

**BEFORE THE COLORADO WATER QUALITY CONTROL COMMISSION**  
**Department of Public Health and Environment, State of Colorado**

**RESPONSIVE PREHEARING STATEMENT OF THE BEAR CREEK WATERSHED ASSOCIATION**

**IN THE MATTER OF THE RULEMAKING HEARING FOR CONSIDERATION OF REVISIONS AND ADOPTION OF THE 2010 LIST OF WATER-QUALITY-LIMITED SEGMENTS REQUIRING TOTAL MAXIMUM DAILY LOADS AND COLORADO'S MONITORING AND EVALUATION LIST (REGULATION NO. 93)**

The Bear Creek Watershed Association (hereinafter "Association") presents its Responsive Prehearing Statement in the above referenced matter.

**I. Factual and Legal Claims.**

**Association Authority.** The Association is the water quality management agency for the Bear Creek Watershed. The Association is responsible for watershed management, restoration and implementation within the context of a management agency and the Bear Creek Control Regulation (Control Regulation 74, 5 CCR 1002-74).

**Association Summary Position.**

There are three proposed M&E and 303(d) listing segments within the Bear Creek Watershed as contained in the Water Quality Control Division Proponent Prehearing Statement (Table 1). The Association concerns about listing aspects for these three segments are summarized in Table 2.

**Table 1 Segments in Bear Creek Watershed for proposed listing in Regulation #93.**

<b>Segment</b>	<b>Description</b>	<b>Portion</b>	<b>M&amp;E List</b>	<b>303(d) List</b>	<b>303(d) Priority</b>
COSPBE01c	Bear Creek Reservoir	all	D.O.	Chl-a, phosphorus	High
COSPBE02	Bear Creek below Bear Creek Reservoir to South Platte River	all		E. coli	High
COSPBE05	Swede, Kerr, Sawmill, Troublesome & Cold Springs Gulches and Cub Creek	Swede Gulch		E. coli	High

The Association Dissolved Oxygen data set from 2003-2009 for Bear Creek Reservoir shows over 98% compliance with the standard for the upper water column (surface through the mixed layer). The Association prefers delisting the Dissolved Oxygen from the M&E list for Bear Creek Reservoir. The Association asserts there is sufficient Dissolved Oxygen data set over the last five-years for the reservoir to support delisting of Dissolved Oxygen from the M&E list. However, the Association could support the continued listing of Bear Creek Reservoir for Dissolved Oxygen on the M&E list, because of the uncertainty caused by the aeration system. The Dissolved Oxygen compliance trend is depicted in Figure 1 from 2003-2007 (Association

data as graphed by WQCD staff in the Bear Creek Reservoir Rulemaking Hearing 2009). The Association noted a similar Dissolved Oxygen compliance trend in 2008-2009. The Dissolved Oxygen values in the mixed layer in 2009 were greater than 6 mg/l throughout the year (Table 3). The summer growing season Dissolved Oxygen concentration in the reservoir is aided by an aeration system that typically operates in the growing season. Data collected in the 2009 growing season shows the aeration system adds a maximum of 2 mg/l dissolved oxygen to the water column when under normal operation. Generally, the aeration system increases water column dissolved oxygen by about 1 mg/l, which results in dissolved oxygen compliance within the mixed layer. The Association will continue evaluation of the effectiveness of the aeration system. The Association will use the system to assure Dissolved Oxygen compliance within the reservoir mixed layer in the growing season.

**Table 2 BCWA Issues with Proposed Listings**

<b>Segment</b>	<b>Description</b>	<b>List</b>	<b>Association Issue</b>
COSPBE01c	Bear Creek Reservoir	D.O. on M&E List	<b>The Association prefers delisting, but would support keeping the reservoir on the M&amp;E list for Dissolved Oxygen</b>
		Chl-a, phosphorus on 303(d) List	The Association supports the listing for Chlorophyll-a and Total Phosphorus for Bear Creek Reservoir. Based on the recent outcome of the rulemaking hearing on Regulation #74, Bear Creek Reservoir Control Regulation, the Association understood that the priority listing would not be high, rather medium based on the ongoing efforts of the Association to better define the reservoir issues.
COSPBE02	Bear Creek below Bear Creek Reservoir to South Platte River		Portion of Bear Creek below the Bear Creek Reservoir shows no E. coli problem based on available BCWA monitoring record; as such the Association proposes that the portion of the segment listed should not be “all”, rather beginning at the Sheridan gaging station downstream.
COSPBE05	Swede, Kerr, Sawmill, Troublesome & Cold Springs Gulches and Cub Creek		The wrong segment is identified in the proposal. The sampling location listed by the WQCD is actually Kerr Gulch and not Swede Gulch. The WQCD sampling site is located adjacent to a suspect onsite wastewater system that is the potential cause of periodic elevated E. coli values. The Association believes it is not appropriate to list the segment as a high priority. A number of potential septic system problems are associated with lower Kerr Gulch. The placement of the mainstem of Kerr Gulch on the M&E list with Association monitoring of the system is a more reasonable proposal.

The Association supports the listing for Chlorophyll-a and Total Phosphorus for Bear Creek Reservoir. This proposed listing is consistent with the data collected by the Association for the new standards. Based on the recent outcome of the rulemaking hearing on Regulation #74, Bear Creek Reservoir Control Regulation, the Association understood that the priority listing

would not be a high priority, rather the priority listing would be medium based on the ongoing efforts of the Association to better define the reservoir issues. The Association has expanded reservoir studies and data collection under the understanding that there would a period of time to jointly (Association and WQCD) develop a total maximum annual/daily load for the reservoir. The Association is concerned that the WQCD is developing the TMAL for chlorophyll and phosphorus without any involvement of the Association and in advance of this listing process. There is a temporary modification in place for the total phosphorus wasteload allocations. In this interim period, the Association has agreed to fill in some of the reservoir data gaps to allow for a better understanding of the internal loading problem. There was mutual agreement between the Association and the WQCC that there was uncertainty in predicting the decline of internal total phosphorus loading, which in turn affects the TMAL and future wasteload allocations. As such, the Association contends that the priority should be medium and not high.

### Dissolved Oxygen Compliance Trend 2003-2007

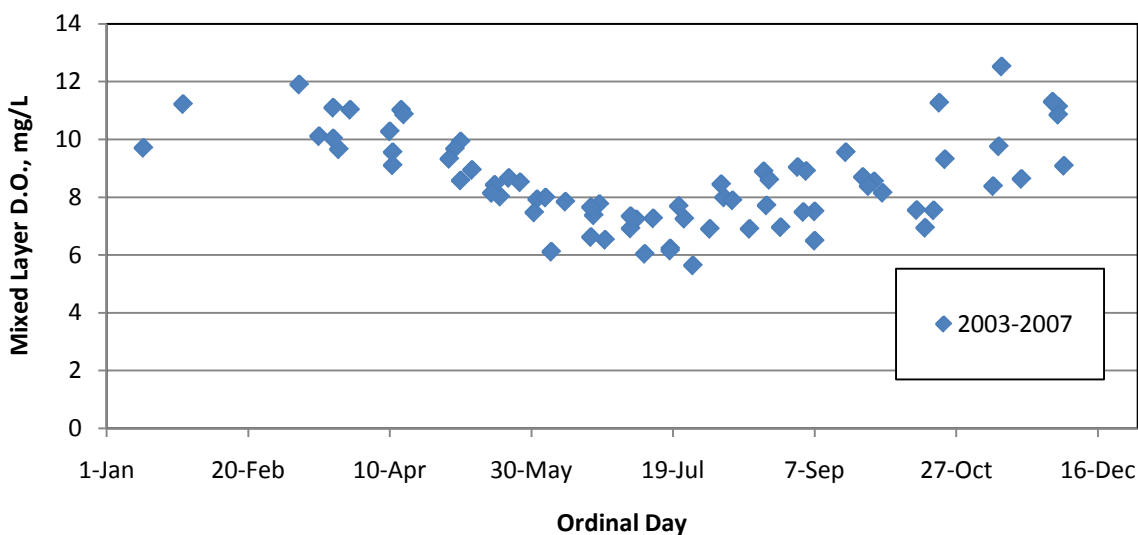


Figure 1 Dissolved Oxygen Compliance Trend Bear Creek Reservoir from 2003-2007

Table 3 2009 Dissolved Oxygen Compliance in Bear Creek Reservoir

Reservoir Site 40	2009 DO Compliance Bear Creek Reservoir													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Jul	Aug	Sep	Sep	Oct	Nov	Dec
Planar Thermocline (m)	3.0	5.0	5.5	5.0	5.0	5.0	6.5	7.0	7.0	7.0	8.0	4.0	3.0	3.0
Total Depth Profile (m)	6.5	11.0	11.2	11.2	10.9	10.8	11.0	10.9	10.7	10.6	10.8	10.9	11.0	6.5
Estimate Epilimnion Thickness (m)	2.0	3.0	4.0	3.0	4.0	4.0	5.0	6.0	6.0	6.0	7.0	4.0	3.0	3.0
Profile Average (mg/l)	9.9	10.6	10.4	7.7	4.9	5.8	5.1	5.7	6.5	6.6	6.9	7.2	8.4	9.0
Average 0-3m (mg/l)	11.4	11.1	10.6	9.6	8.1	7.4	6.3	7.4	7.5	7.9	8.4	9.9	8.9	10.4
Average Estimate Epilimnion (mg/l)	11.9	11.1	10.5	9.3	8.0	7.3	6.2	7.4	7.4	7.6	8.0	9.8	8.9	10.4

The lower portion of Bear Creek below Bear Creek Reservoir is proposed for 303(d) listing for E. coli (seasonally) from the reservoir to the confluence with the South Platte River. The Association does not support listing the portion of the segment from the outlet of the reservoir to

just upstream of the Sheridan gaging station. The Association has collected 6-years of E. coli data below the reservoir and 3-years at the Sheridan gage (Table 4). The data shows no problem with E. coli below the reservoir with a geometric mean of 3. The data set for the Sheridan monitoring station did show several higher values, but the geometric mean was about 65. These E. coli values are well below the standard for the segment (recreation, 126 cts/ml). As such, the Association believes the listing for segment 2 should not include the entire segment; rather the listing should be from the Sheridan gage to the confluence. The Association is concerned that listing the entire segment, suggests an E. coli problem associated with Bear Creek Reservoir, which is not the case.

**Table 4 E. coli data from Bear Creek Reservoir Outflow and at Sheridan Gaging Station**

Sample Date	Reservoir Outflow	Lower Bear Creek: Sheridan
23-May-02	1	83
6-Jun-02	0	>200.5
20-Jun-02	11	>200.5
1-Jul-02	2	>200.5
24-Jul-02	1	>200.5
8-Aug-02	6	165
22-Aug-02	2	>200.5
12-Sep-02	2	201
26-Sep-02	1	145
10-Oct-02	0	83
24-Oct-02	2	25
21-Nov-02	1	14
6-May-03	2.0	23.8
27-May-03	9.9	23.8
26-Jun-03	2.0	109.1
10-Jul-03	3.1	>200.5
24-Jul-03	10.5	43.5
7-Aug-03	<1	129.6
21-Aug-03	<1	190.4
2-Sep-03	4.1	121.1
25-Sep-03	<1	166.9
14-Oct-03	<1	61.3
5-May-04	1.0	10.9
19-May-04	2.0	59.8
1-Jun-04	2.0	23.5
23-Jun-04	6.3	35.0
6-Jul-04	6.2	58.1
21-Jul-04	13.5	224.7
5-Aug-04	1.0	20.1

Sample Date	Reservoir Outflow	Lower Bear Creek: Sheridan
26-Aug-04	1.0	1.0
7-Sep-04	1.0	41.0
28-Sep-04	1.0	22.8
4-May-05	4.1	
18-May-05	4.1	
1-Jun-05	8.6	
22-Jun-05	30.9	
13-Jul-05	1.0	
27-Jul-05	14.6	
10-Aug-05	1.0	
23-Aug-05	7.4	
8-Sep-05	<1	
27-Sep-05	17.5	
2-May-06	1.0	
17-May-06	<1	
5-Jun-06	2.0	
21-Jun-06	8.6	
5-Jul-06	4.1	
19-Jul-06	1.0	
1-Aug-06	1.0	
22-Aug-06	1.0	
5-Sep-06	6.3	
19-Sep-06	4.1	
10-May-07	17.3	
23-May-07	11.0	
7-Jun-07	8.5	
21-Jun-07	7.4	
5-Jul-07	3.0	
19-Jul-07	4.0	
2-Aug-07	4.0	
16-Aug-07	<1	
4-Sep-07	<1	
<b>Geometric Mean</b>	3	65

Swede Gulch is proposed for listing on the 303(d) list as a high priority for E. coli. There are several problems with this proposed listing. Based on the sample site coordinates shown in the WQCD database, the sample site is not Swede Gulch, but rather the mouth of Kerr Gulch prior to discharge into Bear Creek. Figure 2 shows the WQCD sample site and the location of Swede Gulch, which is tributary to Kerr Gulch. The WQCD sampling site is located adjacent to the leach field from a home site septic system. There are several septic systems located within hydrologic connection of Kerr Gulch in the lower reaches. The Association suspects that the

periodic higher measurements of E. coli are association with leach field discharges from a single or several home sites. There is no upstream E. coli data to indicate a problem on either Swede Gulch or the upper portion of Kerr Gulch.

The sample size used by the WQCD is only six samples. The listed geometric mean is from these 6 samples is 271. While this suggests a possible E. coli problem, the Association believes it is premature to list Kerr Gulch for E. coli. The Association would support placing lower Kerr Gulch, below the confluence of Swede Gulch, on the M&E list. The Association will commit to a multi-year monitoring program to evaluate E. coli on Kerr Gulch and Swede Gulch. The Association would monitor at 4-sites from May through October over a 5-year period. The Association believes this area maybe a good candidate to understand the impact of septic systems to the water quality in tributaries. There are an estimated 27,000 septic systems within the Bear Creek Watershed. The issues of septic systems impacted water quality is a major concern in the watershed, which will take a number of years to resolve.

If the WQCC supports listing lower Kerr Gulch, then the Association would recommend the priority be changed from “high” to “low” priority.

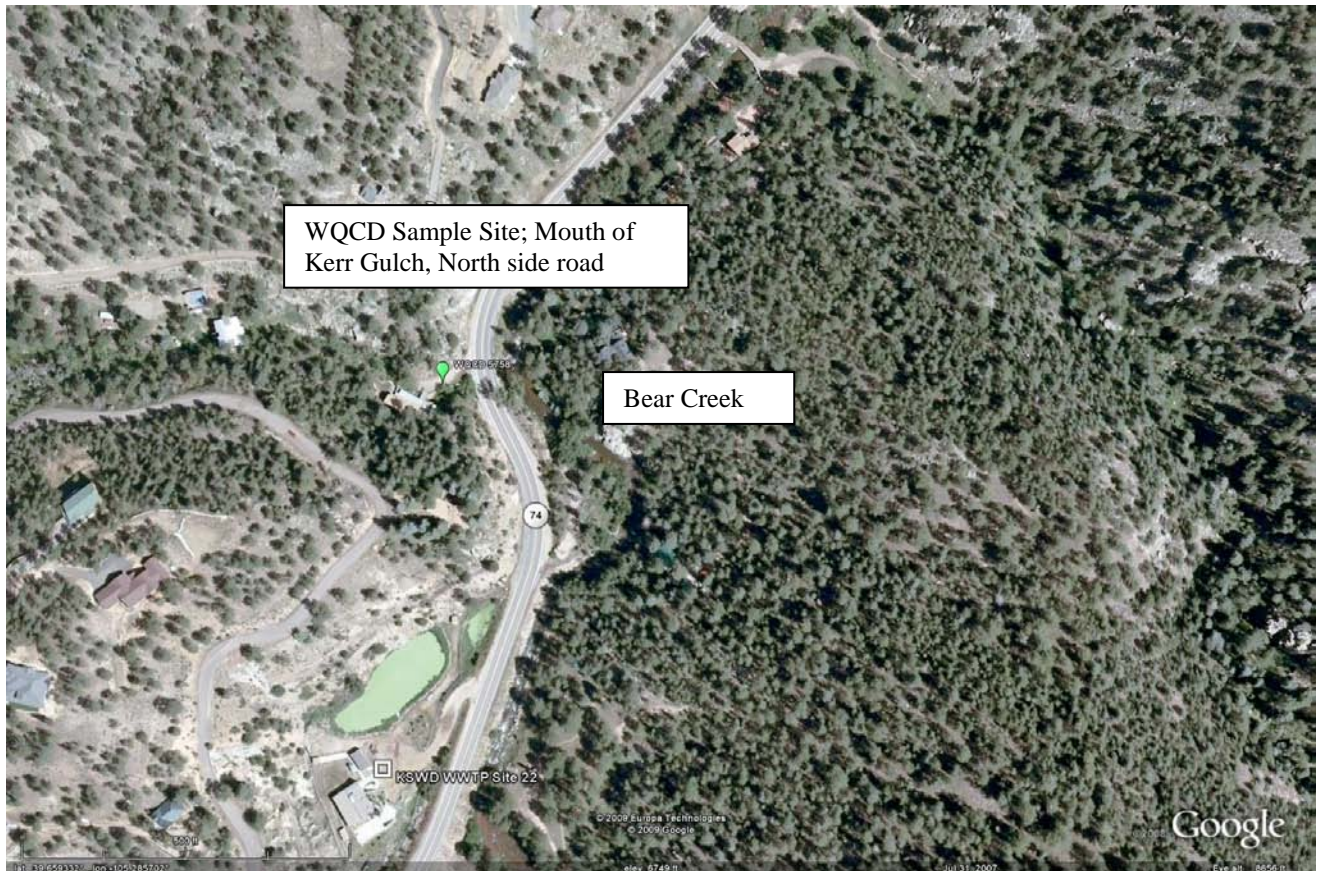
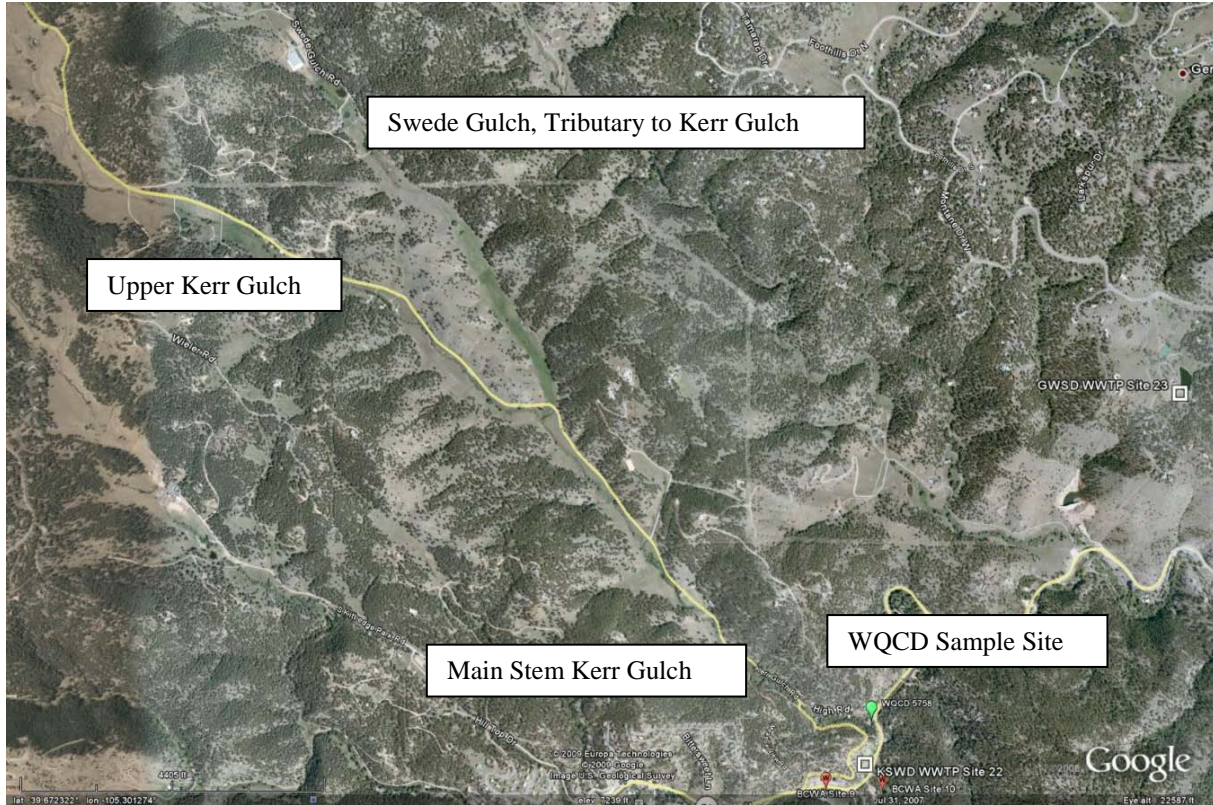


Figure 2 WQCD Sample Site 5758 (Called Swede Gulch)(Green water drop), which is actually Kerr Gulch



**Figure 3** Location of Swede Gulch as tributary to Kerr Gulch

Finally, there is no information in the proposed statement of basis and purpose as proposed by the WQCD for any of the Bear Creek segments listed. There was no additional rationale included in WQCD proponent statement, just the following note was added for segment 2 below the reservoir.

Note from WQCD Proponent Prehearing Statement

**Bear Creek Segment 2 (COSPBE02)** Upon further investigation of the *E. coli* data on Bear Creek it was determined that the exceedances are found in the May through October season. The proposal should reflect this refinement, and the *E. coli* listing should be marked as May-October.

## II. Exhibits and Written Testimony.

The Association reserves the right to submit additional materials as part of the rebuttal process, as necessary.

## III. Witnesses.

The following manager and members of the Association may provide testimony on the appropriateness of proposed changes and rebuttal testimony as needed.

1. Russell Clayshulte  
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Aurora, Colorado 80017-4333

2. Dave Lighthart  
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Evergreen, Colorado 80437
3. Gerald Schulte  
Bear Creek Watershed Association Board  
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4. Alan D. Searcy  
Bear Creek Watershed Association Co-Chair  
City of Lakewood, Public Works Department  
480 S. Allison Parkway  
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5. Pat O'Connell  
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100 Jefferson County Parkway, Suite 3550  
Golden, CO 80419-3550

CERTIFICATE OF SERVICE

I do hereby certify that a true and exact copy of the Bear Creek Watershed Association Responsive Prehearing Statement in the matter of the rulemaking hearing For Consideration of Revisions and Adoption of the 2010 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads and Colorado's Monitoring and Evaluation List (Regulation No. 93) was e-mailed to the following on the 5th day of January 2010:

<a href="mailto:jnichols@wildearthguardians.org">jnichols@wildearthguardians.org</a> <a href="mailto:risa@theshimodagroup.com">risa@theshimodagroup.com</a> <a href="mailto:jkahn@confluencekayaks.com">jkahn@confluencekayaks.com</a> <a href="mailto:scohen@jacobschase.com">scohen@jacobschase.com</a> <a href="mailto:wjshoemaker@comcast.net">wjshoemaker@comcast.net</a> <a href="mailto:qqlane@nwc.cog.co.us">qqlane@nwc.cog.co.us</a> <a href="mailto:lawgreen@earthlink.net">lawgreen@earthlink.net</a> <a href="mailto:haddock@bouldercolorado.gov">haddock@bouldercolorado.gov</a> <a href="mailto:linenfelser@bouldercolorado.gov">linenfelser@bouldercolorado.gov</a> <a href="mailto:gracz@troutlaw.com">gracz@troutlaw.com</a> <a href="mailto:rgriffith@csu.org">rgriffith@csu.org</a> <a href="mailto:vjohnson@csu.org">vjohnson@csu.org</a> <a href="mailto:lboyle@auroragov.org">lboyle@auroragov.org</a> <a href="mailto:Cynthia.Brady@Denverwater.org">Cynthia.Brady@Denverwater.org</a> <a href="mailto:katherine.wilmoth@denvergov.org">katherine.wilmoth@denvergov.org</a> <a href="mailto:rclayshulte@earthlink.net">rclayshulte@earthlink.net</a> <a href="mailto:eileenl@gjcity.org">eileenl@gjcity.org</a> <a href="mailto:pnichols@troutlaw.com">pnichols@troutlaw.com</a> <a href="mailto:awoodis@mwr.d.dst.co.us">awoodis@mwr.d.dst.co.us</a> <a href="mailto:barthlaw@aol.com">barthlaw@aol.com</a> <a href="mailto:cindmedina@gmail.com">cindmedina@gmail.com</a> <a href="mailto:lalink@uos.net">lalink@uos.net</a>	<a href="mailto:jamie.anthony@state.co.us">jamie.anthony@state.co.us</a> <a href="mailto:barb.horn@state.co.us">barb.horn@state.co.us</a> <a href="mailto:jay.skinner@state.co.us">jay.skinner@state.co.us</a> <a href="mailto:dkueter@curtis-law.com">dkueter@curtis-law.com</a> <a href="mailto:denee.diluiji@dgsllaw.com">denee.diluiji@dgsllaw.com</a> <a href="mailto:zach.miller@dgsllaw.com">zach.miller@dgsllaw.com</a> <a href="mailto:spcure@earthlink.net">spcure@earthlink.net</a> <a href="mailto:jturner@crwcd.org">jturner@crwcd.org</a> <a href="mailto:gguentzel@crwcd.org">gguentzel@crwcd.org</a> <a href="mailto:meytel@crwcd.org">meytel@crwcd.org</a> <a href="mailto:dkanzer@crwcd.org">dkanzer@crwcd.org</a> <a href="mailto:dbailey@cksmb.com">dbailey@cksmb.com</a> <a href="mailto:ljohnson@chp-law.com">ljohnson@chp-law.com</a> <a href="mailto:susaneckert.sellc@comcast.net">susaneckert.sellc@comcast.net</a> <a href="mailto:jpiatt@auroragov.org">jpiatt@auroragov.org</a> <a href="mailto:jwr@vrlaw.com">jwr@vrlaw.com</a> <a href="mailto:markwagner@hillandrobbsins.com">markwagner@hillandrobbsins.com</a> <a href="mailto:jim-m@arvada.org">jim-m@arvada.org</a> <a href="mailto:mherm@wth-law.com">mherm@wth-law.com</a> <a href="mailto:hermann.karl@epa.gov">hermann.karl@epa.gov</a> <a href="mailto:jerry.goad@state.co.us">jerry.goad@state.co.us</a> <a href="mailto:william.allison@state.co.us">william.allison@state.co.us</a> <a href="mailto:aimee.konowal@state.co.us">aimee.konowal@state.co.us</a> <a href="mailto:sarah.johnson@state.co.us">sarah.johnson@state.co.us</a> <a href="mailto:nancy.horan@state.co.us">nancy.horan@state.co.us</a>
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