

**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 2012 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.

**Factual 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 five proposed 303(d) listing segments within the Bear Creek Watershed as contained in the Water Quality Control Division Proponent Prehearing Statement (Table 1). The Association position for these segments is summarized in Table 2. Table 3 shows the Associations recommended 303(d) listings for segments in the Bear Creek Watershed.

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

WBID	Segment Description	Portion	Colorado's Monitoring & Evaluation Parameter(s)	Clean Water Act Section 303(d) Impairment	303(d) Priority
COSPBE01a	Mainstem of Bear Creek from the boundary of the Mt. Evans Wilderness area to the inlet of Evergreen Lake.	<u>all</u>		Aquatic Life (provisional)	<u>L</u>
COSPBE01c	Bear Creek Reservoir	all	<del>D.O.</del>	Chl-a, phosphorus	H
COSPBE01e	Mainstem of Bear Creek from the outlet of Evergreen Lake to the Harriman Ditch.	<u>all</u>		Temperature, Aquatic Life	<u>H</u>
COSPBE02	Bear Creek below Bear Creek Reservoir to South Platte River	Below Kipling Parkway (CO 390)		E.coli (May-Oct), Aquatic Life (provisional)	H
COSPBE05	Swede, Kerr, Sawmill, Troublesome and Cold Springs Gulches and Cub Creek	Swede/Kerr Gulch		E.coli	L

**Table 2 BCWA Issues with Proposed Listings**

WBID	Segment Description	Portion	BCWA Position
COSPBE01a	Mainstem of Bear Creek from the boundary of the Mt. Evans Wilderness area to the inlet of Evergreen Lake.	<u>all</u>	The BCWA will support a provisional listing for Aquatic life as a low priority, but only for a portion of the segment. Upstream macroinvertebrate sampling shows no indication of aquatic life impairment. The portion of the segment for provisional listing should begin at Golden Willow Road Bridge, Clear Creek County and extend downstream to the inlet of Evergreen Lake.
COSPBE01c	Bear Creek Reservoir	all	The BCWA supports removing the dissolved oxygen listing from the monitoring and evaluation listing and retaining the current listing for chlorophyll a and total phosphorus.
COSPBE01e	Mainstem of Bear Creek from the outlet of Evergreen Lake to the Harriman Ditch.	<u>all</u>	The BCWA doesn't support the proposed aquatic life listing with a high priority with Temperature listed as the parameter causing impairment. Generally, the macroinvertebrate data for this segment does not show impairment; however one location out of the 7 monitored sites (since 2004) has a low score in 2010. As such, the BCWA will support a provisional listing for aquatic life for the segment with a low priority. The massive temperature data record (>800,000 measurements) collected by the BCWA for this segment does not support temperature as the problem.
COSPBE02	Bear Creek below Bear Creek Reservoir to South Platte River	Below Kipling Parkway (CO 390)	The BCWA takes no position on this segment.
COSPBE05	Swede, Kerr, Sawmill, Troublesome and Cold Springs Gulches and Cub Creek	Swede/Kerr Gulch	The BCWA continues the monitoring program on this segment and supports no change to the current listing.

**Table 3 The BCWA recommendation for listings of segments in the Bear Creek Watershed**

WBID	Segment Description	Portion	Colorado's Monitoring & Evaluation Parameter(s)	Clean Water Act Section 303(d) Impairment	303(d) Priority
COSPBE01a	Mainstem of Bear Creek from the boundary of the Mt. Evans Wilderness area to the inlet of Evergreen Lake.	<b><u>Below Golden Willow Road Bridge</u></b>		<b>Aquatic Life (provisional)</b>	<b><u>L</u></b>
COSPBE01c	Bear Creek Reservoir	all	<del>D.O.</del>	Chl-a, phosphorus	H
COSPBE01e	Mainstem of Bear Creek from the outlet of Evergreen Lake to the Harriman Ditch.	<u>all</u>		<b>Aquatic Life (provisional)</b>	<b><u>L</u></b>
COSPBE02	Bear Creek below Bear Creek Reservoir to South Platte River	Below Kipling Parkway (CO 390)		E.coli (May-Oct), Aquatic Life (provisional)	H
COSPBE05	Swede, Kerr, Sawmill, Troublesome and Cold Springs Gulches and Cub Creek	Swede/Kerr Gulch		E.coli	L

**Macroinvertebrate Assessment.** The Association has three major issues in the application of the macroinvertebrate multi-metric Index (MMI): 1) listing a stream segment as aquatic life impaired from a single or minimal number of potential impairments when over 95% of the samples taken show grey zone

or attainment scores; 2) listing an entire stream segment as aquatically impaired when only one site shows a potential problem; and 3) there limitations caused by the MMI sampling protocols, which are not adequately considered during the evaluation process.

Since 2004, the Association has conducted macroinvertebrate sampling and data collection at ten Colorado Parks and Wildlife fish survey sites along Bear Creek: Morrison (west end), Idledale, Lair o' the Bear Park, O' Fallon Park, Bear Creek Cabins, Main Street Evergreen (across from the Little Bear), above Evergreen Lake upstream of the USGS gaging station, at the Singing River Ranch (Lost and Found), Vance Creek and Cub Creek. The cooperative macroinvertebrate sampling is done by the Association in September with analyze done by the Water Quality Control Division. Sample collection is done by Association members using the state timed-kick net methodology protocol after field instruction from Division staff and periodic staff field audits. The Division calculates the MMI, OE, HBI and Shannon index values for these samples and reports the results to the Association. The sampling design in Bear Creek has targeted a combination of slow and fast riffles with various amounts of cobble substrate at the sites. The program had been designed to provide information on site variation, including both spatially and temporally variation at each site.

In addition, the Association has assisted the Division in obtaining habitat data at these sites. These macroinvertebrate reference sites include physical habitat (modified Rapid Bioassessment Protocol) and streambed characterization (modified Wolman Pebble Count). The Division's procedure on physical habitat is a visual assessment of the quality of the instream and riparian habitat that influences the structure and function of the aquatic community in a stream. Parameters are ranked as optimal, suboptimal, marginal, or poor based on a 4-point scale, with 4 being the best possible (optimal) conditions and one representing the worst (poor) conditions.

There have been 120 MMI samples collected in Bear Creek Watershed since 2004 (Table 4). Over this period of time 4 samples in segment 1e would indicate a potential macroinvertebrate multi-metric index (MMI) impairment (96% attainment) and 4 samples in segment 1a would indicate impairment (81%). Segment 1e has two sites in the upper portion of the segment that showed a potential MMI impairment, Bear Creek Cabins and Downtown Evergreen. The majority of segment 1e sites show no macroinvertebrate impairment. The one site on segment 1a with potential aquatic life impairment is Keys-on-the-Green. This site is just upstream from the golf course and below the housing development of Upper Bear Creek. None of the upstream sites on segment 1a have show impairment and are in attainment of the aquatic life index.

**Table 4 MMI Attainment and Impairment Summary for Bear Creek Watershed**

Segment	Total MMI Samples	MMI Attainment	MMI Grey Zone	MMI Impairment	% Attainment
1e	96	79	13	4	96%
1a	21	16	1	4	81%
3	2	2			100%
5	1	1			100%

Table 5 summarizes the macroinvertebrate data (MMI and OE) as original provided by Division staff and recently (September 2011) re-calculated by the Division staff. The Hilsenhoff Biotic Index (HBI) and the Shannon Diversity Index (Shannon) scores were also calculated for the sites and are shown in Table 6. Table 5 demonstrates that most sites over the sampling period of 2004-2010 are within attainment on the MMI scores. The values in red are potential impairment; those in blue are in attainment. The HBI and Shannon Index data also shows most sites are meeting expectations.

**Table 5 Summary MMI and OE Scores for Bear Creek Stations**

					2010		2009		2008		2007		2006		2005		2004	
BCWA StationID	WQCD StationID	Location	Biotype	Segment	MMI	OE	MMI	OE	MMI	OE	MMI	OE	MMI	OE	MMI	OE	MMI	OE
					=Average of duplicate samples													
14a	122	above Morrison Park	Transition	1e	80.50	1.10	73.10	1.19	72.50	0.93	67.60	0.94	56.70	0.78	74.45	1.00	56.10	1.03
13a	122C	Baker Bridge (Idledale)	Transition	1e	69.80	0.99	58.65	1.02	66.30	0.92	59.65	0.69	65.80	0.85				
12	122a	Lair of the Bear Park	Transition	1e	62.20	0.81	48.90	0.68	43.30	0.80	54.80	0.80	61.00	1.04	47.00	0.90	57.60	0.81
9	122b	O'Fallon Park	Transition	1e	57.70	0.99	53.60	1.50	55.80	1.00	55.90	0.98	60.90	0.96	53.75	0.94	35.70	0.40
8	5762	below Evergreen (BCC)	Transition	1e	39.10	0.89	55.40	1.13	49.80	0.76	55.30	0.65	57.20	0.84	50.40	0.94	43.10	0.54
5	5763	Little Bear, Downtown	Transition	1e	56.60	1.07	52.30	1.50	43.20	0.95	40.25	0.65	47.10	0.96	55.90	0.81		
3a	5764	Keys on the Green	Mountain	1a	36.75	0.66	56.50	1.32	38.60	1.05	42.20	0.54	41.80	0.56	46.00	0.83		
1b	5768	Dick Williams Ranch	Mountain	1a							60.30	0.23						
1a	5768A	Singing River Ranch	Mountain	1a	71.20	0.89	77.20	1.21	77.40	0.66								
25	5761A	Vance Creek	Mountain	3					73.10	0.79								
50	5760A	Cub Creek	Transition	5	55.50	0.84												

**Table 6 Summary HBI and Shannon Index Scores for Bear Creek Stations**

					=Average of duplicate samples															
BCWA StationID	WQCD StationID	Location	Biotype	Segment	2010		2009		2008		2007		2006		2005		2004			
					HBI	Shannon	HBI	Shannon	HBI	Shannon	HBI	Shannon	HBI	Shannon	HBI	Shannon	HBI	Shannon		
14a	122	above Morrison Park	Transition	1e	3.30	3.44	4.56	2.74	3.52	3.66	3.40	3.26	1.96	1.82	3.83	2.86	4.34	2.99		
13a	122C	Baker Bridge (Idleale)	Transition	1e	2.52	3.35	4.39	3.24	3.88	3.10	4.67	2.99	4.82	3.00						
12	122a	Lair of the Bear Park	Transition	1e	3.02	3.42	3.83	3.66	4.15	3.54	4.19	3.12	3.98	3.40	4.22	3.36	3.04	3.23		
9	122b	O'Fallon Park	Transition	1e	4.05	3.40	3.72	3.11	3.45	3.08	3.55	2.61	3.37	3.87	3.81	3.68	3.36	3.57		
8	5762	below Evergreen (BCC)	Transition	1e	3.76	3.21	3.57	3.88	3.39	3.39	3.97	3.14	4.41	2.75	3.42	3.29	4.79	2.71		
5	5763	Little Bear, Downtown	Transition	1e	4.94	3.58	5.03	2.58	6.52	2.88	4.98	3.17	3.41	2.96	3.49	3.96				
3a	5764	Keys on the Green	Mountain	1a	4.73	2.52	5.02	3.19	6.01	2.96	5.35	3.13	4.34	2.75	4.28	3.06				
1b	5768	Dick Williams Ranch	Mountain	1a							3.82	3.27								
1a	5768A	Singing River Ranch	Mountain	1a	2.88	3.29	3.03	3.24	3.07	2.95										
25	5761A	Vance Creek	Mountain	3					5.43	3.01										
50	5760A	Cub Creek	Transition	5	2.08	2.23														

The Association contends that anthropogenic and natural impacts at a site can greatly affect the MMI scores. Measurements taken at a single site in any given year for MMI scores can vary by as much as 20 index units (e.g., fast riffles at Morrison 2007, 64.7 and 44.5). As such, a single low score at a site may not provide enough evidence to show aquatic life impairment.

The Association has also noted a potential problem in the field sampling protocol. In some samples the cobble substrate can be easily loosened during the kick method and a good sample of macroinvertebrates results from the sample. In adjacent areas of the site, the cobble substrates is well cemented and not easily loosened during sampling. The Association has noted in those samples with a “difficult” cobble substrate the MMI score tend to be lower (e.g., Little Bear Evergreen in 2008 MMI (cemented cobble substrate) = 43; 2009 MMI (loose cobble substrate) = 52. Since part of the macroinvertebrate sampling program is to determine the type of variation in MMI scores at any given site, a suspected poor sampling of the cobble substrate was still used for analysis. By following this protocol prior to 2010 and sampling both fast and slow riffles, a better characterization of spatial variation was obtained.

Additionally, during the period of sampling in the Bear Creek Watershed the method has shifted from sampling a combination of fast and slow riffles, to just fast riffles. In transitional mountain streams found along Bear Creek, the fast riffle zones tend to have a more cemented cobble substrate and are more difficult to sample. As such, there is a great deal of sampling error introduced in the sampling method in the riffle selection process, suitability of the cobble substrate, impacts from people and recreational activities, and natural fluctuations at a site.

As requested by Division staff, in 2010 the protocol was modified to only include fast riffles minimal duplication of samples (funding concern). The lower MMI score for Bear Creek Cabins (MMI = 39.1) was taken from a fast riffle with well cemented cobble substrate. As such, this sample was not typical of the results for this site (e.g., 2009 MMI = 55.4). The 2010 MMI score for the Keys-on-the-Green site (MMI = 36.8) was also taken from a fast riffle with well cemented cobble substrate.

The Association has noted that those sites where there is more intense recreational activity, the MMI score are depressed (e.g., Lair O’ Bear 2008 following the construction of multiple recreational dams at the monitoring site, MMI (fast and slow riffles) = 43, 42, 45, 56, and 51). At the same Lair O’ Bear site in 2009 when there was no evidence of recreational dam building the MMI (fast riffle) = 55 and 56). The Bear Creek Cabins site has also been subjected to multiple damming efforts by adjacent land owners to increase fishing pond opportunities. The Keys-on-the-Green site in Segment 1a has also been subjected to multiple damming events.

The MMI data can vary considerably at a single sampling location over time. Some sites along segment 1e have shown as much as a 40 unit variation in MMI scores from 2004-2010. Table 7 shows the MMI scores for sites along segment 1e. The average scores and standard deviations for these sites would indicate aquatic life attainment. The Association does recognize the potential for some aquatic life impairment in Segment 1e. As such, the Association would support a provisional aquatic life listing for Bear Creek Segment 1e with a low priority. The extensive temperature data set for Segment 1e does not support temperature as the parameter of concern in Segment 1e (more discussion about temperature following this section).

The Association has an extensive water quality data set extending from 1997-2011 for segment 1e. There is no apparent water quality impairment that could be impacting macroinvertebrates. The Association is actively working to identify other nonpoint sources, anthropogenic and natural impacts along this segment. The Association monitoring program along the Swede-Kerr Gulch system is beginning to indicate an impact from septic systems. However, this monitoring effort is only in the second-year and a minimum 5-year data set will be necessary to fully assess the impacts from septic systems. A low priority

would fit into the current Association efforts and remain consistent with the available funding for this effort.

The Association has increased monitoring of stormwater loadings in select locations along segment 1e. The Association has identified a number of potential project locations along Bear Creek and associated tributaries requiring corrective land use controls. The Association has worked with several local businesses that caused minor nonpoint source runoff from their business sites with the implementation of runoff controls. These runoff control programs were very successful.

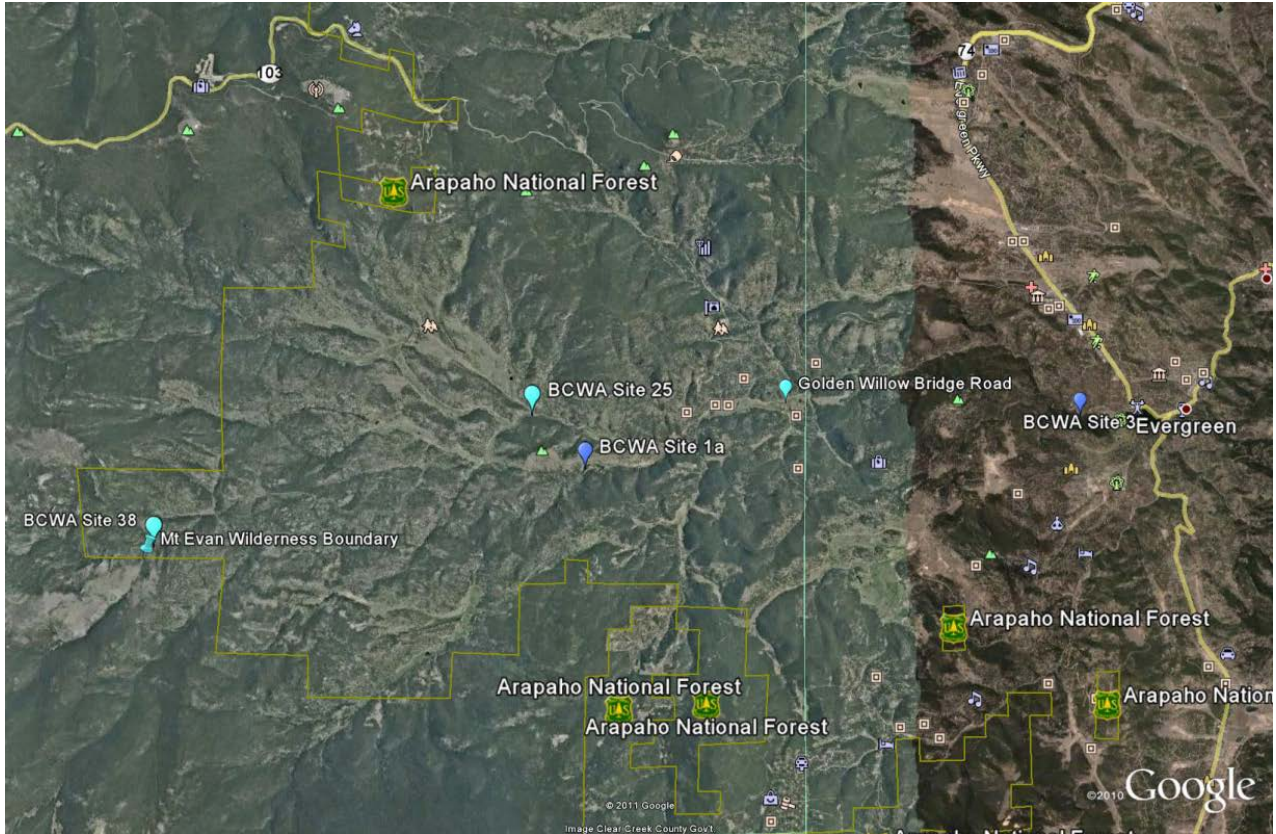
**Table 7 MMI Scores for Sites along Segment 1e.**

				=Average of duplicate samples									
BCWA ID	WQCD ID	Location	Segment	2010	2009	2008	2007	2006	2005	2004	Average	s.d.	
				MMI	MMI	MMI	MMI	MMI	MMI	MMI			
14a	122	above Morrison Park	1e	80.50	73.10	72.50	67.60	56.70	74.45	56.10	68.71	9.22	
13a	122C	Baker Bridge (Idledale)	1e	69.80	58.65	66.30	59.65	65.80			64.04	4.74	
12	122a	Lair of the Bear Park	1e	62.20	48.90	43.30	54.80	61.00	47.00	57.60	53.54	7.28	
9	122b	O'Fallon Park	1e	57.70	53.60	55.80	55.90	60.90	53.75	35.70	50.24	8.90	
8	5762	below Evergreen (BCC)	1e	39.10	55.40	49.80	55.30	57.20	50.40	43.10	50.04	6.78	
5	5763	Little Bear, Downtown	1e	56.60	52.30	43.20	40.25	47.10	55.90		49.23	6.78	

Table 8 shows the MMI scores for sites along Segment 1a. All potential aquatic life impairment is associated with site 3a Keys-on-the-Green. The upstream stations at sites 1b and 1a suggest no aquatic life impairments. These sites are not near the boundary with the Mount Evans Wilderness, which is over 5 miles upstream (Figure 1). The proposed listing by the Division would include the entire segment. In 2011, the Association did include a new macroinvertebrate and fishery sampling site at Bear Tracks (Site 38), which is the last four-wheel access point and still below the wilderness boundary. The Association strongly believes provisionally listing the entire Segment 1a as not appropriate. There is no indication of aquatic life impairment in these upper mountain waters. The Association believes there is a potential for aquatic life impairment on the lower portion of segment 1a as caused by land use and residential development. That upper portion of the segment 1a where residential development is confined to scattered large lots does not appear to have an aquatic life impairment issue.

There is considerable residential development along the lower portion of Segment 1a (called Upper Bear Creek), including a number of large well grassed properties (Between BCWA Site 3 and the Golden Willow Bridge Road, Figure 1). The Association recommends a provisional listing for aquatic life on the portion of segment 1a from the Golden Willow Road Bridge, Clear Creek County to the inlet of Evergreen lake.

The Association suspects the development along this portion of Upper Bear Creek maybe a cause for potential aquatic life impairment at the Keys-on-the-Green site. The Association has a good monitoring data set for this segment and the data does not suggest water quality impairment. The development area along Bear Creek is sewered. The Association in 2012 will move its water quality sampling station from the Singing River Ranch site to the new Golden Willow Road Bridge site (Figure 1). The new site will include a future water chemistry, fishery survey, habitat evaluation and macroinvertebrate sample.



**Figure 1** Segment 1a with BCWA Sample Sites (Mt. Evans Wilderness Boundary to Evergreen Lake inlet).

**Table 8** MMI Scores for Sites on Segment 1a

		=Average of duplicate samples			2010	2009	2008	2007	2006	2005	2004		
BCWA ID	WQCD ID	Location	Segment	MMI	MMI	MMI	MMI	MMI	MMI	MMI	Average	s.d.	
3a	5764	Keys on the Green	1a	36.75	56.50	38.60	42.20	41.80	46.00		43.64	7.06	
1b	5768	Dick Williams Ranch	1a				60.30				60.30		
1a	5768A	Singing River Ranch	1a	71.20	77.20	77.40					75.27	3.52	

**Association Data Record.** The Association conducts special stream monitoring programs along Bear Creek. The monitoring year divides into a warm-season period with more intense sampling and a cold-season period, designed to provide minimal winter and spring data. The Association 2010 Data Report and Annual Report as submitted to the WQCC and WQCD summarizes temperature and water quality monitoring data, sampling results obtained from in-stream locations, and data from five-wastewater treatment plant effluents. The complete water quality data set is an electronic data report, which was also transmitted to the WQCD staff.

Stream sampling and monitoring data, including pH, Temperature, Dissolved Oxygen, Specific Conductance, Ammonia, Nitrate+Nitrite, Total Inorganic Nitrogen (calculated) and Total Phosphorous was collected from July through September, at 22 sites. Stream temperature dataloggers located at 32



Sites, excluding the five-wastewater treatment plants. Eight sites have dataloggers temperatures from January 1 through December 30. The 24 remaining sites have temperature data from May through September. Manual flows measured at 16 sites during the July to September timeframe.

A major concern of the Association is that the rational only identifies data from Evergreen Trout Unlimited. The Association has collected a far greater data set for segment 1e over a much longer period. The Association on an annual basis since 1997 has provided to the Division all data collected by the Association in a format as defined by the Bear Creek Control Regulation and consistent with the Division accepted water quality monitoring plan, which is annual reviewed and updated. The Association provides multiple copies annually of an annual data report, annual report to the WQCC, spreadsheets of all collected data after QA/QC. For example in 2010, the Association Excel Spreadsheets and Technical Memorandums Posted to Website and provided directly to Division staff included:

1. Bear Creek Reservoir 2010 Master Spreadsheet (February 2011)
2. 2010 Watershed Data Report summary
3. Bear Creek Watershed Association Surface Water Monitoring Program Version 2010.02
4. 2010 macroinvertebrate spreadsheet (raw data WQCD)
5. Macroinvertebrate spreadsheet summary (all years)
6. 2010 Fishery Master and 2010 DOW Raw Fishery Data
7. 2010 flow Study Technical Memorandum
8. Coyote Gulch master spreadsheet and 2010 Summary report Technical Memorandum
9. Site master spreadsheet
10. Site Master Maps Series (Google Earth Maps)
11. 2010 Recreational Uses Technical Memorandum
12. 2010 Aeration Study Technical Memorandum
13. BCWA 2010 Kerr/Swede Summary Technical Memorandum
14. BCWA 2010 Bear Creek Reservoir Sediment Study Technical Memorandum
15. BCWA High Elevation Field Data Summary
16. High Quality Evergreen Lake data Summary

It appears that the Association data was not considered in the evaluation of segment 1e. The Association also assembled a comprehensive temperature data set as part of the Regulation #38 (5 CCR 1002- 38) rulemaking hearing process and previous Regulation #93 hearings. Again these data sets appear to be ignored. There is an unrealistic push to list the mainstem of Bear Creek for temperature impairment that simply ignores the data and science.

**Segment 1e Temperature Standard.** In the Regulation #38 (5 CCR 1002- 38) rulemaking hearing process (June 2009) Bear Creek segment 1e was determined to be a transitional water, which resulted in the adoption of site specific temperature standards (WQCC amended 1/10/11, effective 6/30/11)(Table 9).

**Table 9 Adopted Temperature Standards for Bear Creek Segment 1e.**

Segment	Segment	Standard	Month	STANDARD (°C)		Month	STANDARD (°C)	
				(MWAT)	(DM)		(MWAT)	(DM)
1e	Mainstem of Bear Creek from the outlet of Evergreen Lake to the Harriman Ditch.	T=TVS(CS-II) °C; April-Oct; T(WAT)=19.3 oC	April-Oct	19.3	23.8	Nov-March	9.0	13.0

The Divisions Exhibit 1-38 “South Platte River Basin Rationales for Segments and Parameters Proposed for Inclusion in Regulation No. 93 identifies segment 1e as “The mainstem of Bear Creek Segment 1e has a Cold Stream Tier 2 temperature standard. This means that from April through October the

maximum Weekly Average Temperature (MWAT) standard is 18.2 and the Daily Maximum (DM) standard is 23.8 degrees Celsius.” The Division used the wrong temperature standard in their evaluation. As such, the conclusion by the Division staff that temperature is the parameter of concerns is not supported by the data.

**Segment 1e Temperature Analysis.** The data does not support listing Segment 1e for temperature as the parameter of concern. The temperature data record shows this segment meets the temperature standard of 19.3 °C (chronic), with only a few excursions (Table 10). The Association data set shows this segment will meet the acute temperature standard of 23.8 °C, except in drought years (for example 2002) (Table 10). In 2005-10, the 30-minute temperature measurements used to calculate the MWAT values in segment 1e resulted in attainment with a standard of 19.3°C MWAT over 99% of the time (Table 11).

In 2010 there were 3 exceedances that occurred during the winter-summer shoulder season. In 2010 the Association data report and annual reported a temperature summary for Segment 1e (Sites 5, 7, 8a, 9, 12, 13a and 14a):

- All cold season temperatures complied with the standards.
- 98.90% of the recorded temperature values complied with the 19.3°C Weekly Average Temperature (WAT) standard Apr 1 through Oct 31. The 3 recorded 19.3°C WAT excursions all occurred during the winter-summer shoulder season and would not be considered as exceedances of the standard; consistent with the SECTION 303(d) LISTING METHODOLOGY 2012 Listing Cycle methodology (Page 27) which states

“...applicable site-specific winter standard for 30-days before the winter/summer transition, and 30-days after the summer/winter transition, provided that the natural seasonal progression of temperature is maintained and that temperature exceedances during these periods are not the result of anthropogenic activities in the watershed.

- 99.95% of the recorded temperature values complied with the 23.8°C Daily Maximum (DM) Temperature standard for Apr 1 through Oct 31.

The long-term temperature data record (2003-2011), excluding low flow years, shows this segment meets a chronic temperature standard of 19.3 °C over 99.9% of the time and an acute standard of 23.8 °C over 99.5% of the time during the period from April to October. The temperature data record does not support that temperature is a parameter of concern.

**Table 10 Segment 1e Temperature Standard Evaluation**

Year	Standard Evaluation	Standard Evaluation												
		5	6	7	8a	9	10	11	12	13a	13b	14a	14b	14c
2002	#Values>19.3°C WAT		1				0	0			1		2	
	#Values>23.8°C DM		18				16	15			27		19	
2003	#Values>19.3°C WAT		0				0	0			0			0
	#Values>23.8°C DM		0				0	0			0			1
2004	#Values>19.3°C WAT		0				0	0			0		0	
	#Values>23.8°C DM		0				0	0			0		0	
2005	#Values>19.3°C WAT		0	0			0	0			0		0	
	#Values>23.8°C DM		0	0			2	0			0		0	
2006	#Values>19.3°C WAT	0	0	0	0	0	0	0	0	0	0	0	0	

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Year	Standard Evaluation	5	6	7	8a	9	10	11	12	13a	13b	14a	14b	14c
			#Values>23.8°C DM	0	0	0	0	2	1	0	0		0	0
2007	#Values>19.3°C WAT	0	0	0	0	0	0	0	0	0		0		
	#Values>23.8°C DM	0	0	0	0	0	0	0	0	0		0		
2008	#Values>19.3°C WAT	0		0	0	0			0	0		0		
	#Values>23.8°C DM	0		0	0	0			0	0		0		
2009	#Values>19.3°C WAT	0		0	0	0			0	0		0		
	#Values>23.8°C DM	0		0	0	0			0	0		0		
2010	#Values>19.3°C WAT	1			1	1			0	0		0		
	#Values>23.8°C DM	0			0	1			0	0		0		

- Site 5 Above EMD WWTP, at CDOW downtown site
- Site 6 Above EMD WWTP effluent
- Site 7 Below EMD WWTP effluent, at the Hwy 74 bridge
- Site 8a Above Bear Creek Cabins, at DOW site
- Site 9 O'Fallon Park, west end at CDOW Site
- Site 10 O'Fallon Park, east end above KSWD WWTP effluent
- Site 11 Lair o' the Bear Park, west end above GWSD WWTP effluent
- Site 12 Lair o' the Bear Park, at CDOW site
- Site 13a Below Idledale, Shady Lane at CDOW site
- Site 13b Below Idledale (Baker Br)
- Site 14a Morrison Park west end of town, at CDOW Site
- Site 14b West end of Morrison, just west of DWR gaging station
- Site 14c Above Harriman Diversion

**Table 11 Segment 1e Temperature Compliance Data**

Year	BASIN SEGMENT Segment 1e(CS-II)	Cold Season (Nov-Mar)		Warm Season (Apr-Oct)	
		9.0°C WAT	13.0°C DM	19.3°C WAT	23.8°C DM
2010	# of Exceedances	0	0	3	1
	% Compliance	100%	100%	98.8%	99.95%
2009	# of Exceedances	0	0	0	0
	% Compliance	100%	100%	100%	100%
2008	# of Exceedances	0	0	0	0
	% Compliance	100%	100%	100%	100%
2007	# of Exceedances	0	0	0	0
	% Compliance	100%	100%	100%	100%
2006	# of Exceedances	0	0	1	3
	% Compliance	100%	100%	99.9%	99.0%
2005	# of Exceedances	0	0	0	2
	% Compliance	100%	100%	100%	99.2%

The Association strongly believes that it is not appropriate to list Bear Creek Segment 1e as temperature impaired based on only 1 exceedance in 5-years (2006, Table 11). The Association will continue to monitor temperature along the segment to help establish the long term trends.

**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.

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5. Pat O'Connell  
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**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 2012 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 2nd day of November 2011:

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