">karns@co.summit.co.us</a>
Summit County Wildfire Council & Willow Brook Metro District	Tormey	Pat	970.389.0390	<a href="mailto:pbormey@gmail.com">pbormey@gmail.com</a>

Organization	Last	First	Phone	email
Summit Daily	Berwyn	Bob	970.331.5996	<a href="mailto:bberwyn@comcast.net">bberwyn@comcast.net</a>
Summit Daily	Kurbjun	Janice	970.668.4630	<a href="mailto:jkurbjun@summitdaily.com">jkurbjun@summitdaily.com</a>
Ten Mile Planning Commissioner	Dziomba	Richard	(303)912-1921	<a href="mailto:rdziomba@qwest.net">rdziomba@qwest.net</a>
Town of Breckenridge	Grosshuesch	Peter	970.453.3162	<a href="mailto:peterg@townofbreckenridge.com">peterg@townofbreckenridge.com</a>
Town of Breckenridge	Daugherty	Tom	970.453.3175	<a href="mailto:tomd@townofbreckenridge.com">tomd@townofbreckenridge.com</a>
Town of Dillon	Parsons	Don	970.406.1341	<a href="mailto:parsondo@hotmail.com">parsondo@hotmail.com</a>
Town of Dillon	Holgerson	Eric	970.262.3408	<a href="mailto:erich@townofdillon.com">erich@townofdillon.com</a>
Town of Dillon	Granbery	Devin	970.262.3402	<a href="mailto:deving@townofdillon.com">deving@townofdillon.com</a>
Town of Dillon	Giles	Trevor	970.418.0536	<a href="mailto:trevorg@townofdillon.com">trevorg@townofdillon.com</a>
Town of Frisco	Penny	Michael	970.668.5276 x3033	<a href="mailto:michaelp@townoffrisco.com">michaelp@townoffrisco.com</a>
Town of Frisco	Davies	Eileen	970.389.2073	<a href="mailto:egdavies@q.com">egdavies@q.com</a>
Town of Silverthorne	Margolis	Zach	970.262.7344	<a href="mailto:zachm@silverthorne.org">zachm@silverthorne.org</a>
Town of Silverthorne	Batchelder	Kevin	970.262.7305	<a href="mailto:kbatch@silverthorne.org">kbatch@silverthorne.org</a>
Trout Unlimited	Barclay	Sarah	970.401.4697	<a href="mailto:skilikeagirl61@yahoo.com">skilikeagirl61@yahoo.com</a>
Trout Unlimited	Nickum	David	(303) 440-2937	<a href="mailto:DNickum@tu.org">DNickum@tu.org</a>
Trout Unlimited	Russell	Elizabeth	303.440.2937	<a href="mailto:ERussell@tu.org">ERussell@tu.org</a>
US Fish and Wildlife Service	Ellwood	Leslie	303.275.2383	<a href="mailto:eslie_ellwood@fws.gov">eslie_ellwood@fws.gov</a>
US Forest Service	Crary	Brett	970.827.5182	<a href="mailto:bcrary@fs.fed.us">bcrary@fs.fed.us</a>
US Forest Service	Cutts	Jan	970.262.3451	<a href="mailto:jcutts@fs.fed.us">jcutts@fs.fed.us</a>
US Forest Service	Wilmore	Ross	970.328.6388	<a href="mailto:rwilmore@fs.fed.us">rwilmore@fs.fed.us</a>
US Forest Service	Green	Cary	970.827.5160	<a href="mailto:cgreen@fs.fed.us">cgreen@fs.fed.us</a>
Wilderness Workshop	Shoemaker	Sloan		<a href="mailto:sloan@wildernessworkshop.org">sloan@wildernessworkshop.org</a>
	Taylor	John		<a href="mailto:john.taylor1712@comcast.net">john.taylor1712@comcast.net</a>
	Eiler	Dylan		<a href="mailto:dylaneiler@gmail.com">dylaneiler@gmail.com</a>
	Balch	Eddy	970.641.3936	<a href="mailto:eddy.balch@gmail.com">eddy.balch@gmail.com</a>

## **APPENDIX B**

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### **BLUE RIVER WILDFIRE HAZARD MODELING METHODOLOGY**

The forest conditions that are of concern for the assessments are the wildfire hazard based on existing forest conditions. The wildfire hazard (Flame Length) was determined using the Fire Behavior Assessment Tool (FBAT) (<http://www.fire.org>) which is an interface between ArcMap and FlamMap. The input spatial data were collected from LANDFIRE project (<http://www.landfire.gov/>).

After a mountain pine beetle outbreak there are substantial increases in the amount of fine dead fuels in the canopy. The majority of these fuels remain in the canopy for 2-3 years post outbreak (Knight 1987, Schmid and Amman 1992). Therefore, certain input spatial data sets were updated reflecting Mountain Pine Beetle (MPB) mortality conditions using USDA Forest Service, Rocky Mountain Region Aerial Detection Survey (ADS) Data from the years 2002 - 2007 (<http://www.fs.fed.us/r2/resources/fhm/aerialsurvey/>). The following modeling settings and spatial data modification were used:

## **Modeling Setting**

1. Scott and Burgan (2005) Fire Behavior Model (Fuel Moisture is shown in Table A-1)
2. Uphill wind direction
3. Scott & Reinhardt (2001) crown fire calculation
4. Foliar Moisture at 100%

## **Spatial Data Modifications**

1. Canopy Cover was assigned a value of 10% when coincident with MPB mortality from ADS for years 2002-2007.
2. Canopy Base Height (CBH) was reduced by 25% for MPB mortality derived from ADS for the years 2002-2006.
3. CBH was reassigned a value of 0 for MPB mortality from ADS for the year 2007.
4. Canopy Bulk Density (CBD) was reduced by 50% for MPB mortality derived from ADS for the years 2002-2006

**Table B-1. Fuel Moisture (percent) used in FBAT Model Runs**

Scott and Burgan (2005) fuel model	1-Hour Fuel	10-Hour Fuel	100-Hour Fuel	Live Herbaceous	Live Woody
1	4	5	8	200	95
2	4	5	8	150	95
3	4	5	8	85	95
4	4	5	8	85	95
5	4	5	8	85	150
6	4	5	8	85	95
7	4	5	8	85	95
8	4	5	8	85	95
9	4	5	8	85	95
10	4	5	8	85	95
11	4	5	8	85	95
12	4	5	8	85	95
13	4	5	8	85	95
14	3	4	8	85	95
15	3	4	8	85	95
16	3	4	8	85	95
17	3	4	8	85	95
18	3	4	8	85	95
19	3	4	8	85	95
20	3	4	8	85	95
21	3	4	8	85	95
22	3	4	8	85	95
23	3	4	8	85	95
24	3	4	8	85	95
25	3	4	8	85	95
26	3	4	8	85	95
27	3	4	8	85	95
28	3	4	8	85	95
29	3	4	8	85	95
30	3	4	8	85	95
31	3	4	8	85	95
32	3	4	8	85	95
33	3	4	8	85	95
34	3	4	8	85	95
35	3	4	8	85	95
36	3	4	8	85	95
37	3	4	8	85	95
38	3	4	8	85	95
39	3	4	8	85	95
40	3	4	8	85	95
41	3	4	8	85	95
42	3	4	8	85	95
43	3	4	8	85	95
44	3	4	8	85	95
45	3	4	8	85	95
46	3	4	8	85	95
47	3	4	8	85	95
48	3	4	8	85	95
49	3	4	8	85	95
50	3	4	8	85	95

## Weather Data

The weather data used comes from the Colorado Wildfire Risk Assessment Statewide (CRA) dataset prepared by Sandborn under contract to the Colorado State Forest Service. For the Colorado Fire Risk Assessment nine weather influence zones (WIZ) were developed for analysis purposes. A WIZ is an area where for analysis purposes the weather on any given day is uniform. Within each WIZ, daily weather data was gathered for the years 1980-2006. Where not available, the weather data was gathered from the earliest year through 2006. Several weather stations were analyzed within each WIZ. From this analysis, one representative weather station was selected for each WIZ. From this data set, percentile weather was developed for each WIZ using the Fire Family Plus software package.

For this watershed assessment the percentile weather for WIZ CO 02 (Dowd 1986-2006) was used for all watersheds on the west side of the continental divide and WIZ CO 03 (Coral Creek 1980-2006) was used for all watersheds on the east side of the continental divide. The 20-foot wind speeds for the “High” case was used in the modeling runs (Table B-2).

In addition the wind direction was assumed to be uphill (parallel with slope) in all instances. This setting encourages crown fire initiation and establishes a common baseline for the evaluation of areas within the landscape based upon the fuels hazard represented by vegetation conditions.

**Table B-2. Wind Speed (Miles per Hour) used in FBAT Model Runs**

Watershed Name	Wind Speed (mph)	Probable Momentary Gust Speed (mph)
North Platte	15	29
Upper North Platte	15	29
Crow/Medicine Bow/Upper Laramie/Upper Lodgepole	12	25
Clear/Bear Creek	12	25
Big Thompson	12	25
Cache la Poudre	12	25
Blue River	15	29
Eagle River	15	29
Upper Yampa	15	29
Little Snake	15	29
Upper White	15	29
Lower Colorado	15	29
Upper Colorado	15	29
Saint Vrain	12	25
Roaring Fork	15	29

## **Categorization of Results**

The FBAT model results were divided into five categories of flame length. These values range from lowest (Category 0) to highest (Category 4) based upon flame length. The flame length categories that were used are:

Flame Length Category 0 - 0 meters

Flame Length Category 1 - 1 to 10 meters

Flame Length Category 2 - 11 to 25 meters

Flame Length Category 3 - 26 to 40 meters

Flame Length Category 4 - >40 meters



## APPENDIX C

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### DETAILED BLUE RIVER WILDFIRE/WATERSHED ASSESSMENT RESULTS

**Table C-1. Blue River Watershed Wildfire Hazard Ranking**

Sixth-level Watershed Name	Watershed Area (acres)	Wildfire Hazard Calculation	Wildfire Hazard Rank
Elliott Creek	9,610	66.7%	5.5
Swan River	24,059	66.3%	5.5
Gold Hill-Blue River	10,424	61.1%	5.0
Lower Tenmile Creek	15,655	59.0%	4.8
Willow Creek	14,723	46.2%	4.8
Keystone Gulch-Snake River	12,841	58.0%	4.8
French Gulch-Blue River	17,341	51.0%	4.2
Dillon Reservoir	25,623	48.2%	3.9
West Tenmile Creek	17,538	47.3%	3.9
Straight Creek	20,818	46.2%	3.8
Pioneer Creek	6,651	43.3%	3.5
Rock Creek-Boulder Creek	23,347	43.3%	3.5
Middle Tenmile Creek	10,413	42.9%	3.5
Headwaters Blue River	27,034	42.2%	3.4
Black Creek-Cataract Creek	39,423	31.1%	2.5
Horse Creek	14,983	31.1%	2.5
Deep Creek	19,142	30.8%	2.5
King Creek	8,937	30.8%	2.5
Pass Creek-Acorn Creek	19,242	30.4%	2.5
Slate Creek	19,756	30.4%	2.5
North Fork Snake River	10,232	30.3%	2.4
Peru Creek-Snake River	26,667	26.7%	2.1
Upper Tenmile Creek	15,804	13.8%	1.1
Lower Elliot Creek	12,372	7.2%	0.5

**Table C-2. Blue River Watershed Ruggedness Ranking<sup>1, 2</sup>**

Sixth-level Watershed Name	Maximum Elevation	Minimum Elevation	Difference Elevation	Ruggedness	Ruggedness Rank
Pioneer Creek	12,339	8,403	3,936	0.2312	5.5
North Fork Snake River	13,314	9,334	3,980	0.2309	5.5
Headwaters Blue River	14,261	9,887	4,374	0.2208	5.0
Rock Creek-Boulder Creek	13,330	8,393	4,938	0.2190	5.0
French Gulch-Blue River	13,677	9,463	4,214	0.2168	4.9
Slate Creek	13,191	7,998	5,193	0.2168	4.9
Black Creek-Cataract Creek	13,555	7,943	5,612	0.2141	4.8
Elliott Creek	11,948	7,687	4,261	0.2082	4.5
Pass Creek-Acorn Creek	12,234	8,000	4,234	0.2068	4.4
Peru Creek-Snake River	14,249	9,337	4,912	0.2038	4.3
Deep Creek	11,476	7,462	4,014	0.1966	4.0
Middle Tenmile Creek	13,852	9,687	4,166	0.1956	3.9
Straight Creek	12,984	8,589	4,395	0.1931	3.8
Upper Tenmile Creek	13,901	10,331	3,570	0.1924	3.8
Keystone Gulch-Snake River	12,420	9,031	3,389	0.1896	3.7
Willow Creek	13,314	8,591	4,723	0.1865	3.5
Lower Tenmile Creek	12,907	9,035	3,871	0.1816	3.3
Swan River	13,301	9,155	4,146	0.1811	3.3
West Tenmile Creek	13,188	9,684	3,504	0.1793	3.2
Gold Hill-Blue River	12,842	9,023	3,819	0.1792	3.2
Horse Creek	11,611	7,943	3,667	0.1758	3.1
King Creek	10,889	7,467	3,422	0.1734	3.0
Lower Elliot Creek	10,131	7,333	2,797	0.1205	0.7
Dillon Reservoir	12,905	9,008	3,897	0.1166	0.5

<sup>1</sup> Ruggedness is based on Melton (1957)

<sup>2</sup> These watersheds were manually adjusted because they do not accurately reflect the ruggedness in those watersheds. The original values were; Headwaters Blue River (0.1275), French Gulch-Blue River (0.1533), Swan River 0.1281), North Fork Snake River 0.1885), Peru Creek-Snake River (0.1441), Keystone Gulch-Snake River (0.1433), Upper Tenmile Creek (0.1361), West Tenmile Creek (0.1268), Lower Tenmile Creek (0.1483), Straight Creek (0.1459), Rock Creek-Boulder Creek (0.1548), Pass Creek-Acorn Creek (0.1462), Slate Creek (0.1770), Black Creek-Cataract Creek (0.1354), Horse Creek (0.1435), and Deep Creek (0.1390).

**Table C-3. Blue River Watershed Road Density Ranking<sup>3</sup>**

Sixth-level Watershed Name	Roads (miles)	Roads Adjusted (miles)	Watershed Area (sq. mi.)	Road density (miles per sq. mi.)	Road Density Rank
French Gulch-Blue River	178.3	89.1	27.09	3.29	5.5
Gold Hill-Blue River	53.6	53.6	16.29	3.29	5.5
Willow Creek	70.7	70.7	23.00	3.07	5.0
Upper Tenmile Creek	71.8	71.8	24.69	2.91	4.7
Straight Creek	89.5	89.5	32.53	2.75	4.3
Headwaters Blue River	114.1	114.1	42.14	2.71	4.2
Swan River	133.5	100.2	37.59	2.66	4.1
Keystone Gulch-Snake River	104.7	52.4	20.06	2.61	4.0
King Creek	36.3	36.3	13.96	2.60	4.0
Peru Creek-Snake River	108.1	108.1	41.67	2.60	4.0
Horse Creek	51.2	51.2	20.23	2.53	3.9
West Tenmile Creek	68.7	68.7	27.40	2.51	3.8
Deep Creek	74.8	74.8	29.91	2.50	3.8
Dillon Reservoir	157.7	78.8	35.15	2.24	3.2
Pioneer Creek	22.6	22.6	10.39	2.17	3.1
Lower Elliot Creek	39.4	39.4	19.33	2.04	2.8
North Fork Snake River	28.9	28.9	15.99	1.81	2.3
Elliott Creek	26.5	26.5	15.02	1.76	2.2
Pass Creek-Acorn Creek	52.7	52.7	30.07	1.75	2.2
Lower Tenmile Creek	39.4	39.4	24.46	1.61	1.8
Slate Creek	34.7	34.7	30.87	1.13	0.8
Middle Tenmile Creek	18.3	18.3	16.27	1.12	0.8
Rock Creek-Boulder Creek	38.6	38.6	36.48	1.06	0.6
Black Creek-Cataract Creek	61.2	61.2	61.60	0.99	0.5
Totals	1675.6	1421.9	660.37	2.15	

<sup>3</sup> The road density was adjusted based upon the procedure discussed in the report (p. 12). The original road density values were; French Gulch-Blue River (6.58), Swan River (3.55), Keystone Gulch-Snake River (5.22), and Dillon Reservoir (4.49).

**Table C-4. Blue River Watershed Flooding/Debris Flow Hazard Ranking<sup>4</sup>**

Sixth-level Watershed Name	Ruggedness Ranking	Road Density Ranking	Combined Numeric Rank	Combined Ranking
French Gulch-Blue River	4.9	5.5	15.24	5.5
Headwaters Blue River	5.0	4.2	14.32	4.8
Pioneer Creek	5.5	3.1	14.07	4.7
North Fork Snake River	5.5	2.3	13.25	4.1
Peru Creek-Snake River	4.3	4.0	12.60	3.6
Upper Tenmile Creek	3.8	4.7	12.28	3.4
Willow Creek	3.5	5.0	12.13	3.3
Straight Creek	3.8	4.3	12.00	3.2
Gold Hill-Blue River	3.2	5.5	11.96	3.1
Deep Creek	4.0	3.8	11.76	3.0
Keystone Gulch-Snake River	3.7	4.0	11.38	2.7
Elliott Creek	4.5	2.2	11.17	2.6
Pass Creek-Acorn Creek	4.4	2.2	11.02	2.5
Swan River	3.3	4.1	10.76	2.3
Rock Creek-Boulder Creek	5.0	0.6	10.57	2.1
Slate Creek	4.9	0.8	10.53	2.1
West Tenmile Creek	3.2	3.8	10.27	1.9
Horse Creek	3.1	3.9	10.02	1.7
Black Creek-Cataract Creek	4.8	0.5	10.01	1.7
King Creek	3.0	4.0	9.95	1.7
Middle Tenmile Creek	3.9	0.8	8.67	0.8
Lower Tenmile Creek	3.3	1.8	8.51	0.7
Dillon Reservoir	0.5	3.2	8.40	0.6
Lower Elliot Creek	0.7	2.8	8.30	0.5

<sup>4</sup> Dillon Reservoir and Lower Elliot Creek watersheds were skewing the categorization because of their low Combined Numeric Rank values (originally 4.22 and 4.11 respectively) and were manually given a score slightly lower than the next lowest score

**Table C-5. Blue River Watershed Soil Erodibility Ranking<sup>5, 6, 7</sup>**

Sixth-level Watershed Name	Severe (%)	Very Severe (%)	Soil Erodibility Value	Soil Erodibility Rank
Pioneer Creek	40.9%	2.0%	0.300	5.5
Middle Tenmile Creek	22.6%	6.9%	0.290	5.3
Keystone Gulch-Snake River	11.4%	8.1%	0.276	5.0
Lower Tenmile Creek	24.4%	1.2%	0.269	4.9
Peru Creek-Snake River	23.7%	0.2%	0.242	4.4
North Fork Snake River	23.5%	0.0%	0.236	4.2
King Creek	11.2%	6.2%	0.235	4.2
Headwaters Blue River	15.5%	3.8%	0.231	4.1
Straight Creek	17.5%	0.0%	0.226	4.0
Pass Creek-Acorn Creek	12.8%	3.3%	0.193	3.4
Slate Creek	16.7%	1.2%	0.190	3.3
Swan River	12.8%	1.3%	0.154	2.6
Horse Creek	12.5%	0.6%	0.137	2.3
Black Creek-Cataract Creek	11.6%	1.0%	0.136	2.3
Deep Creek	6.1%	3.5%	0.131	2.2
Elliott Creek	4.9%	4.0%	0.129	2.1
Upper Tenmile Creek	11.5%	0.2%	0.119	1.9
Lower Elliot Creek	11.7%	0.0%	0.117	1.9
French Gulch-Blue River	9.4%	0.7%	0.108	1.7
Dillon Reservoir	8.8%	0.4%	0.096	1.5
Willow Creek	7.9%	0.4%	0.086	1.3
Gold Hill-Blue River	5.8%	0.2%	0.062	0.8
West Tenmile Creek	5.6%	0.0%	0.057	0.7
Rock Creek-Boulder Creek	4.3%	0.1%	0.046	0.5

<sup>5</sup> Soil Erodibility Value is percentage of Severe plus 2 times the percentage of Very Severe.

<sup>6</sup> The soil erodibility value for Straight Creek was adjusted up (original value of 0.176) due to the presence of large quantities of highway sand that increase the concern for soil erosion.

<sup>7</sup> Middle Tenmile Creek and Pioneer Creek watersheds were skewing the categorization because of their high soil erodibility values (originally 0.364 and 0.449 respectively) and were manually given a score slightly higher than the next highest score.

**Table C-6. Blue River Watershed Composite Hazard Ranking<sup>8, 9</sup>**

Sixth-level Watershed Name	Wildfire Hazard Rank	Flooding/Debris Flow Rank	Soil Erodibility Rank	Composite Numeric Rank	Composite Hazard Rank
Pioneer Creek	3.5	4.7	5.5	13.7	5.5
Keystone Gulch-Snake River	4.8	2.7	5.0	12.5	4.8
Headwaters Blue River	3.4	4.8	4.1	12.4	4.8
French Gulch-Blue River	4.2	5.5	1.7	11.4	4.2
Straight Creek	3.8	3.2	4.0	11.0	3.9
North Fork Snake River	2.4	4.1	4.2	10.7	3.8
Lower Tenmile Creek	4.8	0.7	4.9	10.4	3.6
Swan River	5.5	2.3	2.6	10.4	3.6
Elliott Creek	5.5	2.6	2.1	10.2	3.5
Peru Creek-Snake River	2.1	3.6	4.4	10.1	3.4
Middle Tenmile Creek	3.5	0.8	5.3	9.6	3.1
Willow Creek	4.8	3.3	1.3	9.3	3.0
Gold Hill-Blue River	5.0	3.1	0.8	9.0	2.8
King Creek	2.5	1.7	4.2	8.4	2.5
Pass Creek-Acorn Creek	2.5	2.5	3.4	8.3	2.4
Slate Creek	2.5	2.1	3.3	7.9	2.2
Deep Creek	2.5	3.0	2.2	7.6	2.0
Horse Creek	2.5	1.7	2.3	6.5	1.4
Black Creek-Cataract Creek	2.5	1.7	2.3	6.5	1.4
West Tenmile Creek	3.9	1.9	0.7	6.5	1.4
Upper Tenmile Creek	1.1	3.4	1.9	6.4	1.3
Rock Creek-Boulder Creek	3.5	2.1	0.5	6.2	1.2
Dillon Reservoir	3.9	0.6	1.5	6.0	1.1
Lower Elliot Creek	0.5	0.5	1.9	5.0	0.5

<sup>8</sup> The Composite Hazard Rank is the average of the Wildfire Hazard Rank, Flooding/Debris Flow Rank, and Soil Erodibility Rank that is re-categorized into 5 categories using the procedure described in Front Range Watershed Protection Data Refinement Work Group (2009).

<sup>9</sup> Lower Elliot Creek watershed was skewing the categorization because of its low Composite Numeric Rank value (2.9) and was manually given a score slightly lower than the next lowest score

**Table C-7. Blue River Watershed Water Supply Ranking**

Sixth-level Watershed Name	Watershed Area	Sources & Diversions	Reservoirs	Water Ranking
Headwaters Blue River	27,034	2		1
French Gulch-Blue River	17,341	1		1
Gold Hill-Blue River	10,424	1		1
North Fork Snake River	10,232	1		1
Keystone Gulch-Snake River	12,841	1		1
Upper Tenmile Creek	15,804	0	1	1
West Tenmile Creek	17,538	1		1
Lower Tenmile Creek	15,655	1		1
Dillon Reservoir	25,623	1	1	1
Straight Creek	20,818	1		1
Willow Creek	14,723	0	1	1
Black Creek-Cataract Creek	39,423	0	1	1
Horse Creek	14,983	0	1	1
Swan River	24,059	0		0
Peru Creek-Snake River	26,667	0		0
Middle Tenmile Creek	10,413	0		0
Pioneer Creek	6,651	0		0
Rock Creek-Boulder Creek	23,347	0		0
Pass Creek-Acorn Creek	19,242	0		0
Slate Creek	19,756	0		0
Elliott Creek	9,610	0		0
Deep Creek	19,142	0		0
King Creek	8,937	0		0
Lower Elliot Creek	12,372	0		0



**Table C-8. Blue River Watershed Final Watershed Ranking**

Sixth-level Watershed Name	Wildfire Hazard	Flooding/Debris Flow	Soil Erodibility	Composite	Node Ranking	Overall Ranking
Keystone Gulch-Snake River	4.8	2.7	5.0	4.8	1	5.5
Headwaters Blue River	3.4	4.8	4.1	4.8	1	5.4
Pioneer Creek	3.5	4.7	5.5	5.5	0	5.2
French Gulch-Blue River	4.2	5.5	1.7	4.2	1	4.9
Straight Creek	3.8	3.2	4.0	3.9	1	4.7
North Fork Snake River	2.4	4.1	4.2	3.8	1	4.5
Lower Tenmile Creek	4.8	0.7	4.9	3.6	1	4.3
Willow Creek	4.8	3.3	1.3	3.0	1	3.8
Gold Hill-Blue River	5.0	3.1	0.8	2.8	1	3.6
Swan River	5.5	2.3	2.6	3.6	0	3.4
Elliott Creek	5.5	2.6	2.1	3.5	0	3.3
Peru Creek-Snake River	2.1	3.6	4.4	3.4	0	3.2
Middle Tenmile Creek	3.5	0.8	5.3	3.1	0	3.0
King Creek	2.5	1.7	4.2	2.5	0	2.3
Pass Creek-Acorn Creek	2.5	2.5	3.4	2.4	0	2.3
Horse Creek	2.5	1.7	2.3	1.4	1	2.3
Black Creek-Cataract Creek	2.5	1.7	2.3	1.4	1	2.3
West Tenmile Creek	3.9	1.9	0.7	1.4	1	2.2
Upper Tenmile Creek	1.1	3.4	1.9	1.3	1	2.2
Slate Creek	2.5	2.1	3.3	2.2	0	2.1
Dillon Reservoir	3.9	0.6	1.5	1.1	1	2.0
Deep Creek	2.5	3.0	2.2	2.0	0	1.9
Rock Creek-Boulder Creek	3.5	2.1	0.5	1.2	0	1.1
Lower Elliot Creek	0.5	0.5	1.9	0.5	0	0.5