Boulder Creek and St. Vrain Creek Watersheds Annual Water Quality Analysis for 2015



Prepared for Keep It Clean Partnership

Prepared by Wright Water Engineers, Inc.

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Executive Summary

In 2014, the Keep It Clean Partnership (KICP) developed the *Boulder Creek and St. Vrain Creek Coordinated Watershed Monitoring Framework* ("Monitoring Plan"), providing improved coordination of multiple independent monitoring efforts being conducted in the watershed. This report is the second joint water quality analysis report resulting from the Monitoring Plan and provides a summary of flow and field conditions during 2015, water quality analysis, a limited summary of biological monitoring results, and conclusions and recommendations for future monitoring and reporting efforts. The primary water quality parameters discussed in this report include nutrients and *E. coli*, with limited discussion of arsenic, selenium and copper, along with several general water quality indicators (e.g., total suspended solids, dissolved oxygen, pH). Key findings from analysis of the 2015 data include:

- *E. coli*: All stream segments evaluated in this report exceed *E. coli* standards during 2015, except South Boulder Creek. Additional source identification of *E. coli* through targeted monitoring is recommended. Boulder Creek between 13th Street and the confluence with South Boulder Creek is included in an *E. coli* Total Maximum Daily Load (TMDL), which drives additional regulatory requirements under Municipal Separate Storm Sewer System (MS4) permits.
- **Total Phosphorus**: In June 2015, the Water Quality Control Commission adopted total phosphorus standards for multiple stream segments in the Boulder Creek/St. Vrain Creek basin. These standards apply above wastewater treatment plant (WWTP) discharges and are attained on all segments evaluated in this report. Below WWTP discharges, these standards do not yet apply; however, no stream segments evaluated in this report would be expected to attain these "interim values" for total phosphorus under current conditions.
- **Total Nitrogen**: Above WWTP discharges, the streams in the watershed attain the "interim values" for total nitrogen that were developed in Regulation 31 in 2012. Below WWTP discharges, no stream segments evaluated in this report would be expected to attain the "interim values" for total nitrogen under current conditions.
- Total Recoverable Arsenic: Although temporary modifications have been adopted for segments with "water + fish" standards for total recoverable arsenic through December 31, 2021, available data collected for Boulder Creek and South Boulder Creek indicate that the stringent 0.02 μg/L standard is not attainable at any monitoring location. Less stringent stream standards for arsenic apply to other segments in the watershed.
- Selenium: Rock Creek and the portion of Coal Creek below Rock Creek are identified as impaired for elevated selenium based on River Watch data. It is recommended that additional monitoring be conducted to better characterize selenium in these areas and that a site-specific standard potentially be proposed in the future.
- Aquatic Life: Based on biological monitoring results for 2015, significant improvement in aquatic life conditions has occurred throughout the watershed at most locations, particularly relative to post-flood conditions in 2013. Based on 2015 results, only one location on Coal Creek qualifies as impaired; however, several streams are listed as provisionally impaired on the 2016 303(d) List.

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1.0

Introduction

The overall St. Vrain Creek watershed (8-digit hydrologic unit code [HUC] = 10190005) covers approximately 980 square miles and includes many governmental jurisdictions and water-related organizations (e.g., conservancy districts). Streams in the watershed include Boulder Creek, South Boulder Creek, Coal Creek, Rock Creek, Left Hand Creek, St. Vrain Creek and many smaller tributaries. Multiple local governments and organizations conduct instream water quality, biological and flow monitoring in various parts of the watershed. In 2014, the Keep It Clean Partnership (KICP) developed the *Boulder Creek and St. Vrain Creek Coordinated Watershed Monitoring Framework* ("Monitoring Plan") for the following purposes:

- To provide better coordination of existing multi-jurisdictional monitoring efforts,
- To provide consolidated documentation of the monitoring that is occurring in the watershed,
- To provide guidance for standardized field procedures and analytical methods, and
- To identify and recommend additional monitoring to fill data gaps to support progress toward attainment of stream standards.

Due to the size of the watershed, the remote nature of the upper basin locations, and varying levels of participation among governmental jurisdictions, the Monitoring Plan cannot practically address all stream reaches. The Monitoring Plan is designed to address key water quality parameters, flow, and biological conditions at selected locations in the watershed where supported by local jurisdictions. These locations generally span the western edge of the urbanized portion of the watershed eastward to I-25. The scope of the Monitoring Plan is limited to flowing streams, although both the City of Boulder and the City of Longmont also monitor lakes and reservoirs. This report provides an overview of the Monitoring Plan and scope of the analysis, a summary of flow and field conditions during 2015, water quality analysis, a limited summary of biological monitoring results, and conclusions and recommendations for future monitoring and reporting efforts. Because of differences in the breadth of the monitoring programs conducted by various jurisdictions, this report focuses primarily on several general water chemistry parameters, nutrients, E. coli, arsenic and selenium, based on the priorities identified by the KICP. Additionally, selected findings from biological monitoring conducted by Timberline Aquatics on Boulder Creek, South Boulder Creek, Coal Creek, Rock Creek, Left Hand Creek and St. Vrain Creek for KICP municipalities are provided.

Appendix A provides maps identifying monitoring locations, and Appendices B through D provide tabular and graphical summary statistics supporting the analysis. Appendix E provides a summary of designated uses and stream standard adopted for streams in the basin in Regulation 38, and Appendix F provides stream segments identified as impaired on the currently applicable "303(d) List." Appendix G provides Quality Assurance/Quality Control results, and Appendix H provides a list of stream restoration projects being implemented in the watershed as part of response and recovery from the September 2013 flood under the Natural Resources Conservation Service (NRCS) Emergency Watershed Protection Program.

2.0 Overview of Monitoring Program and Scope of Analysis

The Boulder Creek and St. Vrain Creek Coordinated Watershed Monitoring Framework (KICP and WWE 2014) is an on-going, voluntary, ambient-based program that is independently managed and implemented by each participating jurisdiction (Table 1). The Monitoring Plan is focused on developing a coordinated baseline for the overall watershed. In the future, monitoring objectives and activities may be added to assess measureable results from implementation of structural or non-structural best management practices (BMPs) in the watershed.

Table 2 summarizes the primary monitoring locations included in this annual report, Table 3 summarizes municipal wastewater treatment plant (WWTP) locations, and Table 4 summarizes the monitoring program analytes and frequencies.

The overall basin monitoring program includes these general components:

- Water quality monitoring: Water quality monitoring includes instream sample collection during ambient conditions. This includes voluntary programs as well as samples collected to meet Regulation 85 requirements.¹
- Flow measurements: Two types of flow measurements are conducted (or retrieved) as part of this monitoring program. The first includes continuous daily flow measurements conducted at fixed, long-term gauges shown on Figure A-1 in Appendix A. These gauges and associated data are maintained by the U.S. Geological Survey (USGS) (see http://waterdata.usgs.gov/usa/nwis/sw) or the Colorado Division of Water Resources http://cdss.state.co.us/onlineTools/Pages/StreamflowStations.aspx). (DWR) (see Additionally, One-Rain gauge sites used in early alert flood warning systems may be used to supplement flow data; however, data downloads are restricted to subscribers and have not been included in this report. The second type of flow monitoring includes instantaneous flow monitoring with hand-held monitoring equipment, which is used to supplement fixed gauge data in key areas. Manual flow monitoring is conducted only when it is safe for field staff to enter the stream. Chapter 3 provides a summary of streamflow conditions for the USGS, DWR, and the municipally-operated stream gauge at Coal Creek (which was formerly a USGS gauge).
- **Biological Monitoring**: Biological monitoring is conducted in the spring and fall for portions of Boulder Creek, South Boulder Creek, Coal Creek, Rock Creek, St. Vrain Creek, and Left Hand Creek. Detailed annual reports on these monitoring efforts are provided by Timberline Aquatics; however, a subset of the biological monitoring results is also provided in this report. The information contained in this report is limited to data needed to assess attainment of Colorado Policy 10-1 for aquatic life (e.g., multi-metric index [MMI] and associated metrics).

¹ Regulation 85 is Colorado's Nutrients Management Control Regulation, which establishes discharge permit limits and/or monitoring requirements for point sources and other provisions for nonpoint sources.

General Waterbody	Program Description	Primary Monitoring Plan
Boulder Creek and Tributaries (from headwaters to below Coal Creek); Reservoirs— upper source water sites, Barker Reservoir, Boulder Reservoir; Dry Creek/Little Dry Creek	Extensive program including nutrients, fecal indicator bacteria, metals, and other physical constituents; flow; and biological monitoring. Sampling frequencies vary by waterbody. Main stem monitored monthly.	City of Boulder, Boulder Creek Monitoring Program, Prepared by the City of Boulder Department of Public Works Utilities Division Water Quality and Environmental Services. May 2012. Updated June 2014.
Rock Creek/Coal Creek	Monthly monitoring for TP, TKN, NO3/NO2, TN, TP and flow. Also pH, temperature, hardness, fecal indicator bacteria. Biological monitoring.	Regulation 85 Nutrient Sampling and Analysis Plan (separate plans for Lafayette, Superior, Louisville, Erie), 2013.
St. Vrain Creek (vicinity of Longmont); Left Hand Creek (@ conf. w/ St. Vrain) Selected ditches: Dry Creek, Spring Gulch #1, Spring Gulch #2, Oligarchy Ditch	Extensive program including nutrients, fecal indicator bacteria, metals, and other physical constituents; flow; and biological monitoring. Sampling frequencies vary by waterbody. Monthly monitoring for TP, TKN, NO3/NO2, TN, TP and flow.	Regulation 85 Nutrient Sampling and Analysis Plan, City of Longmont, Public Works and Natural Resources Division of Environmental Services, CDPS Permit No. CO- 0026671, February 2013.
Monitoring Conducted in Wate	rshed by Others (Non-KICP Part	ners)
Boulder Creek above and below Boulder Supply Canal; Left Hand Creek above and below Boulder Feeder Canal; St. Vrain Creek above and below St. Vrain Supply Canal (+ other ditches/reservoirs)	Extensive program including nutrients, metals, and other physical constituents; flow, and biological monitoring. Sampling frequencies vary by waterbody.	Standard Operating Procedures for Northern Water's Water Quality Monitoring Programs. Northern Water, June 2014.
Multiple Stream Segments	Multiple parameters at varving frequencies	River Watch QAPP
Multiple Stream Segments	Multiple parameters at varying frequencies	Water Quality Control Division QAPP

Table 1. Summary of Routine Instream Monitoring Programs in the Basin

Note: Table 1 describes overall monitoring programs conducted by entities in the watershed. Data evaluated in this report focus on selected constituents addressed in monitoring conducted by KICP partner programs.

Plot ID	Instream Monitoring Location Description	Stream Name	Stream Seg- ment	Data Provider
BC-Can	Pool area at Anderson Ditch headgate	Boulder Creek	BC-2b	City of Boulder
BC-CU	Under foot bridge connecting Folsom Field with dirt parking lot to the north	Boulder Creek	BC-2b	City of Boulder
BC-61	Just West of 61st Street bridge	Boulder Creek	BC-9	City of Boulder
BC- aWWTP	Under bridge at 75th Street western side	Boulder Creek	BC-9	City of Boulder
BC-aDC	At diversion channel	Boulder Creek	BC-9	City of Boulder
BC-95	Downstream of Lower Boulder Ditch headgate 0.87 miles below BC-aDC sample site	Boulder Creek	BC-9	City of Boulder
BC-107	Bridge at 107th Street	Boulder Creek	BC-9	City of Boulder
BC-bCC	Bridge where Boulder Creek goes under East County Line Road 2.13 miles below BC-Ken site.	Boulder Creek	BC-10	City of Boulder
SBC-3.5	Open Space at McGuinn Ditch gate (merged with SBC-4 in analysis)	South Boulder Creek	BC-4b	City of Boulder
CC-Ken	Bridge where Coal Creek goes under Kenosha Rd. 0.89 miles upstream from Boulder Creek confluence.	Coal Creek	BC-7b	City of Boulder
9-BC	Boulder Creek above the North Erie WWTP discharge	Boulder Creek	BC-10	Erie
10-BC	Boulder Creek below the North Erie WWTP discharge	Boulder Creek	BC-10	Erie
11-BC	Boulder Creek Gauge 06730500	Boulder Creek	BC-10	Erie
1-CC	Coal Creek above the Louisville WWTP discharge	Coal Creek	BC-7b	Louisville
2-CC	Coal Creek below the Louisville WWTP discharge	Coal Creek	BC-7b	Louisville
3-CC	Coal Creek above the confluence with Rock Creek	Coal Creek	BC-7b	Lafayette
6-CC	Coal Creek above the Lafayette WWTP discharge	Coal Creek	BC-7b	Lafayette
7-CC	Coal Creek below the Lafayette WWTP discharge	Coal Creek	BC-7b	Lafayette
4-RC	Rock Creek above the Superior WWTP discharge	Rock Creek	BC-8	Superior
5-RC	Rock Creek above the confluence with Coal Creek	Rock Creek	BC-8	Superior
M9.5-SV	M-9.5, St. Vrain @ N. 75th St	St. Vrain Creek	SV-3	Longmont
M8.9-SV	St. Vrain @ Golden Ponds, M-9	St. Vrain Creek	SV-3	Longmont
M8.4-SV	St Vrain @ Below Boston Ave, M-8.4	St. Vrain Creek	SV-3	Longmont
M8.2-SV	St Vrain @ Pratt Parkway, M-8.2	St. Vrain Creek	SV-3	Longmont
M8-SV	St. Vrain @ Above Effluent M-8	St. Vrain Creek	SV-3	Longmont
T-Eff	WWTP effluent channel where it enters the St. Vrain; combined with the roadside ditch flow.	St. Vrain Creek	NA/ Ditch	Longmont
M7-SV	M-7, St. Vrain @ 119	St. Vrain Creek	SV-3	Longmont
M6-SV	St. Vrain at County Line Rd., M-6	St. Vrain Creek	SV-3	Longmont
T11-LH	Left Hand Creek @ St. Vrain,T-11	Left Hand Creek	SV-5	Longmont

² Additional monitoring is also conducted in the watershed. Locations in Table 2 are the sites selected for analysis for purposes of this report. Sites M9.5-SV, M8.4-SV and M8.2-SV are included in this report but were not included in the KICP Monitoring Plan Version 1.1.

Plot ID	Instream Monitoring Location Description	Stream Name	Stream Seg- ment	Data Provider
KICP Sites	Not Monitored during 2015			
0-CC	Above urbanized area on Coal Creek	Coal Creek	BC-7b	Louisville
M4-SV	St. Vrain above Boulder Creek Confluence	St. Vrain Creek	SV-3	Longmont
LH-95	Left Hand Creek @ 95 th	Left Hand Creek	SV-5	Longmont

WWTP discharge data have also been provided, at least for nutrients, to support the analysis in this report. The municipal WWTP discharges are summarized in Table 3.

KICP Sample ID	WWTP	Stream (Receiving Water)	CDPS Permit	Comment
A-CC	Louisville	Coal Creek	CO0023078 Farthest upstream WWTP discharge to Coal Creek.	
B-RC	Superior	Rock Creek	CO0043010 Discharges to Rock Creek, which flow Coal Creek between the Louisville a Lafayette discharges.	
C-CC	Lafayette	Coal Creek	CO0023124	Farthest downstream WWTP discharging to Coal Creek.
E-BC	Erie	Boulder Creek	CO0045926	This location is for Erie's North WWTF. Erie's South WWTF is not currently in operation, but is identified as "D-CC," and discharged to Coal Creek.
WWTF Eff	Boulder	Boulder Creek	CO0024147	Identified by Boulder as "manhole" monitoring location for 75 th Street WWTF.
Long-Eff (or WWTP- LGMT)	Longmont	St. Vrain Creek	CO0026671	This is the compliance monitoring location for Longmont's WWTP. The monitoring location "T-Eff" is also mostly WWTP effluent, but is combined with flows in a roadside ditch.

Table 3. WWTP Discharges

¹Long-Eff will be referred to as WWTP-LGMT in future annual reports.

Parameter	Frequency	Method Detection Limit (MDL)
рН	monthly	1 SU
DO	monthly	0.1 mg/L
Temperature	monthly	-15°C
Conductivity	monthly	0.1 mmhos/cm
Hardness, Total as CaCO3	monthly	1 mg/L
Alkalinity, Total	monthly	1 mg/L
Flow	monthly (inst. meters); daily @ gauges	Stream dependent
E. coli	monthly	1 MPN/100 mL
TSS	monthly	2 mg/L
NH3, as N	monthly	50 μg/L
NO3+NO2, as N	monthly	20 µg/L
TKN, as N	monthly	100 µg/L
TN, as N	monthly	100 µg/L
TIN, as N	monthly	NA
TP, as P	monthly	10 µg/L
Benthic monitoring*	twice per year, spring and fall	
Metals: (1) As, (2) Se,	TBD	
(3) Metals w/stream stds.	(min. quarterly)	varies

Table 4. 2015 KICP Monitoring Program Analytes

*Benthic monitoring discussed in this report is limited to parameters needed to assess attainment with Aquatic Life Policy 10-1.

Other data sets that could be integrated into this report in the future include River Watch, Northern Colorado Water Conservancy District, rotational basin monitoring conducted by the Water Quality Control Division (Division), Denver Water and additional routine monitoring by the KICP at other locations in the watershed. Examples of other data and special studies that may be of interest to KICP include:

- City of Boulder's source water monitoring program that includes streams and reservoirs in the upper basin of Boulder Creek, as well as monitoring for Barker Reservoir and Boulder Reservoir and tributaries.
- City of Longmont's monitoring for several reservoirs, ditches and creeks. These data are included in the database, but are not analyzed in this report.
- The Division's routine rotational monitoring or special monitoring in the basin. During 2015, the Division monitored two locations on Boulder Creek and additional monitoring by the Division is anticipated in 2017.

- River Water monitoring program. River Watch volunteers conducted monitoring in several areas of the watershed, primarily Gamble Gulch and the upper portion of Left Hand Creek basin. Samples were also collected on Coal Creek, Boulder Creek, St. Vrain Creek and South Boulder Creek. The Left Hand Watershed Oversight Group (LWOG) completed a summary analysis of River Watch data collected in the upper portion of the Left Hand Creek basin in 2016. This report can be accessed at: http://www.keepitcleanpartnership.org/wp-content/uploads/partner-pdfs/LeftHandWQreport2016.pdf.
- Northern Colorado Water Conservancy District's routine monitoring program.
- The City of Boulder's special monitoring program for neonicotinoids.
- Supplemental *E. coli* monitoring programs being conducted by the cities of Lafayette, Louisville and Boulder.
- Boulder County Parks and Open Space's targeted monitoring program for agricultural sites and practices (limited data).

3.0 Summary of Annual Flow Data and Pertinent Field Conditions

During 2015, stream flow was measured at the gauge locations in Table 5. Figures 1 through 9 provide the 2015 hydrographs at these locations, with the format differing slightly depending on whether the site is managed by the USGS, the DWR or others. Varying periods of record are available for each gauge. A few observations from review of these hydrographs and precipitation data at the National Oceanic and Atmospheric Administration/National Weather Service (NOAA/NWS) Cooperative Site in Boulder include:

- The NOAA/NWS site in Boulder provides precipitation data that were screened for significant storm events during 2015. Based on this review, the only instream sampling event expected to be influenced by rainfall runoff was on May 19, 2016 due to a 1.35-inch storm event. May was also the rainiest month overall during 2015, with the largest storm event of the year recorded earlier in the month at 1.64 inches on May 9.
- Spring runoff peaked in early June for most streams in each basin.
- Streamflows during 2015 were higher than the historic median during spring runoff for basins with available data for comparison.

The most common use of flow data by watershed projects is pollutant load calculations, which are essential to TMDL development and implementation. Flow is an important variable to record along with water quality data because it has significant influence on pollutant loading to the stream and instream concentrations. Flow data helps to underscore the relative importance of various point and nonpoint sources by developing a relationship between water quality variables and discharge. Higher than normal flows can dilute wastewater contributions from WWTPs, but they can also impact the stability of the stream channel, the size and quantity of bed material, sediment transport rates, and pollutant transport rates from urban and agricultural land uses. Low flows can have significant impact on variables such as water temperature and fish habitat.

The Boulder Creek and St. Vrain Creek watersheds continue to recover from the flood that occurred in September 2013. Field conditions that may affect 2015 data relative to this event include channel instability, denuded vegetation on banks and other long-term impacts from the September 2013 flood.

USGS ID	DWR or Other Name	Description
06727000	BOCOROCO	Boulder Creek Near Orodell
06730200	BOCNORCO	Boulder Creek at North 75 th Street
06729500	BOCELSCO	South Boulder Creek Near Eldorado Springs
06730500	BOCLONCO	Boulder Creek at Mouth Near Longmont
06724970	LEFTHOCO	Left Hand Creek at Hover Road Near Longmont
N/A	SVCLOPCO	St. Vrain Creek Below Ken Pratt Blvd. at Longmont, CO
		St. Vrain Creek Below Longmont [Damaged by Flood]
06725450	SVCBLOCO ¹	(USGS calculates as Gauge 06730525 – Gauge 06730500)
06730525	SVCBBCCO	St. Vrain Creek Below Boulder Creek at HWY 119 Near Longmont
06730400	COALOUCO	COC-1 Louisville Gauge, no longer managed by USGS/DWR

Table 5. Stream Gauges with 2015 Data Retrieved

¹This site was severely damaged by flood waters on September 12, 2013. Instead of replacing this gauge in the same location, a new gauge was installed downstream of Boulder Creek at Hwy 119, 06730525. A calculated Mean Daily Discharge (06730525 - 06730500) is made available after data at both sites have been verified. (Source: http://waterdata.usgs.gov/nwis/uv?site_no=06725450).



Figure 1. Boulder Creek near Orodell 2015 Hydrograph

Figure 2. South Boulder Creek near Eldorado Springs 2015 Hydrograph





Figure 3. Boulder Creek at North 75th Street 2015 Hydrograph

Figure 4. Boulder Creek at Mouth near Longmont 2015 Hydrograph





Figure 5. Left Hand Creek at Hover Road near Longmont 2015 Hydrograph

Figure 6. St. Vrain Creek below Longmont (Historic Hydrograph)





Figure 7. St. Vrain Creek below Boulder Creek at Hwy 119 Near Longmont 2015 Hydrograph

Figure 8. St. Vrain Creek below Ken Pratt Blvd at Longmont 2015 Hydrograph





Figure 9. Coal Creek at Louisville (COC-1) 2015 Hydrograph

4.0

Water Quality Analysis

A brief overview of the statistical methods used in this analysis is provided, followed by a brief overview of selected stream standards assessment methodologies relevant to this report and a discussion of findings for general water chemistry, nutrients, *E. coli*, and selected metals for certain streams by basin. Appendices B through D provide statistical summaries and data plots.

STATISTICAL CHARACTERIZATION METHODS

Tabulations of basic summary statistics are provided in Appendix B, including measures of central tendency and range of the data, along with several other statistical parameters, as described in Table 6. For purposes of descriptive statistics and plots, zero was substituted for non-detects to be consistent with standards assessment procedures used by the Division. In the event that more advanced trend analysis or hypothesis testing is conducted in future reports, an alternative substitution method may be considered (e.g., one-half of the detection limit, other advanced methods). This report is limited to statistical characterization and does not include formal hypothesis testing and trend analysis, given that this is only the second year of the KICP coordinated monitoring program.

Parameter	Brief Description			
Number of The number of values analyzed (n). Statistics based on few samples sh				
observations	used with caution.			
Minimum	The minimum of the series analyzed.			
Maximum	The maximum of the series analyzed.			
1 ct quartilo	The first quartile (Q1) is defined as the value for which 25% of the values are			
Ist quartile	less. Corresponds to the "floor" of a boxplot.			
	The median (Q2) is the 50 th percentile value for the data set that corresponds			
Median	to the mid-line of a boxplot. This is a non-parametric estimate of central			
	tendency that does not require the assumption of normally distributed data.			
2rd quartilo	The third quartile (Q3) is defined as the value for which 75% of the values are			
Siù quai tile	less. Corresponds to the "roof" of a boxplot.			
	The mean of the sample is the arithmetic average. This is a parametric			
Mean	estimate of central tendency that requires the assumption of normally			
	distributed data.			
Standard deviation	A measure of how widely values are dispersed from the average (mean)			
	value.			
Geometric mean	A type of average, defined as the n th root of the product of n values. (Used for			
	assessment of <i>E. coli</i> standard compliance.)			

Table 6.	Overview of	of Descriptive	Statistics	Provided in	Appendices

Graphical representations of water quality data are often useful for identifying potential spatial and temporal water quality trends. Appendices C and D provide boxplots and time series plots of the data provided in 2015. Descriptions of the plots include:

- **Boxplots**: The legend in Figure 10 provides a key for interpreting boxplots, which are useful for depicting both the central tendencies (e.g., mean and median) of data sets, as well as the range of concentrations observed. Each boxplot provides a graphical representation of the 1st quartile (Q1 or 25th percentile), median (50th percentile), and 3rd quartile (Q3 or 75th percentile) data values at a specific monitoring location displayed together as a box with horizontal line at the median. Additionally, the mean is displayed with a red "+." Lastly, the plot includes the upper and lower limits (i.e., the ends of the "whiskers") beyond which values are considered anomalous. The ends of the whiskers represent the following: a) lower limit: = Q1 1.5 (Q3 Q1) and 2) upper limit: Q3 + 1.5 (Q3 Q1). Boxplots are provided in Appendix C for the KICP Monitoring Plan data set.
- **Time Series Plots**: Time series plots provide a graphical representation of data over time. The x-axis identifies sample dates and the y-axis provides quantitative values for those sample dates. Time series plots are particularly useful for identifying potential repeating seasonal patterns over time, or identifying whether multiple sample locations behave similarly or differently over time. Time series plots are provided in Appendix D for the KICP Monitoring Plan data set.





OVERVIEW OF STREAM STANDARDS ASSESSMENT METHODOLOGY

Independent and proactive assessment of water quality data to determine whether streams attain Colorado water quality standards is an important aspect of the annual data review process. It provides an opportunity for local governments to identify potential water quality impairments and collect additional data prior to formal assessment by the Division for the 303(d) List of Impaired Waters. A complete assessment of water quality standards has not been completed for stream segments in this report because the analysis is limited to a subset of parameters on each stream segment. A full description of the Division's standards assessment methodology is beyond the scope of this report, but can be accessed in *Colorado Listing Methodology: 2016 303(d) List* (Division 2015). This methodology is typically reviewed and refined on a biannual basis, so it should be checked for changes prior to completing each annual report. A few key aspects of the assessment methodology for general reference for purposes of constituents discussed in this report for streams include:

- The most recent five years of data are typically used for purposes of standards assessment.
- For assessment of chronic standards, the 85th percentile value for the data set is typically compared to the standard, with the exception of metals with standards in the total form. In those cases (e.g., iron, arsenic), the 50th percentile value is used.
- For assessment of acute standards, more than one exceedance of an acute standard over three years is considered an impairment.
- For *E. coli*, the bimonthly geometric mean is compared to the standard. Exceedance of the standard during one bimonthly assessment period is considered an impairment. Evaluation of the *E. coli* standard is based on multiple fixed two-month intervals. The evaluation intervals are January/February, March/April, May/June, July/August, September/October, and November/December. A sample size of five or more is required for assessment of the two-month intervals. Data are assessed yearly if adequate data from each two-month interval are available. If adequate data are not available to make an attainment decision using yearly data, then the Division will assess *E. coli* data for that two-month interval over the entire period of record (i.e., combing several years of data for each bimonthly increment).
- If evaluation of a data set for an entire segment does not indicate impairment, but specific location(s) within the segment consistently exceed acute or chronic standards, the specific portion of the segment may be listed as impaired.
- Water supply standards (e.g., nitrate, arsenic) are assessed along the entire segment for those segments where a water supply use has been adopted, regardless of whether or not there is a point of intake identified on the stream.

- For dissolved oxygen (DO), the 15th percentile value should not be less than the stream standard.
- For pH, the 15th percentile value should not be less than the lower pH range for the standard and the 85th percentile value should not be greater than the upper pH range.
- Temperature and ammonia standards evaluation requires more complex assessment techniques, which are described in the 2016 303(d) Listing Methodology (Division 2015).
- For purposes of standards assessment, non-detects are replaced with zeros, per Division policy. *E. coli* is an exception to this rule, with non-detects replaced with one to enable calculation of geometric means.
- If less than four samples are available, then the data set is not adequate to draw conclusions regarding impairment. In cases where less than four samples are available but impairment is indicated by available data, then the Division may list the segment on the Monitoring and Evaluation List until additional data can be collected.
- In 2012, Colorado adopted "interim nutrient values," which currently may be adopted as standards for stream segments upstream of WWTPs for total phosphorus and chlorophylla, but will also apply to segments downstream in the future (after May 31, 2022). For total nitrogen, interim values may be adopted after May 31, 2017 upstream of WWTPs and for other segments after May 31, 2022. For streams, total nitrogen, total phosphorus, and chlorophyll-*a* are evaluated based on comparison of annual median concentrations to the standard, which can be exceeded once every five years. (Additional assessment methods are in place for lakes and reservoirs.) In the June 2015 Rulemaking Hearing for Regulation 38, total phosphorus and chlorophyll-a standards were adopted for several stream segments in the watershed, including Boulder Creek Segment 2b, South Boulder Creek Segment 4b, Rock Creek (Boulder Creek Segment 8), and Left Hand Creek (Saint Vrain Segment 5), as described further in Appendix E.

SUMMARY OF 2016 303(D) LISTINGS

In December 2015, the Water Quality Control Commission (Commission) held a hearing to update Colorado's 303(d) List of impaired waters. Appendix F provides a summary of all of the stream segments in the Boulder Creek and St. Vrain watersheds that are identified as impaired or on the state's 2016 Monitoring and Evaluation List. Table 7 provides a summary of the subset of segments that are within the boundaries of this annual report (i.e., have monitoring stations included in this report).

WBID	Description	Portion	M&E	303(d)	Priority			
Boulder Creek Segments								
COSPBO02b	Boulder Creek, from below the confluence with North Boulder Creek to above the confluence with South Boulder Creek	all		As (also TMDL for E. coli)	L			
COSPBO04b	Mainstem of South Boulder Creek, including all tributaries from the outlet of Gross Reservoir to South Boulder Road	all		Cu, As	H/L			
COSPBO07b	Coal Creek, HWY 36 to Boulder Creek	all	Aquatic Life	E. coli	Н			
COSPBO07b	Coal Creek, HWY 36 to Boulder Creek	Below Confluence of Rock Creek		Se	Μ			
COSPBO08	All tribs to South Boulder Creek and all tribs to Coal Creek	Rock Creek	E. coli	Se	L			
COSPBO09	Mainstem of Boulder Creek, from South Boulder Creek to Coal Creek	all		As <i>, E. coli</i> (July to October)	L/H			
COSPBO09	Mainstem of Boulder Creek, from South Boulder Creek to Coal Creek	From 107th Street to the confluence with Coal Creek		Aquatic Life (provisional)	L			
COSPBO10	Boulder Creek, Coal Creek to St. Vrain Creek	all		<i>E. coli</i> , pH, As	H/H/L			
St. Vrain Segments								
COSPSV03	St. Vrain Creek, Hygiene Rd. to S. Platte River	all		E. coli	Н			
COSPSV05	Mainstem of Left Hand Creek, including all tributaries and wetlands from Highway 36 to the confluence with St. Vrain Creek.	all		Cu	Μ			

Table 7. 2016 303(d) and Monitoring Evaluation (M&E) List for Selected Stream Segments

FINDINGS FOR GENERAL WATER QUALITY CONSTITUENTS BY BASIN

The Monitoring Plan includes several general water quality parameters that can be useful in trend analysis and/or that are also needed for calculating certain standards. These include pH, dissolved oxygen (DO), temperature, conductivity, hardness, alkalinity and total suspended solids (TSS). For example, pH and temperature are needed for calculating ammonia standards and hardness is needed to calculate table value standards for various metals. Tabular statistics, boxplots and time series plots for these general water quality constituents are provided in Appendices B through D. General observations from the review of these water quality data are provided by basin below, although formal hypothesis testing for trend analysis has not been conducted for purposes of this report.

Boulder Creek and South Boulder Creek

The Boulder Creek monitoring locations addressed in this report span from Canyon Road (BC-Can) to above the confluence with the St. Vrain (11-BC). The City of Boulder monitors the stream at various locations through the City of Boulder to below the confluence with Coal Creek. The Town of Erie monitors Boulder Creek in the lower portion of stream between Coal Creek and St. Vrain Creek. Boulder's 75th Street WWTP discharges to the stream in the vicinity of 75th Street and Erie's WWTP discharges to Boulder Creek downstream of Coal Creek. The City of Boulder also monitors South Boulder Creek in the open space area upstream of Highway 36 (SBC-3.5/4). The long-term South Boulder Creek monitoring location is named SBC-3.5, but an alternative location named SBC-4 has been monitored following the September 2013 flood. These two locations have been combined into one location representing open space for purposes of this report.



Boulder Creek in the City of Boulder.

Key observations regarding general water chemistry for Boulder Creek during 2015 include:

- For Boulder Creek, alkalinity, conductivity, hardness, pH and temperature generally increase from upstream to downstream, consistent with previous published analyses (e.g., Murphy 2006) and annual analysis by the City of Boulder (City of Boulder and WWE 2013; 2015). Concentrations of these parameters at the South Boulder Creek monitoring location (SBC3.5/4) are relatively similar to the upstream portion of Boulder Creek at site BC-Can.
- The range of DO concentrations present at monitoring locations on Boulder Creek and South Boulder Creek attain the stream standards of 5 to 7 mg/L. Higher DO is better, and the stream standard varies by segment, depending on location and spawning conditions.
- TSS concentrations on Boulder Creek were low (typically < 30 mg/L), although a few elevated values occurred in response to the May 19, 2015 storm event. Higher concentrations typically occur during spring runoff and during storm events (City of Boulder and WWE 2015). Coal Creek has higher TSS concentrations than upstream locations on Boulder Creek and influences TSS concentrations in Boulder Creek below the confluence with Coal Creek (BC-bCC), as summarized in Figure 11.
- The pH standard for Boulder Creek is based on an allowable range of 6.5 to 9.0. Boulder Creek Segment 10 is listed on the 2016 303(d) List as impaired due to elevated pH. During 2015, most locations on Boulder Creek consistently attained the pH standard, with only one sample measurement at BC-107 exceeding 9.0 on November 24, 2015 (Figure 12). The pH levels are typically slightly higher in the winter (Boulder and WWE 2015).



Figure 11. 2015 Boulder Creek Total Suspended Solids

Note: If no boxplot is shown for a site, then TSS data were not provided for that sampling location.



Figure 12. 2015 Boulder Creek pH

Coal Creek and Rock Creek

Coal Creek monitoring locations addressed in this report span from the vicinity of Empire Road above Louisville's WWTP to Kenosha Road near the confluence with Boulder Creek. Rock Creek is also monitored above and below Superior's WWTP discharge. Rock Creek joins Coal Creek above the Lafayette's WWTP. There are three municipal WWTPs actively discharging to these streams: Louisville and Lafayette discharge to Coal Creek and Superior discharges to Rock Creek. Historically, Erie's South WWTP also discharged to Coal Creek, but Erie is now utilizing its North WWTP, which discharges to Boulder Creek.

The coordinated instream monitoring program on Coal Creek and Rock Creek is relatively new, so not all parameters were consistently monitored during 2015, which limits the ability to draw conclusions regarding upstream to downstream trends. As the monitoring program matures, additional trending should be feasible in future annual reports.

Key observations regarding general water chemistry for Coal Creek and Rock Creek during 2015 include:

- The pH values measured on Coal Creek ranged from 7.1 to 8.6 and attained applicable stream standards for pH. The pH values on Rock Creek ranged from 7.8 to 11.6, with an 85th percentile value of 8.6, which attains the upper pH standard.
- Most locations monitored on Coal Creek and Rock Creek had relatively normal³ alkalinity ranges (e.g., 190 to 270 mg/L at various monitoring locations), except for 1-CC. Although

³ Alkalinity ranging between 100 and 250 mg/L is considered normal for surface waters. Levels greater than 250 mg/L are considered high. Levels between 25 and 400 mg/L are generally beneficial for aquatic life (Weiner 2008).

only four samples were collected during September to December 2015 at 1-CC (near Empire Road), the mean alkalinity was much higher at 425 mg/L.

- Coal Creek and Rock Creek have relatively high hardness, with Coal Creek above Rock Creek averaging 277 mg/L, Rock Creek averaging 318 mg/L, and Coal Creek below the confluence averaging approximately 346 mg/L. These relatively high hardness values result in less stringent hardnessbased metals standards than those calculated for Boulder Creek and South Boulder Creek.
- The conductivity of Coal Creek generally increases in an upstream to downstream direction and appears to be particularly influenced by high conductivity from Rock Creek. The average conductivity for Rock



Coal Creek.

Creek above Coal Creek was 1429 umhos/cm and the average conductivity for Coal Creek above the confluence with Boulder Creek was 1148 umhos/cm.

- The DO standard for Coal Creek and Rock Creek is 5 mg/L. All locations sampled on Coal Creek attained this standard and most locations on Rock Creek attained the standard. One sample collected from Rock Creek below the Superior WWTP discharge on December 15 dipped below 5 mg/L, but the stream overall attained the standard during 2015. DO in the stream was also relatively low above the Superior WWTP discharge on the same date, so this condition is likely not caused by the WWTP discharge.
- TSS data were monitored at inconsistent sample frequencies for a few monitoring locations on Coal Creek (i.e., 1-CC, 2-CC, and CC-Ken). TSS concentrations prior to the confluence with Boulder Creek (CC-Ken) ranged from 1 to 558 mg/L, with the 558 mg/L result influenced by the May 19 precipitation event. TSS concentrations measured for Rock Creek ranged from non-detect to 277 mg/L, with the 277 mg/L result also likely influenced by earlier storm events in May. Figure 13 shows the range of TSS concentrations in Coal Creek above the confluence with Rock Creek. In future annual reports, more detailed trend analysis could be conducted if TSS data were collected at more monitoring locations. When reviewing Figure 13, CC-Ken is the only instream location with 12 monthly sampling events.



Figure 13. 2015 Coal Creek Total Suspended Solids

St. Vrain Creek and Left Hand Creek

St. Vrain Creek monitoring locations addressed in this report span from the urbanized western boundary of Longmont at North 75th Street to County Line Road (M6-SV) prior to the confluence with Boulder Creek. An additional monitoring location immediately above the confluence (M4-SV) has also been monitored by Longmont in the past, but has been discontinued temporarily due to damage from the September 2013 flood. Left Hand Creek enters St. Vrain Creek below Longmont's WWTP discharge and was monitored above the confluence during 2015. Two locations monitored by Longmont are associated



St. Vrain Creek is gradually recovering from the 2013 flood.

with Longmont's WWTP discharge: the effluent itself (identified as WWTF-Long) and a location that monitors the effluent comingled with a roadside ditch prior to discharge to the St. Vrain (identified as T-Eff).

Key observations regarding general water chemistry for St. Vrain Creek and Left Hand Creek (above the confluence with St. Vrain Creek) during 2015 include:

- Alkalinity, conductivity, and hardness generally increase in an upstream to downstream direction; however, the Longmont WWTP discharge appears to "reset" the alkalinity and hardness concentrations by temporarily decreasing values after which the increasing trend for downstream sites begins again.
- All pH values for St. Vrain Creek and Left Hand Creek monitoring locations attain stream standards of 6.5 to 9.0. All DO values attain the DO standard of 5.0.
- TSS concentrations in St. Vrain Creek are relatively low (averaging < 20-30 mg/L) for most sites. TSS concentrations for Left Hand Creek averaged 34 mg/L (Figure 14). TSS concentrations in Left Hand Creek were lower in 2015 than in 2014, which may indicate that Left Hand Creek is becoming more stable following the 2013 flood. Elevated TSS occurred on May 20 at several sample locations in response to a storm event on May 19. Upstream to downstream trending is not appropriate for the 2015 data set because of unequal seasonal distribution of sampling events. (The upper locations did not include the spring storm events or spring runoff during May.)



Figure 14. 2015 St. Vrain Creek and Left Hand Creek Total Suspended Solids

Note: On May 20 following the May 19 precipitation event, locations M8-SV, T11-LH and M7-SV had TSS results ranging from 95 to 206 mg/L, which are not shown on the plot.

FINDINGS FOR SELECTED NUTRIENTS BY BASIN

Nutrients are of interest for each basin due to current and future water quality regulations and the communities' desire to maintain healthy aquatic life and aesthetically pleasing conditions in streams. Excessive nutrient concentrations can lead to undesirable algae and other vegetative growth, adversely affecting aquatic life and aesthetics.

Currently, stream standards for ammonia, nitrate and nitrite have been adopted for each stream segment in Regulation 38, but additional nutrient "interim values" for total nitrogen and total phosphorus, as well as chlorophyll-*a*, will be added in the future in accordance with Regulation 31. Technology-based WWTP effluent limits for total inorganic nitrogen (TIN) and total phosphorus for WWTP discharges will be applied under Regulation 85, with most WWTPs receiving compliance schedules to allow time to implement treatment upgrades. The following nutrients are discussed in this section and will be of increasing interest to the municipalities:

- Phosphorus (total phosphorus)
- Nitrogen (total Kjeldahl nitrogen [TKN], nitrate, nitrite, ammonia, total nitrogen)

The "interim values" adopted in Regulation 31 for total nitrogen, total phosphorus and chlorophyll-*a* are summarized in Table 8. Chlorophyll-*a* (as attached algae) is not part of the current Monitoring Plan, so is not discussed further in this 2015 report. Interim values vary for cold water and warm water streams, with more stringent values for cold water streams. Appendix E provides a summary of stream standards adopted for various stream segments in the basin, including various nutrient standards adopted in the June 2015 Regulation 38 Rulemaking Hearing.

Analuta	Cold Water	Warm Water				
Analyte	"Interim Value"	"Interim Value"				
Total Phosphorus	0.11 mg/L	0.17 mg/L				
Total Nitrogen	1.25 mg/L	2.01 mg/L				
Chlorophyll-a	150 mg/m ²	150 mg/m ²				
Nutrients: Interim values for phosphorus and nitrogen in streams are assessed based on comparison of annual						
median to standard. Allowable exceedance frequency is once every five years.						
Chlorophyll- <i>a</i> : Chlorophyll- <i>a</i> is measured as maximum attached algae and is assessed during July 1-September						
30 as a "not to exceed" value.						

Table 8.	"Interim Values"	' for Total Nitrogen.	Total Phosphore	us and Chlorophyll-a

As additional background on water quality standards for nutrients:

• The cold water total phosphorus standard of 0.11 mg/L now applies to the upper sites on Boulder Creek (Boulder Creek Segment 2b) and South Boulder Creek (Boulder Creek Segment 4b). The warm water phosphorus standard of 0.17 mg/L applies to Rock Creek above the Superior discharge (Boulder Creek Segment 8) and to Left Hand Creek (St. Vrain Creek Segment 5). Although these standards only apply above WWTP discharges, these standards will potentially be applied downstream of WWTP discharges after May 31, 2022.

- As summarized in Table 8, new total nitrogen "interim values" were adopted under Regulation 31. These values can be applied no sooner than May 31, 2017 and may be applied after May 31, 2022. (Total nitrogen standards were not proposed for any of the stream segments in the June 2015 Regulation 38 hearing.) Total nitrogen is the sum of nitrate/nitrite and TKN.
- There is no standard for TKN, but it is an important component of total nitrogen. TKN represents organic nitrogen plus ammonia. To calculate total nitrogen, TKN is added to nitrate/nitrite.
- A nitrate standard of 10 mg/L is in place on streams with water supply use designations (Boulder Creek, South Boulder Creek, Coal Creek, Left Hand Creek). The Division adopted a new water supply use classification for Coal Creek in the June 2015 Regulation 38 hearing. For stream segments such as Rock Creek and St. Vrain Creek with agricultural use but no water supply designation, a standard of 100 mg/L applies.
- A nitrite standard of 0.05 mg/L for protection of aquatic life is also in place for the coldwater stream segments. For the warm water stream segments, the nitrite standard is ten times higher at 0.5 mg/L.
- Ammonia standards are adopted for protection of aquatic life and are calculated based on temperature and pH, in accordance with the aquatic life classification adopted for the segment in Regulation 38.

Tables 9 and 10 summarize the total nitrogen and total phosphorus data provided in support of this 2015 water quality analysis.

Sample	No.	Min	Max	25th%	Median	75th%	Mean	Std. Dev.
BOULDER CREEK								
BC-Can	12	ND	ND	ND	ND	ND	ND	ND
BC-CU	12	ND	0.15	ND	ND	ND	0.03	0.06
BC-61	12	ND	0.15	ND	ND	ND	0.02	0.05
BC-aWWTP	12	ND	0.19	ND	ND	ND	0.02	0.05
WWTF Eff [W]	12	1.35	3.55	1.88	2.40	2.75	2.34	0.67
BC-aDC	12	0.12	1.84	0.56	0.99	1.28	0.94	0.51
BC-95	12	ND	1.40	0.44	0.76	1.17	0.77	0.46
BC-107	12	0.16	1.30	0.48	0.61	1.19	0.76	0.43
BC-bCC	12	0.16	1.18	0.43	0.61	0.90	0.66	0.33
9-BC	12	0.13	1.13	0.38	0.87	1.02	0.70	0.37
E-BC [W]	12	0.13	0.56	0.16	0.20	0.24	0.23	0.12
10-BC	12	0.01	1.00	0.36	0.83	0.95	0.65	0.35
11-BC	12	0.15	0.99	0.27	0.71	0.91	0.61	0.33
		SC	OUTH BO	OULDER C	REEK			
SBC-3.5/4	12	ND	ND	ND	ND	ND	ND	ND
		COA	AL CREE	K/ROCK	CREEK			
1-CC	12	ND	0.09	ND	0.02	0.02	0.02	0.03
A-CC [W]	12	0.12	2.30	0.49	1.15	1.83	1.15	0.77
2-CC	9	ND	1.60	0.12	0.17	0.42	0.36	0.49
3-CC	12	0.06	1.20	0.16	0.29	0.66	0.41	0.35
6-CC	12	0.10	0.53	0.15	0.37	0.49	0.32	0.18
C-CC [W]	12	1.90	3.80	2.08	2.30	2.65	2.43	0.53
7-CC	12	0.36	0.95	0.49	0.56	0.80	0.62	0.19
8-CC	12	0.35	1.02	0.61	0.68	0.86	0.71	0.18
CC-Ken	12	0.38	1.24	0.62	0.73	0.84	0.77	0.25
4-RC	9	0.04	2.26	0.08	0.10	0.90	0.64	0.92
B-RC [W]	12	2.02	4.06	2.22	2.74	2.80	2.66	0.56
5-RC	12	0.14	0.82	0.22	0.43	0.48	0.39	0.20
		ST. V	RAIN / L	EFT HAND	O CREEK		-	
M9.5-SV	8	ND	0.02	0.01	0.02	0.02	0.02	0.01
M8.9-SV	8	0.01	0.05	0.01	0.02	0.03	0.02	0.01
M8.4-SV	8	0.01	0.04	0.01	0.02	0.03	0.02	0.01
M8.2-SV	8	0.01	0.06	0.01	0.02	0.03	0.03	0.02
M8-SV	12	0.02	0.15	0.02	0.03	0.06	0.05	0.04
T11-LH	12	0.02	0.45	0.03	0.05	0.08	0.11	0.15
Long-Eff [W]	12	0.76	3.42	1.30	2.49	2.96	2.25	0.93
T-EFF	12	0.35	3.91	0.96	2.54	2.99	2.21	1.19
M7-SV	12	0.08	1.40	0.35	0.52	0.82	0.60	0.39
M6-SV	8	0.18	1.37	0.40	0.49	0.69	0.60	0.36

Table 9. 2015 Total Phosphorus (mg/L) Data

Notes: Wastewater discharge sample locations are designated by [W]. T-EFF is the Longmont WWTP effluent channel combined with roadside ditch flow where it enters the St. Vrain. ND = non-detect. Detection limits vary by data provider and are provided in the KICP water quality database.
Sample Location	No.	Min	Max	25th%	Median	75th%	Mean	Std. Dev.
	!		BOULD		K			
BC-Can	12	ND	1.03	ND	0.32	0.76	0.39	0.42
BC-CU	12	ND	1.53	ND	ND	0.79	0.37	0.58
BC-61	12	ND	1.39	0.31	0.77	1.05	0.67	0.46
BC-aWWTP	12	ND	1.29	ND	0.23	0.82	0.41	0.47
WWTF Eff [W]	12	6.86	18.32	9.34	12.95	14.34	12.29	3.57
BC-aDC	12	0.73	8.56	3.98	4.92	5.83	4.69	2.13
BC-95	12	0.91	6.59	3.17	4.05	5.29	3.98	1.81
BC-107	12	ND	7.27	3.53	4.57	4.99	4.20	2.07
BC-bCC	12	0.83	8.44	3.78	4.99	6.22	4.73	2.17
9-BC	12	1.16	7.50	2.47	5.05	6.83	4.65	2.45
E-BC [W]	12	7.46	15.60	12.97	13.91	14.76	13.48	2.22
10-BC	12	1.03	7.50	2.30	4.71	6.82	4.50	2.43
11-BC	12	0.85	7.00	1.86	4.21	5.98	3.97	2.28
SOUTH BOULDER CREEK								
SBC-3.5/4	11	ND	0.88	ND	ND	0.14	0.16	0.31
		CC	DAL CREE	K/ROCK	CREEK		_	
1-CC	12	0.61	1.50	0.68	0.75	0.89	0.82	0.25
A-CC [W]	12	4.30	19.20	7.58	9.95	12.88	10.79	4.60
2-CC	9	1.20	15.00	2.30	4.40	9.10	6.04	4.70
3-CC	12	1.31	7.68	3.91	4.60	5.37	4.52	1.91
6-CC	12	1.85	6.64	3.32	3.75	4.82	4.07	1.43
C-CC [W]	12	19.40	33.20	23.85	26.15	31.07	26.74	4.49
7-CC	12	3.20	11.29	6.55	7.25	8.02	7.34	2.14
8-CC	12	2.25	9.90	7.56	8.41	8.89	7.64	2.23
CC-Ken	12	2.89	11.17	4.94	6.46	8.42	6.66	2.64
4-RC	9	0.74	23.00	1.34	2.72	8.16	7.22	9.10
B-RC [W]	12	13.13	24.92	17.40	22.73	23.93	20.94	3.91
5-RC	12	2.24	8.87	2.93	4.29	5.59	4.70	2.30
	ī	ST.	VRAIN/LI	EFT HAND	CREEK		-	
M8-SV	12	0.21	1.39	0.76	0.99	1.02	0.89	0.31
T11-LH	12	0.13	2.37	0.62	0.75	0.91	0.86	0.55
Long-Eff [W]	12	14.60	19.60	15.59	16.97	18.69	17.16	1.74
M7-SV	12	1.09	7.70	3.00	3.46	4.73	3.92	2.09

Table 10. 2015 Total Nitrogen (mg/L) Data

Note: wastewater discharge sample locations are designated by [W]. ND = non-detect, indicating that one or more analytes used in the TN calculation (e.g., NO3/NO2, TKN) was below detection limits. Detection limits for each analyte are provided in the KICP water quality database.

Boulder Creek and South Boulder Creek

Boulder Creek monitoring data for nutrients included in this report extends from Canyon Road (BC-Can) to the USGS gauging station near the confluence with St. Vrain Creek (11-BC). This long stream reach includes Boulder's 75th Street WWTP discharge, Coal Creek flows (which are influenced by Louisville, Lafayette and Superior WWTP discharges), and Erie's North WWTP discharge shown as E-BC [W]. The first location on Boulder Creek below the confluence with Coal Creek is identified as BC-bCC. South Boulder Creek enters Boulder Creek above BC-61, but is shown at the downstream end of the graphs on the x-axis. Key findings related to nutrients for Boulder Creek and South Boulder Creek include:

- As would be expected, nutrient concentrations for South Boulder Creek are very low (often below detection limits) and would attain the new total phosphorus standard (0.11 μg/L) adopted for this segment, the nitrate standard, and the potential future total nitrogen standard ("interim value").
- Upstream of Boulder's 75th Street WWTP, Boulder Creek also has low nutrient concentrations and would be expected to attain existing and potential future nutrient standards for total phosphorus, total nitrogen and nitrate.
- Downstream of Boulder's 75th Street WWTP, a significant increase in total phosphorus is present as shown on Figure 15 that would exceed interim values for total phosphorus. From BC-aDC to the confluence with the St. Vrain Creek, median total phosphorus concentrations remain elevated. Erie's WWTP discharge is comparable to the interim value for total phosphorus and an instream response from Erie's discharge is not apparent, based on review of Figure 15.
- Downstream of Boulder's 75th Street WWTP, a significant increase in total nitrogen and nitrate are present as shown on Figure 16a-b that would exceed interim values for total nitrogen, but attain the existing water supply standard for nitrate of 10 mg/L. Total nitrogen and nitrate concentrations remain relatively constant below Boulder's 75th Street discharge. Erie's WWTP discharge does not appear to significantly influence the instream total nitrogen and nitrate concentrations. Although Boulder's and Erie's WWTP discharge concentrations for total nitrogen are comparable, Erie's permitted discharge volume (1.5 million gallons per day [MGD]) is much smaller than Boulder's apparent.
- Attainment of ammonia standards is not evaluated in this report due to the varying standards resulting from calculations based on a pH and temperature based equation, but Table 10 and Figure 16c generally indicate a minimal instream response to ammonia discharges from the Boulder WWTP. Instream increases in ammonia occur below Coal Creek and the Erie WWTP. An additional observation of interest is the slight increase in ammonia at BC-61. This observation was also noted in the 2014 data set.



Figure 15. 2015 Boulder Creek and South Boulder Creek Total Phosphorus



Figure 16 a-c. 2015 Boulder Creek and South Boulder Creek Nitrogen





One elevated ammonia value (2.14 ug/L at E-BC [W]) is not displayed on the graph.

Coal Creek and Rock Creek

Nutrient data are available for both Coal Creek and Rock Creek at various monitoring locations. Louisville (A-CC[W]), Superior (B-RC[W]), and Lafayette (C-CC[W]) also provided WWTP effluent sample results for nutrients which are shown in light grey on Figures 17 and 18. Key findings related to nutrients for Rock Creek and Coal Creek include:

- As would be expected, instream concentrations of total phosphorus, total nitrogen, and nitrate increase below each WWTP discharge.
- The total phosphorus standard does not currently apply to Coal Creek below Highway 36 but the 2015 data indicate that Coal Creek would likely have difficulty meeting the interim value for total phosphorus upstream of the confluence with Rock Creek. It also appears that Rock Creek would have difficulty meeting the interim total phosphorus value both above and below the Superior WWTP discharge. A total phosphorus standard of 0.17 mg/L now applies to Rock Creek above the WWTP discharge.
- For total nitrogen and nitrate, an instream response to WWTP discharges is evident. The only location on Coal Creek and Rock Creek that would be expected to attain a potential future total nitrogen standard of 2.01 mg/L is upstream of the Louisville discharge at 1-CC. Some assimilation of nitrogen on Coal Creek occurs between the Louisville discharge and Rock Creek. An increase in nitrate between sites 7-CC and 8-CC is also suggested, but may be due to sources other than WWTP discharges. Two instream monitoring locations, 2-CC and 7-CC, had one value each that exceed the 10 mg/L nitrate standard adopted in the June 2015 Regulation 38 Rulemaking Hearing (the nitrate standard decreased from 100 mg/L to 10 mg/L due to the addition of a water supply use for this segment). Overall, the stream segment attains the nitrate standard.
- Attainment of ammonia standards is not evaluated in this report due to the varying standards resulting from calculations based on a pH and temperature based equation, but Table 10 and Figure 18c generally indicate ammonia concentrations are somewhat higher below the WWTP discharges. Several temporarily elevated ammonia concentrations also occurred during 2015.



Figure 17. 2015 Coal Creek and Rock Creek Total Phosphorus



C-CC [W]

7-CC

8-CC

CC-Ken

4-RC

B-RC [W]

5-RC

6-CC

3-CC

2-CC

0

1-CC

A-CC [W]

Figure 18 a-c. 2015 Coal Creek and Rock Creek Nitrogen

St. Vrain Creek and Left Hand Creek

St. Vrain Creek and Left Hand Creek monitoring data for nutrients extend from the western boundary of Longmont's urbanized area to the confluence with Boulder Creek. Data are also provided for Left Hand Creek near its confluence with St. Vrain Creek (T11-LH) and for Longmont's WWTP discharge to St. Vrain Creek comingled with roadside ditch water (T-Eff) and the Longmont discharge (Long-Eff). Key findings related to nutrients for St. Vrain Creek and the portion of Left Hand Creek near the confluence include:

- Total phosphorus, total nitrogen, nitrate/nitrite and ammonia concentrations generally remain consistent from the upstream to downstream direction for St. Vrain Creek until reaching the WWTP. Instream phosphorus, total nitrogen, and nitrate/nitrite concentrations increase below the Longmont WWTP discharge. In general, nutrient concentrations for Left Hand Creek are relatively comparable to nutrient concentrations in St. Vrain Creek above the WWTP discharge.
- Left Hand Creek (T11-LH) has a median total phosphorus concentration of 0.05 mg/L, which would meet the warm water standard for total phosphorus of 0.17 mg/L adopted in June 2015.
- Upstream of Longmont's WWTP, St. Vrain Creek has low nutrient concentrations and would be expected to attain existing and future proposed standards for total phosphorus, total nitrogen and nitrate.
- Downstream of Longmont's WWTP, a significant increase in total phosphorus is present as shown on Figure 19 that would exceed interim warm water values for total phosphorus of 0.17 mg/L.
- Downstream of Longmont's WWTP, a significant increase in total nitrogen and nitrate is
 present as shown on Figures 20a-b that would exceed the interim warm water value for
 total nitrogen (2.01 mg/L), but would attain the existing agricultural use standard for
 nitrate of 100 mg/L. Left Hand Creek has a median total nitrogen concentration of 0.75
 mg/L, which would meet the warm water interim value of 2.01 mg/L for total nitrogen,
 which may be applied in the future.
- Attainment of ammonia standards is not evaluated in this report due to the varying standards resulting from calculations based on a pH and temperature based equation, but Table 10 and Figure 20c generally indicate that instream concentrations of ammonia at M8-SV (above the Longmont WWTP discharge and the confluence with Left Hand Creek) are similar to concentrations below the WWTP discharge at M7-SV and M6-SV.



Figure 19. 2015 St. Vrain Creek and Left Hand Creek Total Phosphorus



Figure 20 a-c. 2015 St. Vrain Creek and Left Hand Creek Nitrogen





FINDINGS FOR E. COLI BY BASIN

Many urban streams in Colorado exceed primary contact recreational water quality criteria for *E. coli* in portions of the stream during various times of the year, particularly during warm summer and fall months. Most modern WWTPs provide effective disinfection through ultraviolet (UV) disinfection or chlorination, so treated municipal effluent is not typically the cause of exceedances in urban areas (although leaking sanitary infrastructure may be a contributor in some areas).

Attainment of *E. coli* standards is sensitive to assessment methodology because of the highly variable nature of *E. coli*, which can span an order of magnitude or more between adjacent locations on the same sampling date, as well as between closely spaced sampling dates at the same location. For this reason, it is important to understand the current assessment procedure applied by the Division (Division 2015) in assessing recreational use attainment (see call-out box).

Consistent with other voluntary instream monitoring programs along the Front Range, each municipality's *E. coli* data set includes one sample per month or quarter, which does not result in a

E. coli Standards Assessment Method

Evaluation of the Colorado E. coli stream standard is based on multiple fixed twomonth intervals. The evaluation intervals are January/February, March/April, May/June, July/August, September/October, and November/December. A sample size of five or more is required for assessment of the two-month intervals. The primary contact recreation standard is 126 cfu/100 mL. Data are assessed yearly if adequate data from each two-month interval are available. If adequate data are not available to make an attainment decision using yearly data, then the Division will assess E. coli data for that two-month interval over the entire period of record (i.e., combing several years of data for each bimonthly increment).

If evaluation of a data set for an entire segment does not indicate impairment, but specific location(s) within the segment consistently exceed acute or chronic standards, the specific portion of the segment may be listed.

sample size of five or more samples per bimonthly evaluation period. As a result, the period of record (presumed to be the most recent five years) would be evaluated for each bimonthly period to assess whether *E. coli* standards are attained by stream segment, and potentially by individual monitoring locations with a segment. Because of the sample size limitations in the annual data set, two broad analysis subgroupings have been used for purposes of the analysis in this report. These groupings are identified as recreation season (May-October) and non-recreation season (November-April). Evaluation of a longer term data set is needed to draw statistically significant conclusions. This analysis approach is less stringent that the bimonthly assessment procedure used for standards assessment, so the findings in this section should not be interpreted as a regulatory evaluation.

Boulder Creek and South Boulder Creek

An *E. coli* Total Maximum Daily Load (TMDL) was completed in 2011 for the portion of Boulder Creek Segment 2b from 13th Street to the confluence with South Boulder Creek, focusing on urban sources typically associated with the storm sewer system (Tetra Tech 2011a). (Note: this reach of stream includes monitoring location BC-CU.) Continued instream monitoring of *E. coli* is important to assess progress towards TMDL goals and to assess the effectiveness of measures identified in the TMDL Implementation Plan (Tetra Tech 2011b). Although the TMDL focuses on a portion of Segment 2b, other portions of the stream are also affected by elevated *E. coli* concentrations. Segments 9 and 10 of Boulder Creek are now listed on the 2016 303(d) List as impaired for *E. coli*. The impairment for Segment 9 is limited to July through October.

Table 11 provides seasonal geometric mean *E. coli* concentrations according to non-recreational (N-Rec, November-April) and recreational (Rec, May-October) seasons. Figures 21 and 22 provide upstream to downstream *E. coli* plots according to non-recreational and recreational seasons during 2015.

During 2015, the recreation season geometric mean concentrations exceeded 126/100 mL at BC-CU, BC-aDC, and BC-bCC. Only two samples per season were available for 9-BC, 10-BC, and 11-BC; therefore, the seasonal geometric mean is insufficient to assess whether the standard is exceeded at those locations. None of the sampling locations had values exceeding the upper quantitation limit of 2420 MPN/100 mL. BC-Can was the only instream site that did not exceed stream standards for any samples during 2015, and it is located upstream of the TMDL on Boulder Creek. *E. coli* concentrations in the Boulder WWTF discharge are consistently well below stream standards.

One interesting observation is that although South Boulder Creek attains stream standards, several elevated *E. coli* concentrations are present during February, March and particularly following the runoff event in May (1,986 MPN/100 mL). Cattle grazing occurs along South Boulder Creek generally from December through May. Several pastures are located in the area between Highway 93 north to South Boulder Road. Most of the livestock grazing takes place between February and May.

Sampling Location	Season	No. of Samples	Geometric mean	Minimum	Maximum
BC-Can	N-Rec	6	11	2	46
BC-Can	Rec	6	40	27	57
BC-CU	N-Rec	6	66	24	214
BC-CU	Rec	6	233	46	517
BC-61	N-Rec	6	35	15	91
BC-61	Rec	6	79	13	1300
BC-aWWTP	N-Rec	6	29	11	67
BC-aWWTP	Rec	6	76	27	1553
WWTF Eff	N-Rec	6	12	6	22
WWTF Eff	Rec	6	19	2	60
BC-aDC	N-Rec	6	51	19	88
BC-aDC	Rec	6	166	65	1414
BC-107	N-Rec	6	27	10	57
BC-107	Rec	6	67	5	1046
BC-bCC	N-Rec	6	28	11	66
BC-bCC	Rec	6	131	27	921
9-BC	N-Rec	2	66	57	77
9-BC	Rec	2	115	70	190
10-BC	N-Rec	2	41	28	61
10-BC	Rec	2	111	34	365
11-BC	N-Rec	2	47	28	79
11-BC	Rec	2	219	147	325
SBC-3.5/4	N-Rec	6	41	10	249
SBC-3.5/4	Rec	6	90	14	1986

Table 11. 2015 Boulder Creek and South Boulder Creek Seasonal E. coli Data

Notes: N-Rec = November to April; Rec = May to October. Bimonthly assessment periods used by the Division for regulatory purposes are Jan-Feb, Mar-Apr, May-Jun, Jul-Aug, Sept-Oct, and Nov-Dec.



Figure 21. 2015 Boulder Creek and South Boulder Creek Non-Recreation Season E. coli





Coal Creek and Rock Creek

Table 12 summarizes *E. coli* data available for Rock Creek and Coal Creek and shows that most locations within Coal Creek exceeded water quality standards during both the recreation and non-recreation season. Coal Creek is listed as impaired on the 2016 303(d) list and Rock Creek is identified in need of additional monitoring and evaluation to determine impairment for *E. coli*. Figures 23 and 24 provide upstream to downstream *E. coli* plots according to non-recreational and recreational seasons during 2015.

Unlike Boulder Creek, St. Vrain Creek and Rock Creek, which only experience *E. coli* exceedances during the recreation season, Coal Creek exceeded the *E. coli* standard during the non-recreation season at all locations except CC-Ken during 2015. Identifying the cause of these exceedances is a potential issue for investigation in the future. Available data for the WWTP discharges to these streams indicated that treated municipal effluent is not the likely cause of impairment to these streams; however, only limited data for WWTP discharges were provided for this analysis.

Sampling Location	Season	No. of Samples	Geometric Mean	Minimum	Maximum
1-CC	N-Rec	6	251	43	722
1-CC	Rec	6	521	345	866
A-CC	Rec	1	10	10	10
2-CC	N-Rec	6	219	65	613
2-CC	Rec	6	273	101	908
3-CC	N-Rec	6	153	46	879
3-CC	Rec	6	185	61	649
6-CC	N-Rec	6	172	61	387
6-CC	Rec	6	618	291	2420
7-CC	N-Rec	6	131	78	313
7-CC	Rec	6	382	179	921
CC-Ken	N-Rec	6	69	36	260
CC-Ken	Rec	6	258	66	2420
4-RC	N-Rec	3	21	6	96
4-RC	Rec	6	124	20	731
B-RC	N-Rec	6	3	ND	20
B-RC	Rec	6	ND	ND	ND
5-RC	N-Rec	6	101	21	276
5-RC	Rec	6	411	161	1727

Table 12. 2015 Coal Creek and Rock Creek Seasonal E. coli Data

Note: Past summary statistics and boxplots for *E. coli* data for the 2007-2014 time period were tabulated on a bimonthly basis as part of a special monitoring program. These results also showed elevated *E. coli* at multiple monitoring locations, as discussed in the Annual Water Quality Analysis for 2014 (WWE 2015).



Figure 23. 2015 Coal Creek and Rock Creek Non-Recreation Season E. coli





St. Vrain Creek and Left Hand Creek

St. Vrain Creek is listed on the 2016 303(d) List as impaired for *E. coli*. Table 13 summarizes *E. coli* data available for St. Vrain Creek and Left Hand Creek, and Figures 25 and 26 provide upstream to downstream *E. coli* plots according to non-recreational and recreational seasons during 2015. The table and figures show that all locations within both creeks met water quality standards during the non-recreation season but experienced some exceedances during the recreation season.

The geometric mean *E. coli* concentration exceeded the stream standard at the M8.9-SV, M8-SV, T11-LH, and M7-SV monitoring locations during the recreation season. Less than five seasonal samples are available during 2015 for several locations, so conclusions regarding the data set for 2015 are limited. Discharges from the Longmont WWTP, as represented by location T-Eff, which contains combined roadside ditch drainage and WWTP effluent, are consistently low and well below the stream standard.

The pattern of exceedances of the *E. coli* standard for St. Vrain Creek and Left Hand Creek do not indicate a specific hot spot or upstream to downstream trend; therefore, identification of the causes of elevated *E. coli* would require additional monitoring at a finer spatial resolution and for a longer period of record to draw conclusions or form and evaluate hypotheses about sources.

Sampling Location	Season	No. of Samples	Geometric mean	Minimum	Maximum
M9.5-SV	N-Rec	3	32	8	387
M9.5-SV	Rec	4	77	36	105
M8.9-SV	N-Rec	3	28	16	75
M8.9-SV	Rec	4	135	38	461
M8.4-SV	N-Rec	3	23	12	53
M8.4-SV	Rec	4	87	66	158
M8.2-SV	N-Rec	3	44	23	84
M8.2-SV	Rec	4	120	99	133
M8-SV	N-Rec	6	80	33	411
M8-SV	Rec	6	167	72	260
T11-LH	N-Rec	6	53	7	921
T11-LH	Rec	6	163	105	345
T-EFF	N-Rec	6	31	13	128
T-EFF	Rec	6	51	32	84
M7-SV	N-Rec	6	113	56	313
M7-SV	Rec	6	178	66	435
M6-SV	N-Rec	4	117	28	416
M6-SV	Rec	4	121	71	272

Table 13. 2015 Left Hand Creek and St. Vrain Creek Seasonal E. coli Data





Figure 26. 2015 Left Hand Creek and St. Vrain Creek Recreation Season E. coli



FINDINGS FOR SELECTED METALS

For the most part, metals are beyond the scope of the coordinated Monitoring Plan and this report; however, both the City of Boulder and City of Longmont monitor metals routinely so several metals of potential regulatory interest are discussed in this report for these data sets, including:

- Total recoverable arsenic for all stream segments with data.
- Dissolved selenium for Rock Creek and Coal Creek (based on River Watch data).
- Dissolved copper for South Boulder Creek and Left Hand Creek.

Arsenic

Total recoverable arsenic is discussed briefly below since monitoring data were available for several segments. Figures 27 and 28 provide results for total recoverable arsenic on Boulder Creek and St. Vrain Creek.

Several different arsenic standards are in place in the basin, depending on the designated use of the stream. For example, the chronic total recoverable arsenic standards for each segment evaluated are:

- Boulder Creek and South Boulder Creek: 0.02 μg/L, with temporary modification at ambient condition through 12/31/2021.⁴ This standard is based on "water + fish," where water supply and fish ingestion are designated uses.
- Coal Creek: 0.02-10 μg/L, which is a hyphenated standard for water supply uses that allows permitted dischargers to meet a 10 μg/L limit and allows stream standard assessment against the 10 μg/L limit. This is a new, more stringent standard for Coal Creek, as adopted by the Division in the June 2015 Regulation 38 rulemaking hearing.
- Rock Creek: 100 µg/L for protection of agricultural uses.
- St. Vrain Creek: 7.6 µg/L for fish ingestion.
- Left Hand Creek: 0.02-10 μ g/L, which is a hyphenated standard for water supply uses that allows permitted dischargers to meet a 10 μ g/L limit.

 $^{^4}$ In Colorado, stream segments designated for water supply or "water + fish" have extremely low total arsenic standards of 0.02 µg/L. Because these standards are so low that they are not attainable in many parts of Colorado, the Commission has adopted temporary modifications to instream arsenic standards where "water + fish" criteria apply and when there is a discharge to the stream segment that cannot comply with corresponding effluent limits.

In the context of these stream standards, key findings regarding total recoverable arsenic concentrations in the basin include:

- Median arsenic concentrations on Boulder Creek ranged from 0.45 to 1.59 µg/L (Figure 27). The median South Boulder Creek concentration was 0.26 µg/L. Because of the temporary modification to the 0.02 µg/L standard, the stream is identified as a low priority for TMDL development. However, these results, which are significantly elevated relative to the underlying standard, reiterate the importance of actively participating in the Regulation 31 Basic Standards work group process where this standard is being reevaluated.
- Arsenic data for Coal Creek were limited to two samples collected at two monitoring locations: 1-CC (0.51 μ g/L) and 2-CC (0.42 μ g/L). These results are below the 10 μ g/L threshold for designation as impaired under the hyphenated standard (even though the results exceed the 0.02 μ g/L). No results were provided for Rock Creek.
- Arsenic concentrations on St. Vrain Creek generally increase in an upstream to downstream direction (Figure 28), and Left Hand Creek has higher total arsenic than St. Vrain Creek. Arsenic in the Longmont WWTP discharges was comparable to arsenic at the upstream-most monitoring location on St. Vrain Creek. Median arsenic concentrations at all locations are well below 7.6 µg/L on St. Vrain Creek.
- Left Hand Creek arsenic concentrations range from 0.6 to 4.0 μ g/L, with a median concentration of 1.0 μ g/L, which exceeds the assigned standard of 0.02 μ g/L, but is below the 10 μ g/L threshold for designation as impaired.



Figure 27. 2015 Total Recoverable Arsenic for Boulder Creek and South Boulder Creek



Figure 28. 2015 Total Recoverable Arsenic for St. Vrain Creek and Left Hand Creek

Selenium

Rock Creek and Coal Creek below Rock Creek were placed on the 2016 303(d) List based on data collected by the River Watch program. The data forming the basis of these listings are shown in Figures 29 and 30. The 85^{th} percentile value for selenium at Coal Creek below Rock Creek for this data set is 5.8 µg/L (n = 28). For Rock Creek, the 85^{th} percentile value is 9.67 µg/L (n = 8). The underlying chronic standard is 4.6 µg/L. This segment has a temporary modification for selenium set at the current condition through December 31, 2020.

Figure 29. Selenium at Coal Creek below the Confluence with Rock Creek





Figure 30. Selenium at Rock Creek at 120th Street

Copper

South Boulder Creek and Left Hand Creek are both listed as impaired for dissolved copper on the 2016 303(d) List. Both of these streams have mining-related impacts in their headwaters with TMDLs developed for the upstream segments for a variety of metals, as discussed in the Boulder Creek/St. Vrain Watershed-Based Plan (319 Plan) completed in 2015 (KICP and WWE 2015).

The South Boulder Creek listing is due to exceedances of the acute standard at two locations above Eldorado Springs. The chronic standard, calculated as $2.94 \mu g/L$ for the 2016 303(d) list, is attained; however, six exceedances of the acute standard occurred, with one exceedance in Eldorado Canyon, and five at the South Boulder Diversion Canal (as monitored by Denver Water).

For Left Hand Creek, the listing is also due to exceedances of the acute copper standard. The chronic standard of 5.23 μ g/L is attained and the acute standard of 7.43 μ g/L is exceeded for eight samples. The majority of these results were measured by River Watch at the Haldi Intake between 2009 and 2013.

For both South Boulder Creek and Left Hand Creek, the segment portions with copper impairment are upstream of the Monitoring Plan focus area for purposes of this report.

5.0

Biological Monitoring

On behalf of local governments in the watershed, Timberline Aquatics conducts biological monitoring of Boulder Creek and South Boulder Creek, Coal Creek and Rock Creek and St. Vrain Creek and Left Hand Creek. The monitoring is conducted using comparable methods for all of the streams, as described in the individual biological monitoring reports for each basin. Monitoring locations are shown in Appendix A. The summary below highlights key findings from the latest report for each stream, focusing primarily on comparison of the multi-metric index (MMI) scores to thresholds for various aquatic life biotypes defined in *Policy 10-1, Aquatic Life Use Attainment, Methodology to Determine Use Attainment for Rivers and Streams* (WQCD 2010). Policy 10-1 should be referenced for more detailed guidance on the interpretation of MMI scores.

As a brief overview of Policy 10-1, the location of macroinvertebrate sample sites results in assignment of one of three biotypes for the MMI assessments, as summarized in Table 14. Biotype site class is a function of three environmental variables: EPA Level IV ecoregion, site elevation, and stream slope (Policy 10-1, Appendix A). The thresholds that determine attainment or impairment are different for each biotype. Higher MMI scores are better than low scores. When an MMI score falls between the attainment and impairment thresholds identified in Table 14, additional evaluation using supplemental thresholds based on the Hilsenhoff Biotic Index (HBI) and the Shannon Diversity Index (SDI) (Table 15) are required for "Class 1" aquatic life, as described in Regulation 38 (see Appendix E). For the HBI, lower values are better. For the SDI, higher values are better. If a Class 1 site fails to meet the criteria shown in Table 15 for either auxiliary metric, the site will be considered impaired. Auxiliary metrics are not applicable to Class 2 waters (CDPHE 2010). The only Class 1 streams evaluated in this report are Boulder Creek, South Boulder Creek and St. Vrain Creek. (Auxiliary metrics do not apply to the segments of Coal Creek, Rock Creek and Left Hand Creek included in this report.)

Biotype	Description Attainment Threshold		Impairment Threshold
1	Transition	>52	42
2	Mountains	>50	42
3	Plains & Xeric	>37	22

Table 14. Policy 10-1 MMI Thresholds

Table 15. Policy 10-1 Supplemental Evaluation Thresholds

Biotype	Description	Hilsenhoff Biotic Index	Shannon Diversity Index
1	Transition	<5.4	>2.4
2	Mountains	<5.1	>3.0
3	Plains & Xeric	<7.7	>2.5

All locations discussed in this report are located in either Biotype 1 or Biotype 3. Biotype 1 (Transition Zone) includes lower mountain areas of the Colorado Front Range downstream to the lower boundary of the "Front Range Fans." Biotype 3 (Plains) ranges from the eastern border of the "Front Range Fans" to the eastern border of Colorado. Both ecoregion and stream elevation are used to determine which biotype is appropriate, with the elevation of 5085 feet serving as the dividing threshold between Biotype 1 and Biotype 3. The Division has acknowledged that where uncertainty exists regarding the transitional boundaries between biotypes, the MMI for the adjacent biotype may be used to help determine the status of the aquatic life use. This additional analysis may be conducted under two circumstances:

- At sites in Level IV Ecoregion 21c where the biotype assignment along a waterbody varies between Biotypes 1 and 2 because the stream slope fluctuates above and below 0.04. This situation typically occurs when stream slopes are slightly greater than or less than 0.04 along the gradient of a waterbody resulting in varying site classifications or biotypes.
- 2. At sites that encompass the physical border between two different Level IV Ecoregions or elevation zone boundaries used in the biotype classification. This results in a predicted site classification in one biotype, but is narrowly adjacent to another biotype. In such cases, sites may be represented by characteristics shared by more than one biotype.

For these circumstances, the Division states that "MMIs for each of the adjacent biotypes shall be investigated and used in the assessment." This new procedure has not yet been applied to 303(d) listings to date, but may be a consideration for Boulder Creek above Coal Creek (BC-aCC) in the future, potentially resulting in this site being evaluated against Biotype 3 criteria.

For in-depth discussion of biological findings for each stream segment, the Timberline Aquatics annual reports for each basin should be reviewed. The remainder of this chapter provides MMI, HBI and SDI summaries, as well as EPT⁵ scores, which are provided for general reference, but not discussed in this report.

BOULDER CREEK AND SOUTH BOULDER CREEK

For Boulder Creek and South Boulder Creek, sites were strategically established at specific locations to assist in the evaluation of aquatic conditions. These sites include:

- BC-CAN: the furthest upstream site on Boulder Creek upstream of most urban development, serving as a reference site with relatively low anthropogenic influences.
- BC-28: within the City of Boulder, used to evaluate potential impacts of urban runoff.

⁵ The EPT index an index of water quality based on the abundance of three pollution-sensitive orders of macroinvertebrates relative to the abundance of a hardy species of macroinvertebrate. It is calculated as the sum of the number of *Ephemeroptera*, *Plecoptera*, and *Trichoptera* divided by the total number of midges (*Diptera: Chironomid*).

- BC-55: located further downstream on Boulder Creek and used to assess recovery that may occur downstream from the City of Boulder, but upstream of the 75th Street WWTP. This site is also below the confluence with South Boulder Creek.
- BC-aWWTP: located immediately upstream of Boulder's 75th Street WWTP to evaluate changes in habitat that have been observed at that location.

Four sites downstream of the WWTP provide information on the influence of WWTP effluent and potential recovery, including:

- BC-aDC: located on Boulder Creek 2.4 river miles (RM) (3.9 km) downstream of the WWTP.
- BC-95: located on Boulder Creek 3.2 RM (5.1 km) below the WWTP.
- BC-107: located on Boulder Creek approximately 4.7 RM (7.5 km) downstream of the WWTP.
- BC-aCC: established on Boulder Creek in 2012, farther downstream in a stream reach with possible impacts from nutrients.

South Boulder Creek monitoring is conducted for this location:

• SBC-OS: located on South Boulder Creek upstream of most urban development, serving as a reference site with relatively low anthropogenic influences. (South Boulder Creek flows into Boulder Creek between BC-Can and BC-55.)

Boulder Creek from 107th Avenue to the confluence with Coal Creek was identified as provisionally impaired for aquatic life on the 2016 303(d) List. However, Table 16 indicates that the 2015 MMI scores show attainment of aquatic life use for all monitoring locations on Boulder Creek and South Boulder Creek. Significant recovery of aquatic life following the 2013 flood impacts is evident at most of the sites.

Date	BC- CAN	BC-28	BC- 55	BC-aWWTP	BC-aDC	BC-95	BC-107	BC-aCC ²	SBC- OS
23-Sep-10	76.2	78.0	50.7	67.3	57.7	52.2	NA	NA	76.0
29-Sep-11	73.6	84.8	79.5	74.7	52.8	61.8	53.8	NA	72.6
28-Sep-12	73.5	63.5	70.4	62.8	42.4	43.3	37.0	40.2	78.8
25-Oct-13	68.3	75.5	01	45.5	40.2	40.0	35.2	35.4	71.0
26-Oct-14	73.2	67.6	84.4	79.4	53.3	62.5	58.4	44 (Biotype 1) or 46.2 (Biotype 3)	80.6
24-Sep-15	76.8	75.2	86.1	77.2	65.6	62.7	69.7	59.1	74.6

Table 16. Boulder Creek and South Boulder Creek MMI Scores

Pink-shaded cells with bold font indicate impairments. Grey-shaded cells are MMI scores between attainment and impairment thresholds.

¹The substrate at BC-55 was completely covered with sand in October 2013, providing no colonizable substrate after the flood. No invertebrates were present at this site during 2013 sampling.

²BC-aCC may be more appropriately classified as Biotype 3. Timberline Aquatics has suggested that for BC-aCC, a Biotype 3 classification is expected to be more appropriate than Biotype 1. Timberline Aquatics recalculated the MMI score for this location as Biotype 3 for the 2014 results, with a resulting MMI score of 46.2 which attains the Biotype 3 threshold (Personal Communication with Dave Rees, June 2015).

	BC-		BC-	BC-		BC-	BC-		
Date	CAN*	BC-28	55	aWWTP*	BC-aDC*	95*	107*	BC-aCC	SBC-OS
EPT Scores									
23-Sep-10	23	14	12	14	10	10	NA	NA	22
29-Sep-11	17	19	14	13	8	8	6	NA	21
28-Sep-12	18	10	14	13	6	9	6	4	20
25-Oct-13	12	14	NA	8	6	5	7	7	18
26-Oct-14	18	-	18	19	17	8	10	8	8
24-Sep-15	18	-	24	18	17	12	13	12	29
			Sha	annon Diversity	Index Scor	es			
23-Sep-10	3.40	3.07	2.70	2.72	2.86	2.67	NA	NA	3.99
29-Sep-11	3.19	3.23	2.39	2.90	2.83	2.78	2.80	NA	3.01
28-Sep-12	2.80	3.15	3.46	2.50	3.12	2.82	2.35	2.52	3.77
25-Oct-13	2.61	2.96	NA	2.48	2.54	2.82	2.66	2.47	2.47
26-Oct-14	3.17	4.29	2.62	3.16	3.16	3.19	2.72	2.57	3.56
24-Sep-15	3.33	3.73	2.11	2.89	3.18	3.38	2.60	3.26	3.87
				HBI Sco	res				
23-Sep-10	3.22	3.80	5.96	5.97	4.64	4.74	NA	NA	3.43
29-Sep-11	2.09	3.66	3.91	4.61	4.81	5.06	5.02	NA	4.60
28-Sep-12	3.60	4.22	5.22	6.01	4.93	5.64	7.41	6.51	2.69
25-Oct-13	3.56	3.64	NA	4.79	4.11	5.86	4.23	5.53	3.38
26-Oct-14	2.01	4.22	4.23	4.70	4.70	5.33	5.83	5.70	3.33
24-Sep-15	2.33	3.53	3.98	4.87	4.37	5.33	4.70	5.47	2.83

Table 17. Boulder Creek and South Boulder Creek EPT, Diversity Index and HBI Scores

*Also an active water quality monitoring location.

Pink-shaded cells do not attain target thresholds for Biotype 1.



Figure 31. Boulder Creek and South Boulder Creek MMI Scores (2010-2015)

Note: graph does not show the "0" MMI score for BC-55 following the September 2013 flood.

COAL CREEK AND ROCK CREEK

Coal Creek is included on the 2016 Monitoring and Evaluation List due to potential impairment of aquatic life uses. Five biological monitoring locations are included for Coal Creek and Rock Creek. These sites are located in Aquatic Life Class 2 segments and include these monitoring locations:

- CC-EMP: the "reference site" upstream of the effluent discharge from the WWTP for the City of Louisville.
- CC-OSB: 0.4 km downstream of site CC-EMP, intended to evaluate the potential influence of the Louisville WWTP.
- RC-120: on Rock Creek, approximately 1 km upstream of its confluence with Coal Creek, downstream of Superior WWTP.
- CC-AP: on Coal Creek: downstream of the confluence with Rock Creek, influenced by effluent from Lafayette WWTP and Rock Creek.
- CC-CLR: on Coal Creek, downstream of Erie WWTP, influenced by effluent from all four municipalities (although Erie has been discharging from the North Erie WWTP to Boulder Creek instead of Coal Creek).

Each of these locations is classified as Biotype 1. Coal Creek from Highway 36 to the confluence with Boulder Creek is listed on the 2016 Monitoring and Evaluation list. Site CC-OSB on Coal Creek would be considered impaired based on comparison of the 2015 MMI scores to the MMI thresholds. Most of the sites showed decreases in MMI scores following the September 2013 flood; however, the 2014 and 2015 MMI scores showed significant recovery of the aquatic life at

most of these sites, with the exception of CC-OSB. The 2015 MMI scores were the highest recorded during 2010-2015, with the exception of CC-OSB. Interestingly, the downstream-most site on Coal Creek has the highest (best) MMI score for the stream. Rock Creek MMI results were above (better than) the impairment threshold, but below the attainment threshold.

Timberline Aquatics (2013) noted that the relatively low MMI scores are likely influenced by the spring-fed nature of Coal Creek and Rock Creek which may have inadvertently influenced components of the MMI that are intended to represent responses to changes in water quality. The unique physical parameters (temperature, dissolved oxygen, etc.) that are typically found near the origin of spring-fed streams may contribute to the structure and function of macroinvertebrate communities in a way that negatively influences the MMI. These types of physical environmental changes may partially explain the relatively low MMI scores at the upstream sites (e.g., CC-EMP) on Coal Creek and gradual improvement in a downstream direction (Timberline Aquatics 2013).

The intermittent, spring-fed nature of these two effluent-dominated streams requires consideration when evaluating the status of aquatic life in Coal Creek and Rock Creek. The macroinvertebrate communities present in these streams depend on effluent discharged to provide stable aquatic habitat. The reference site in this study (CC-EMP) was selected because it was upstream of most potential perturbations and maintained enough groundwater to achieve permanent flow. At other locations, these streams rely on effluent discharge to maintain permanent flows through stream reaches that coincide with areas of urban development. Because of the intermittent nature of these streams, there is little opportunity for colonization from upstream macroinvertebrate populations in Coal Creek or Rock Creek. Aquatic life communities in these unique streams are substantially limited by the natural, intermittent, pre-existing conditions (Timberline Aquatics 2013).

Date	CC-EMP	CC-OSB	RC-120	CC-AP	CC-CLR
22-Sep-10	38.1	42.2	38.6	44.1	50.1
28-Sep-11	39.8	37.4	36.0	51.4	49.7
27-Sep-12	43.7	33.6	22.5	42.2	53.6
26-Oct-13	24.5	32.3	24.1	38.1	36.6
28-Sep-14	47.8	31.5	36.0	51.3	53.4
23-Sep-15	48.2	27.3	44.6	54.4	58.9

Table 18. Coal Creek and Rock Creek MMI Scores

Pink-shaded cells with bold font indicate impairments. Grey-shaded cells are MMI scores between attainment and impairment thresholds.

Date	CC-EMP	CC-OSB	RC-120	CC-AP	CC-CLR
		EPT Sco	ores		
22-Sep-10	6	7	8	9	8
28-Sep-11	6	4	8	9	8
27-Sep-12	6	2	6	6	10
26-Oct-13	4	6	4	7	10
28-Sep-14	9	5	7	10	9
23-Sep-15	10	6	8	10	10
		Shannon Diversit	y Index Scores		
22-Sep-10	2.23	2.02	3.42	3.11	2.56
28-Sep-11	1.97	1.76	3.35	3.35	2.79
27-Sep-12	2.32	1.30	2.59	2.68	2.58
26-Oct-13	2.76	2.91	1.99	2.70	2.46
28-Sep-14	2.70	2.71	2.48	2.82	2.61
23-Sep-15	2.58	2.50	2.53	2.63	2.67
		HBI Sco	ores		
22-Sep-10	6.29	6.48	5.92	5.12	4.64
28-Sep-11	6.27	6.86	5.77	5.66	4.77
27-Sep-12	6.65	6.69	6.79	5.97	5.24
26-Oct-13	6.73	6.51	6.37	6.47	5.95
28-Sep-14	6.08	5.97	5.73	5.53	4.86
23-Sep-15	6.13	5.84	5.25	5.77	4.97

Table 19. Coal Creek and Rock Creek EPT, Diversity Index and HBI Scores

Note: Diversity and HBI scores are not required to be evaluated to assess aquatic life use attainment for Class 2 streams.

Figure 32.	Coal Creek and Roo	k Creek MMI Scores	(2010-2015)
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ST. VRAIN CREEK AND LEFT HAND CREEK

Biological monitoring is conducted at six monitoring locations on St. Vrain Creek, and Left Hand Creek.⁶ These sites, which are all classified as Aquatic Life Class 1 segments, include:

- SVC-75: farthest upstream site was added in 2013 to serve as a new reference site on St. Vrain Creek upstream of urban influences.
- SVC-M9: upstream site on St. Vrain Creek is used to provide reference information upstream of urban influences.
- SVC-M8: site within the City of Longmont is used to assess potential impacts from urban runoff.
- SVC-M6: site is located on St. Vrain Creek downstream of the Longmont WWTP and is used to measure the influence of treated effluent in combination with urban runoff. This location is also located below the confluence with Left Hand Creek.
- SVC-M4: site is the farthest downstream site on St. Vrain Creek and was established to evaluate potential recovery downstream of the city. This site has been abandoned due to flood impacts.
- LH-95: new site on Left Hand Creek at 95th Street upstream of urbanized area.
- LHC-1: site on Left Hand Creek is located approximately 300 m upstream of its confluence with St. Vrain Creek and is used to evaluate the contributions and influence of Left Hand Creek on St. Vrain Creek.

During 2015, all MMI scores for St. Vrain Creek and Left Hand Creek attained the MMI threshold (Table 20). Most sites showed significant improvements in MMI scores relative to several previous years that showed impairment based on MMI scores. Although the St. Vrain Creek and Left Hand Creek sites are evaluated as Biotype 1, it is noteworthy that all of these sites are located in Biotype 3 elevation range (below 5085 feet) with the exception of SVC-75.

⁶ A special study location on Spring Gulch (SG-2) is also monitored, but it is not included in this report since it is not part of the long-term monitoring program.

Date	SVC-75	SVC-M9	SVC-M8	SVC-M6	SVC-M4	LHC-95	LHC-1
WQ Cross-Ref	M9.5-SV	M8.9-SV	M8-SV	M6-SV	M4-SV		T11-SV
22-Sep-10	-	62.5	58.2	27.2	41.5	-	46.9
28-Sep-11	-	62.3	59.1	46.2	44.0	-	43.8
27-Sep-12	-	63.2	44.5	23.3	36.9	-	31.6
28-Oct-13	-	51.0	51.4	39.4	30.6	-	43.8
2-Oct-14	82.9	47.1	51.4	43.9	54.9	-	46.6
28-Sep-15	82.9	81.5	52.5	53.0	-	58.2	57.4

Table 20. St. Vrain and Left Hand Creek MMI Scores

Pink-shaded cells with bold font indicate impairments. Grey-shaded cells are MMI scores between attainment and impairment thresholds.

Note: all sites on St. Vrain and Left Hand Creek are below elevation 5085 ft with the exception of SVC-75.

Table 21. St. Vrain and Left Hand Creek EPT, Diversity Index and HBI Scores

Date	SVC-75	SVC-M9	SVC-M8	SVC-M6	SVC-M4	LHC-95	LHC-1	
	EPT Scores							
22-Sep-10	-	14	14	10	7	-	8	
28-Sep-11	-	11	8	7	7	-	8	
27-Sep-12	-	10	8	9	7	-	3	
28-Oct-13	-	9	13	8	6	-	6	
2-Oct-14	20	9	10	10	8	-	7	
28-Sep-15	20	20	13	14	-	10	8	
	Shannon Diversity Index Scores							
22-Sep-10	-	2.65	2.81	2.43	3.05		3.5	
28-Sep-11	-	2.19	2.25	2.95	2.16		2.59	
27-Sep-12	-	1.99	1.7	2.63	2.84		2.65	
28-Oct-13	-	2.23	3.08	2.69	2		3.11	
2-Oct-14	2.74	2.81	2.58	2.71	3.3		1.31	
28-Sep-15	2.67	2.66	2.57	2.98	-	2.87	3.47	
	HBI Scores							
22-Sep-10	-	3.9	5.15	5.49	5.12	-	6.49	
28-Sep-11	-	4.9	4.73	4.37	4.95	-	6.83	
27-Sep-12	-	5.36	6.56	5.93	5.68	-	7.41	
28-Oct-13	-	4.58	5.42	4.96	4.13	-	5.11	
2-Oct-14	3.67	4.41	5.72	4.19	4.88	-	3.54	
28-Sep-15	3.96	3.8	6.06	4.51	-	4.81	4.62	

Pink-shaded cells do not meet thresholds for SDI and HBI.



Figure 33. St. Vrain and Left Hand Creek MMI Scores (2010-2015)

6.0

QA/QC Analysis

Field replicates and field blanks were recommended in the 2015 Monitoring Plan at the frequencies recommended in Table 22. These frequencies have not yet been fully implemented by all of the participating communities. Therefore, the discussion below is limited to the available quality assurance data submitted during 2015. Key observations include:

- Data provided by the City of Boulder included two analytical results for field blanks for phosphorus. Both results for these field blanks showed values below detection limits.
- Data provided by Lafayette included 14 analytical results for field blanks for *E. coli,* nitrate/nitrite, nitrate, ammonia and TKN. The majority of these results were non-detect, with only two samples showing very low detections.
- Data provided by Longmont included 120 analytical results for field blanks. The majority of these results were non-detect or below the method reporting limit (RL).
- Longmont and Lafayette provided field replicate samples for selected parameters, as summarized in Appendix G. Relative percent difference (RPD) calculations for field replicates were within acceptable ranges for most parameters. Longmont's replicate results for ammonia had three samples pairs that exceeded the RPD target and were above the laboratory reporting limit. One sample pair for TKN exceeded RPD objectives in Lafayette's sampling program.

QC Sample	Data Quality Indicator	Collection Frequency (recommended) ¹	Acceptance Criteria	Corrective Action
Field Blank Sample	Bias Due to Sample Contamination	5% of samples (1 per 20 samples)	< Reporting Limit	Investigate and eliminate sources of contamination; flag suspect data (e.g., "B" qualifier)
Field Replicate Sample	Precision	5% of samples (1 per 20 samples)	For concentrations > Reporting Limit, <25% Relative Percent Difference ²	Investigate and eliminate cause (e.g., inconsistent field techniques and sample processing, lab error); request re-analysis of sample; flag suspect data

 Table 22. Recommended Field Quality Control Samples

¹If the recommended frequency is infeasible, it is highly recommend that, at a minimum, one set of field duplicates and one set of field blanks should be collected by each sampling program per year.

²For *E. coli*, log-transformed data are used for relative percent difference calculations.

7.0 Conclusions Regarding Current and Future Regulatory Issues

Based on the analysis completed in this report and analyses conducted by others, current regulatory issues for the Boulder Creek and St. Vrain Creek basin include:

- *E. coli*: All segments evaluated in this report exceed *E. coli* standards during 2015, with the exception of South Boulder Creek. The portion of Boulder Creek between 13th Street to the confluence with South Boulder Creek is included in an *E. coli* TMDL, which drives additional regulatory requirements under MS4 permits.
- pH: Boulder Creek Segment 10 is identified as impaired for elevated pH on the 2016 303(d) List. During 2015, pH at monitoring locations in this segment attained standards.
- Selenium: Rock Creek and the portion of Coal Creek below Rock Creek are identified as impaired for elevated selenium based on River Watch data. It is recommended that additional monitoring be conducted to better characterize selenium in these areas and that a site-specific standard potentially be proposed in the future.
- Copper: The upper portion of South Boulder Creek and Left Hand Creek basins are identified as impaired for copper on the 2016 303(d) List. These impairments are located at sampling locations outside of the KICP Monitoring Plan area.
- Aquatic Life: Based on biological monitoring results for 2015, significant improvement in aquatic life conditions has occurred throughout the watershed at most locations, particularly relative to post-flood conditions in 2013. Based on 2015 results, only one location on Coal Creek qualifies as impaired; however, several streams are listed as provisionally impaired on the 2016 303(d) List.

Future regulatory issues include:

- Total Phosphorus: Below WWTP discharges, no stream segments evaluated in this report would be expected to attain the "interim values" adopted in Regulation 31 in 2012.
- Total Nitrogen: Below WWTP discharges, no stream segments evaluated in this report would be expected to attain the "interim values" adopted in Regulation 31 in 2012.
- Total Recoverable Arsenic: Although temporary modifications have been adopted for segments with "water + fish" standards for total recoverable arsenic through December 31, 2021, available data collected for Boulder Creek and South Boulder Creek indicate that the stringent 0.02 μg/L standard is not attainable at any monitoring location.
- Temperature: Based on a proposal from the City of Boulder, the Commission adopted a temporary modification for temperature during December to February on Segment 9 of Boulder Creek due to difficulty meeting the winter "shoulder season" standard for temperature. This temporary modification expires December 31, 2020.

This annual water quality report continues to support efforts to coordinate monitoring and interpretation of water quality conditions in the overall St. Vrain Basin and identifying general water quality trends (at least spatially). This section provides recommendations for improvements to the Monitoring Plan, annual data compilation process, and general recommendations for water quality improvements and enhancements. Most of these recommendations are similar to those provided in the Annual Water Quality Analysis for 2014.

Recommended modifications to the Monitoring Plan include:

- In order to address controllable *E. coli* sources to the streams, a more refined monitoring program (both temporally and spatially) is needed for *E. coli*. Recommendations for monitoring to further refine understanding of sources of *E. coli* have been provided in the Boulder Creek/St. Vrain Watershed-Based Plan (KICP and WWE 2015).
- Two additional monitoring locations have been identified to reflect instream conditions upstream of urbanized conditions. These include: 1) Coal Creek near (or upstream of) Highway 36 and 2) Left Hand Creek (LH-95) near the USGS gauge at Hover (LEFTHOCO). Because Coal Creek is segmented between 7a and 7b at Highway 36, the Coal Creek station should be located near Highway 36, but upstream of urbanization. Biological monitoring began at LH-95 during 2015, but water quality data have not yet been collected at this site.
- Clarify that a log-transformed procedure will be followed for relative percent difference calculations for *E. coli* QC analyses.
- Review Appendix A and B monitoring locations and nomenclature for consistency with this annual report and update tables and maps, as needed. Update the preferred nomenclature for the Longmont WWTP discharge to WWTP-LGMT. Add the new Colorado Division of Water Resources monitoring location SVCHGICO to the list of retrieved stream gauges for St. Vrain Creek.
- Conduct a joint meeting of field and laboratory staff among participating communities to continue to improve consistency and efficiency in implementation of the Monitoring Plan.

Recommendations to increase efficiency in the data analysis and compilation process based on lessons learned in 2015 include several simple suggestions:

• Continue to clearly specify that WWTP data should be provided as part of the data submission (at least for Regulation 85 nutrients) to improve consistency in graphic representations of the data and provide better insight into pollutant sources that may be influencing instream water quality.

8.0
- Continue to clearly communicate with data providers regarding data format and desired data submission timeline. When working with database outputs and "batch" statistical analysis, it is most efficient to have a complete data set submitted in one standardized file, as opposed to several submissions.
- Consistent sample location names and clearly identified sample location names should be used to avoid misinterpretation of the sample location. For example "upstream" and "downstream" identifiers should be replaced with the standardized KICP monitoring location name.
- Clearly identify whether the data being provided is also being provided by another entity. For example, the Coal Creek cities share monitoring location 11-BC and it only needs to be provided once.

Recommendations for water quality enhancements and improvements:

- At this time, the recommendations of basin master plans in response to the September 2013 flood are considered highest priority, combined with gradual upgrades to WWTP treatment processes to reduce nutrients to meet Regulation 85 requirements.
- Continued implementation of construction and post-construction stormwater quality BMPs following the recommendations of Volume 3 of the Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual is generally recommended, particularly in MS4 permit covered areas. Because of the general nature of this water quality analysis, more detailed recommendations are not appropriate at this time. As a general recommendation for bacteria, practices that provide runoff volume reduction through infiltration and/or filtration (e.g., sand filter, bioretention) are expected to be most beneficial for bacteria reduction. Although wet ponds with permanent pools may also help to reduce bacteria concentrations, water rights and space constraints often preclude their use for new developments and redevelopments in Colorado.
- Work with Boulder County Parks and Open Space to identify opportunities for implementation of agricultural BMPs. For agricultural areas, pollutant loading is affected by practices already in place on specific parcels. Some parcels may have significant opportunity for improvements, whereas others may already be implementing agricultural BMPs. An inventory of practices in place for various agricultural parcels has not been completed for purposes of this annual water quality report, but have been summarized in the Boulder Creek/St. Vrain Watershed-Based Plan (KICP and WWE 2015). KICP is also coordinating with Boulder County Parks and Open Space with regard to a water quality monitoring program that is being developed to assess the effectiveness of various practices implemented on County lands.
- Encourage participation of agricultural producers (particularly on County land) in the Rocky Mountain National Park Early Warning System project to reduce ammonia emissions during certain weather conditions (see http://www.rmwarningsystem.com).

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Appendix A. Monitoring Location Maps





JOINT MONITORING PLAN LOCATIONS

2490 W 26TH AVE 100A

DENVER, CO. 80211 (303) 480-1700



0 0.375 0.75

Miles







2014 KICP Cooperative Monitoring Program Locations

Plot_ID	Instream Monitoring Location Description	Stream Name	Data Provider	DD_Lat	DD_Long	Flow Monitoring Type (or closest gauge)	Anticipated Monthly Sample Date
BC-Can	Pool area at Anderson Ditch head gate	Boulder Creek	City of Boulder	40.0132	-105.3015	USGS 06727000 aka BOCOROCO; BOULDER CREEK NEAR ORODELL, CO	Second Tuesday of month
BC-CU	Under foot bridge connecting Folsom Field with dirt parking lot to the North	Boulder Creek	City of Boulder	40.0111	-105.2661		Second Tuesday of month
BC-61	Just West of 61st St. bridge	Boulder Creek	City of Boulder	40.0381	-105.2116		Second Tuesday of month
BC-aWWTP	Under bridge at 75th St. Western side	Boulder Creek	City of Boulder	40.0515	-105.178611	USGS 06730200 aka BOCNORCO; BOULDER CREEK AT NORTH 75TH ST. NEAR BOULDER, CO	Second Tuesday of month
BC-aDC	above Dry Creek	Boulder Creek	City of Boulder	40.0495	-105.14485	Flow Meter	Second Tuesday of month
BC-95	Downstream of Lower Boulder Ditch headgate 0.87 miles below BC-aDC sample site.	Boulder Creek	City of Boulder	40.0472	-105.1288		Second Tuesday of month
BC-107	Bridge at 107th Street	Boulder Creek	City of Boulder	40.0592	-105.1030		Second Tuesday of month
BC-bCC	Bridge where Boulder Creek goes under East County Line Road 2.13 miles below BC-Ken sample site.	Boulder Creek	City of Boulder	40.0921	-105.0553		Second Tuesday of month
SBC-3.5	Open Space at McGuinn Ditch gate	South Boulder Creek	City of Boulder	39.9722	-105.2236	USGS 06729500 aka BOCELSCO; SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO	Second Tuesday of month
CC-Ken	Bridge where Coal Creek goes under Kenosha Rd. 0.89 miles upstream from Boulder Creek confluence.	Coal Creek	City of Boulder	40.0695	-105.0590		Second Tuesday of month
9-BC	Boulder Creek above the North Erie WWTP discharge	Boulder Creek	Erie	40.1012	-105.0480		1st week of month
10-BC	Boulder Creek below the North Erie WWTP discharge	Boulder Creek	Erie	40.1030	-105.0470		1st week of month
11-BC	Boulder Creek Gage 06730500	Boulder Creek	Erie	40.1522	-105.0144	USGS 06730500 aka BOCLONCO; BOULDER CREEK AT MOUTH NEAR LONGMONT, CO	1st week of month
1-CC	Coal Creek above the Lousiville WWTP discharge	Coal Creek	Louisville	39.9761	-105.1164	USGS 06730400 aka COALOUCO; COAL CREEK NEAR LOUISVILLE, CO; aka COC-1	1st week of month
2-CC	Coal Creek below the Lousiville WWTP discharge	Coal Creek	Louisville	39.9765	-105.1160		1st week of month
3-CC	Coal Creek above the confluence with Rock Creek	Coal Creek	Lafayette	39.9799	-105.0909		1st week of month
6-CC	Coal Creek above the Lafayette WWTP discharge	Coal Creek	Lafayette	40.0032	-105.0574		1st week of month
7-CC	Coal Creek below the Lafayette WWTP	Coal Creek	Lafayette	40.0103	-105.0519		1st week of month
4-RC	Rock Creek above the Superior WWTP discharge	Rock Creek	Superior	39.9369	-105.1377		1st week of month
5-RC	Rock Creek above the confluence with Coal Creek	Rock Creek	Superior	39.9790	-105.0711		1st week of month
T11-LH	T-11, Lefthand Creek @ St Vrain	Left Hand Creek	Longmont	40.1551	-105.0874	Flow Meter	3rd Week of Month
M8.9-SV	M-8.9, St Vrain @ Golden Ponds	St. Vrain Creek	Longmont	40.1693	-105.1442	Flow Meter	3rd Week of Month
M8-SV	M-8, St Vrain @ Above Effluent	St. Vrain Creek	Longmont	40.1553	-105.0878	Flow Meter	3rd Week of Month
M7-SV	M-7, St Vrain @ 119	St. Vrain Creek	Longmont	40.1530	-105.0741	SAINT VRAIN CREEK BELOW KEN PRATT BLVD AT LONGMONT, CO (SVCLOPCO); also use flow meter	3rd Week of Month
M4-SV	M-4, St Vrain @ Above Boulder Creek Confluence	St. Vrain Creek	Longmont	40.1582	-105.0108	Flow Meter; (historic data from damaged gauge is USGS 06725450 ST. VRAIN CREEK BELOW LONGMONT, CO or SVBLOCO on the CDWR webpage)	3rd Week of Month
Planned Addition	s						
0-CC	Location above urbanized area	Coal Creek	Superior	39.94	-105.192778	future. Approximate location.	1st week of month
LH-HOV	Left Hand Creek at Hover Gauge	Left Hand Creek	Longmont	40.134278	-105.130819	USGS 06724970 aka LEFTHOCO; LEFT HAND CREEK AT HOVER ROAD NEAR LONGMONT, CO. WQ site may be added in the future. Approximate location.	3rd Week of Month

Notes:

Samples are also collected at WWTP discharges, ideally corresponding to instream sample date. Additional routine monitoring is also conducted by others; this table is limited to KICP monitoring locations.

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Appendix B. Tabular Summary Statistics

Appendix B1
Boulder Creek / South Boulder Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Alkalinity (mg/L) BC-Can	12	21	56	28	39	45	38	11	
Alkalinity (mg/L) BC-CU	12	23	59	39	45	50	43	11	
Alkalinity (mg/L) BC-61	12	27	110	62	/4 87	87	/3	23	
	12	29	120	70	0/	97	02	20	
Alkalinity (mg/L) BC-aDC	12	37	123	85	95	98	90	20	
Alkalinity (mg/L) BC-107	12	31	140	84	109	124	98	35	
Alkalinity (mg/L) BC-bCC	12	56	225	129	162	189	157	50	
Alkalinity (mg/L) SBC-3.5/4	12	23	58	26	32	42	35	11	
Conductivity (umhos/cm) BC-Can	12	62	241	79	134	168	133	55	
Conductivity (umhos/cm) BC-CU	12	68	277	140	189	217	178	66	
Conductivity (umhos/cm) BC-61	12	95	562	242	343	504	360	156	
Conductivity (umhos/cm) BC-aWWTP	12	104	603	330	382	547	403	159	
Conductivity (umhos/cm)/WWVTFEIT	12	5/6	712	698	737 510	807 600	778 505	149	
Conductivity (umhos/cm)/BC-aDC	12	7	712	364	515	571	459	213	
Conductivity (umhos/cm)/BC-107	12	165	750	473	577	655	545	172	
Conductivity (umhos/cm)/BC-bCC	12	241	1438	620	816	978	796	321	
Conductivity (umhos/cm) 9-BC	4	8	1043	591	808	883	667	453	
Conductivity (umhos/cm) 10-BC	4	8	1045	603	838	917	682	461	
Conductivity (umhos/cm) 11-BC	4	8	1605	635	990	1253	898	671	
Conductivity (umhos/cm) SBC-3.5/4	12	70	184	79	100	150	115	41	
DO (mg/L) BC-Can	12	9.1	13.3	10.9	12.2	12.6	11.7	1.4	
DO (mg/L) BC-CU	12	7.4	13.2	10.2	11.4	12.5	11.1	1.7	
	12	7.5	13.2	8.8	10.2	11.4	10.1	1.8	
	12	8.6	12.2	70.1	11.0	11.6	10.7	1.2	
DO (mg/L)/BC-aDC	12	9.1	15.1	10.3	9.2 11.2	9.9 11.6	11.4	1.2	
DO (mg/L) BC-95	12	9.2	15.7	10.7	10.9	11.4	11.5	2.0	
DO (mg/L) BC-107	11	7.7	15.0	9.7	10.9	11.5	10.8	2.1	
DO (mg/L) BC-bCC	10	6.9	16.4	11.1	12.4	13.9	12.3	2.8	
DO (mg/L) 9-BC	4	7.6	11.1	9.0	9.7	10.2	9.5	1.4	
DO (mg/L) 10-BC	4	7.3	11.1	7.9	8.4	9.3	8.8	1.6	
DO (mg/L) 11-BC	4	8.7	13.8	9.9	10.6	11.6	10.9	2.1	
DO (mg/L) SBC-3.5/4	12	9.4	13.3	10.2	11.4	12.4	11.2	1.3	
Hardness, Total as CaCO3 (mg/L) BC-Can	12	23	90	53	50 73	00 82	52	22	
Hardness, Total as CaCO3 (mg/L)/DC-CO	12	34	186	93	129	168	126	48	
Hardness, Total as CaCO3 (mg/L)/BC-aWWTP	12	38	233	130	159	200	156	59	
Hardness, Total as CaCO3 (mg/L) BC-aDC	12	51	254	158	201	227	186	59	
Hardness, Total as CaCO3 (mg/L) BC-107	12	56	291	190	235	264	215	71	
Hardness, Total as CaCO3 (mg/L) BC-bCC	12	78	380	243	283	342	273	88	
Hardness, Total as CaCO3 (mg/L) SBC-3.5/4	12	31	91	35	41	58	48	18	
pH (SU) BC-Can	12	6.9	8.0	7.0	7.1	7.5	7.2	0.4	
pH (SU) BC-CU	12	6.8	7.9	7.0	7.5	7.7	7.4	0.4	
	12	7.0	8.0	7.1	7.0	1.1	7.5	0.4	
pH (SU)IWWTE Eff	12	7.0	0.4	7.3	7.1	0.0 7.2	7.2	0.5	
pH (SU) BC-aDC	12	7.0	8.5	7.5	7.9	8.2	7.8	0.4	
pH (SU) BC-95	12	7.3	8.8	7.8	8.1	8.6	8.2	0.5	
pH (SU) BC-107	12	7.1	9.1	7.7	7.9	8.8	8.1	0.7	
pH (SU) BC-bCC	11	7.5	9.0	8.0	8.2	8.8	8.3	0.5	
pH (SU) 9-BC	4	7.9	8.3	8.1	8.1	8.2	8.1	0.2	
pH (SU) 10-BC	4	8.0	8.3	8.1	8.2	8.2	8.2	0.1	
pH (SU) 11-BC	4	8.2	8.3	8.2	8.3	8.3	8.3	0.1	
pH (SU) SBC-3.5/4	12	6.9	8.1	7.0	7.6	7.8	7.5	0.4	
Temperature (deg C) BC-Can	12	0.4	14.6	0.9	5.9	11.2	6.7	5.6	
Temperature (deg C)/BC-CO	12	2.8	20.6	5.1	9.6	12.0	10.1	5.9	
Temperature (deg C)/BC-aWWTP	12	2.0	20.0	4.5	9.9	15.3	10.1	7.0	
Temperature (deg C) WWTF Eff	12	13.0	21.8	14.2	16.0	19.8	16.8	3.3	
Temperature (deg C) BC-aDC	12	7.7	22.7	10.0	12.2	17.7	13.8	5.3	
Temperature (deg C) BC-95	12	7.2	22.9	9.6	12.0	17.2	13.4	5.4	
Temperature (deg C) BC-107	12	6.8	22.9	9.4	12.3	20.4	13.9	6.0	
Temperature (deg C) BC-bCC	11	4.3	23.1	8.3	14.1	18.6	13.6	6.5	
I emperature (deg C) 9-BC	4	3.1	19.3	9.3	13.7	16.9	12.5	7.0	
I emperature (deg C) 10-BC	4	3.8	21.4	9.2	13.2	16.9	12.9	7.4	
Temperature (deg C)/11-8C	4	3.4	21.9	9.0	13.1	10.9	12.9 2.2	1.8	┟────┤
F coli (MPN/100 ml)IBC-Can	12	0.1	57	4.1 18	0.0	46	0.3	4.0	21
E. coli (MPN/100 mL)IBC-CU	12	24	517	64	118	330	193	171	125
E. coli (MPN/100 mL) BC-61	12	13	1300	22	55	82	155	362	53

Appendix B1
Boulder Creek / South Boulder Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
E. coli (MPN/100 mL) BC-aWWTP	12	11	1553	27	37	61	165	437	47
E. coli (MPN/100 mL) WWTF Eff	12	2	60	10	16	26	22	18	15
E. coli (MPN/100 mL) BC-aDC	12	19	1414	62	85	119	194	386	92
E. coli (MPN/100 mL) BC-107	12	5	1046	21	42	66	129	291	42
E. coli (MPN/100 mL) BC-bCC	12	57	921	27	54	08 105	173	308	01 97
E. coli (MPN/100 mL)[10-BC	4	28	365	33	48	103	122	163	68
E. coli (MPN/100 mL)/11-BC	4	28	325	66	113	192	145	130	101
E. coli (MPN/100 mL) SBC-3.5/4	12	10	1986	18	40	181	243	556	61
TSS (mg/L) BC-Can	12	0.0	34.0	0.0	3.5	10.0	8.3	11.7	
TSS (mg/L) BC-CU	12	0.0	53.0	2.0	4.0	12.5	10.7	15.5	
TSS (mg/L) BC-61	12	1.0	23.0	2.0	4.5	6.0	5.8	6.0	
TSS (mg/L) BC-aWWTP	12	1.0	40.0	2.0	5.0	7.0	7.7	10.7	
TSS (mg/L) WWTF Eff	12	1.0	5.0	2.0	2.5	3.0	2.7	1.1	
TSS (mg/L) BC-aDC	12	3.0	30.0	3.8	4.0	8.8	10.6	1.7	
TSS (mg/L) BC-107	12	4.0	41.0	4.0	0.0 4.0	11.3	10.0	10.2	
TSS (mg/L)BC-107	12	3.0	138.0	4.0	4.0	9.3 30.3	27.8	36.8	
TSS (mg/L) SBC-3.5/4	12	0.0	30.0	0.8	2.0	12.3	6.8	9.3	
Nitrogen Ammonia as N (mg/L) BC-Can	12	0.00	0.01	0.00	0.00	0.00	0.00	0.00	
Nitrogen Ammonia as N (mg/L) BC-CU	12	0.00	0.02	0.00	0.00	0.00	0.00	0.01	
Nitrogen Ammonia as N (mg/L) BC-61	12	0.00	0.30	0.03	0.06	0.07	0.07	0.08	
Nitrogen Ammonia as N (mg/L) BC-aWWTP	12	0.00	0.05	0.01	0.01	0.02	0.02	0.01	
Nitrogen Ammonia as N (mg/L) WWTF Eff	12	0.00	0.10	0.02	0.03	0.05	0.04	0.03	
Nitrogen Ammonia as N (mg/L) BC-aDC	12	0.00	0.05	0.02	0.02	0.03	0.02	0.02	
Nitrogen Ammonia as N (mg/L) BC-95	12	0.00	0.05	0.00	0.01	0.02	0.01	0.02	
Nitrogen Ammonia as N (mg/L) BC-107	12	0.00	0.05	0.01	0.02	0.02	0.02	0.01	
Nitrogen Ammonia as N (mg/L) BC-bCC	12	0.00	0.23	0.02	0.05	0.09	0.07	0.08	
Nitrogen Ammonia as N (mg/L) 9-BC	12	0.00	0.30	0.03	0.07	0.09	0.08	0.09	
Nitrogen Ammonia as N (mg/L)[2-BC	12	0.00	0.33	0.00	0.20	0.49	0.44	0.04	
Nitrogen Ammonia as N (mg/L)/10-BC	12	0.01	0.33	0.05	0.00	0.10	0.12	0.10	
Nitrogen Ammonia as N (mg/L)/SBC-3.5/4	12	0.00	0.02	0.00	0.00	0.00	0.00	0.01	
Nitrogen Nitrate as N [Hach] (mg/L) BC-Can	12	0.00	0.70	0.00	0.20	0.50	0.25	0.27	
Nitrogen Nitrate as N [Hach] (mg/L) BC-CU	12	0.00	0.90	0.00	0.00	0.55	0.23	0.36	
Nitrogen Nitrate as N [Hach] (mg/L) BC-61	12	0.00	1.10	0.00	0.35	0.70	0.38	0.40	
Nitrogen Nitrate as N [Hach] (mg/L) BC-aWWTP	12	0.00	1.00	0.00	0.00	0.53	0.23	0.36	
Nitrogen Nitrate as N (mg/L) BC-aWWTP	12	0.08	0.45	0.13	0.28	0.38	0.26	0.14	
Nitrogen Nitrate as N [Hach] (mg/L) WWTF Eff	12	5.20	16.00	7.90	11.35	13.08	10.80	3.51	
Nitrogen Nitrate as N [Hach] (mg/L) BC-aDC	12	0.40	7.70	2.98	3.90	5.00	3.88	2.02	
Nitrogen Nitrate as N [Hach] (mg/L) BC-95	12	0.50	5.60	2.40	3.20	4.43	3.23	1.73	
Nitrogen Nitrate as N [Hach] (mg/L) BC-107	12	0.00	7 30	2.73	3.00	4.20	3.40	2.06	
Nitrogen Nitrate as N (mg/L)/9-BC	12	0.40	6.79	1.36	4 46	5.85	3.89	2.00	
Nitrogen Nitrate as N (mg/L)IE-BC	12	4.31	13.80	9.57	10.94	12.16	10.64	2.49	
Nitrogen Nitrate as N (mg/L) 10-BC	12	0.62	6.72	1.49	3.87	5.75	3.72	2.23	
Nitrogen Nitrate as N (mg/L) 11-BC	12	0.40	6.29	1.12	3.53	5.09	3.25	2.21	
Nitrogen Nitrate as N [Hach] (mg/L) SBC-3.5/4	12	0.00	0.60	0.00	0.00	0.00	0.08	0.20	
Nitrogen Nitrate/Nitrite as N (mg/L) BC-Can	12	0.00	0.70	0.00	0.20	0.50	0.25	0.27	
Nitrogen Nitrate/Nitrite as N (mg/L) BC-CU	12	0.00	0.90	0.00	0.00	0.55	0.23	0.35	
Nitrogen Nitrate/Nitrite as N (mg/L) BC-61	12	0.00	1.10	0.00	0.35	0.70	0.39	0.40	
Nitrogen Nitrate/Nitrite as N (mg/L) BC-avvvv I P	12	0.08	16.01	7.00	0.28	12.00	10.20	0.14	
Nitrogen Nitrate/Nitrite as N (mg/L)/WWTF EI	12	0.40	7 71	2 00	3.0/	5.09	3.80	2.00	
Nitrogen Nitrate/Nitrite as N (mg/L)/BC-95	12	0.40	5.81	2.33	3.21	4 44	3.24	1.73	
Nitrogen Nitrate/Nitrite as N (mg/L)/BC-107	12	0.00	6.52	2.75	3.65	4.22	3.49	1.93	
Nitrogen Nitrate/Nitrite as N (mg/L) BC-bCC	12	0.40	7.42	2.97	3.95	5.37	3.86	2.09	
Nitrogen Nitrate/Nitrite as N (mg/L) 9-BC	12	0.61	6.79	1.36	4.46	5.85	3.89	2.34	
Nitrogen Nitrate/Nitrite as N (mg/L) E-BC	12	4.55	13.85	10.00	11.30	12.22	10.85	2.43	
Nitrogen Nitrate/Nitrite as N (mg/L) 10-BC	12	0.62	6.72	1.49	3.87	5.88	3.76	2.28	
Nitrogen Nitrate/Nitrite as N (mg/L) 11-BC	12	0.40	6.29	1.12	3.53	5.09	3.25	2.21	
Nitrogen Nitrate/Nitrite as N (mg/L) SBC-3.5/4	12	0.00	0.60	0.00	0.00	0.00	0.08	0.20	
Nitrogon Nitrite as N (mg/L) BC-Can	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrogen Nitrite as N (mg/L) BC-61	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrogen Nitrite as N (mg/L)BC-01	12	0.00	0.01	0.00	0.00	0.00	0.00	0.00	
Nitrogen Nitrite as N (mg/L)IWWTF Fff	12	0.00	0.01	0.00	0.00	0.00	0.00	0.03	
Nitrogen Nitrite as N (mg/L)IBC-aDC	12	0.00	0.05	0.01	0.01	0.02	0.01	0.02	
Nitrogen Nitrite as N (mg/L) BC-95	12	0.00	0.04	0.00	0.01	0.02	0.01	0.01	
Nitrogen Nitrite as N (mg/L) BC-107	12	0.00	0.05	0.01	0.01	0.02	0.01	0.01	
Nitrogen Nitrite as N (mg/L) BC-bCC	12	0.00	0.12	0.01	0.03	0.04	0.03	0.03	
Nitrogen Nitrite as N (mg/L) 9-BC	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Appendix B1
Boulder Creek / South Boulder Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Nitrogen Nitrite as N (mg/L) E-BC	12	0.00	0.61	0.06	0.14	0.33	0.21	0.21	
Nitrogen Nitrite as N (mg/L) 10-BC	12	0.00	0.44	0.00	0.00	0.00	0.04	0.13	
Nitrogen Nitrite as N (mg/L) 11-BC	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrogen Nitrite as N (mg/L) SBC-3.5/4	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrogen TKN (mg/L) BC-Can	12	0.14	0.38	0.19	0.24	0.27	0.24	0.08	
Nitrogen TKN (mg/L) BC-CU	11	0.17	0.83	0.20	0.24	0.30	0.31	0.19	
Nitrogen TKN (mg/L) BC-61	12	0.17	0.51	0.30	0.33	0.37	0.34	0.08	
Nitrogen TKN (mg/L) BC-avvvvTP	12	0.17	0.50	0.29	0.30	0.37	0.33	0.09	
Nitrogen TKN (mg/L)/WWTF Ell	12	0.90	2.31	0.75	0.83	0.88	0.80	0.38	
Nitrogen TKN (mg/L)BC-95	12	0.33	1.09	0.75	0.03	0.00	0.00	0.20	
Nitrogen TKN (mg/L)/BC-107	12	0.41	1.07	0.04	0.70	0.84	0.74	0.17	
Nitrogen TKN (mg/L)/BC-bCC	12	0.43	1.06	0.82	0.89	1.02	0.87	0.18	
Nitrogen TKN (mg/L) 9-BC	12	0.12	1.30	0.57	0.75	0.89	0.75	0.35	
Nitrogen TKN (mg/L) E-BC	12	1.70	4.00	2.10	2.20	3.13	2.63	0.77	
Nitrogen TKN (mg/L) 10-BC	12	0.07	1.30	0.48	0.83	0.93	0.74	0.36	
Nitrogen TKN (mg/L) 11-BC	12	0.13	1.28	0.48	0.79	0.95	0.72	0.38	
Nitrogen TKN (mg/L) SBC-3.5/4	11	0.14	0.60	0.21	0.25	0.28	0.26	0.12	
Nitrogen Total (mg/L) BC-Can	12	0.00	1.03	0.00	0.32	0.76	0.39	0.42	
Nitrogen Total (mg/L) BC-CU	12	0.00	1.53	0.00	0.00	0.79	0.37	0.58	
Nitrogen Total (mg/L) BC-61	12	0.00	1.39	0.31	0.77	1.05	0.67	0.46	
Nitrogen Total (mg/L) BC-aWWTP	12	0.00	1.29	0.00	0.23	0.82	0.41	0.47	
Nitrogen Total (mg/L) WWTF Eff	12	6.86	18.32	9.34	12.95	14.34	12.29	3.57	
Nitrogen Total (mg/L) BC-aDC	12	0.73	8.56	3.98	4.92	5.83	4.69	2.13	
Nitrogen Total (mg/L) BC-95	12	0.91	6.59	3.17	4.05	5.29	3.98	1.81	
Nitrogen Total (mg/L) BC-107	12	0.00	7.27	3.53	4.57	4.99	4.20	2.07	
Nitrogen Total (mg/L) BC-bCC	12	0.83	8.44	3.78	4.99	6.22	4.73	2.17	
Nitrogen Total (mg/L) 9-BC	12	1.10	15.60	2.47	5.05	0.83	4.65	2.45	
Nitrogen Total (mg/L)/E-BC	12	1.40	15.60	12.97	13.91	6.92	13.40	2.22	
Nitrogen Total (mg/L)/10-BC	12	0.85	7.30	2.30	4.71	5.02	4.00	2.43	
Nitrogen Total (mg/L)/SBC-3 5/4	11	0.00	0.88	0.00	0.00	0.14	0.16	0.31	
Nitrogen Total Inorganic (mg/L)/BC-Can	12	0.00	0.00	0.00	0.00	0.11	0.10	0.01	
Nitrogen Total Inorganic (mg/L)/BC-CU	12	0.00	0.90	0.00	0.00	0.56	0.23	0.36	
Nitrogen Total Inorganic (mg/L)IBC-61	12	0.00	1.40	0.00	0.41	0.78	0.44	0.46	
Nitrogen Total Inorganic (mg/L) BC-aWWTP	12	0.00	1.02	0.00	0.00	0.55	0.24	0.37	
Nitrogen Total Inorganic (mg/L) WWTF Eff	12	5.25	16.07	8.05	11.44	13.12	10.86	3.50	
Nitrogen Total Inorganic (mg/L) BC-aDC	12	0.40	7.73	3.01	3.97	5.02	3.91	2.02	
Nitrogen Total Inorganic (mg/L) BC-95	12	0.50	5.81	2.46	3.21	4.45	3.25	1.73	
Nitrogen Total Inorganic (mg/L) BC-107	12	0.00	6.55	2.77	3.67	4.24	3.51	1.93	
Nitrogen Total Inorganic (mg/L) BC-bCC	12	0.42	7.65	3.03	3.98	5.40	3.93	2.11	
Nitrogen Total Inorganic (mg/L) 9-BC	12	0.67	6.87	1.40	4.62	5.86	3.98	2.35	
Nitrogen Total Inorganic (mg/L) E-BC	12	4.83	13.94	10.72	11.90	12.28	11.30	2.38	
Nitrogen Total Inorganic (mg/L) 10-BC	12	0.84	6.80	1.55	3.96	5.91	3.88	2.29	
Nitrogen Total Inorganic (mg/L) 11-BC	12	0.44	6.34	1.22	3.63	5.38	3.36	2.23	
December 10 al morganic (mg/L)/SBC-3.5/4	12	0.00	0.01	0.00	0.00	0.00	0.09	0.20	
Phosphorus as P, Tot (mg/L) BC-Call	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Phosphorus as P. Tot (mg/L)BC-CO	12	0.00	0.15	0.00	0.00	0.00	0.03	0.00	
Phosphorus as P. Tot (mg/L)/BC-aWWTP	12	0.00	0.10	0.00	0.00	0.00	0.02	0.05	
Phosphorus as P. Tot (mg/L)/WWTE Eff	12	1.35	3.55	1.88	2 40	2.75	2.34	0.67	
Phosphorus as P. Tot (mg/L)IBC-aDC	12	0.12	1.84	0.56	0.99	1.28	0.94	0.51	
Phosphorus as P, Tot (mg/L) BC-95	12	0.00	1.40	0.44	0.76	1.17	0.77	0.46	
Phosphorus as P, Tot (mg/L) BC-107	12	0.16	1.30	0.48	0.61	1.19	0.76	0.43	
Phosphorus as P, Tot (mg/L) BC-bCC	12	0.16	1.18	0.43	0.61	0.90	0.66	0.33	
Phosphorus as P, Tot (mg/L) 9-BC	12	0.13	1.13	0.38	0.87	1.02	0.70	0.37	
Phosphorus as P, Tot (mg/L) E-BC	12	0.13	0.56	0.16	0.20	0.24	0.23	0.12	
Phosphorus as P, Tot (mg/L) 10-BC	12	0.01	1.00	0.36	0.83	0.95	0.65	0.35	
Phosphorus as P, Tot (mg/L) 11-BC	12	0.15	0.99	0.27	0.71	0.91	0.61	0.33	
Phosphorus as P, Tot (mg/L) SBC-3.5/4	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	12	0.00	122.37	22.66	29.92	45.22	37.53	30.76	
Arsenic, T (ug/L) BC-Can	12	0.00	6.33	0.39	0.45	0.86	1.12	1.75	
Arsenic, I (ug/L) BC-CU	12	0.23	5.39	0.49	0.54	0.92	1.15	1.47	
	12	0.00	4.73	1.43	1.59	2.68	2.10	1.43	
	12	0.00	2.60	1.18	0.25	1.73	0.22	0.71	
Arsenic, T (ug/L)/WWTF EII	12	0.00	2 34	0.34	1.04	1 /2	1 10	0.11	
Arsenic T (ug/L)/BC-107	12	0.00	2.34	0.00	1.04	1.43	1.19	C0.0	
Arsenic, T (ug/L)/BC-bCC	12	0.00	2.50	1.03	1.10	1.01	1.21	0.03	
Arsenic, T (ug/L) SBC-3.5/4	12	0.00	0.86	0.24	0.26	0.30	0.29	0.20	

Appendix B1 Boulder Creek / South Boulder Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Selenium, D (ug/L) BC-Can	12	0.00	0.13	0.00	0.00	0.00	0.01	0.04	
Selenium, D (ug/L) BC-CU	12	0.00	0.79	0.00	0.00	0.03	0.09	0.23	
Selenium, D (ug/L) BC-61	12	0.00	0.24	0.00	0.00	0.04	0.05	0.09	
Selenium, D (ug/L) BC-aWWTP	12	0.00	0.57	0.00	0.41	0.52	0.29	0.26	
Selenium, D (ug/L) WWTF Eff	12	0.83	2.43	1.01	1.05	1.59	1.35	0.55	
Selenium, D (ug/L) BC-aDC	12	0.00	0.85	0.59	0.70	0.75	0.63	0.22	
Selenium, D (ug/L) BC-107	12	0.00	0.89	0.64	0.73	0.82	0.66	0.25	
Selenium, D (ug/L) BC-bCC	12	0.46	2.49	1.30	1.57	2.09	1.61	0.62	
Selenium, D (ug/L) SBC-3.5/4	12	0.00	0.19	0.00	0.00	0.00	0.03	0.06	
Discharge (MGD) E-BC	12	1.2	1.5	1.2	1.3	1.4	1.3	0.1	
Discharge (MGD) 11-BC	12	63.0	2150.0	105.3	121.0	266.5	410.5	635.3	
Stream Flow (cfs) BC-aWWTP	12	9.8	1010.0	20.0	54.0	85.5	183.7	329.9	
Stream Flow (cfs) BC-aDC	12	34.1	1048.0	44.6	55.1	116.0	206.6	340.1	

Appendix B2 Coal Creek / Rock Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Alkalinity (mg/L) 1-CC	4	320	600	350	390	465	425	124	
Alkalinity (mg/L) 2-CC	4	160	360	190	230	285	245	87	
Alkalinity (mg/L) 3-CC	12	120	342	201	214	244	223	59	
Alkalinity (mg/L) 6-CC	12	137	360	253	257	308	267	57	
Alkalinity (mg/L) 7-CC	12	137	308	231	266	278	253	50	
Alkalinity (mg/L)/CC-Ken	12	113	261	200	247	252	222	45	
Alkalinity (mg/L) 4-RC	9	102	264	149	219	224	193	55	
Aikalinity (mg/L)/5-RC	12	160	312	235	204	291	254	45	
Conductivity (umnos/cm)/1-CC	6	271	1436	550	1063	790	894	460	
Conductivity (umhos/cm)/2-CC	12	290	020	505 627	000	700	000 905	212	
Conductivity (umhos/cm)/5-CC	12	529	2070	1064	1268	900	000 1278	230	
Conductivity (umbos/cm)/2-CC	12	753	1907	1004	1200	13/7	12/0	315	
Conductivity (umhos/cm)/CC-Ken	12	564	1717	1005	1176	1221	1148	275	
Conductivity (umbos/cm)/2-BC	9	381	1975	536	1111	1146	1043	540	-
Conductivity (umhos/cm)/5-RC	12	775	2940	1196	1349	1542	1430	560	
DO (mg/l) 1-CC	3	7.4	12.3	7.4	7.4	9.9	9.0	2.8	
DO (mg/L)[2-CC	3	5.2	8.3	5.5	5.9	7.1	6.5	1.6	
DO (mg/L) CC-Ken	11	7.8	13.0	9.6	9.8	10.5	10.1	1.3	
DO (mg/L) 4-RC	9	5.4	12.8	7.1	9.7	11.3	9.2	2.7	
DO (mg/L) 5-RC	9	4.1	12.5	7.1	9.5	10.7	9.2	2.7	
Hardness, Total as CaCO3 (mg/L) 1-CC	1	322	322	322	322	322	322		
Hardness, Total as CaCO3 (mg/L)]2-CC	1	175	175	175	175	175	175		
Hardness, Total as CaCO3 (mg/L) 3-CC	12	120	360	266	291	312	277	68	
Hardness, Total as CaCO3 (mg/L) 6-CC	12	171	445	342	360	398	352	75	
Hardness, Total as CaCO3 (mg/L) 7-CC	12	188	428	338	351	364	340	63	
Hardness, Total as CaCO3 (mg/L) 4-RC	9	125	367	183	300	330	265	91	
Hardness, Total as CaCO3 (mg/L) 5-RC	12	193	459	360	394	416	372	79	
pH (SU) 1-CC	7	7.9	8.5	8.0	8.1	8.3	8.1	0.3	
pH (SU) A-CC	9	7.1	7.4	7.1	7.3	7.3	7.2	0.1	
pH (SU) 2-CC	7	7.5	8.1	7.5	7.7	7.8	7.7	0.2	
pH (SU) 3-CC	12	7.9	8.2	8.1	8.1	8.1	8.1	0.1	
pH (SU) 6-CC	12	7.8	8.5	8.0	8.1	8.1	8.1	0.2	
	11	7.5	8.2	8.0	8.1	8.2	8.0	0.2	
pH (SU)/CC-Ken	12	7.4	8.6	7.9	8.0	8.3	8.0	0.4	
	9	7.8	10.9	8.1	8.5	8.6	8.7	0.9	
	12	0.9	11.9	7.0	7.1	7.4	1.2	0.3	
Temperature (deg C)/1 CC	7	0.0 6 F	16.0	0.0 10.7	10.7	0.2	0.4	1.0	
Temperature (deg C)/1-CC	0	16.3	21.6	16.8	10.7	20.5	11.0	3.3	
Temperature (deg C)/A-CC	3	10.3	21.0	13.2	14.6	17.7	15.4	2.0	
Temperature (deg C)/2-CC	12	0.0	21.1	4.4	14.0	15.7	10.4	72	
Temperature (deg C)/6-CC	12	0.0	21.0	5.6	11.9	16.9	11.2	6.6	-
Temperature (deg C)/7-CC	12	0.3	21.7	6.7	12.0	17.2	11.6	7.1	
Temperature (deg C)/CC-Ken	11	4.4	20.4	9.1	13.4	18.9	13.5	5.6	
Temperature (deg C) 4-RC	9	0.9	21.6	13.0	13.3	15.7	13.6	6.2	
Temperature (deg C) B-RC	12	13.2	21.6	14.8	17.8	20.7	17.7	3.1	
Temperature (deg C) 5-RC	12	0.1	19.7	3.8	12.4	16.6	10.6	7.2	
E. coli (MPN/100 mL) 1-CC	12	43	866	345	424	568	453	241	362
E. coli (MPN/100 mL) A-CC	1	10	10	10	10	10	10		10
E. coli (MPN/100 mL) 2-CC	12	65	908	131	308	335	315	240	244
E. coli (MPN/100 mL) 3-CC	12	46	879	80	149	344	266	266	168
E. coli (MPN/100 mL) 6-CC	12	61	2420	157	387	472	517	638	326
E. coli (MPN/100 mL) 7-CC	12	78	921	120	237	326	296	249	223
E. coli (MPN/100 mL) CC-Ken	12	36	2420	56	78	234	351	679	134
E. coli (MPN/100 mL) 4-RC	9	6	731	20	94	138	180	252	69
E. coli (MPN/100 mL) B-RC	12	0	20	0	0	0	3	/	00.4
E. COII (MPN/100 mL) 5-RC	12	21	1727	118	166	306	3/6	504	204
155 (mg/L)[1-00	4	1.4	1/.0	2.5	3.8	1.8	6.5	/.1	
155 (mg/L)/2-UC	4	2.8	24.0	4.0	4.9	10.1	9.2	10.0	
133 (IIIg/L)/UU-Ken	12	6.0	558.0	10.5	26.5	61.8	80.5	155.6	
	9	0.0	22.0	0.0	18.0	20.0	11.6	9.8	
TSS (mg/L)/B-RC	12	0.0	0.0 277 0	10.0	20.0	0.0 /7 0	0.9 50 0	2.2	
Nitrogen Ammonia as N. (mg/L)11-CC	9	0.0	0.07	0.01	29.0	0.0F	0.00	00.9	
Nitrogen Ammonia as N (mg/L) 1-00	12	0.00	3 20	0.02	0.03	0.05	0.03	0.02	
Nitrogen Ammonia as N (mg/L) 2-CC	9	0.02	1.80	0.07	0.10	0.58	0.40	0.58	

Appendix B2
Coal Creek / Rock Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Nitrogen Ammonia as N (mg/L) 3-CC	12	0.02	0.32	0.04	0.07	0.11	0.09	0.08	
Nitrogen Ammonia as N (mg/L) 6-CC	12	0.02	0.96	0.05	0.07	0.12	0.19	0.29	
Nitrogen Ammonia as N (mg/L) C-CC	12	0.10	16.30	0.19	0.69	2.75	2.86	4.81	
Nitrogen Ammonia as N (mg/L) 7-CC	12	0.04	0.84	0.07	0.10	0.18	0.19	0.23	
Nitrogen Ammonia as N (mg/L) 8-CC	12	0.03	0.84	0.08	0.15	0.27	0.23	0.24	
Nitrogen Ammonia as N (mg/L)/CC-Ken	12	0.00	0.78	0.04	0.09	0.24	0.32	0.50	
Nitrogen Ammonia as N (mg/L) HC	12	0.05	20.92	0.10	0.00	1.02	2.42	5.94	
Nitrogen Ammonia as N (mg/L) 5-RC	12	0.01	3.10	0.06	0.08	0.47	0.54	0.94	
Nitrogen Nitrate as N (mg/L) 1-CC	12	0.16	0.74	0.19	0.25	0.33	0.32	0.19	
Nitrogen Nitrate as N (mg/L) A-CC	12	3.30	17.30	4.28	8.05	10.38	8.41	5.01	
Nitrogen Nitrate as N (mg/L) 2-CC	9	0.35	12.80	2.10	2.80	6.70	4.63	4.17	
Nitrogen Nitrate as N (mg/L) 3-CC	12	0.31	6.70	2.88	3.45	4.18	3.50	1.83	
Nitrogen Nitrate as N (mg/L) 6-CC	12	0.90	5.90	1.95	2.55	3.78	2.89	1.36	
Nitrogen Nitrate as N (mg/L) C-CC	12	13.90	30.10	21.65	22.95	26.90	23.56	4.65	
Nitrogen Nitrate as N (mg/L)/7-CC	12	1.50	10.40	5.05	5.60	0.08	6.00	2.23	
Nitrogen Nitrate as N [Hach] (mg/L)[0-CC	12	0.80	0.39	3.68	5.05	7.00	5.22	2.00	
Nitrogen Nitrate as N (mg/L)/5-RC	12	0.98	8.70	1.25	2.75	3.90	3.10	2.33	
Nitrogen Nitrate/Nitrite as N (mg/L) 1-CC	12	0.16	0.75	0.19	0.26	0.35	0.33	0.19	
Nitrogen Nitrate/Nitrite as N (mg/L) A-CC	12	3.60	17.40	4.35	8.30	10.55	8.57	4.98	
Nitrogen Nitrate/Nitrite as N (mg/L) 2-CC	9	0.35	12.90	2.20	2.90	6.90	4.75	4.19	
Nitrogen Nitrate/Nitrite as N (mg/L) 3-CC	12	0.31	6.70	3.00	3.55	4.25	3.57	1.82	
Nitrogen Nitrate/Nitrite as N (mg/L) 6-CC	12	0.90	5.90	1.95	2.65	3.78	2.92	1.37	
Nitrogen Nitrate/Nitrite as N (mg/L) C-CC	12	15.00	30.20	22.35	23.80	27.08	24.02	4.40	
Nitrogen Nitrate/Nitrite as N (mg/L) 7-CC	12	1.50	10.40	5.10	5.70	6.68	6.03	2.21	
Nitrogen Nitrate/Nitrite as N (mg/L) 8-CC	12	1.30	8.39	6.03	6.90	7.86	6.45	2.09	
Nitrogen Nitrate/Nitrite as N (mg/L)/CC-Ken	12	0.82	9.32	3.72	5.18	7.38	5.30	2.59	
Nitrogen Nitrate/Nitrite as N (mg/L) 4-RC	9	0.38	22.58	0.62	2.05	6.48	6.54	9.26	
Nitrogen Nitrate/Nitrite as N (mg/L)/D-RC	12	0.95	23.90	14.37	20.99	ZZ.0Z	3.12	0.00	
Nitrogen Nitrite as N (mg/L) 1-CC	12	0.00	0.08	0.00	0.00	0.01	0.12	0.03	
Nitrogen Nitrite as N (mg/L) 1-00	12	0.00	0.00	0.00	0.00	0.01	0.01	0.03	
Nitrogen Nitrite as N (mg/L)/2-CC	9	0.00	0.42	0.05	0.08	0.23	0.13	0.14	
Nitrogen Nitrite as N (mg/L) 3-CC	12	0.00	0.20	0.01	0.06	0.12	0.07	0.07	
Nitrogen Nitrite as N (mg/L) 6-CC	12	0.00	0.11	0.00	0.00	0.04	0.03	0.04	
Nitrogen Nitrite as N (mg/L) C-CC	12	0.00	1.80	0.09	0.20	0.56	0.45	0.57	
Nitrogen Nitrite as N (mg/L) 7-CC	12	0.00	0.21	0.00	0.03	0.05	0.05	0.06	
Nitrogen Nitrite as N (mg/L) 8-CC	12	0.00	0.06	0.00	0.00	0.00	0.01	0.02	
Nitrogen Nitrite as N (mg/L) CC-Ken	12	0.01	0.22	0.03	0.05	0.12	0.08	0.07	
Nitrogen Nitrite as N (mg/L) 5-RC	12	0.00	0.34	0.00	0.00	0.04	0.04	0.10	
Nitrogen TKN (mg/L) 1-CC	12	0.05	0.77	0.39	0.47	0.62	0.49	0.21	
Nitrogen TKN (mg/L)/A-CC	12	0.40	2.50	0.62	1.90	2.00	2.23	0.85	
Nitrogen TKN (mg/L)[3-CC	12	0.11	2.50	0.02	0.99	1 20	0.95	0.03	
Nitrogen TKN (mg/L)/6-CC	12	0.05	1.70	0.93	1.15	1.63	1.16	0.50	
Nitrogen TKN (mg/L) C-CC	12	0.00	10.20	0.00	1.28	3.13	2.72	3.75	
Nitrogen TKN (mg/L) 7-CC	12	0.08	2.00	1.12	1.40	1.63	1.31	0.51	
Nitrogen TKN (mg/L) 8-CC	12	0.20	2.35	0.89	1.04	1.58	1.20	0.68	
Nitrogen TKN (mg/L) CC-Ken	12	0.74	2.41	0.91	1.20	1.58	1.36	0.59	
Nitrogen TKN (mg/L) 4-RC	12	0.00	1.70	0.52	0.67	0.83	0.69	0.40	
Nitrogen TKN (mg/L) B-RC	12	0.00	23.30	0.18	0.70	2.10	3.16	6.58	
Nitrogen TKN (mg/L) 5-RC	12	0.71	4.10	0.92	0.75	1.70	1.62	0.99	
Nitrogen Total (mg/L) 1-CC	12	4 30	10.20	7.58	0.75	12.89	10.02	0.25	
Nitrogen Total (mg/L)/2-CC	9	4.30	15.00	2 30	9.95 4.40	9.10	6.04	4.00	
Nitrogen Total (mg/L) 3-CC	12	1.31	7.68	3.91	4.60	5.37	4.52	1.91	
Nitrogen Total (mg/L)/6-CC	12	1.85	6.64	3.32	3.75	4.82	4.07	1.43	
Nitrogen Total (mg/L) C-CC	12	19.40	33.20	23.85	26.15	31.07	26.74	4.49	
Nitrogen Total (mg/L) 7-CC	12	3.20	11.29	6.55	7.25	8.02	7.34	2.14	
Nitrogen Total (mg/L) 8-CC	12	2.25	9.90	7.56	8.41	8.89	7.64	2.23	
Nitrogen Total (mg/L) CC-Ken	12	2.89	11.17	4.94	6.46	8.42	6.66	2.64	
Nitrogen Total (mg/L) 4-RC	9	0.74	23.00	1.34	2.72	8.16	7.22	9.10	
Nitrogen Total (mg/L) B-RC	12	13.13	24.92	17.40	22.73	23.93	20.94	3.91	
Nitrogen Total Inorgania (mg/L)11.00	12	2.24	٥.٥/	2.93	4.29	5.59	4.70	2.30	
Nitrogen Total Inorganic (mg/L)[1-CC	12	4.0	17.6	5.5	0.3	11.0	0.4 Q 2	4.6	
	12	U	17.0	5.5	0.5	11.0	5.5	U	

Appendix B2
Coal Creek / Rock Creek 2015 Instream Sampling Results

Statistic	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Nitrogen Total Inorganic (mg/L) 2-CC	9	0.4	12.9	2.5	4.7	7.5	5.1	4.1	
Nitrogen Total Inorganic (mg/L) 3-CC	12	0.3	6.8	3.1	3.6	4.4	3.7	1.8	
Nitrogen Total Inorganic (mg/L) 6-CC	12	1.0	5.9	2.0	2.7	4.1	3.1	1.5	
Nitrogen Total Inorganic (mg/L) C-CC	12	21.0	39.3	22.6	25.9	30.2	26.9	5.4	
Nitrogen Total Inorganic (mg/L) 7-CC	12	1.6	10.4	5.2	6.0	7.0	6.2	2.2	
Nitrogen Total Inorganic (mg/L) 8-CC	12	1.5	8.9	6.3	7.1	8.0	6.7	2.1	
Nitrogen Total Inorganic (mg/L) CC-Ken	12	0.9	10.3	3.9	5.5	7.5	5.6	2.8	
Nitrogen Total Inorganic (mg/L) 4-RC	9	0.5	23.0	0.7	2.1	7.3	6.7	9.3	
Nitrogen Total Inorganic (mg/L) B-RC	12	12.3	24.0	16.5	22.4	23.0	20.1	4.1	
Nitrogen Total Inorganic (mg/L) 5-RC	12	1.0	8.0	1.7	3.2	4.8	3.7	2.4	
Phosphorus as P, Tot (mg/L) 1-CC	12	0.00	0.09	0.00	0.02	0.02	0.02	0.03	
Phosphorus as P, Tot (mg/L) A-CC	12	0.12	2.30	0.49	1.15	1.83	1.15	0.77	
Phosphorus as P, Tot (mg/L) 2-CC	9	0.00	1.60	0.12	0.17	0.42	0.36	0.49	
Phosphorus as P, Tot (mg/L) 3-CC	12	0.06	1.20	0.16	0.29	0.66	0.41	0.35	
Phosphorus as P, Tot (mg/L) 6-CC	12	0.10	0.53	0.15	0.37	0.49	0.32	0.18	
Phosphorus as P, Tot (mg/L) C-CC	12	1.90	3.80	2.08	2.30	2.65	2.43	0.53	
Phosphorus as P, Tot (mg/L) 7-CC	12	0.36	0.95	0.49	0.56	0.80	0.62	0.19	
Phosphorus as P, Tot (mg/L) 8-CC	12	0.35	1.02	0.61	0.68	0.86	0.71	0.18	
Phosphorus as P, Tot (mg/L) CC-Ken	12	0.38	1.24	0.62	0.73	0.84	0.77	0.25	
Phosphorus as P, Tot (mg/L) 4-RC	9	0.04	2.26	0.08	0.10	0.90	0.64	0.92	
Phosphorus as P, Tot (mg/L) B-RC	12	2.02	4.06	2.22	2.74	2.80	2.66	0.56	
Phosphorus as P, Tot (mg/L) 5-RC	12	0.14	0.82	0.22	0.43	0.48	0.39	0.20	
Arsenic, T (mg/L) 1-CC	1	0.510	0.510	0.510	0.510	0.510	0.510		
Arsenic, T (mg/L) 2-CC	1	0.420	0.420	0.420	0.420	0.420	0.420		
Discharge (MGD) A-CC	9	1.3	2.5	1.5	1.7	2.1	1.8	0.5	
Discharge (MGD) C-CC	9	2.0	2.8	2.1	2.2	2.4	2.3	0.3	
Discharge (MGD) B-RC	365	0.0	2.0	0.3	0.7	1.0	0.7	0.4	

Appendix B3
St. Vrain Creek / Lefthand Creek 2015 Instream Sampling Results

Sample	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
Alkalinity (mg/L) M9.5-SV	8	52	110	65	73	83	77	19	
Alkalinity (mg/L) M8.9-SV	8	64	118	73	81	100	87	20	
Alkalinity (mg/L) M8.4-SV	8	80	158	88	105	128	112	29	
Alkalinity (mg/L) M8.2-SV	8	116	189	125	133	166	144	27	
Alkalinity (mg/L) M8-SV	12	30	213	99	128	139	121	50	
Alkalinity (mg/L) 111-LH	12	39	307	137	192	223	1/4	79	
Alkalinity (mg/L) 1-EFF	12	85 36	100	99	104	114	109	42	
Alkalinity (mg/L)/M/-SV	8	121	195	131	146	174	153	28	
Conductivity (umbos/cm)IM9.5-SV	8	232	403	248	271	344	295	64	
Conductivity (umhos/cm)/M8.9-SV	8	238	431	284	310	354	323	62	
Conductivity (umhos/cm)/M8.4-SV	8	332	660	381	468	570	480	120	
Conductivity (umhos/cm) M8.2-SV	8	588	1170	616	730	866	775	196	
Conductivity (umhos/cm) M8-SV	12	138	1050	552	686	816	664	274	
Conductivity (umhos/cm) T11-LH	12	162	1223	571	741	876	689	307	
Conductivity (umhos/cm) T-EFF	12	755	1216	801	815	881	876	137	
Conductivity (umhos/cm) M7-SV	12	172	947	631	771	846	693	243	
Conductivity (umhos/cm) M6-SV	8	632	1027	677	798	948	812	155	
DO (mg/L) M9.5-SV	8	7.1	13.7	7.9	9.3	11.1	9.7	2.3	
	8 0	/.5 7 0	14.2	1.9 0 E	9.3	10.7	9.8	2.4	
DO (mg/L) W0.4-3V	0 8	7.0	13.2	0.0 8 /	9.9	10.0	10.0	1.9	
DO (mg/L)IM8-SV	12	7.5	13.9	9.4	9.9 10.7	11.9	10.0	17	
DO (mg/L) T11-LH	12	7.4	13.1	8.7	9.8	11.0	9.9	1.8	
DO (mg/L) T-EFF	12	1.9	8.0	4.0	5.4	7.3	5.3	2.0	
DO (mg/L) M7-SV	12	7.6	13.1	8.7	9.9	11.1	9.9	1.8	
DO (mg/L) M6-SV	8	7.5	13.6	7.6	9.7	10.4	9.6	2.1	
Hardness, Total as CaCO3 (mg/L) M9.5-SV	8	89	183	104	110	145	125	34	
Hardness, Total as CaCO3 (mg/L) M8.9-SV	8	101	187	117	125	146	135	29	
Hardness, Total as CaCO3 (mg/L) M8.4-SV	8	132	275	154	171	216	189	52	
Hardness, Total as CaCO3 (mg/L) M8.2-SV	8	226	475	243	301	348	311	83	
Hardness, Total as CaCO3 (mg/L) M8-SV	12	67	436	226	260	310	264	107	
Hardness, Total as CaCO3 (mg/L) TT-EF	12	100	04Z	240	211	250	242	63	
Hardness, Total as CaCO3 (mg/L)/M7-SV	12	66	347	234	278	300	253	85	
Hardness, Total as CaCO3 (mg/L) M6-SV	8	241	390	250	301	372	310	63	
pH (SU) M9.5-SV	8	7.1	8.3	7.3	7.6	8.0	7.6	0.5	
pH (SU) M8.9-SV	8	7.1	8.3	7.3	7.6	7.8	7.6	0.4	
pH (SU) M8.4-SV	8	7.3	8.4	7.8	8.0	8.1	7.9	0.4	
pH (SU) M8.2-SV	8	7.4	8.4	7.7	7.8	7.9	7.9	0.3	
pH (SU) M8-SV	12	7.3	8.5	7.7	8.1	8.4	8.0	0.4	
	12	7.3	8.3	1.1	7.8	8.3	7.9	0.4	
	12	6.0	7.9	0.0	0.0	7.7	0.9	0.4	
pH (SU)IM6-SV	8	7.3	8.1	7.5	7.8	7.9	7.7	0.3	
Temperature (deg C)IM9.5-SV	8	0.0	19.7	7.0	13.6	19.2	12.3	7.4	
Temperature (deg C)/M8.9-SV	8	0.0	20.6	7.2	13.4	18.5	12.3	7.5	
Temperature (deg C) M8.4-SV	8	0.5	20.1	8.8	13.8	18.0	12.6	6.8	
Temperature (deg C) M8.2-SV	8	0.9	19.2	8.9	12.9	17.3	12.2	6.3	
Temperature (deg C) M8-SV	12	0.4	22.3	5.9	12.8	16.0	11.6	7.3	
Temperature (deg C) T11-LH	12	-0.1	22.3	6.2	11.4	16.8	11.4	7.1	
Temperature (deg C) T-EFF	12	12.9	21.8	14.6	16.8	20.3	17.2	3.3	
Temperature (deg C)/M7-SV	12	4.1	20.0	0.0	12.2	10.4	11.5	6.U 5.0	
	0 7	4.0 Q	20.3	24	03	10.1	106	131	53
E coli (MPN/100 mL)[M9.5-5V	7	16	461	24	75	154	131	162	69
E. coli (MPN/100 mL)/M8.4-SV	7	12	158	37	66	75	65	48	50
E. coli (MPN/100 mL)/M8.2-SV	7	23	133	65	99	125	91	43	78
E. coli (MPN/100 mL) M8-SV	12	33	411	65	144	194	152	112	116
E. coli (MPN/100 mL) T11-LH	12	7	921	35	140	185	191	250	93
E. coli (MPN/100 mL) T-EFF	12	13	128	27	44	56	48	32	40
E. coli (MPN/100 mL) M7-SV	12	56	435	72	146	229	175	118	142
E. coli (MPN/100 mL) M6-SV	8	28	416	88	105	197	158	128	119
15S (mg/L) M9.5-SV	8	1.0	5.0	1.8	3.0	3.8	2.9	1.5	
133 (Mg/L)/1018:9-37	8 0	1.0	4.0	1.0	2.5	3./	2.0	1.2	
TSS (mg/L)/W8 2-SV	8	1.2	4.0	1 9	3.3	5.6	3.Z 4.6	4.1	
TSS (mg/L) M8-SV	12	1.8	95.0	5.3	8.5	38.5	22.4	27.5	
TSS (mg/L) T11-LH	12	4.2	206.0	10.0	14.6	26.3	34.3	56.1	
TSS (mg/L) T-EFF	12	3.2	11.2	4.6	5.4	9.2	6.5	2.9	
TSS (mg/L) M7-SV	12	4.4	127.0	6.0	11.2	17.8	23.0	34.5	

Appendix B3
St. Vrain Creek / Lefthand Creek 2015 Instream Sampling Results

Sample	No. of Samples	Minimum	Maximum	1st Quartile	Median	3rd Quartile	Mean	Standard Deviation	Geometric Mean (for <i>E. coli</i>)
TSS (mg/L) M6-SV	8	2.4	36.4	3.9	5.7	17.4	11.6	11.8	í í
Nitrogen Ammonia as N (mg/L) M9.5-SV	8	0.03	0.05	0.03	0.03	0.05	0.04	0.01	
Nitrogen Ammonia as N (mg/L) M8.9-SV	8	0.03	0.05	0.03	0.03	0.03	0.03	0.01	
Nitrogen Ammonia as N (mg/L) M8.4-SV	8	0.01	0.13	0.04	0.04	0.05	0.05	0.03	
Nitrogen Ammonia as N (mg/L) M8.2-SV	8	0.02	0.06	0.03	0.04	0.04	0.04	0.01	
Nitrogen Ammonia as N (mg/L) M8-SV	12	0.02	0.16	0.03	0.04	0.05	0.06	0.04	
Nitrogen Ammonia as N (mg/L) T11-LH	12	0.03	0.25	0.03	0.04	0.04	0.06	0.06	
Nitrogen Ammonia as N (mg/L) Long-Eff	12	0.12	1.61	0.18	0.25	0.90	0.53	0.50	
Nitrogen Ammonia as N (mg/L) T-EFF	12	0.08	2.86	0.10	0.13	0.22	0.41	0.79	
Nitrogen Ammonia as N (mg/L) M7-SV	12	0.04	0.75	0.05	0.08	0.11	0.14	0.20	
Nitrogen Ammonia as N (mg/L) M6-SV	8	0.07	0.33	0.08	0.09	0.10	0.12	0.09	
Nitrogen Nitrate/Nitrite as N (mg/L) M9.5-SV	8	0.01	0.25	0.03	0.08	0.16	0.10	0.09	
Nitrogen Nitrate/Nitrite as N (mg/L) M8.9-SV	8	0.05	0.19	0.06	0.08	0.15	0.10	0.06	
Nitrogen Nitrate/Nitrite as N (mg/L) M8.4-SV	8	0.10	0.22	0.13	0.18	0.19	0.16	0.05	
Nitrogen Nitrate/Nitrite as N (mg/L) M8.2-SV	8	0.34	0.53	0.34	0.42	0.45	0.42	0.08	
Nitrogen Nitrate/Nitrite as N (mg/L) M8-SV	12	0.20	0.89	0.35	0.51	0.60	0.49	0.20	
Nitrogen Nitrate/Nitrite as N (mg/L) 111-LH	12	0.13	1.43	12.20	0.50	0.63	0.54	0.35	
Nitrogen Nitrate/Nitrite as N (mg/L) Long-En	12	12.40	17.00	13.30	14.40	12.00	14.04	1.75	
Nitrogen Nitrate/Nitrite as N (mg/L) 1-EFF	12	9.09	6 90	2.20	2.00	13.99	2 12	1.09	
Nitrogen Nitrate/Nitrite as N (mg/L)/M/-SV	8	2.02	6.11	2.30	2.00	4.13	3.13	1.91	
Nitrogen TKN (mg/L)/M8-SV	12	2.02	0.11	0.35	2.05	0.53	0.40	0.21	
Nitrogen TKN (mg/L) T11-I H	12	0.00	0.03	0.35	0.43	0.33	0.40	0.21	
Nitrogen TKN (mg/L) opg-Eff	12	1 10	4 24	1.96	2.42	2.96	2.52	0.20	
Nitrogen TKN (mg/L)/M7-SV	12	0.49	1.66	0.60	0.69	0.88	0.79	0.31	
Nitrogen Total (mg/L)/M8-SV	12	0.21	1.39	0.76	0.99	1.02	0.89	0.31	
Nitrogen Total (mg/L) T11-I H	12	0.13	2.37	0.62	0.00	0.91	0.86	0.55	
Nitrogen Total (mg/L) Long-Eff	12	14.60	19.60	15.59	16.97	18.69	17.16	1.74	
Nitrogen Total (mg/L)/M7-SV	12	1.09	7.70	3.00	3.46	4.73	3.92	2.09	
Nitrogen Total Inorganic (mg/L)IM9.5-SV	8	0.04	0.27	0.07	0.12	0.20	0.14	0.09	
Nitrogen Total Inorganic (mg/L) M8.9-SV	8	0.08	0.23	0.09	0.11	0.18	0.13	0.06	
Nitrogen Total Inorganic (mg/L) M8.4-SV	8	0.14	0.26	0.20	0.22	0.23	0.21	0.04	
Nitrogen Total Inorganic (mg/L) M8.2-SV	8	0.36	0.57	0.38	0.46	0.50	0.46	0.08	
Nitrogen Total Inorganic (mg/L) M8-SV	12	0.25	0.93	0.40	0.58	0.63	0.55	0.18	
Nitrogen Total Inorganic (mg/L) T11-LH	12	0.16	1.47	0.43	0.53	0.67	0.60	0.34	
Nitrogen Total Inorganic (mg/L) Long-Eff	12	12.54	18.21	14.12	14.68	16.07	15.18	1.77	
Nitrogen Total Inorganic (mg/L) T-EFF	12	9.77	18.10	12.41	13.08	14.26	13.54	2.27	
Nitrogen Total Inorganic (mg/L) M7-SV	12	0.48	6.90	2.35	2.88	4.20	3.27	1.99	
Nitrogen Total Inorganic (mg/L) M6-SV	8	2.08	6.20	2.64	2.74	3.47	3.32	1.35	
Phosphorus as P, Tot (mg/L) M9.5-SV	8	0.00	0.02	0.01	0.02	0.02	0.02	0.01	
Phosphorus as P, Tot (mg/L) M8.9-SV	8	0.01	0.05	0.01	0.02	0.03	0.02	0.01	
Phosphorus as P, Tot (mg/L) M8.4-SV	8	0.01	0.04	0.01	0.02	0.03	0.02	0.01	
Phosphorus as P, Tot (mg/L) M8.2-SV	8	0.01	0.06	0.01	0.02	0.03	0.03	0.02	
Phosphorus as P, Tot (mg/L) M8-SV	12	0.02	0.15	0.02	0.03	0.06	0.05	0.04	
Phosphorus as P, Tot (mg/L) 111-LH	12	0.02	0.45	0.03	0.05	0.08	0.11	0.15	
Phosphorus as P, Tot (mg/L) Long-Eff	12	0.76	3.42	1.30	2.49	2.96	2.25	0.93	
Phosphorus as P, Tot (mg/L) T-EFF	12	0.35	3.91	0.96	2.54	2.99	2.21	1.19	
Phosphorus as P, Tot (mg/L)/M7-SV	12	0.08	1.40	0.35	0.52	0.82	0.60	0.39	
Aroopio T (ug/L)M0 5 SV	0	0.18	0.70	0.40	0.49	0.09	0.00	0.30	
	0	0.00	0.70	0.23	0.30	0.60	0.35	0.27	
	0	0.30	0.80	0.30	0.40	0.60	0.40	0.19	
Arsenic, T $(ug/L) N8.2-SV$	8	0.20	1.00	0.40	0.45	0.70	0.01	0.20	
Arsonic, T $(ug/L) M8-SV$	12	0.40	1.00	0.40	0.33	1 10	0.03	0.23	
Arsenic, T (ug/L) T11-LH	12	0.40	4.00	0.30	0.70	1.10	1.26	0.35	
Arsenic, T (ug/L) T-FFF	12	0.00	0.50	0.30	0.30	0.40	0.33	0.34	
Arsenic, T (ug/L)/M7-SV	12	0.40	2 10	0.00	0.60	0.73	0.73	0.10	
Arsenic, T (ug/L) M6-SV	8	0.50	1.20	0.50	0.65	0.78	0.71	0.26	1
Stream Flow (cfs) M9.5-SV	7	2.4	19.6	5.5	15.3	17.8	12.0	7.3	1
Stream Flow (cfs)IM8.9-SV	8	5.9	31.1	12.0	17.0	26.2	18.1	9.3	1
Stream Flow (cfs)IM8.4-SV	8	9.4	37.4	13.7	20.2	27.1	21.5	10.5	1
Stream Flow (cfs) M8.2-SV	8	11.5	40.0	15.5	27.1	34.4	25.8	11.1	1
Stream Flow (cfs)IM8-SV	6	18.5	62.8	21.6	30.4	32.9	32.4	16.2	
Stream Flow (cfs) T11-LH	10	4.6	30.0	9.7	13.0	19.0	14.9	8.4	1
Stream Flow (cfs) T-EFF	12	7.1	14.1	11.2	12.4	13.4	12.0	1.9	
Stream Flow (cfs) M7-SV	11	40.2	1590.0	51.5	59.2	96.9	241.4	466.4	
Stream Flow (cfs) M6-SV	7	43.9	99.8	55.5	65.4	88.4	71.0	21.2	

Appendix C. Boxplots













June 2016





























Appendix C2 Box Plots for Coal Creek / Rock Creek 2015 Instream Monitoring Program













Appendix C2 Box Plots for Coal Creek / Rock Creek 2015 Instream Monitoring Program



Appendix C2 Box Plots for Coal Creek / Rock Creek 2015 Instream Monitoring Program













Appendix C3 Box Plots for Left Hand Creek / St. Vrain Creek 2015 Instream Sampling Program













Appendix C3 Box Plots for Left Hand Creek / St. Vrain Creek 2015 Instream Sampling Program













Appendix C3 Box Plots for Left Hand Creek / St. Vrain Creek 2015 Instream Sampling Program



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Appendix D. Time Series Plots

Appendix D1 Time Series Plots for Boulder Creek / South Boulder Creek 2015 Instream Sampling Program


Appendix D1 Time Series Plots for Boulder Creek / South Boulder Creek 2015 Instream Sampling Program



Appendix D1 Time Series Plots for Boulder Creek / South Boulder Creek 2015 Instream Sampling Program



Appendix D1 Time Series Plots for Boulder Creek / South Boulder Creek 2015 Instream Sampling Program



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Appendix D3 Time Series Plots for St. Vrain / Left Hand Creek 2015 Instream Sampling Program



Appendix D3 Time Series Plots for St. Vrain / Left Hand Creek 2015 Instream Sampling Program



Appendix D3 Time Series Plots for St. Vrain / Left Hand Creek 2015 Instream Sampling Program



Appendix E. Regulation 38 Stream Standards for Boulder Creek and St. Vrain Creek

CORPEGO Institucion Image and performance Image and performan	1. All tributarie	is to boulder Creek, including all wettai	nds, within the Indian Peaks and J	ames i eak white	rness Areas.			
Designation Receivance in Receivance in <br< th=""><th>COSPBO01</th><th>Classifications</th><th>Physical and B</th><th>iological</th><th></th><th></th><th>Metals (ug/L)</th><th></th></br<>	COSPBO01	Classifications	Physical and B	iological			Metals (ug/L)	
Martier Aprile Cold 1 Water Surge's Maintaine 1 (apprint Surge's) Maintaine 1 (apprint Surg	Designation	Agriculture		DM	MWAT		acute	chronic
Recreation E VariableResordNone VariableResordNone VariableNone Variab	OW	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum		
Mater Do. (mpL) Roto Bendfame Roto		Recreation E		acute	chronic	Arsenic	340	0.02(T)
Quarine D.0. (spamming) 7.0 Cammin TYS(M) TYS Tempolary Modification(s): 1000 optil a (mg/m) 1500 Chemium III 6007 TYS Apartic/chorn) = hybrid E.oki (ser 100 m) 1700 TYS TYS Apartic/chorn) = hybrid E.oki (ser 100 m) 1700 Chemium III TYS TYS Apartic/chorn) = hybrid E.oki (ser 100 m) 1700 Chemium III TYS TYS Amonin TYS TYS Interdemoting IIII TYS Interdemoting IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		Water Supply	D.O. (mg/L)		6.0	Beryllium		
otherPH0.6-9.00amin0.0000Temporary Longia5.001 (ept 00 mL)128Chanian VI1781785Apara(choronic)128Chanian VI1781785Apara(choronic)128Chanian VI1781785Apara(choronic)128Chanian VI17851785Apara(choronic)0.76Iada0.70117851785Boon0.76Iada0.7010.70117851785Chanide0.761Marganese0.7050.70117851785Chanide0.0190.701Marganese0.7050.70117051785Chanide0.0190.7010.7021785179517951795Chanide0.7021785179517951795Called0.7021785179517951795Sulide0.7021785179517951795Called0.7021785179517951795Called0.7021795179517951795Called0.7021795179517951795Called0.7021795179517951795Called17851795179517951795Called1785179517951795	Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Tempory Modification(): chorophyl a (mpi) 120 Chomum H 0TN TXS Assenicycinosi polydd E. Coll (per 100 m) 120 Capper TXS TXS Exelation Date of 1231/2021 Inorganic (mgi) TXS Inorganic (mgi) 170 Ion Minite Ammonia TXS Inorganic (mgi) 0.10 Minite Minite	Other:		pH	6.5 - 9.0		Cadmium	5.0(T)	
Arannic/Control Section Incom	Temporary Me	odification(s):	chlorophyll a (mg/m ²)		150	Chromium III	50(T)	TVS
EnvironmentIndextreeCopperTWWithWithInorganic (mg/L)Info <td>Arsenic(chroni</td> <td>ic) = hybrid</td> <td>E. Coli (per 100 mL)</td> <td></td> <td>126</td> <td>Chromium VI</td> <td>TVS</td> <td>TVS</td>	Arsenic(chroni	ic) = hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
	Expiration Date	e of 12/31/2021				Copper	TVS	TVS
Field Index Index <th< td=""><td></td><td></td><td>Inorganic</td><td>: (mg/L)</td><td></td><td>Iron</td><td></td><td>WS</td></th<>			Inorganic	: (mg/L)		Iron		WS
kmmonia TVS Lead TVS Lord STVS kmmonia TVS Lad STVS STVS Choinie 0.075 Ladid STVS TVS Choinie 0.011 Maganese TVS TVS Choinie 0.019 0.011 Maganese TVS Mass Visite 0.015 Mercary 0.010 Mass 0.017 Mass Mass Mass 0.017 Mass 0.017 Mass				acute	chronic	Iron		1000(T)
Boron 0.75 Lag 550 9000			Ammonia	TVS	TVS	Lead	TVS	TVS
Reviewable Filoning 0.01 Marganese TVS Choining 0.010 Marganese Molecan Natale 0.005 Molydourun 0.011 Natale 0.010 Molydourun 0.011 Natale 0.02 Molecan Molecan 0.011 Natale Molecan Molecan Molecan <td></td> <td></td> <td>Boron</td> <td></td> <td>0.75</td> <td>Lead</td> <td>50(T)</td> <td></td>			Boron		0.75	Lead	50(T)	
k Choine 0.019 0.019 Manganée			Chloride		250	Manganese	TVS	TVS
k Variate 0.000			Chlorine	0.019	0.011	Manganese		WS
Nitite 10 Molydorum			Cyanide	0.005		Mercury		0.01(t)
Nitrie			Nitrate	10		Molybdenum		150(T)
Prophysics Prophysics			Nitrite		0.05	Nickel	TVS	TVS
key Solution Solution TVS TVS Suifage			Phosphorus		0.11	Nickel		100(T)
sulfide			Sulfate		WS	Selenium	TVS	TVS
Image: constraint of the specific listing in Segment of the spe			Sulfide		0.002	Silver	TVS	TVS(tr)
Image: Constraint of the specific issing and specific issing and specific issing in Segment 3. Image: Constraint of the specific issing in Segment 3. COSP0024 Classifications Physical and Biological Maint 1 Second 1 Secon						Uranium		
2a. Mainter or Boulder Creek, including all inbustries and wetlands, from the boundary of the Indian Peaks Wilder-reserved to the specific listing is Segment 3. Prival and Biological Formation (Construction) (Const						Zinc	TVS	TVS
COSPBO02A Classifications Physical and Biological Metals (ug/L) Designation Agriculture Agriculture acute CS-I CS-I Aluminum	2a. Mainstem Boulder Creek	of Boulder Creek, including all tributari	es and wetlands, from the bounda ment 3.	ry of the Indian Pe	eaks Wildern	ess Area to a point immed	diately below the confl	uence with North
Definition Review Review Review Review Review Review 	COSPB002A							
Reviewable Recreation E Applie Cold 1 Recreation E Temperature °C CS-I Auminum ··· Water Supply D, (mg/L) Arsenic 340 0.02(T) Qualifiers: D, (mg/L) Berylium 340 0.02(T) Qualifiers: D, (mg/L) Canium TWS(r) TWS(r) Other: D, (mg/L) Canium 50(T) TWS(r) Resnic(hronic) = hybrid Explicitent (mg/R) Chornium III 50(T) TWS Assenic(hronic) = hybrid Explicitent (mg/R) Cornium III 50(T) TWS Assenic(hronic) = hybrid Explicitent (mg/R) Cornium III TWS TWS Assenic(hronic) = applies only about the facilities listed at 35.(4). Explicitent (mg/R) Informaticnt (mg/R) TWS Phosphore(kronic) = applies only about the facilities listed at 35.(4). FM Informaticnt (mg/R) TWS Phosphore(kronic) = applies only about the facilities listed at 35.(4). FM Informaticnt (mg/R) TWS Phosphore(kronic) = applies only about the facilities listed at 35.(4). FM Informaticnt (mg/R) TWS Informaticnt Explicitent the facilities listed at 35.(4). FM Informaticnt (mg/R) <		Classifications	Physical and B	iological			Metals (ug/L)	
Recreation E Water SupplyIncome D. (mg/L)Recruit P. (D. (mg/L)Recruit P. (D. (mg/L)Recruit P. (D. (mg/L)Recruit P. (D. (mg/L)Recruit 	Designation	Classifications Agriculture	Physical and B	iological DM	MWAT		Metals (ug/L) acute	chronic
Water SupplyD.O. (mg/L)6.0BeryliumQualifiers:D.O. (spawning)7.0CadmiumTVS(tr)TVSOther:PH6.5 9.0Cadmium5.0(T)Temporary Modification(s):FL Oi (per 100 mL)150°Chronium III50(T)TVSArsenic(chronic) = hybridE. Coli (per 100 mL)150°Chronium III50(T)TVSExpiration Date of 12/31/2021E. Coli (per 100 mL)CopperTVSTVS*chorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 38.5(4).NomaiaTVSTVSIon100(T)Phosphorus(chronic) = applies only above the facilities listed at 38.5(4).NomaiaTVSTVSLeadTVSTVSBoron0.015ManganeseMSChorine0.0190.011ManganeseNitrate0.005NickelNitrite0.015NickelNothononuNickel"hosphorus(chronic) = applies only above the facilities listed at 38.5(4).Nickel	Designation Reviewable	Classifications Agriculture Aq Life Cold 1	Physical and B	iological DM CS-I	MWAT CS-I	Aluminum	Metals (ug/L) acute 	chronic
Qualifiers:D.O. (spawning)7.0CadmiumTVS(tr)TVSOther:PH6.5 • 9.0Cadmium5.0(T)Temporary Modification(s):chlorophyll a (mg/m²)150°Chromium III50(T)TVSArsenic(chronic) = hybridE. Coli (per 100 mL)1260Chromium VITVSTVSExpiration Date of 12/31/2021E. Coli (per 100 mL)CopperTVSTVS*holorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 38.5(A).NonaTVSTVSIonor1000(T)*Phosphorus(chronic) = applies only above the facilities listed at 38.5(A).NonainaTVSTVSIonor1000(T)	Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E	Physical and B	iological DM CS-I acute	MWAT CS-I chronic	Aluminum Arsenic	Metals (ug/L) acute 340	chronic 0.02(T)
Other:pH6.5 · 9.0···Cadmium5.0(T)···Temporary Modification(s):chlorophyll a (mg/m²)···150*Chromium III50(T)TVSArsenic(chronic) = hybridE.Coli (per 100 mL)···126Chromium VITVSTVSExpiration Date of 12/31/2021Inorganic (mg/L)CopperTVSMorganicMS*chorophyll a (mg/m²) (chronic) = applies only above the facilities listed at 38.5(4).Inorganic (mg/L)Inorganic (mg/L)Inorganic (mg/L)MS*Phosphorus(chronic) = applies only above the facilities listed at 38.5(4).MinaniaTVSTVSLeadTVSTVSBoron···0.015ManganeseTVSTVSTVSTVSTVSTVSChronic0.0190.011ManganeseTVST	Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and B Temperature °C D.O. (mg/L)	iological DM CS-I acute 	MWAT CS-I chronic 6.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	chronic 0.02(T)
Temporary Modification(s):chlorophyll a (mg/m²)150*Chromium III50(1)TVSArsenic(chronic) = hybridE. Coli (per 100 mL)126Chromium VITVSTVSSepiration Date of 12/31/2021CopperTVSCopperTVSTVS*chorophyll a (mg/m²) (chronic) = applies only above the facilities listed at 38.5(4).MonoiaTVSTVSCopper1000(T)*Phosphorus(chronic) = applies only above the facilities listed at 38.5(4).MonoiaTVSTVSLeadTVSTVSBoron0.75Lead50(T)TVSChoroide0.016ManganeseTVSTVSChoroide0.015ManganeseWSChoroide0.016Molydenum0.01(T)Nitrate10NickelTVSTVSPhosphorus0.11*Nickel100(T)Nitrite0.01Mickel100(T)Minite0.01Manganese100(T)Nitrite0.01*Nickel100(T)Minite0.01*Nickel100(T)Minite0.01*Nickel100(T)Minite0.01*Nickel100(T)MiniteNickel100(T)MiniteNickel </td <td>Designation Reviewable Qualifiers:</td> <td>Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply</td> <td>Physical and B Temperature °C D.O. (mg/L) D.O. (spawning)</td> <td>iological DM CS-I acute </td> <td>MWAT CS-I chronic 6.0 7.0</td> <td>Aluminum Arsenic Beryllium Cadmium</td> <td>Metals (ug/L) acute 340 T∨S(tr)</td> <td>chronic 0.02(T) TVS</td>	Designation Reviewable Qualifiers:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning)	iological DM CS-I acute 	MWAT CS-I chronic 6.0 7.0	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 T∨S(tr)	chronic 0.02(T) TVS
Arsenic(chronic) = hybrid E. Coli (per 100 mL) 126 Chromium VI TVS TVS Expiration Date of 12/31/2021 Copper TVS TVS TVS *chorophyll a (mg/m ²)(chronic) = applies only above the facilities listed at 38.5(4). Inorganic (mg/L) Iron 000(T) *monia TVS TVS Lead TVS TVS Boron 0.75 Lead 50(T) Chronie 0.019 0.011 Manganese WS Cyanide 0.005 Moreury 0.01(T) Nitrate 10 Molybenum 150(T) Sulfate 0.011 Nickel 100(T) Sulfate 0.05 Nickel 150(T) Sulfate 0.014 Nickel 100(T) Sulfate 0.014 Nickel 100(T) Sulfate	Designation Reviewable Qualifiers: Other:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH	iological DM CS-I acute 6.5 - 9.0	MWAT CS-I chronic 6.0 7.0	Aluminum Arsenic Beryllium Cadmium Cadmium	Metals (ug/L) acute 340 TVS(tr) 5.0(T)	chronic 0.02(T) TVS
Expiration Date of 12/31/2021 Copper TVS TVS *chorophyla (ngm ²)(chonic) = applies only above the facilities listed at 38.5(4). Inon Inon 1000(7) *Phosphorus(chronic) = applies only above the facilities listed at 38.5(4). Minonia TVS TVS Lead TVS TVS Minonia TVS TVS Lead 50(7) OUTS TVS Minonia TVS 0.017 Maganese TVS TVS TVS Chloride 0.05 Maganese TVS TVS Mirate 10 Moldenum 150(7) 150(7) Nirite 0.05 Nickel TVS TVS Sulfate 0.05 Nickel TVS TVS Sulfate 0.01* Nickel TVS TVS Sulfate 0.02 Silver TVS TVS Minophylicitie NO2 Silver TVS TVS Minophylicitie NO2 Silver	Designation Reviewable Qualifiers: Other: Temporary Mo	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²)	iological DM CS-I acute 6.5 - 9.0 	MWAT CS-I chronic 6.0 7.0 150*	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	chronic 0.02(T) TVS TVS
*chorophyla (mgm ²)(chronic) = applies only above the facilities listed at 38.5(4). Inon WS *Phosphorus(chronic) = applies only above the facilities listed at 38.5(4). Ammonia TVS Lead TVS TVS Momonia TVS O.75 Lead 50(7) Boron 0.75 Manganese TVS TVS Chloride 0.019 0.011 Manganese TVS TVS Quarity 0.012 0.011 Manganese 0.01(1) Nitrate 10 Molybdenum 150(7) Nitrite 0.055 Nickel TVS TVS Sulfate 0.051 Nickel 150(7) Sulfate 0.055 Nickel 100(7) Sulfate 0.055 Selenium TVS TVS Sulfate Nickel Inonium Sulfate Zinc TVS TVS Sulfate	Designation Reviewable Qualifiers: Other: Temporary Ma Arsenic(chroni	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	iological DM CS-1 acute 6.5 - 9.0 	MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	Chronic 0.02(T) TVS TVS TVS
Image: the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only above the facilities listed at 38.5(4).Image: chronic is applies only applies only applies only applies only applies only a	Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	iological DM CS-1 acute 6.5 - 9.0 	MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS	Chronic 0.02(T) TVS TVS TVS TVS TVS
Ammonia TVS TVS Lead TVS TVS facilities listed at 38.5(4). Boron 0.75 Lead 50(T) Chloride 250 Manganese TVS TVS Chloride 0.019 0.011 Manganese WS Cyanide 0.005 Molybdenum 0.01(t) Nitrate 10 Molybdenum 150(T) Nitrite 0.05 Nickel TVS TVS Phosphorus 0.01* Nickel TVS TVS Sulfate WS Selenium TVS TVS Sulfide 0.02 Silver TVS TVS(tr) Uranium 20.02 Silver TVS TVS(tr)	Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date *chlorophyll a	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	iological DM CS-1 acute 6.5 - 9.0 (mg/L)	MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS	Chronic 0.02(T) TVS TVS TVS TVS TVS WS
Boron0.75Lead50(T)Chloride250ManganeseTVSTVSChlorine0.0190.011ManganeseWSCyanide0.005Mercury0.01()Nitrate10Molybdenum150(T)Nitrite0.055NickelTVSTVSPhosphorus0.11*Nickel100(T)SulfateWSSeleniumTVSTVSSulfide0.022SilverTVSTVS(tr)Uranium0.022SilverTVSTVS(tr)Toto0.022SilverTVSTVS(tr)Sulfate0.022SilverTVSTVS(tr)Toto0.022SilverTVSTVS(tr)Toto0.022SilverTVSTVS(tr)Sulfate0.022SilverTVSTVS(tr)Toto0.022SilverTVSTVS(tr)TotoSilverTVSTVS(tr)TotoSilverTVSTVSTotoSilverTVSTVSTotoSilverTVSTVSTotoSilverTVSTVSToto	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *December up(c	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	iological DM CS-I acute 6.5 - 9.0 (mg/L) acute	MWAT CS-I chronic 6.0 7.0 150* 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS 	chronic 0.02(T) TVS TVS TVS S VS TVS S S S S 1000(T)
Chloride250ManganeseTVSTVSChlorine0.0190.011ManganeseWSCyanide0.005Mercury0.01(r)Nitrate10Molybdenum150(T)Nitrite0.05NickelTVSTVSPhosphorus0.11*Nickel100(T)SulfateWSSeleniumTVSTVSSulfide0.002SilverTVSTVS(tr)Uranium2incTVSTVS	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia	iological DM CS-1 acute 6.5 - 9.0 (mg/L) acute TVS	MWAT CS-I chronic 6.0 7.0 150* 126 126 chronic TVS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	chronic 0.02(T) TVS
Chlorine0.0190.011ManganeseWSCyanide0.005Mercury0.01(t)Nitrate10Molybdenum150(T)Nitrite0.055NickelTVSTVSPhosphorus0.11*Nickel100(T)SulfateWSSeleniumTVSTVS(tr)Sulfide0.002SilverTVSTVS(tr)IraniumIraniumIraniumTVSTVSTVSTVSTVSNoteIranium <td>Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(of facilities listed</td> <td>Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).</td> <td>Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron</td> <td>iological DM CS-1 acute 6.5 - 9.0 (mg/L) acute TVS </td> <td>MWAT CS-I chronic 6.0 7.0 150* 126 126 chronic TVS 0.75</td> <td>Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead</td> <td>Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) 50(T) TVS TVS TVS TVS 50(T) TVS</td> <td>Chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T) TVS</td>	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron	iological DM CS-1 acute 6.5 - 9.0 (mg/L) acute TVS 	MWAT CS-I chronic 6.0 7.0 150* 126 126 chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) 50(T) TVS TVS TVS TVS 50(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T) TVS
$\begin{array}{c c c c c c c } \hline Cyanide & 0.005 & & Mercury & & 0.01(t) \\ \hline Nitrate & 10 & & Molybdenum & & 150(T) \\ \hline Nitrite & & 0.05 & Nickel & TVS & TVS \\ \hline Phosphorus & & 0.11^* & Nickel & & 100(T) \\ \hline Sulfate & & WS & Selenium & TVS & TVS \\ \hline Sulfide & & 0.002 & Silver & TVS & TVS(tr) \\ \hline Uranium & & \\ \hline Zinc & TVS & TVS & TVS \end{array}$	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride	iological DM CS-1 acute 6.5 - 9.0 (mg/L) acute TVS 	MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS
Nitrate10Molybdenum150(T)Nitrite0.05NickelTVSTVSPhosphorus0.11*Nickel100(T)SulfateWSSeleniumTVSTVSSulfide0.002SilverTVSTVS(tr)UraniumZincTVSTVS	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine	iological DM CS-I acute 6.5 - 9.0 (mg/L) c(mg/L) TVS TVS 0.019	MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS 1VS TVS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS WS
Nitrite0.05NickelTVSTVSPhosphorus0.11*Nickel100(T)SulfateWSSeleniumTVSTVSSulfide0.002SilverTVSTVS(tr)UraniumZincTVSTVS	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide	iological DM CS-I acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005	MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute acut	chronic 0.02(T) TVS TVS TVS 1000(T) TVS 1000(T) TVS MS 1000(T) TVS MS 0.01(t)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate	iological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.019 0.005 10	MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum	Metals (ug/L) acute acut	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS US 1000(T) TVS TVS 0.01(t) 150(T)
SulfateWSSeleniumTVSTVSSulfide0.002SilverTVSTVS(tr)Uranium2incTVSTVS	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	iological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.01 0.019 0.005 10 	MWAT CS-I chronic 6.0 7.0 126 126 Chronic 126 0.75 250 0.011 0.05	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
Sulfide 0.002 Silver TVS TVS(tr) Uranium Zinc TVS TVS	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	iological DM CS-I acute 6.5 - 9.0 (mg/L) xvs cmg/L) xvs 0.019 0.005 10 10 10	MWAT CS-I Chronic 6.0 7.0 150* 126 0.01 Chronic TVS 0.75 250 0.011 0.05 0.11*	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS </td <td>chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS US TVS 0.00(T) TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T)</td>	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS US TVS 0.00(T) TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T)
UraniumZincTVSTVS	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	iological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.019 0.005 10 10 	MWAT CS-I chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 0.05 0.11* WS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Selenium	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 1000(T)
Zinc TVS TVS	Designation Reviewable Qualifiers: Other: Temporary Ma Arsenic(chroni Expiration Data *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Chloripe Chlorine Cyanide Nitrate Nitrate Nitrate Nitrate Sulfate Sulfate Sulfate	iological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.01 0.019 0.005 10 10 10 10 10 10 10 10 	MWAT CS-I chronic 6.0 7.0 150* 126 0.01 Chronic TVS 0.75 250 0.011 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Selenium Silver	Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 5.0(T) 5.0(T) TVS TVS TVS 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T)
	Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrate Nitrite Phosphorus Sulfate Sulfate Sulfide	iological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.01 0.01 0.005 10 0.005 10 	MWAT CS-I CS-I chronic 6.0 7.0 126 126 Chronic TVS 0.75 250 0.011 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Uranium	Metals (ug/L) acute 340 350(T) 50(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS VS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS TVS TVS TVS TVS TVS TVS 100(T) TVS 1

confluence wit	th South Boulder Creek.																																														
COSPBO02B	Classifications	Physical and	Biological			Metals (ug/L)																																									
Designation	Agriculture		DM	MWAT		acute	chronic																																								
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Aluminum																																										
	Recreation E		acute	chronic	Arsenic	340	0.02(T)																																								
	Water Supply	D.O. (mg/L)		6.0	Beryllium																																										
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS																																								
Other:		рН	6.5 - 9.0		Cadmium	5.0(T)																																									
Temporary M	odification(s):	chlorophyll a (mg/m ²)		150*	Chromium III	50(T)	TVS																																								
Arsenic(chroni	ic) = hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS																																								
Expiration Dat	e of 12/31/2021				Copper	TVS	TVS																																								
*chlorophyll a	$(ma/m^2)(chronic) - applies only above$	Inorgani	c (mg/L)		Iron		WS																																								
the facilities lis	sted at 38.5(4).		acute	chronic	Iron		1000(T)																																								
*Phosphorus(facilities listed	chronic) = applies only above the at 38 5(4)	Ammonia	TVS	TVS	Lead	TVS	TVS																																								
		Boron		0.75	Lead	50(T)																																									
		Chloride		250	Manganese	TVS	TVS																																								
		Chlorine	0.019	0.011	Manganese		WS																																								
		Cvanide	0.005		Mercury		0.01(t)																																								
		Nitrate	10		Molybdenum		150(T)																																								
		Nitrite		0.05	Nickel	TVS	TVS																																								
		Phosphorus		0.11*	Nickel		100(T)																																								
		Sulfate		WS	Selenium	TVS	TVS																																								
		Sulfide		0.002	Silver	TVS	TVS(tr)																																								
		Cuindo		0.002	Uranium																																										
					Zinc	TVS	TVS																																								
3. Mainstem o	f Middle Devider Creek including all tr																																														
	i Middle Boulder Creek, including all tr	butaries and wetlands, from the	source to the outlet	of Barker R	eservoir, except for sp	pecific listings in Segment	1.																																								
COSPB003	Classifications	butaries and wetlands, from the Physical and	source to the outlet Biological	of Barker R	eservoir, except for sp	becific listings in Segment Metals (ug/L)	1.																																								
COSPBO03 Designation	Classifications Agriculture	butaries and wetlands, from the Physical and	source to the outlet Biological DM	of Barker R	eservoir, except for sp	becific listings in Segment Metals (ug/L) acute	1. chronic																																								
COSPBO03 Designation Reviewable	Agriculture Aq Life Cold 1	butaries and wetlands, from the Physical and Temperature °C	source to the outlet Biological DM CS-I	of Barker R MWAT CS-I	eservoir, except for sp	Decific listings in Segment Metals (ug/L) acute 	1. chronic 																																								
COSPBO03 Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E	butaries and wetlands, from the Physical and I	source to the outlet Biological DM CS-I acute	of Barker R MWAT CS-I chronic	eservoir, except for sp Aluminum Arsenic	Decific listings in Segment Metals (ug/L) acute 340	1. chronic 0.02(T)																																								
COSPBO03 Designation Reviewable	Agriculture Aq Life Cold 1 Recreation E Water Supply	Dutaries and wetlands, from the Physical and Temperature °C	source to the outlet Biological DM CS-I acute	of Barker R MWAT CS-I chronic 6.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	1. chronic 0.02(T) 																																								
COSPBO03 Designation Reviewable Qualifiers:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	butaries and wetlands, from the Physical and Temperature °C D.O. (mg/L) D.O. (spawning)	source to the outlet Biological DM CS-1 acute	of Barker R MWAT CS-I chronic 6.0 7.0	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) Acute 340 TVS(tr)	1. chronic 0.02(T) TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH	source to the outlet Biological DM CS-I acute 6.5 - 9.0	of Barker R MWAT CS-I chronic 6.0 7.0 	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) Acute 340 TVS(tr) 5.0(T)	1. chronic 0.02(T) TVS 																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M	Agriculture Aq Life Cold 1 Recreation E Water Supply	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²)	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 	of Barker R MWAT CS-I chronic 6.0 7.0 150*	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	1. chronic 0.02(T) TVS TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani	source to the outlet Biological DM CS-I acute 6.5 - 9.0 c (mg/L)	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS TVS WS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 c (mg/L) acute	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 chronic	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T)																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus((Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above std at 38.5(4). chronic) = applies only above the	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 c (mg/L) acute TVS	of Barker R MWAT CS-I chronic 6.0 7.0 7.0 150* 126 Chronic TVS	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS TVS S VS 1000(T) TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(facilities listed	Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron	source to the outlet Biological DM CS-I acute 6.5 - 9.0 (c (mg/L) acute TVS 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 Chronic TVS 0.75	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS 5.0(T)	1. chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T) TVS 																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 (c (mg/L) acute TVS 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS WS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cvanide	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011 	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Manganese	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 50(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t)																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate	source to the outlet Biological DM CS-I acute 6.5 - 9.0 (c (mg/L) acute TVS 0.019 0.005 10	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T)																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(ofacilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. 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Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 0.01 Chronic TVS 0.75 250 0.011 0.05 0.11* WS	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS Store TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS	COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. 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Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	source to the outlet Biological DM CS-I acute 6.5 - 9.0 (c (mg/L) acute TVS 0.019 0.005 10 10 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 0.01 Chronic TVS 0.75 250 0.011 0.01 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Lead Lead Manganese Manganese Mercury Nickel Nickel Selenium Silver	Decific listings in Segment Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS TVS S0(T) TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS	COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. 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COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 (c (mg/L) C(mg/L) C(mg/L) 0.019 0.005 10 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 126 0.0 Chronic TVS 0.75 250 0.011 0.05 0.11*	eservoir, except for sp Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Icon Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Decific listings in Segment Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T)																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	source to the outlet Biological DM CS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 0.01 Chronic TVS 0.75 250 0.011 0.05 0.11* WS	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Decific listings in Segment Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS Store TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	source to the outlet Biological DM CS-I acute 6.5 - 9.0 (c (mg/L) acute TVS 0.019 0.005 10 10 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 0.01 Chronic TVS 0.75 250 0.011 0.01 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Lead Lead Manganese Manganese Mercury Nickel Nickel Selenium Silver	Decific listings in Segment Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS TVS S0(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	source to the outlets Biological DM CS-I acute CS-I CS-I CS-I CS-I CCS-I CS-I CS-I CS-	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 0.01 Chronic Chronic 0.011 0.011 0.01 0.011 0.05 0.11* WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Marcury Molybdenum Nickel Nickel Selenium Silver Uranium	Decific listings in Segment Metals (ug/L) acute 340 340 Store TVS(tr) 5.0(T) 50(T) TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS																																								
COSPBO03 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	butaries and wetlands, from the Physical and I Physical and I Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	source to the outlet Biological DM CS-I acute 6.5 - 9.0 (c (mg/L) CC 0.019 0.005 10 10 	of Barker R MWAT CS-I chronic 6.0 7.0 150* 126 0.0 Chronic TVS 0.75 250 0.011 0.011 0.05 0.11* WS 0.002	eservoir, except for sp Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Chromium VI Chromium VI Chromium VI Chromium VI Chromium VI Chromium VI Chromium VI Chromium III Chromium Silver Uranium Zinc	Decific listings in Segment Metals (ug/L) acute 340 340 340 340 S0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	1. chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS																																								

All metals are dissolved unless otherwise noted. T = total recoverable t = total tr = trout

4a. Mainstem	of South Boulder Creek, including all tr	ibutaries and wetlands, from the	source to the outle	t of Gross Re	eservoir except for specifi	ic listings in Segment 1.	•
COSPBO04A	Classifications	Physical and E	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		рН	6.5 - 9.0		Cadmium	5.0(T)	
Temporary M	odification(s):	chlorophyll a (mg/m ²)		150	Chromium III	50(T)	TVS
Arsenic(chroni	ic) = hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
Expiration Dat	te of 12/31/2021				Copper	TVS	TVS
		Inorganio	c (mg/L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	100(T)
		Phosphorus		0.11	Nickel		TVS
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
4h Mainatam	of South Boulder Creek, including all tr						
	of South Boulder Creek, including all th	ibutaries and wetlands, from the	outlet of Gross Res	servoir to So	uth Boulder Road, except	t for specific listings in S	Segments 4c and
4d.	Classifications	Physical and F	Biological	servoir to So	uth Boulder Road, excep	t for specific listings in S	Segments 4c and
4d. COSPBO04B	Classifications	butaries and wetlands, from the o	Biological	Servoir to So	uth Boulder Road, excep	t for specific listings in S Metals (ug/L)	Segments 4c and
40. Mainstein 4d. COSPBO04B Designation Reviewable	Classifications Agriculture Ag Life Cold 1	Physical and E	Biological DM	MWAT	Aluminum	t for specific listings in S Metals (ug/L) acute	Segments 4c and chronic
4d. COSPBO04B Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E	Physical and E	Biological DM CS-II acute	MWAT CS-II chronic	Aluminum	t for specific listings in S Metals (ug/L) acute 340	Segments 4c and chronic 0.02(T)
4d. COSPBO04B Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Temperature °C	Biological DM CS-II acute	MWAT CS-II chronic	Aluminum Arsenic	t for specific listings in S Metals (ug/L) acute 340	Segments 4c and chronic 0.02(T)
4d. COSPBO04B Designation Reviewable Qualifiers:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Temperature °C D.O. (mg/L)	Biological CS-II acute	MWAT CS-II chronic 6.0 7.0	Aluminum Arsenic Beryllium	t for specific listings in S Metals (ug/L) acute 340 T\/S/tr)	Chronic 0.02(T) TVS
40. Mainstein 4d. COSPBO04B Designation Reviewable Qualifiers:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	D.O. (spawning)	Biological DM CS-II acute 6.5 - 9.0	MWAT CS-II chronic 6.0 7.0	Aluminum Arsenic Beryllium Cadmium	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T)	Chronic 0.02(T) TVS
40. Mainstein 4d. COSPBO04B Designation Reviewable Qualifiers: Other:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m²)	Biological CS-II acute 6.5 - 9.0	MWAT CS-II chronic 6.0 7.0 150*	Aluminum Arsenic Beryllium Cadmium Cadmium	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	Chronic 0.02(T) TVS TVS
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m²) E. Coli (cer 100 ml.)	Biological DM CS-II acute 6.5 - 9.0 	MWAT CS-II chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	Segments 4c and chronic 0.02(T) TVS TVS TVS
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	Biological CS-II acute 6.5 - 9.0 	MWAT CS-II chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS
40. COSPBO04B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	Siological DM CS-II acute 6.5 - 9.0	MWAT CS-II chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS VS TVS
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganio	Biological DM CS-II acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0	MWAT CS-II chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Chromium III Chromium VI Copper Iron	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS S VS TVS TVS
40. Mainstein 44. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(or	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	Biological DM CS-II acute 6.5 - 9.0 c(mg/L) acute	MWAT CS-II chronic 6.0 7.0 150* 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS S TVS TVS TVS TVS TVS TVS TVS TVS
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	Biological DM CS-II acute 6.5 - 9.0 c (mg/L) TVS	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS	uth Boulder Road, except Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS 5.0(T) 50(T)	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS S TVS TVS TVS TVS TVS TVS TVS TVS TVS
40. Mainstein 41. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Otherida	sutlet of Gross Res Siological DM CS-II acute 6.5 - 9.0 c (mg/L) acute TVS 	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS 50(T) TVS 50(T)	Segments 4c and chronic 0.02(T) TVS
40. Mainstein 44. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride	Siological DM CS-II acute 6.5 - 9.0 c (mg/L) acute TVS 	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS 50(T) TVS TVS 50(T) TVS	Segments 4c and chronic 0.02(T) TVS WS 1000(T) TVS TVS WS 1000(T) TVS TVS
40. Mainstein 44. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine	Biological DM CS-II acute 6.5 - 9.0 6.5 - 9.0 c(mg/L) acute TVS 0.019	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS 50(T) TVS 5.0(T) TVS TVS 5.0(T) TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS WS 0.000(T) TVS WS 0.01(i)
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities listed facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide bittete	Siological DM CS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS SWS 1000(T) TVS SWS 0.01(t)
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(the facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate	sutlet of Gross Res Biological DM CS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T)
40. Mainstein 44. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply dodification(s): ic) = hybrid te of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	Siological DM CS-II acute 6.5 - 9.0 (mg/L) c(mg/L) TVS 0.019 0.005 10 	MWAT CS-II chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 0.05	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS S 0.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS
40. Mainstein 44. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus C = C	Biological DM CS-II acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 0.0 0.019 0.005 10	MWAT CS-II chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 0.05 0.11*	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 5.0(T) TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS US 0.00(T) TVS WS 1000(T) TVS WS 0.01(T) TVS WS 0.01(t) 150(T) TVS 100(T)
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities listed *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate O. Ki i	Siological DM CS-II acute 6.5 - 9.0 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 10 	MWAT CS-II chronic 6.0 7.0 150* 126 chronic TVS 0.75 250 0.011 0.05 0.11* WS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Selenium	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS S 0.00(T) TVS WS 0.00(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS
40. Mainstein 4d. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfate Sulfide	Siological DM CS-II acute 6.5 - 9.0 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 10 0.019	Servoir to Sol MWAT CS-II chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS TVS 5.0(T) TVS	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS
40. COSPB004B Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chroni Expiration Dat *chlorophyll a the facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): ic) = hybrid te of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Physical and E Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Siological DM CS-II acute CS-II acute 6.5 - 9.0 (mg/L) c (mg/L) TVS 0.019 0.005 10 10 0.019 0.005 10	Servoir to Sol MWAT CS-II chronic 6.0 7.0 126 chronic Chronic 0.01 TVS 0.75 250 0.011 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mircury Nickel Nickel Selenium Silver Uranium	t for specific listings in S Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS 50(T) TVS TVS TVS TVS TVS TVS 	Segments 4c and chronic 0.02(T) TVS TVS TVS TVS TVS TVS S US 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS US 0.01(t) 150(T) TVS 100(T) TVS TVS(tr)

4c. Mainstem	of Cowdrey Drainage from	the source below Cowdrey Reservoir #2 to the	he Davidson Ditch.				
COSPBO04C	Classifications	Physical and I	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02-10(T) ^A
	Water Supply	D.O. (mg/L)		5.0	Beryllium		
Qualifiers:		рН	6.5 - 9.0		Cadmium	TVS	TVS
Other:		chlorophyll a (mg/m ²)		150	Cadmium	5.0(T)	
		E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS
		Inorgani	c (mg/L)		Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron		WS
		Boron		0.75	Iron		1000(T)
		Chloride		250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead	50(T)	
		Cyanide	0.005		Manganese	TVS	TVS
		Nitrate	10		Manganese		WS
		Nitrite		0.5	Mercury		0.01(t)
		Phosphorus		0.17	Molybdenum		150(T)
		Sulfate		WS	Nickel	TVS	TVS
		Sulfide		0.002	Nickel		100(T)
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium		
					Zinc	TVS	TVS
4d. Mainstem	of Cowdrov Drainago from	immediately downstream of the Dovidson Di					
000000000		Infinediately downstream of the Davidson Di	tch to the confluent	ce with Sout	h Boulder Creek.		
COSPBO04D	Classifications	Physical and I	Biological	ce with South	h Boulder Creek.	Metals (ug/L)	chronia
COSPBO04D Designation	Classifications Agriculture Agriculture	Physical and I	Biological DM	MWAT	h Boulder Creek.	Metals (ug/L) acute	chronic
COSPBO04D Designation UP	Classifications Agriculture Aq Life Warm 2 Recreation E	Temperature °C	Biological DM WS-II	MWAT WS-II	h Boulder Creek.	Metals (ug/L) acute 	chronic
COSPBO04D Designation UP	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C	Biological DM WS-II acute	MWAT WS-II chronic	Aluminum Arsenic	Metals (ug/L) acute 340	chronic 0.02-10(T) ^A
COSPBO04D Designation UP Qualifiers:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L)	Biological DM WS-II acute	MWAT WS-II chronic 5.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	chronic 0.02-10(T) ^A
COSPBO04D Designation UP Qualifiers:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²)	Biological DM WS-II acute 6.5 - 9.0	MWAT WS-II chronic 5.0 150	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 TVS 5.0(T)	chronic 0.02-10(T) ^A TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (cer 100 ml.)	Biological DM WS-II acute 6.5 - 9.0 	WS-II WS-II Chronic 5.0 150	Aluminum Arsenic Beryllium Cadmium Cadmium	Metals (ug/L) acute 340 TVS 5.0(T)	chronic 0.02-10(T) ^A TVS
COSPB004D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and F Physical and F Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	tch to the confluence Biological WS-II acute 6.5 - 9.0 	WWAT WS-II chronic 5.0 150 126	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) 50(T)	chronic 0.02-10(T) A TVS TVS TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute	WWAT WS-II chronic 5.0 150 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS	www.art art www.art www.art art www.art art art www.art art art art art art art art art art	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Metals (ug/L) acute 340 TVS 5.0(T) TVS TVS TVS	chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and I Physical and I Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Borop	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS	WS-II Chronic 5.0 150 126 Chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS acute acute	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS SVS WS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and I Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride	tch to the confluence Biological WS-II acute 6.5 - 9.0 c (mg/L) TVS TVS 	WWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS acute	chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and I Physical and I Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloripe	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019	Cer With South MWAT WS-II chronic 5.0 5.0 150 126 chronic TVS 0.75 250 0.011 140	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and I Physical and I Physical and I Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cvanide	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005	Ce with Sout MWAT WS-II Chronic 5.0 150 126 Chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 TVS 5.0(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS S S S S S S S S S S S S S S
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and I Physical and I Physical and I Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Metals (ug/L) acute 340 TVS 5.0(T) 5.0(T) TVS TVS 5.0(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS S S S S S S S S S S S S S S
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and I Physical and I Physical and I Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	Ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury	Metals (ug/L) acute bc acute acute	chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t)
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Immediately downstream of the Davidson Display and the Davidson D	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 	Ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum	Metals (ug/L) acute 340 TVS 5.0(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T)
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Immediately downstream of the Davidson Display and the	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum	Metals (ug/L) acute 340 TVS 5.0(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Immediately downstream of the Davidson Display and the	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 0.019 0.005 10 10 	ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Manganese Minganese Manganese	Metals (ug/L) acute a 340 340 5.0(T) 5.0(T) 5.0(T) TVS TVS 5.0(T) TVS 5.0(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS TVS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 1000(T)
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COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Immediately downstream of the Davidson Display and the Davidson D	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 	ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese Mircury Molybdenum Nickel Selenium	Metals (ug/L) acute a:ute 3:40 3:40 5:0(T) 5:0(T) 5:0(T) TVS TVS 5:0(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Immediately downstream of the Davidson Display and the Davidson D	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	Cer With South MWAT MWAT WS-II Chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver	Metals (ug/L) acute a a a a a a a b b a a b b b a b b b b a b b b b b b b b b b c c c c c c c c d d d d d d d d d d d <tr< td=""><td>chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS</td></tr<>	chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS
COSPBO04D Designation UP Qualifiers: Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Immediately downstream of the Davidson Display and B Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	tch to the confluence Biological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	ce with Sout MWAT WS-II chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Cadmium Cadmium Cadmium Cadmium Cadmium Iron Copper Iron Iron Iron Lead Lead Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Nickel Selenium Silver Uranium	Metals (ug/L) acute a 340 TVS 5.0(T) 5.0(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS 3 (1000(T) TVS 0.01(t) 150(T) TVS 0.01(t) 150(T) TVS 1000(T) TVS 100(T) TVS 100(T) TVS

5. Mainstem o	of South Boulder Creek from South B	oulder Road to the confluence with I	Boulder Creek.																																												
COSPBO05	Classifications	Physical and B	iological			Metals (ug/L)																																									
Designation	Agriculture		DM	MWAT		acute	chronic																																								
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Aluminum																																										
	Recreation E		acute	chronic	Arsenic	340	0.02(T)																																								
	Water Supply	D.O. (mg/L)		5.0	Beryllium																																										
Qualifiers:		рН	6.5 - 9.0		Cadmium	TVS	TVS																																								
Other:		chlorophyll a (mg/m ²)			Cadmium	5.0(T)																																									
Temporary M	odification(s):	E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS																																								
Arsenic(chron	ic) = hybrid	Inorganic	(mg/L)		Chromium VI	TVS	TVS																																								
Expiration Dat	te of 12/31/2021		acute	chronic	Copper	TVS	TVS																																								
		Ammonia	TVS	TVS	Iron		WS																																								
		Boron		0.75	Iron		1000(T)																																								
		Chloride		250	Lead	TVS	TVS																																								
		Chlorine	0.019	0.011	Lead	50(T)																																									
		Cyanide	0.005		Manganese	TVS	TVS																																								
		Nitrate	10		Manganese		WS																																								
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		Sulfate		WS	Nickel	TVS	TVS																																								
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					Silver	TVS	TVS																																								
					Uranium																																										
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6. Mainstem o	f Coal Creek, including all tributaries	and wetlands, from the source to H	ighway 93.			Matala (confl.)																																									
6. Mainstem o COSPBO06	of Coal Creek, including all tributaries	and wetlands, from the source to H Physical and B	ighway 93. iological	MANA/A T		Metals (ug/L)	chaoria																																								
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	of Coal Creek from Hig	ghway 93 to Highway 36 (Boulder Turnpike).																													
COSPBO07A	Classifications	Physical and B	ological			Metals (ug/L)																									
Designation	Agriculture		DM	MWAT		acute	chronic																								
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Aluminum																										
	Recreation E		acute	chronic	Arsenic	340	0.02(T)																								
	Water Supply	D.O. (mg/L)		5.0	Beryllium																										
Qualifiers:		рН	6.5 - 9.0		Cadmium	TVS	TVS																								
Other:		chlorophyll a (mg/m ²)		150	Cadmium	5.0(T)																									
Temporary M	lodification(s):	E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS																								
Arsenic(chron	iic) = hybrid	Inorganic	(mg/L)		Chromium VI	TVS	TVS																								
Expiration Dat	te of 12/31/2021		acute	chronic	Copper	TVS	TVS																								
		Ammonia	TVS	TVS	Iron		WS																								
		Boron		0.75	Iron		1000(T)																								
		Chloride		250	Lead	TVS	TVS																								
		Chlorine	0.019	0.011	Lead	50(T)																									
		Cyanide	0.005		Manganese	TVS	TVS																								
		Nitrate	10		Manganese		WS																								
		Nitrite		0.5	Mercury		0.01(t)																								
		Phosphorus		0.17	Molybdenum		150(T)																								
		Sulfate		WS	Nickel	TVS	TVS																								
		Sulfide		0.002	Nickel		100(T)																								
					Selenium	TVS	TVS																								
					Silver	TVS	TVS																								
					Uranium																										
					Zinc	TVS	TVS																								
7b. Mainstem	of Coal Creek from Hig	ghway 36 to the confluence with Boulder Creek.																													
COSPB007B	Classifications	Physical and B	ological			Motale (ug/L)																									
Designation						wetais (ug/L)																									
	Agriculture	-	DM	MWAT		acute	chronic																								
Reviewable	Agriculture Aq Life Warm 2	Temperature °C	DM WS-II	MWAT WS-II	Aluminum	acute	chronic 																								
Reviewable	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C	DM WS-II acute	MWAT WS-II chronic	Aluminum Arsenic	acute 340	chronic 0.02-10(T) ^A																								
Reviewable	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L)	DM WS-II acute 	MWAT WS-II chronic 5.0	Aluminum Arsenic Beryllium	acute 340 	chronic 0.02-10(T) ^A 																								
Reviewable Qualifiers:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH	DM WS-II acute 6.5 - 9.0	MWAT WS-II chronic 5.0	Aluminum Arsenic Beryllium Cadmium	acute 340 TVS	chronic 0.02-10(T) ^A TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²)	DM WS-II acute 6.5 - 9.0 	MWAT WS-II chronic 5.0 	Aluminum Arsenic Beryllium Cadmium Cadmium	acute 340 TVS 5.0(T)	chronic 0.02-10(T) ^A TVS 																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	DM WS-II acute 6.5 - 9.0 	MWAT WS-II chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	acute 340 TVS 5.0(T) 50(T)	chronic 0.02-10(T) A TVS TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	DM WS-II acute 6.5 - 9.0 (mg/L)	MWAT WS-II chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02-10(T) A TVS TVS TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	DM WS-II acute 6.5 - 9.0 (mg/L) acute	MWAT WS-II chronic 5.0 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	acute 340 TVS 5.0(T) 50(T) TVS TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS	MWAT WS-II chronic 5.0 126 chronic TVS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	acute 340 TVS 5.0(T) 50(T) TVS TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS VS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 	MWAT WS-II chronic 5.0 126 chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T)																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 	MWAT WS-II chronic 5.0 126 chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS	chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019	WWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS 5.0(T)	Chronic 0.02-10(T) A TVS TVS TVS TVS S TVS WS 1000(T) TVS 																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide	DM WS-II acute 6.5 - 9.0 (mg/L) acute T∨S 0.019 0.005	MWAT WS-II chronic 5.0 126 Chronic Chronic 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS S0(T) TVS TVS TVS TVS TVS TVS	Chronic																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10	MWAT WS-II chronic 5.0 126 Chronic 7.26 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS 50(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.000(T) TVS TVS WS 0.000(T)																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	MWAT WS-II chronic 5.0 126 Chronic 0.75 250 0.011 0.5 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS TVS TVS TVS TVS TVS 50(T) TVS TVS 50(T) TVS 50(T) TVS 50(T)	Chronic 0.02-10(T) A TVS TVS TVS TVS US 1000(T) TVS TVS US 0.01(t) CTS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10	WWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum	acute 340 TVS 5.0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS 50(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS US 1000(T) TVS TVS US 1000(T) TVS US US 0.01(t) 150(T)																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	DM WS-II acute 6.5 - 9.0 (mg/L) acute T√S 0.019 0.005 10 10 	WWAT WS-II chronic 5.0 126 Chronic 7VS 0.75 250 0.011 0.5 0.5 WS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Nolybdenum	acute acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Chronic																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 10 	MWAT WS-II Chronic 5.0 126 TVS 0.75 2500 0.011 0.5 WS 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Minganese Manganese	acute 340 TVS 50(T) 50(T) TVS TVS 50(T) TVS TVS TVS TVS 50(T) TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS TVS <tr tr=""> <tr tr=""> <t< td=""><td>chronic 0.02-10(T) TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T)</td></t<></tr><tr><td>Reviewable Qualifiers: Other:</td><td>Agriculture Aq Life Warm 2 Recreation E Water Supply</td><td>Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chloride Nitrate Nitrite Phosphorus Sulfate Sulfide</td><td>DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 </td><td>MWAT WS-II chronic 5.0 126 Chronic 0.75 250 0.011 0.5 0.5 WS 0.5 0.5</td><td>Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Selenium</td><td>acute 340 TVS 5.0(T) 50(T) TVS TVS TVS S0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS</td><td>Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS</td></tr><tr><td>Reviewable Qualifiers: Other:</td><td>Agriculture Aq Life Warm 2 Recreation E Water Supply</td><td>Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. 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Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide</td><td>DM WS-II acute 6.5 - 9.0 (mg/L) acute T√S 0.019 0.005 10 10 </td><td>WWAT WS-II chronic 5.0 126 0.75 250 0.011 0.5 0.01 0.5 0.5 0.5 0.01</td><td>Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mickel Nickel Nickel Selenium Silver Uranium</td><td>acute 340 340 TVS 5.0(T) TVS TVS</td><td>Chronic</td></tr></tr>	chronic 0.02-10(T) TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T)	Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chloride Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	MWAT WS-II chronic 5.0 126 Chronic 0.75 250 0.011 0.5 0.5 WS 0.5 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Selenium	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS S0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS	Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	MWAT WS-II chronic 5.0 126 TVS 0.75 250 0.011 0.5 0.01 0.05 0.5 0.02	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	acute acute 340 TVS 5.0(T) 50(T) TVS TVS	Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS	Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute T√S 0.019 0.005 10 10 	WWAT WS-II chronic 5.0 126 0.75 250 0.011 0.5 0.01 0.5 0.5 0.5 0.01	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mickel Nickel Nickel Selenium Silver Uranium	acute 340 340 TVS 5.0(T) TVS TVS	Chronic
chronic 0.02-10(T) TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T)	Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chloride Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	MWAT WS-II chronic 5.0 126 Chronic 0.75 250 0.011 0.5 0.5 WS 0.5 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Selenium	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS S0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS	Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	MWAT WS-II chronic 5.0 126 TVS 0.75 250 0.011 0.5 0.01 0.05 0.5 0.02	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	acute acute 340 TVS 5.0(T) 50(T) TVS TVS	Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS	Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute T√S 0.019 0.005 10 10 	WWAT WS-II chronic 5.0 126 0.75 250 0.011 0.5 0.01 0.5 0.5 0.5 0.01	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mickel Nickel Nickel Selenium Silver Uranium	acute 340 340 TVS 5.0(T) TVS TVS	Chronic							
chronic 0.02-10(T) TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T)																															
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chloride Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	MWAT WS-II chronic 5.0 126 Chronic 0.75 250 0.011 0.5 0.5 WS 0.5 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Selenium	acute 340 TVS 5.0(T) 50(T) TVS TVS TVS S0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	MWAT WS-II chronic 5.0 126 TVS 0.75 250 0.011 0.5 0.01 0.05 0.5 0.02	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	acute acute 340 TVS 5.0(T) 50(T) TVS	Chronic 0.02-10(T) A 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS																								
Reviewable Qualifiers: Other:	Agriculture Aq Life Warm 2 Recreation E Water Supply	Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	DM WS-II acute 6.5 - 9.0 (mg/L) acute T√S 0.019 0.005 10 10 	WWAT WS-II chronic 5.0 126 0.75 250 0.011 0.5 0.01 0.5 0.5 0.5 0.01	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mickel Nickel Nickel Selenium Silver Uranium	acute 340 340 TVS 5.0(T) TVS	Chronic																								

COSPEGOIndefinitionProvide </th <th>from Highway</th> <th>93 to the confluence with Boulder Cree</th> <th>ek.</th> <th></th> <th></th> <th></th> <th>es to Coal Creek, inclue</th> <th>ding all wetlands</th>	from Highway	93 to the confluence with Boulder Cree	ek.				es to Coal Creek, inclue	ding all wetlands
<table-container>BeadorNormal (1997)Normal (</table-container>	COSPBO08	Classifications	Physical and I	Biological			Metals (ug/L)	
Image of the Warn 2 Recreation E Tange reture 'C W8-II W8-II Mumium	Designation	Agriculture		DM	MWAT		acute	chronic
Percention EPercention ENon-riseAnswireAssociation (1): Sequence outside outsi	UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Aluminum		
QualityD.O. (rngl.)D.O. (rngl.)P.O. (rngl.) <t< td=""><td></td><td>Recreation E</td><td></td><td>acute</td><td>chronic</td><td>Arsenic</td><td>340</td><td>100(T)</td></t<>		Recreation E		acute	chronic	Arsenic	340	100(T)
Other:Pf6.5 - 9.0CadmumTysTysTemporary Madification(s):chorophylle (mg/m²)150Choronium IIITysTysSelonium/Chorup)Lex (lgr (100 ml, u)unChoronium IIIun1000TysSelonium/Chorup)applies only aboveInorganic (mg/L)Choronium IIIun1000Chorophyll (mg/m²) (chorup)applies only aboveInorganic (mg/L)Choruphyll (mg/m²)Tys10001000Photophyll (mg/m²) (chorup)applies only aboveNorganic (mg/L)Choruphyll (mg/m²)Tys100010001000Photophyll (mg/m²) (chorup)applies only aboveNorganic (mg/L)UnUn1000 <t< td=""><td>Qualifiers:</td><td></td><td>D.O. (mg/L)</td><td></td><td>5.0</td><td>Beryllium</td><td></td><td></td></t<>	Qualifiers:		D.O. (mg/L)		5.0	Beryllium		
Temporary Medification(s): choreply a (npm) ··· 126 Chromium 10 ··· 126 Selenium (hornic) = current containon E:08 (per 100 ml) ··· 128 Chromium 10 ··· 10001 'rakonzpha's (ngr)'')(chronic) = applies only above the food insist in the food insist i	Other:		рН	6.5 - 9.0		Cadmium	TVS	TVS
 E. Coli (per 100 mL) urrent condition becaunal (hum) inorganic (mg/) <	Temporary M	odification(s):	chlorophyll a (mg/m ²)		150*	Chromium III	TVS	TVS
Inorganic (mg/L) Chronium VI TVS TVS "chlorophil a (mg/m) (chronic) - applies only above the finalities itset al 36.5(4). Ammonia TVS TVS TVS "Phosphorus (chronic) - applies only above the facilities itset al 36.5(4). Ammonia TVS TVS TVS Bron Laad TVS TVS TVS Choine 0.051 Manganese TVS TVS Choine 0.005 Laad TVS TVS Choine 0.005 Manganese 0.011 Nitrite Marcary 0.011 Phosphorus 0.022 Selenum TVS TVS Sulfate 0.022 Selenum TVS TVS Sulfate 0.022 Selenum TVS TVS Sulfate	Selenium(chro	pnic) = current condition	E. Coli (per 100 mL)		126	Chromium III		100(T)
nethologies acute ethonic copper TVS TVS HTM	Expiration Dat	e of 12/31/2020	Inorgani	c (mg/L)		Chromium VI	TVS	TVS
numerical matrix and a set of	*oblorophyll o	$(mg/m^2)(chronic) = condice only chose$		acute	chronic	Copper	TVS	TVS
Phosphonuc(chronic) = applies only above the facilities listed at 35:5(4). Boron Choride	the facilities lis	(ing/in)(chronic) = applies only above sted at 38.5(4).	Ammonia	TVS	TVS	Iron		1000(T)
Basical basic basic bits is in the series of the	*Phosphorus(o facilities listed	chronic) = applies only above the $at 385(4)$	Boron		0.75	Iron		
Final controlChlorine0.0190.011ManganeseTVSTVSCyanide0.0050.0050.0050.007Marcury0.0100.0010.001Nitrate0.000.01Moreury0.05Molydenum0.05Molydenum0.05NotelTVSPhosphorus0.07NicelTVS0.07NotelTVS0.07NotelTVSSultateSeleniumTVSSeleniumTVS0.07NotelTVS0.07NotelTVS0.07NotelTVS0.07NotelTVS0.07NotelTVS0.07NotelTVS0.07NotelTVS0.07TVS0.07NotelTVS0.07NotelNotelTVS0.07Notel </td <td></td> <td></td> <td>Chloride</td> <td></td> <td></td> <td>Lead</td> <td>TVS</td> <td>TVS</td>			Chloride			Lead	TVS	TVS
cyanide 0.005 Manganese 0.01(0) Nirate 100 Mercury 0.01(1) Phosphorus 0.177 Nickel TVS TVS Sultate			Chlorine	0.019	0.011	Manganese	TVS	TVS
Nitrite 100 Mercury 0.010 Nitrite 0.5 Molyddenum 150(T) Phosphorus 0.17 Nickel TVS TVS Sullate Selenum TVS TVS TVS Sullate 0.002 Silver TVS TVS TVS Sullate 0.002 Silver TVS TVS TVS Sulfate 0.002 TVS TVS TVS TVS Sulfate 0.002 TVS TVS TVS TVS Sulfate Physical and Biologic WA Meminum			Cyanide	0.005		Manganese		
Ninite0.5Molydenum150(T)Phosphorus0.17NickelTVSTVSSulfate0.07SeleniumTVSTVSSulfate0.00SeleniumTVSTVSSulfate0.00SeleniumTVSTVSSulfate0.00SeleniumTVSTVSSulfateSeleniumTVSTVSSulfateSeleniumTVSTVSSulfateSeleniumSeleniumSeleniumSeleniumSulfateSeleniumSeleniumSeleniumSeleniumSeleniumSulfateTemperature "CWS-IIWarnouSeleniumSeSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSeleniumSelen			Nitrate	100		Mercury		0.01(t)
Phosphorus0.17"NickelTVSTVSSulfateSeleniumTVSTVSSulfateSeleniumTVSSeleniumTVSSulfateSilverSilverTVSTVS2000SilverSilverTVSTVSTVS2007ClassificationsPhysical and BiologicalMetal SudfCertoricsMetal SudfCoSPB00ClassificationsPhysical and BiologicalMetal SudfCertoricsCertoricsCospB00ClassificationsPhysical and BiologicalMetal SudfCertoricsCertoricsCospB00ClassificationsPhysical and BiologicalMetal SudfCertoricsCertoricsCospB00ClassificationsPhysical and BiologicalMetal SudfCertoricsCertoricsCospB00ClassificationsPhysical and BiologicalChronicAluminumCoulifiersEcolification(s):Ph6.5 - 9.0CadmiumTVSTVSSelecionicsPhysical and BiologicalChronicCadmiumTVSTVSTVSCoulifiersEcolification(s):Ph6.5 - 9.0CadmiumTVSTVSSelecionicsPhysical and BiologicalChronicCooperTVSTVSSelecionicsSelecionicsSelecionicsCooperTVSTVSSelecionicSelecionicsSelecionicsSelecionicsSelecionicsSelecionicsSelecionics <t< td=""><td></td><td></td><td>Nitrite</td><td></td><td>0.5</td><td>Molybdenum</td><td></td><td>150(T)</td></t<>			Nitrite		0.5	Molybdenum		150(T)
Suitate			Phosphorus		0.17*	Nickel	TVS	TVS
Sulfide			Sulfate			Selenium	TVS	TVS
NameNa			Sulfide		0.002	Silver	TVS	TVS
9. Mainseeman beside create from a point immediate above the confluence with South Boulder Creets to the Confl						Uranium		
9. Mainstem of Boulder Creek from a point immediately above the confluence with Bouth Boulder Creek to the confluence with Coal Creek. Metals (ug/L) CDSPB009 Classifications Physical and Biological Metals (ug/L) Designation Agriculture Madulfe Varm 1 Confluence with Coal Creek. Metals (ug/L) Reviewable Agriculture Confluence with Coal Creek. Muminum Qualifiers: Did. (mg/L) 5.0 Beryllium Other: pH 6.5 - 9.0 Cadmium Tors Trs Serecic/Cronic) = hybrid E. Coli (per 100 m²) Cadmium 5.0(1) Trs Reseric/Cronic) = hybrid Inorganic (mg/L) Chronium III 50(1) Trs Expiration Date of 12/31/2020 12/1 - 2/20 Ammonia TVS TVS Inon WS Expiration Date of 12/31/2020 Isoff Ammonia TVS TVS Ion TVS TVS Cholorine 0.019 0.011 Lead TVS TVS Cholorine 0.019 0.011 Lead <						Zinc	TVS	TVS
COPBO00Image: space spa	9. Mainstem o	f Boulder Creek from a point immediate	ely above the confluence with So	uth Boulder Creek	to the conflu	ence with Coal Creek.		
DesignationAgriculture of the origination of	COSPBO09	Classifications	Physical and I	Biological			Metals (ug/L)	
Reviewable Recreation E water SupplyTemperature °CWS-IIMuminumMuminumRecreation E water Supply0.0 (mg/L)ArsenicAsenic3400.02(T)D.O. (mg/L)0.0BerylliumTVSTVSTVSOther:pH6.5.90Cadmium5.0(T)TVSTemporaryE. Coli (per 100 mL)126Chromium III5.0(T)TVSAssenic(hr.)F. Soli (per 100 mL)126Chromium IIITVSTVSAssenic(hr.)F. Soli (per 100 mL)126Chromium IIITVSTVSAssenic(hr.)F. Soli (per 100 mL)126Chromium IIITVSTVSAssenic(hr.)Boron0.75Iron1000(T)Expiration Date of 12/31/202012/31/2020ArmoniaTVSTVSTVSTVSAndoniaChroni0.01Lead50(T)1000(T)Choride0.010.01Lead50(T)0.01(D)Choride0.010.01MaganeseTVSTVSNitrate0.010.01Maganese0.01(D)NitrateSoliMarcun100(T)PhosphorusMSMaganeseTVSTVSSulfideSoliNickel100(T)SulfideMSNickel100(T)Sulfid	Designation	Agriculture		DM	MWAT		acute	chronic
Recreation E Incomp/L accutte chronic Arsenic 340 0.02(T) Water Supply D.O. (mg/L) 5.0 Beryllinn Cadmium Cadmium Two Two Other: pH 6.5 -9.0 0.0 Cadmium 5.0(1) TWS TWS Assenic/chronic) = hybrid E.Coli (per 100 mL) Chronium III 50(T) TVS TVS Assenic/chronic) = hybrid E.Coli (per 100 mL) Chronium III 50(T) TVS TVS Assenic/chronic) = hybrid Incorganic (mg/L) Chronium III 50(T) TVS TVS Expiration Date of 12/31/2021 Ammonia TVS TVS TVS TVS TVS Bron 0.019 0.011 Lead TVS TVS Chorinde 0.019 0.019 0.011 Lead TVS TVS Nitrate 0.0 Maganese SUffic Nitrate <td>Reviewable</td> <td>Aq Life Warm 1</td> <td>Temperature °C</td> <td>WS-II</td> <td>WS-II</td> <td>Aluminum</td> <td></td> <td></td>	Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Aluminum		
Water SupplyD.O. (mg/L)5.0BerylliumQualifiers:pH6.5 - 9.0CadmiumTVSTVSOther:chlorophyll a (mg/m²)Cadmium5.0(T)Temporary Modification(s):E. Coli (per 100 mL)126Chromium III50(T)TVSArsenic(chronic) = hybridE. Coli (per 100 mL)126Chromium VITVSTVSExpiration Date of 12/31/2021I2/1 - 2/2MmoniaTVSTVSTVSTVSBoronTVSTVSIono1000(T)Expiration Date of 12/31/2020I2/1 - 2/2Boron0.0190.011Lead50(T)Chloride0.05ManganeseTVSTVSChorine0.0190.011Lead50(T)0.01(t)Nitrate10Molybdenum0.01(t)Nitrite0.05Molybdenum0.01(t)SulfateWSNickel100(T)SulfateWSSilerTVSTVS100(T)SulfateWSSilerTVS100(T)SulfateWSSilerTVSTVS100(T)SulfateWSSilerTVSSiler100(T)SulfateWSSilerTVSSilerTVS <t< td=""><td></td><td>Recreation E</td><td></td><td>acute</td><td>chronic</td><td>Arsenic</td><td>340</td><td>0.02(T)</td></t<>		Recreation E		acute	chronic	Arsenic	340	0.02(T)
Qualifiers: pH 6.5 - 9.0 Cadmium TVS TVS Other: chlorophyll a (mg/m²) Cadmium 5.0(T) Temporary Modification(s): E. Coli (per 100 mL) 126 Chromium III 50(T) TVS Arsenic(chronic) = hybrid E. Coli (per 100 mL) Chromium VI TVS TVS Expiration Date of 12/31/2021 Mamonia TVS TVS TVS TVS Expiration Date of 12/31/2020 Mamonia TVS TVS 1000(T) Expiration Date of 12/31/2020 Mamonia TVS Corper TVS 1000(T) Expiration Date of 12/31/2020 Mamonia TVS Corper TVS 1000(T) Choride 250 Lead TVS TVS Choride 0.016 Corper Manganese TVS TVS Choride 0.005 Manganese TVS TVS Nitrate 10 Manganese TVS TVS Nitrate 0.5 Mercury 150(T) Sulfate VS Silver TVS 1000(T) Sulfate <		Water Supply	D.O. (mg/L)		5.0	Beryllium		
Other:chlorophyll a (mg/m2)Cadmium5.0(T)E. Coli (per 100 mL)126Chroniun III50(T)TVSArsenic(chronic) = hybridInorganic (mg/L)Chronium VITVSTVSExpiration Date of 12/31/2021 temperature(DM/MWAT) = current condition12/47RomoniaTVSTVSInonMSMomoniaTVSTVSInonMS1000(T)InonMSExpiration Date of 12/31/2020Boron250LeadTVSTVSChoride250Lead50(T)1000(T)Chroniu0.0190.011Lead50(T)MSChroniu0.0190.011Lead50(T)MSChroniu100ManganeseTVSMS100(T)Nitrite0.5Mercury150(T)150(T)NitriteWSMolydenum150(T)150(T)SulfateWSNickel150(T)150(T)SulfateWSNickel150(T)150(T)SulfateWSSilverTVS150(T)150(T)SulfateWSNickel150(T)150(T)SulfateWSNickelTVSTVS150(T)SulfateNSSilverTVS150(T)Sulfate<	Qualifiers:		pН	6.5 - 9.0		Cadmium	TVS	TVS
E. Coli (per 100 mL)126Chronium III50(T)TVSArsenic(chronic) = hybridIorganic (mg/L)Chronium VITVSTVSTVSExpiration Date of 12/31/202012/1 - 2/3AmmoniaTVSTVSTVSTVSTVSAmmonia 12/1 - 2/3Boron0.75Iron1000(T)Chorium U1Choriue0.0190.011Lead50(T)1000(T)Choriue0.0190.011Lead50(T)0.55TVSChoriue0.005ManganeseTVSTVSTVSNitrate100.55Mecury0.01(t)Phosphorus0.002Molydenum0.01(t)SulfideWSNickelTVSTVSTVSSulfide0.002Molydenum150(T)Sulfide0.002Molydenum100(T)Sulfide0.002Molydenum100(T)Sulfide0.002MolydenumTVSTVSSilverTVSTVSTVSTVS100(T)Sulfide0.002Molydenum100(T)SilverTVSTVSTVSTVSTVSTVSSilverTVSTVSTVSTVSTVSSilverTVS </td <td>Other:</td> <td></td> <td>chlorophyll a (mg/m²)</td> <td></td> <td></td> <td>Cadmium</td> <td>5.0(T)</td> <td></td>	Other:		chlorophyll a (mg/m ²)			Cadmium	5.0(T)	
Arsenic(chronic) = hybridInorganic (mg/L)Chronium VITVSTVSExpiration Date of 12/31/202012/1-2247 (AmmoniaTVSTVSIronWSBoron0.75Iron1000(T)Cholride250LeadTVSTVSCholride0.0190.011Lead50(T)Cyanide0.005ManganeseWSNitrate10Molydenum0.01(t)Expiration Line Line0.02MickelTVSTVSSulfate0.02NickelTVS100(T)Sulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfateNickelTVSTVSTVSSulfateNickelTVSTVSTVSSulfateNickelTVSTVSTVSSulfateNickelTVSTVS <td< td=""><td>Temporary M</td><td>odification(s):</td><td>E. Coli (per 100 mL)</td><td></td><td>126</td><td>Chromium III</td><td>50(T)</td><td>TVS</td></td<>	Temporary M	odification(s):	E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS
Expiration Date of 12/31/2021 temperature(DM/MWAT) = currrent condition12/1 - 2/9 IAmmoniaTVSTVSIronTVSWSExpiration Date of 12/31/2020AmmoniaTVSTVSIron0.0071000(T)Expiration Date of 12/31/2020Gron0.75Iron1000(T)Chloride250LeadTVSTVSChloride0.0190.011Lead50(T)Cyanide0.005ManganeseTVSTVSNitrate10MoganeseWSNitrite0.55Mercury0.51(1)SulfateWSNickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfate0.02NickelTVSTVSSulfateNickelTVSTVSSulfateNickelTVSTVSSulfateNickelTVSTVSSulfateNickelTVSTVSSulfateNickelTVSTVSSulfate	Arsenic(chroni	ic) = hybrid	Inorgani	c (mg/L)		Chromium VI	TVS	TVS
temperature(DM/MWAT) = current12/1 - 2/29AmmoniaTVSTVSIronWSBoron0.75Iron1000(T)Choride250LeadTVSTVSChorine0.0190.011Lead50(T)Cyanide0.005ManganeseTVSTVSNitrate10ManganeseWSNitrite0.55Mercury0.51(T)SulfateWSNickelTVSTVSSulfideWSNickel100(T)SulfateWSNickelTVSTVSSulfideSilverTVSSilverTVSSulfateSilverTVSTVSSilverSulfateSilverTVSSilverTVSSilverTVSTVSSilverTVSTVSSilverSilver	Expiration Dat	e of 12/31/2021		acute	chronic	Copper	TVS	TVS
Boron 0.75 Iron 1000(T) Expiration Date of 12/31/2020 Chloride 250 Lead TVS Chloride 0.019 0.011 Lead 50(T) Chorine 0.005 Manganese TVS TVS Nitrate 10 Manganese WS Nitrite 0.55 Mercury 0.01(t) Phosphorus 0.55 Mercury 0.01(t) Sulfate WS Nickel TVS TVS Sulfide 0.002 Nickel 100(T) Sulfate WS Nickel 100(T) Sulfide 0.002 Nickel 100(T) Sulfate Nickel 100(T) Silver TVS TVS Sulfate								
Chloride250LeadTVSChlorine0.0190.011Lead50(T)Cyanide0.005ManganeseTVSTVSNitrate10ManganeseWSNitrite0.5Mercury0.01(t)PhosphorusWSMolybdenum150(T)SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)Sulfate0.002SeleniumTVSTVSSilverTVSSilverTVSTVSSulfate0.002SeleniumTVSTVSSulfate0.002SeleniumTVSTVSSilverTVSTVSSilverTVSTVSSilverTVSTVSSilverTVSTVSSilverTVSTVSSilverTVSSilverSuffateSilverTVSTVSSilverSuffateSilverTVSSilverSilverSuffateSilverTVSTVSSilverSuffateSilverTVSSilverSilverSuffateSilverTVSTVSSilverSuffateSilverTVSSilverSilverSuffateSilverSilverSilverSilverSuffateSilver	temperature(D	M/MWAT) = current 12/1 - 2/29	Ammonia	TVS	TVS	Iron		WS
Chlorine0.0190.011Lead50(T)Cyanide0.005ManganeseTVSTVSNitrate10ManganeseWSNitrite0.5Mercury0.01(r)PhosphorusWSMolybdenum150(T)SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)Sulfide0.002NickelTVSTVSSulfide0.002NickelTVSTVSSulfide0.002NickelTVSTVSSulfide0.002NickelTVSTVSSulfide0.002NickelTVSTVSSulfideNickelTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSTVSSulfideSilverTVSSilverSulfideSilverSilverTVSSulfide-	temperature(D condition Expiration Dat	M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron	TVS 	TVS 0.75	Iron Iron		WS 1000(T)
Cyanide0.005ManganeseTVSTVSNitrate10ManganeseWSNitrite0.5Mercury0.01(t)PhosphorusMolybdenum150(T)SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)SeleniumTVSTVSSilverTVSTVSSilverTVSSilverTVSTVSSilverTVSTVSSilverTVSSufateSilverTVSTVSSuffideSilverTVSTVSSilverTVSTVSTVSSilverTVSTVSTVSSilverTVSTVSTVSSilverTVSTVSTVSSilverTVSTVSTVSSilverTVSTVSSilverSilv	temperature(D condition Expiration Dat	M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride	TVS 	TVS 0.75 250	Iron Iron Lead	 TVS	WS 1000(T) TVS
Nitrate10ManganeseWSNitrite0.5Mercury0.01(t)PhosphorusMolybdenum150(T)SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)SeleniumTVSTVSSilverTVSSilverVanium2incTVSTVS	temperature(D condition Expiration Dat	M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine	TVS 0.019	TVS 0.75 250 0.011	Iron Iron Lead Lead	 TVS 50(T)	WS 1000(T) TVS
Nitrite0.5Mercury0.01(t)PhosphorusMolybdenum150(T)SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)SeleniumTVSTVSSilverTVSTVSSilverTVSSilverTVSTVSSilverTVSTVSSilverTVSSilverTVSTVSTVSSilverTVSTVSTVSSilverTVSTVSTVS	temperature(D condition Expiration Dat	M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide	TVS 0.019 0.005	TVS 0.75 250 0.011 	Iron Iron Lead Lead Manganese	 TVS 50(T) TVS	WS 1000(T) TVS TVS
PhosphorusMolybdenum150(T)SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)SeleniumTVSTVSSilverTVSTVSSilverTVSTVSTVSTVSZincTVSTVSTVS	temperature(D condition Expiration Dat	M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate	TVS 0.019 0.005 10	TVS 0.75 250 0.011 	Iron Iron Lead Lead Manganese Manganese	 TVS 50(T) TVS 	WS 1000(T) TVS TVS WS
SulfateWSNickelTVSTVSSulfide0.002Nickel100(T)SeleniumTVSTVSTVSSilverTVSTVSTVSUranium2incTVS	temperature(D condition Expiration Dat	0M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5	Iron Iron Lead Lead Manganese Manganese Mercury	 TVS 50(T) TVS 	WS 1000(T) TVS TVS WS 0.01(t)
Sulfide 0.002 Nickel 100(T) Selenium TVS TVS Silver TVS TVS Vanium Zinc TVS TVS	temperature(D condition Expiration Dat	0M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5 	Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum	 TVS 50(T) TVS 	WS 1000(T) TVS TVS WS 0.01(t) 150(T)
SeleniumTVSTVSSilverTVSTVSUraniumZincTVSTVS	temperature(D condition Expiration Dat	0M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrate Phosphorus Sulfate	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5 WS	Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	 TVS 50(T) TVS TVS	WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
SilverTVSTVSUraniumZincTVSTVS	temperature(D condition Expiration Dat	0M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5 WS 0.002	Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel	 TVS 50(T) TVS TVS	WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T)
UraniumZincTVSTVS	Expiration Dat	0M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5 WS 0.002	Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	 TVS 50(T) TVS TVS TVS TVS	WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS
Zinc TVS TVS	temperature(D condition Expiration Dat	0M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5 WS 0.002	Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver	 TVS 50(T) TVS TVS TVS TVS TVS	WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS TVS
	temperature(D condition Expiration Dat	M/MWAT) = current 12/1 - 2/29 e of 12/31/2020	Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	TVS 0.019 0.005 10 	TVS 0.75 250 0.011 0.5 WS 0.002	Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Uranium	 TVS 50(T) TVS TVS TVS TVS TVS	WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS TVS TVS

10. Mainstem	of Boulder Creek from the	confluence with Coal Creek to the confluence	with St. Vrain Cre	ek.			
COSPBO10	Classifications	Physical and B	iological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		5.0	Beryllium		
Qualifiers:		рН	6.5 - 9.0		Cadmium	TVS	TVS
Other:		chlorophyll a (mg/m ²)			Cadmium	5.0(T)	
Temporary M	lodification(s):	E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS
Arsenic(chron	ic) = hybrid	Inorganic	: (mg/L)		Chromium VI	TVS	TVS
Expiration Dat	te of 12/31/2021		acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron		WS
		Boron		0.75	Iron		1000(T)
		Chloride		250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead	50(T)	
		Cyanide	0.005		Manganese	TVS	TVS
		Nitrate	10		Manganese		WS
		Nitrite		0.5	Mercury		0.01(t)
		Phosphorus			Molybdenum		150(T)
		Sulfate		WS	Nickel	TVS	TVS
		Sulfide		0.002	Nickel		100(T)
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium		
					Zinc	TVS	TVS
11. All tributar	ies to Boulder Creek, incluis in Segments 5, 7a and 7	ding all wetlands from a point immediately abo	ove the confluence	e with South I	Boulder Creek to the confl	uence with St. Vrain	Creek, except for
11. All tributar specific listing	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications	ding all wetlands from a point immediately abo b. Physical and B	ove the confluence	e with South I	Boulder Creek to the confl	uence with St. Vrain Metals (ug/L)	Creek, except for
11. All tributar specific listing COSPBO11 Designation	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture	ding all wetlands from a point immediately abo b. Physical and B	iological	with South	Boulder Creek to the confl	uence with St. Vrain Metals (ug/L) acute	Creek, except for chronic
11. All tributar specific listing COSPB011 Designation UP	ies to Boulder Creek, inclu s in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2	ding all wetlands from a point immediately abo b. Physical and B Temperature °C	ve the confluence iological DM WS-II	with South I MWAT WS-II	Boulder Creek to the confl	uence with St. Vrain Metals (ug/L) acute 	Creek, except for chronic
11. All tributar specific listing COSPB011 Designation UP	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E	ding all wetlands from a point immediately abo b. Physical and E Temperature °C	ve the confluence iological DM WS-II acute	with South I MWAT WS-II chronic	Boulder Creek to the confl Aluminum Arsenic	uence with St. Vrain Metals (ug/L) acute 340	Creek, except for chronic 0.02-10(T) A
11. All tributar specific listing COSPBO11 Designation UP	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and E Temperature °C D.O. (mg/L)	ve the confluence viological DM WS-II acute	with South I MWAT WS-II chronic 5.0	Boulder Creek to the confl Aluminum Arsenic Beryllium	uence with St. Vrain Metals (ug/L) acute 340 	Creek, except for chronic 0.02-10(T) A
11. All tributar specific listing COSPBO11 Designation UP Qualifiers:	ies to Boulder Creek, inclu s in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH	iological WS-II acute 6.5 - 9.0	With South MWAT WS-II Chronic 5.0	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium	uence with St. Vrain Metals (ug/L) acute 340 TVS	Creek, except for chronic 0.02-10(T) A TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²)	iological WS-II acute 6.5 - 9.0	WS-II Chronic 5.0 	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T)	Creek, except for chronic 0.02-10(T) A TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	ve the confluence iological DM WS-II acute 6.5 - 9.0 	with South I MWAT WS-II chronic 5.0 126	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T)	Creek, except for chronic 0.02-10(T) A TVS TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	ve the confluence viological DM WS-II acute 6.5 - 9.0 i (mg/L)	WS-II WS-II Chronic 5.0 126	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS
11. All tributar specific listing COSPB011 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic	ve the confluence viological DM WS-II acute 6.5 - 9.0 : (mg/L) acute	with South I MWAT WS-II Chronic 5.0 126 chronic	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS	Creek, except for 0.02-10(T) A TVS TVS TVS TVS TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia	bye the confluence iological WS-II acute 6.5 - 9.0 : (mg/L) acute TVS	with South I MWAT WS-II chronic 5.0 126 chronic TVS	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	uence with St. Vrain Metals (ug/L) 340 TVS 5.0(T) 50(T) TVS TVS TVS 	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 	with South I MWAT WS-II chronic 5.0 126 chronic TVS 0.75	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	uence with St. Vrain Metals (ug/L) 340 TVS 5.0(T) 50(T) TVS TVS TVS 	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T)
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride	by e the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) TVS 	with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	uence with St. Vrain Metals (ug/L) 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS XS 1000(T) TVS
11. All tributar specific listing COSPB011 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine	ve the confluence viological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019	with South MWAT WS-II chronic 5.0 126 chronic TVS 0.75 250 0.011	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS 50(T)	Creek, except for 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005	with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS S S S S S S S S S S S S S
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10	with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS WS 1000(T) TVS TVS WS S WS WS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t)
11. All tributar specific listing COSPB011 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	ve the confluence iological WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS 	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T)
11. All tributar specific listing COSPB011 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	biological biological WS-II acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.019 0.005 10 0.019 0.005 10 	e with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS	Boulder Creek to the confi Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4 WS 1000(T) TVS WS 0.01(t) 150(T) TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) xVS (mg/L) xVS 0.019 0.005 10 0.019 0.005 10 	with South I WS-II Chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5 WS 0.002	Boulder Creek to the confl Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS TVS TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T)
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	with South I WS-II Chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002	Boulder Creek to the confi Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS TVS TVS -	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS
11. All tributar specific listing COSPBO11 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu is in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5 WS 0.002	Boulder Creek to the confi Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese Minganese Manganese	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) 50(T) 50	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS
11. All tributar specific listing COSPB011 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu s in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	ve the confluence iological DM WS-II acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	e with South I MWAT WS-II chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002	Boulder Creek to the confi Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Nickel Selenium Silver Uranium	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS
11. All tributar specific listing COSPB011 Designation UP Qualifiers: Other:	ies to Boulder Creek, inclu s in Segments 5, 7a and 7 Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ding all wetlands from a point immediately abo b. Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	we the confluence iological DM WS-II acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.019 0.005 10 0.005 10 <td>with South I WS-II Chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002</td> <td>Boulder Creek to the confi Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese Mickel Nickel Selenium Silver Uranium</td> <td>uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS</td> <td>Creek, except for chronic 0.02-10(T) A TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS</td>	with South I WS-II Chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002	Boulder Creek to the confi Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese Mickel Nickel Selenium Silver Uranium	uence with St. Vrain Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Creek, except for chronic 0.02-10(T) A TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

12. Deleted.							
COSPBO12	Classifications	Physical and Biolog	ical			Metals (ug/L)	
Designation			DM	MWAT		acute	chronic
Qualifiers:			acute	chronic			
Other:							
		Inorganic (mg/	′L)				
			acute	chronic			
13. All lakes a	nd reservoirs tributary to Boulder Cree	that are within the boundary of the Inc	lian Peaks a	ind James Pe	eak Wilderness Areas.		
COSPBO13	Classifications	Physical and Biolog	ical			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
OW	Aq Life Cold 1	Temperature °C	CL	CL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		рН	6.5 - 9.0		Cadmium	5.0(T)	
*		chlorophyll a (ug/L)		8*	Chromium III	50(T)	TVS
and reservoirs	larger than 25 acres surface area.	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
*Phosphorus(c	chronic) = applies only to lakes and				Copper	TVS	TVS
reservoirs larg		Inorganic (mg/	′L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.025*	Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS

 All lakes a segment inclu 	des Barker and Lakewood Reservoir.						0
COSPBO14	Classifications	Physical and E	liological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CL,CLL	CL,CLL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
	DUWS*	D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Qualifiers:		рН	6.5 - 9.0		Cadmium	5.0(T)	
Other:		chlorophyll a (ug/L)		8*	Chromium III	50(T)	TVS
Temporary M	odification(s):	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
Arsenic(chroni	ic) = hybrid				Copper	TVS	TVS
Expiration Dat	e of 12/31/2021	Inorganic	: (mg/L)		Iron		WS
*chlorophyll a	(ug/L)(chronic) = applies only above		acute	chronic	Iron		1000(T)
the facilities lis	sted at 38.5(4), applies only to lakes	Ammonia	TVS	TVS	Lead	TVS	TVS
*Classification	: DUWS applies to Lakewood	Boron		0.75	Lead	50(T)	
Reservoir only *Phosphorus($h_{\rm c}$	Chloride		250	Manganese	TVS	TVS
facilities listed	at 38.5(4), applies only to lakes and	Chlorine	0.019	0.011	Manganese		WS
reservoirs larg	jer than 25 acres surface area.	Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.025*	Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
		· · · · · · · · · · · · · · · · · · ·					
15. All lakes a specific listing	nd reservoirs tributary to South Boulde s in segments 13 and 18.	r Creek from the source to Highw	ay 93. All lakes ar	nd reservoirs	tributary to Coal Cree	k from the source to Hig	nway 93 except for
15. All lakes a specific listing: COSPBO15	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications	rr Creek from the source to Highw Physical and B	ay 93. All lakes ar liological	nd reservoirs	tributary to Coal Cree	k from the source to Hig Metals (ug/L)	nway 93 except for
15. All lakes a specific listing: COSPBO15 Designation	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture	r Creek from the source to Highw Physical and B	ay 93. All lakes ar iiological DM	nd reservoirs MWAT	tributary to Coal Cree	k from the source to Hig Metals (ug/L) acute	nway 93 except for chronic
15. All lakes a specific listing: COSPBO15 Designation Reviewable	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2	r Creek from the source to Highw Physical and B Temperature °C	ay 93. All lakes ar tiological DM CL	MWAT CL	tributary to Coal Cree	k from the source to High Metals (ug/L) acute 	nway 93 except for chronic
15. All lakes a specific listing: COSPBO15 Designation Reviewable	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E	r Creek from the source to Highw Physical and B Temperature °C	ay 93. All lakes ar tiological DM CL acute	MWAT CL chronic	Aluminum Arsenic	Metals (ug/L) acute 340	nway 93 except for chronic 0.02-10(T)
15. All lakes a specific listing: COSPB015 Designation Reviewable	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L)	ay 93. All lakes ar iological DM CL acute 	MWAT CL chronic 6.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	nway 93 except for chronic 0.02-10(T)
15. All lakes a specific listing: COSPB015 Designation Reviewable	nd reservoirs tributary to South Bouldes s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS*	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning)	ay 93. All lakes ar iological DM CL acute 	MWAT CL chronic 6.0 7.0	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) Metals (ug/L) acute 340 TVS(tr)	nway 93 except for chronic 0.02-10(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable	nd reservoirs tributary to South Bouldes s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS*	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH	ay 93. All lakes an iological DM CL acute 6.5 - 9.0	MWAT CL Chronic 6.0 7.0 	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium	Metals (ug/L) Metals (ug/L) acute 340 TVS(tr) 5.0(T)	nway 93 except for chronic 0.02-10(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other:	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS*	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L)	ay 93. All lakes ar biological DM CL acute 6.5 - 9.0 	MWAT CL Chronic 6.0 7.0 8*	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	nway 93 except for chronic 0.02-10(T) TVS TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other:	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (un/L)(chronic) – applies only above	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	ay 93. All lakes ar iological CL CL acute 6.5 - 9.0 	MWAT CL Chronic 6.0 7.0 8* 126	Aluminum Arsenic Beryllium Cadmium Chromium III Chromium VI	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list	nd reservoirs tributary to South Bouldes s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 	MWAT CL chronic 6.0 7.0 8* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	k from the source to High Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS TVS TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. . DLWS applies to Kossler Lake only	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 c: (mg/L)	MWAT CL Chronic 6.0 7.0 8* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS TVS WS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 : (mg/L) acute	MWAT CL Chronic 6.0 7.0 8* 126 chronic	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS TVS WS 1000(T)
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list and reservoirs *Classification *Phosphorus((facilities listed	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only above the at 38.5(4), applies only above the at 38.5(4), applies only to lakes and wr then 25 acres only above the at 38.5(4), applies only to lakes and wr then 25 acres only above the	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 (mg/L) acute T√S	MWAT CL Chronic 6.0 7.0 8* 126 X 126 Chronic TVS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	k from the source to High Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) 50(T) TVS TVS TVS TVS TVS	way 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification *Phosphorus(facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. :: DUWS applies to Kossler Lake only. chronic) = applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 : (mg/L) acute TVS 	MWAT CL Chronic 6.0 7.0 8* 126 Chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS 50(T) 50(T)	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS VS VS 1000(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Bouldes in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. :: DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and ger than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 (mg/L) acute TVS 	MWAT CL Chronic 6.0 7.0 8* 126 8* 126 Chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS VS VS 1000(T) TVS TVS TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies only above the at 38.5(4), applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019	MWAT CL Chronic 6.0 7.0 8* 126 8* 126 Chronic TVS 0.75 250 0.011	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 1000(T) TVS TVS WS WS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide	ay 93. All lakes ar iological DM CL acute 6.5 - 9.0 c(mg/L) acute TVS 0.019 0.005	MWAT CL Chronic 6.0 7.0 8* 126 8* 126 Chronic TVS 0.75 250 0.011 	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS S0(T) TVS S0(T) TVS S0(T) TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t)
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification *Phosphorus(facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. :: DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and jer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10	MWAT CL Chronic 6.0 7.0 8* 126 126 5.2 0.0 11 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS S0(T) TVS TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS WS 1000(T) TVS WS 0.01(t) 150(T)
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and ger than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 	And reservoirs MWAT CL Chronic 6.0 7.0 8* 126 0.75 250 0.011 250 0.011 0.05	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute 340 340 340 340 340 TVS(tr) 5.0(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies only above the at 38.5(4), applies only above the at 38.5(4), applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 10	And reservoirs MWAT CL Chronic 6.0 7.0 8* 126 8* 126 0.0 0.0 0.0 100 0.0 0.0 0.0 0.0	tributary to Coal Cree Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T)
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes is larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and jer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 10 	MWAT CL Chronic 6.0 7.0 8* 126 8* 126 0.75 250 0.011 250 0.011 0.05 0.025* WS	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Nickel Nickel Selenium	Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS	way 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 (mg/L) c(mg/	MWAT CL Chronic 6.0 7.0 7.0 8* 126 8* 126 0.0 5 0.01 0.01 0.01 0.025 0.025 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Nolybdenum Nickel Selenium Silver	Metals (ug/L) Acute 340 340 TVS(tr) 5.0(T) 50(T) TVS	way 93 except for chronic 0.02-10(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities lis and reservoirs *Classification *Phosphorus(t facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. :: DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrate Nitrite Phosphorus Sulfate Sulfide	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 6.5 - 9.0 (mg/L) c(mg/L) CL 0.019 0.005 10 	And reservoirs MWAT CL Chronic 6.0 7.0 8* 126 0.0 0.0 Chronic Chronic Chronic 0.05 0.025* WS 0.002	tributary to Coal Cree Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Icon Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Selenium Silver Uranium	Metals (ug/L) acute 340 340 340 340 340 TVS(tr) 5.0(T) TVS TVS TVS 50(T) TVS 50(T) TVS TVS <td>way 93 except for chronic 0.02-10(T) TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 1000(T) TVS 1000(T) TVS 1000(T) TVS</td>	way 93 except for chronic 0.02-10(T) TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 1000(T) TVS 1000(T) TVS 1000(T) TVS
15. All lakes a specific listing: COSPB015 Designation Reviewable Qualifiers: Other: *chlorophyll a the facilities list and reservoirs *Classification *Phosphorus(of facilities listed reservoirs larg	nd reservoirs tributary to South Boulde s in segments 13 and 18. Classifications Agriculture Aq Life Cold 2 Recreation E Water Supply DUWS* (ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes a larger than 25 acres surface area. : DUWS applies to Kossler Lake only. chronic) = applies only above the at 38.5(4), applies only to lakes and yer than 25 acres surface area.	r Creek from the source to Highw Physical and B Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorganic Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrate Nitrite Phosphorus Sulfate Sulfate	ay 93. All lakes an iological DM CL acute 6.5 - 9.0 (mg/L) acute TVS 0.019 0.005 10 10 	And reservoirs MWAT CL Chronic 6.0 7.0 4.1 8* 126 8* 126 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	tributary to Coal Cree Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Uranium Zinc	Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS	nway 93 except for chronic 0.02-10(T) TVS TVS TVS WS 1000(T) TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

All metals are dissolved unless otherwise noted.

D.O. = dissolved oxygen DM = daily maximum

T = total recoverable

t = total

tr = trout

MWAT = maximum weekly average temperature See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

 All lakes a from Highway 	93 to the confluence with Boulder Cree	r Creek system from Highway 93		With Doulder		eservoirs tributary to Co	al Creek system
COSPBO16	Classifications	Physical and	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 2	Temperature °C	WL	WL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02-10(T) ^A
	Water Supply	D.O. (mg/L)		5.0	Beryllium		
Qualifiers:		pН	6.5 - 9.0		Cadmium	TVS	TVS
Other:		chlorophyll a (ug/L)			Cadmium	5.0(T)	
		E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS
		Inorgan	ic (ma/L)		Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron		WS
		Boron		0.75	Iron		1000(T)
		Chloride		250	Lead	TVS	TVS
		Chlorino	0.010	0.011	Lead	50(T)	
		Cuanida	0.015	0.011	Manganese	50(1) TVS	TVS
		Nitroto	0.005		Manganese		WS
		Nilale	10		Moroury		0.01(t)
		Dhaanhamu		0.5	Melubdonum		0.01(t)
		Phosphorus			Niekol	 T\/S	150(1)
		Suifate		VV5	Nickel	103	100(T)
		Sulfide		0.002			100(1)
					Selenium	172	105
					Silver	IVS	IVS
					Uranium		
					Zinc	TVS	TVS
specified in Se	egments 15 and 16.	k from a point immediately below	v the confluence wit	in South Bou	ider Creek to the confit	uence with St. Vrain Cre	ek, except as
	-						<i>,</i> ,
COSPBO17	Classifications	Physical and	Biological			Metals (ug/L)	· · ·
COSPBO17 Designation	Classifications Agriculture	Physical and	Biological DM	MWAT		Metals (ug/L) acute	chronic
COSPBO17 Designation Reviewable	Classifications Agriculture Aq Life Warm 2	Physical and Temperature °C	Biological DM WL	MWAT WL	Aluminum	Metals (ug/L) acute 	chronic
COSPBO17 Designation Reviewable	Classifications Agriculture Aq Life Warm 2 Recreation E	Physical and Temperature °C	Biological DM WL acute	MWAT WL chronic	Aluminum Arsenic	Metals (ug/L) acute 340	chronic 0.02(T)
COSPBO17 Designation Reviewable	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	Physical and Temperature °C D.O. (mg/L)	Biological DM WL acute 	MWAT WL chronic 5.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	chronic 0.02(T)
COSPBO17 Designation Reviewable	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS*	Physical and Temperature °C D.O. (mg/L) pH	Biological DM WL acute 6.5 - 9.0	MWAT WL chronic 5.0	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 TVS	chronic 0.02(T) TVS
COSPBO17 Designation Reviewable Qualifiers:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS*	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L)	Biological DM WL acute 6.5 - 9.0	MWAT WL chronic 5.0 	Aluminum Arsenic Beryllium Cadmium Cadmium	Metals (ug/L) acute 340 TVS 5.0(T)	chronic 0.02(T) TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	Biological DM WL acute 6.5 - 9.0 	MWAT WL chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) acute 340 TVS 5.0(T) 50(T)	chronic 0.02(T) TVS TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan	Biological DM WL acute 6.5 - 9.0 ic (mg/L)	MWAT WL chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other:	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan	Biological DM WL acute 6.5 - 9.0 ic (mg/L) acute	MWAT WL chronic 5.0 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and \	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia	Biological DM WL acute 6.5 - 9.0 ic (mg/L) acute TVS	MWAT WL chronic 5.0 126 chronic TVS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS WS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron	Biological DM WL acute 6.5 - 9.0 ic (mg/L) acute TVS 	MWAT WL chronic 5.0 126 chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) 50(T) VS TVS TVS 	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride	Biological DM WL acute 6.5 - 9.0 (c (mg/L) acute TVS 	MWAT WL chronic 5.0 126 chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS	chronic 0.02(T) TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classificatior Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine	Biological DM WL acute 6.5 - 9.0 () () c (mg/L) acute TVS 0.019	MWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T)	chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide	Biological DM WL acute 6.5 - 9.0 6.5 - 9.0 () C 0.019 0.005	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and N	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate	Biological DM WL acute 6.5 - 9.0 ic (mg/L) acute TVS ic (ng/L) 1005 1005	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Metals (ug/L) Acute Acute Acute Acute Acute Acute Acute Acute Acute Acute	chronic 0.02(T) TVS TVS VS TVS TVS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS WS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	Biological DM WL acute 6.5 - 9.0 (c (mg/L) acute TVS ic (mg/L) 0.019 0.005 10	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS WS 0.00(T) TVS WS 0.00(T)
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and \	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	Biological DM WL acute 6.5 - 9.0 () () C) 	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS US 1000(T) TVS VS US 0.01(t) 150(T)
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrate Phosphorus	Biological DM WL acute 6.5 - 9.0 () C) C) C 0.019 0.005 10 10 	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute acut	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS US 1000(T) TVS WS 0.00(T) TVS WS 0.00(T) TVS WS 0.01(t) 150(T) TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfice	Biological DM UL C C C C C C C C C C C C C C C C C C	MWAT WL chronic 5.0 126 Chronic Chronic TVS 0.75 250 0.011 0.5 WS 0.02	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese	Metals (ug/L) acute acut	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS S VS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T)
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Biological DM UL C C C C C C C C C C C C C C C C C C	MWAT WL Chronic 5.0 126 Chronic TVS 0.75 250 0.011 250 0.011 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel	Metals (ug/L) Acute Acute Acute Acute Acute Acute Acute Acute Acute Acute	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS S VS 0.00(T) TVS WS 0.001(t) 150(T) TVS 100(T) TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Biological DM WL C C C C C C C C C C C C C C C C C	MWAT WL chronic 5.0 126 Chronic Chronic 0.5 250 0.011 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Manganese Manganese Manganese Mircury Molybdenum Nickel Selenium	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS US 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and V	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Physi	Biological DM WL acute 6.5 - 9.0 () ()) 	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5 0.5 	Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mircury Nickel Nickel Selenium Silver	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS
COSPBO17 Designation Reviewable Qualifiers: Water + Fish Other: *Classification Thomas and N	Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* Standards n: DUWS applies to Baseline, Marshall, Waneka Reservoirs only.	Physical and Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Biological DM WL acute 6.5 - 9.0 () () 	MWAT WL 5.0 126 126 0.5 250 0.011 0.5 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Uranium	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

18. Gross Res	servior.							
COSPBO18	Classifications	Physic	al and Biologi	cal			Metals (ug/L)	
Designation	Agriculture			DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	1/1 - 3/31	CLL	CLL	Aluminum		
	Recreation E	Temperature °C	4/1 - 12/31	CLL	19.4	Arsenic	340	0.02(T)
	Water Supply					Beryllium		
Qualifiers:				acute	chronic	Cadmium	TVS(tr)	TVS
Other:		D.O. (mg/L)			6.0	Cadmium	5.0(T)	
t II. ssa bull o	(1)(1, 1) Bar anti-a have	D.O. (spawning)			7.0	Chromium III	50(T)	TVS
*chlorophyll a the facilities lie	(ug/L)(chronic) = applies only above sted at 38.5(4), applies only to lakes	рН		6.5 - 9.0		Chromium VI	TVS	TVS
and reservoirs	s larger than 25 acres surface area.	chlorophyll a (ug/L)			8*	Copper	TVS	TVS
facilities listed	at 38.5(4), applies only to lakes and	E. Coli (per 100 mL)			126	Iron		WS
reservoirs larg	Jer than 25 acres surface area.					Iron		1000(T)
		ľ	norganic (mg/l	L)		Lead	TVS	TVS
				acute	chronic	Lead	50(T)	
		Ammonia		TVS	TVS	Manganese	TVS	TVS
l		Boron			0.75	Manganese		WS
		Chloride			250	Mercury		0.01(t)
l		Chlorine		0.019	0.011	Molybdenum		150(T)
l		Cyanide		0.005		Nickel	TVS	TVS
		Nitrate		10		Nickel		100(T)
l		Nitrite			0.05	Selenium	TVS	TVS
l		Phosphorus			0.025*	Silver	TVS	TVS(tr)
		Sulfate			WS	Uranium		
		Sulfide			0.002	Zinc	TVS	TVS

1.7 di tibutario	es to St. Vrain Creek, including all wetla	nds, which are within the Indian	Peaks Wilderness	Area and Ro	cky Mountain National Pa	ırk.	
COSPSV01	Classifications	Physical and E	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
OW	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		pH	6.5 - 9.0		Cadmium	5.0(T)	
Temporary Mo	odification(s):	chlorophyll a (mg/m ²)		150	Chromium III	50(T)	TVS
Arsenic(chroni	ic) = hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
Expiration Date	e of 12/31/2021				Copper	TVS	TVS
		Inorgani	c (mg/L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.11	Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
2a. Mainstem	of St. Vrain Creek, including all tributar	ies and wetlands, from the bound	lary of the Indian P	eaks Wilder	ness Area and Rocky Mou	untain National Park to	the eastern
COSPSV02A							
	Classifications	Physical and B	Biological			Metals (ug/L)	
Designation	Classifications Agriculture	Physical and E	Biological DM	MWAT		Metals (ug/L) acute	chronic
Designation Reviewable	Classifications Agriculture Aq Life Cold 1	Physical and E Temperature °C	Biological DM CS-I	MWAT CS-I	Aluminum	Metals (ug/L) acute 	chronic
Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E	Physical and E	Biological DM CS-I acute	MWAT CS-I chronic	Aluminum Arsenic	Metals (ug/L) acute 340	chronic 0.02(T)
Designation Reviewable	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Temperature °C D.O. (mg/L)	Biological DM CS-I acute 	MWAT CS-I chronic 6.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	chronic 0.02(T)
Designation Reviewable Qualifiers:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning)	Biological DM CS-1 acute 	MWAT CS-I chronic 6.0 7.0	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 TVS(tr)	chronic 0.02(T) TVS
Designation Reviewable Qualifiers: Other:	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH	Biological DM CS-I acute 6.5 - 9.0	MWAT CS-I chronic 6.0 7.0 	Aluminum Arsenic Beryllium Cadmium Cadmium	Metals (ug/L) acute 340 TVS(tr) 5.0(T)	chronic 0.02(T) TVS
Designation Reviewable Qualifiers: Other: Temporary M	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²)	Biological DM CS-I acute 6.5 - 9.0 	MWAT CS-I chronic 6.0 7.0 150*	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	chronic 0.02(T) TVS TVS
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	Biological DM CS-I acute 6.5 - 9.0 	MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Dat	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	Biological DM CS-I acute 6.5 - 9.0 	MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS	chronic 0.02(T) TVS TVS TVS TVS
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m²)(chronic) = applies only above	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	Biological DM CS-I acute 6.5 - 9.0 c (mg/L)	MWAT CS-I chronic 6.0 7.0 150* 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS WS
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) acute	MWAT CS-I chronic 6.0 7.0 150* 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	chronic 0.02(T) TVS TVS TVS S VS S S WS 1000(T)
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) acute TVS	MWAT CS-I chronic 6.0 7.0 150* 126 thronic TVS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS	chronic 0.02(T) TVS
Designation Reviewable Qualifiers: Other: Temporary Ma Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Ammonia Boron	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) acute TVS 	MWAT CS-I chronic 6.0 7.0 150* 126 126 chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS 5.0(T)	Chronic 0.02(T) TVS TVS TVS TVS TVS 1000(T) TVS
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(of facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride	Biological DM CS-I acute 6.5 - 9.0 (mg/L) c (mg/L) TVS 	MWAT CS-I chronic 6.0 7.0 150* 126 126 chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS S0(T) TVS S0(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) c (mg/L) TVS 0.019	MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Metals (ug/L)	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) c (mg/L) TVS 0.019 0.005	MWAT CS-I chronic 6.0 7.0 150* 126 126 chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS 50(T)	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.00(T) TVS WS 0.01(t)
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) c (mg/L) acute TVS 0.019 0.005 10	MWAT CS-I chronic 6.0 7.0 150* 126 126 Chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS TVS TVS 50(T) TVS TVS	Chronic 0.02(T) TVS TVS TVS TVS 1000(T) TVS TVS WS 0.01(t) 150(T)
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Datu *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) C (MWAT CS-I chronic 6.0 7.0 150* 126 126 250 0.75 250 0.011 0.05	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS 5.0(T) TVS TVS	Chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	Biological DM CS-I acute 6.5 - 9.0 Comp/L) Comp/L 0.019 0.005 10 10 	MWAT CS-I chronic 6.0 7.0 126 150* 126 Chronic TVS 0.75 250 0.011 0.05 0.11*	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS S 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T)
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	Biological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.019 0.005 10 10 10 10 10 10 10 10 10 	MWAT CS-I chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 0.05 0.11* WS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS S US 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Biological DM CS-I acute 6.5 - 9.0 6.5 - 9.0 c (mg/L) c (mg/L) C (mg/L) 10 10 10 10 10 10 10 10 10 10	MWAT CS-I Chronic 6.0 7.0 150* 126 Chronic TVS 0.75 250 0.011 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS TVS
Designation Reviewable Qualifiers: Other: Temporary Mo Arsenic(chroni Expiration Date *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m ²)(chronic) = applies only above sted at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Biological DM CS-I acute 6.5 - 9.0 c (mg/L) c (mg/L) c (mg/L) 0.019 0.005 10 0.005 0.005 10 0	MWAT CS-I Chronic 6.0 7.0 150" 126 0.01 Chronic TVS 0.75 250 0.011 0.05 0.11" WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Selenium Silver Uranium	Metals (ug/L) acute 340 TVS(r) 5.0(T) 5.0(T) TVS TVS TVS S0(T) TVS TVS S0(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T) TVS
Designation Reviewable Qualifiers: Other: Temporary Me Arsenic(chroni Expiration Dat *chlorophyll a the facilities lis *Phosphorus(c facilities listed	Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply odification(s): ic) = hybrid e of 12/31/2021 (mg/m²)(chronic) = applies only above the at 38.5(4). chronic) = applies only above the at 38.5(4).	Physical and E Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Biological DM CS-I acute 6.5 - 9.0 cmg/L) cmg/L 0.019 0.019 0.005 10	MWAT CS-I chronic 6.0 7.0 126 126 Chronic TVS 0.75 250 0.011 0.05 0.11* WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Uranium	Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS 5.0(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

D.O. = dissolved oxygen DM = daily maximum

MWAT = maximum weekly average temperature See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

2b. Mainstem	of St. Vrain Creek, including all tributar	ies and wetlands, from the easter	n boundary of Roo	osevelt Natio	nal Forest to Hygiene Road	J.	
COSPSV02B	Classifications	Physical and B	iological		N	/letals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		pН	6.5 - 9.0		Cadmium	5.0(T)	
Temporary M	odification(s):	chlorophyll a (mg/m ²)		150*	Chromium III	50(T)	TVS
Arsenic(chroni	ic) = hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
Expiration Dat	e of 12/31/2021				Copper	TVS	TVS
*chlorophyll a	(mg/m^2) (chronic) = applies only above	Inorganic	(mg/L)		Iron		WS
the facilities lis	sted at $38.5(4)$.		acute	chronic	Iron		1000(T)
facilities listed	at 38.5(4).	Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.11*	Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
3. Mainstem o	f St. Vrain Creek from Hygiene Road to	the confluence with the South Pl	atte River.				
COSPSV03	Classifications	Physical and B	iological		N	Aetals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-I	WS-I	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	7.6(T)
Qualifiers:		D.O. (mg/L)		5.0	Beryllium		
Other:		рН	6.5 - 9.0		Cadmium	TVS	TVS
		chlorophyll a (mg/m ²)			Chromium III	TVS	TVS
		E. Coli (per 100 mL)		126	Chromium III		100(T)
		Inorganic	(mg/L)		Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron		1000(T)
		Boron		0.75	Lead	TVS	TVS
		Chloride			Manganese	TVS	TVS
		Chlorine	0.019	0.011	Mercury		0.01(t)
		Cyanide	0.005		Molybdenum		150(T)
		Nitrate	100		Nickel	TVS	TVS
		Nitrite		0.5	Selenium	TVS	TVS
		Phosphorus			Silver	TVS	TVS
		Sulfate			Uranium		
		Sulfide		0.002	Zinc	TVS	TVS
					1		

4a. Mainstem Segment 4b.	of Left Hand Creek, including a	all tributaries and wetlands, from the sou	irce to a point imme	diately below	v the confluence with Ja	ames Creek, except for sp	pecific listings in
COSPSV04A	Classifications	Physical and	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		рH	6.5 - 9.0		Cadmium	5.0(T)	
		chlorophyll a (mg/m ²)		150	Chromium III	50(T)	TVS
		E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorgar	iic (mg/L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cvanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.00	Nickel		100(T)
		Sulfata		W/S	Selenium	TVS	TVS
		Sulfido		0.002	Silver	TVS	T\/S(tr)
		Sunde		0.002	Uranium	103	103(0)
					Zino	 T\/S	TVS
4b Mainstem	of James Creek including all t	tributaries and wetlands from the source	to the confluence v	vith Left Han	d Creek	105	100
COSPSV04B	Classifications	Physical and	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		рН	6.5 - 9.0		Cadmium	5.0(T)	
Tomporon/ M	ladification(a):	chlorophyll a (mg/m ²)		150	Chromium III	50(T)	TVS
	nic) – hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
Expiration Dat	te of 12/31/2021				Copper	TVS	TVS
		Inorgan	ic (ma/L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Gvanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.11	Nickel		100(T)
		Sulfato		W/S	Selenium	 T\/S	TV/S
		Sulfida		0.002	Silver	TV9	T\/\$(tr)
I		Suinde		0.002		173	· • O(u)
					Uranium		
					Uranium		

D.O. = dissolved oxygen DM = daily maximum

MWAT = maximum weekly average temperature See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

4c. Mainstem	of Left Hand Creek, includir	ng all tributaries and wetlands, from a point ir	mmediately below t	he confluenc	ce with James Creek to I	Highway 36.	
COSPSV04C	Classifications	Physical and E	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		рН	6.5 - 9.0		Cadmium	5.0(T)	
Temporary M	lodification(s):	chlorophyll a (mg/m ²)		150	Chromium III	50(T)	TVS
Arsenic(chron	ic) = hybrid	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
Expiration Dat	te of 12/31/2021				Copper	TVS	TVS
		Inorganie	c (mg/L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.11	Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
6 0/00000000000000000000000000000000000		a all taile standard and such that de farmer I l'adesses (O	0 4- 4	with Ot Mar	dia Ora ali		
COSPSV05	of Left Hand Creek, including	g all tributaries and wetlands from Highway 3 Physical and E	36 to the confluence	e with St. Vra	ain Creek.	Metals (un/l)	
COSPSV05	of Left Hand Creek, including	g all tributaries and wetlands from Highway 3 Physical and E	36 to the confluence Biological	e with St. Vra	ain Creek.	Metals (ug/L)	chronic
COSPSV05 Designation Reviewable	of Left Hand Creek, including Classifications Agriculture Ag Life Warm 2	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C	36 to the confluence Biological DM WS-I	e with St. Vra MWAT WS-I	ain Creek.	Metals (ug/L) acute	chronic
COSPSV05 Designation Reviewable	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C	36 to the confluence Biological DM WS-I acute	with St. Vra MWAT WS-I chronic	Aluminum	Metals (ug/L) acute 340	chronic 0.02-10(T) A
COSPSV05 Designation Reviewable	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L)	36 to the confluence Biological DM WS-1 acute 	with St. Vra MWAT WS-I chronic 5.0	ain Creek. Aluminum Arsenic Bervllium	Metals (ug/L) acute 340 	chronic 0.02-10(T) ^A
COSPSV05 Designation Reviewable Qualifiers:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH	66 to the confluence Biological DM WS-1 acute 6.5 - 9.0	with St. Vra MWAT WS-I chronic 5.0	ain Creek. Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 TVS	chronic 0.02-10(T) ^A TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²)	36 to the confluence Biological DM WS-1 acute 6.5 - 9.0 	WS-I chronic 150	ain Creek. Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 TVS 5.0(T)	chronic 0.02-10(T) ^A TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL)	36 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 	with St. Vra WS-I chronic 5.0 150 126	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium	Metals (ug/L) acute 340 TVS 5.0(T) 50(T)	chronic 0.02-10(T) ^A TVS TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania	36 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 c. (mg/L)	with St. Vra WS-I chronic 5.0 150 126	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02-10(T) A TVS TVS TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganie	6 to the confluence Biological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute	with St. Vra MWAT WS-I chronic 5.0 150 126 chronic	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) 50(T) TVS	chronic 0.02-10(T) A TVS TVS TVS TVS TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganic Ammonia	66 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute TVS	WS-I Chronic 5.0 150 126 Chronic TVS	ain Creek. Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 5.0(T) 5.0(T) TVS TVS TVS TVS	chronic 0.02-10(T) A TVS TVS TVS TVS TVS TVS WS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Ammonia Boron	86 to the confluence Biological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 	with St. Vra WS-I chronic 5.0 150 126 chronic TVS 0.75	ain Creek. Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute	chronic 0.02-10(T) A TVS TVS TVS TVS TVS VS WS 1000(T)
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganie Ammonia Boron Chloride	36 to the confluence Biological DM WS-1 acute 6.5 - 9.0 c (mg/L) TVS www.state	with St. Vra WS-I chronic 5.0 150 126 chronic TVS 0.75 250	ain Creek. Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganio Ammonia Boron Chloride Chlorine	66 to the confluence Biological DM WS-I acute 6.5 - 9.0 c (mg/L) acute TVS C 0.019	with St. Vra WS-I chronic 5.0 150 126 chronic TVS 0.75 250 0.011	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS SO(T)	chronic 0.02-10(T) A TVS TVS TVS TVS S TVS WS 1000(T) TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cvanide	86 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005	with St. Vra WS-I chronic 5.0 150 126 chronic TVS 0.75 250 0.011 	ain Creek. Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Metals (ug/L) acute acute 340 5.0(T) 5.0(T) TVS TVS TVS TVS TVS 5.0(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS TVS US 1000(T) TVS TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) E. Coli (per 100 mL) Inorgania Ammonia Boron Chloride Chlorine Cyanide Nitrate	86 to the confluence Biological DM WS-1 acute 6.5 - 9.0 c (mg/L) C (mg/L) TVS 0.019 0.005 10	with St. Vra WS-I chronic 5.0 150 126 chronic TVS 0.75 250 0.011 	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Metals (ug/L) acute	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) E. Coli (per 100 mL) Inorganie Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	86 to the confluence Biological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	with St. Vra WS-I chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t)
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganio Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	36 to the confluence Biological DM WS-I acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	e with St. Vra MWAT WS-I chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum	Metals (ug/L) acute 340 350(7) 50(7) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T)
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	86 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 c (mg/L) TVS 0.019 0.005 10 10 0.019	e with St. Vra MWAT WS-I chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS	ain Creek. Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Nolybdenum Nickel	Metals (ug/L) acute acute </td <td>Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS</td>	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) E. Coli (per 100 mL) Inorgania Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrate Nitrite Phosphorus Sulfate Sulfide	36 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	with St. Vra WS-I Chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	ain Creek. Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute acute </td <td>Chronic 0.02-10(T) A TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T)</td>	Chronic 0.02-10(T) A TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 100(T)
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) E. Coli (per 100 mL) Inorganie Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	36 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 0.019 0.005 10	e with St. Vra WS-I Chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Metals (ug/L) acute 340 340 5.0(T) 50(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS 500(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorganio Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	36 to the confluence 3iological DM WS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.019 0.005 10 0.019 0.005 10	e with St. Vra WS-I Chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Manganese Mircury Nickel Nickel Selenium	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate Nitrate Nitrite Phosphorus Sulfate Sulfide	36 to the confluence Biological DM WS-I acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.019 0.005 10 0.019 0.005 10	e with St. Vra MWAT WS-I chronic 5.0 150 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Nickel Selenium Silver	Metals (ug/L) acute 340 350(7) 5.0(7) 50(7) TVS 7VS 50(7) TVS 50(7) TVS 50(7) TVS 50(7) TVS 50(7) TVS 50(7) TVS	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS
COSPSV05 Designation Reviewable Qualifiers: Other:	of Left Hand Creek, including Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	g all tributaries and wetlands from Highway 3 Physical and E Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (mg/m ²) E. Coli (per 100 mL) Inorgania Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	36 to the confluence 3iological DM WS-1 acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.01 0.019 0.005 10 0.019 0.005 10 <td>e with St. Vra MWAT WS-I chronic 5.0 126 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002</td> <td>Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Selenium Silver Uranium</td> <td>Metals (ug/L) acute acute<!--</td--><td>Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4 0.01(t) 150(T) TVS 0.01(t) 150(T) TVS 1000(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS</td></td>	e with St. Vra MWAT WS-I chronic 5.0 126 126 Chronic TVS 0.75 250 0.011 0.5 0.17 WS 0.002	Aluminum Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Selenium Silver Uranium	Metals (ug/L) acute acute </td <td>Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4 0.01(t) 150(T) TVS 0.01(t) 150(T) TVS 1000(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS</td>	Chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4 0.01(t) 150(T) TVS 0.01(t) 150(T) TVS 1000(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

D.O. = dissolved oxygen DM = daily maximum MWAT = maximum weekly average temperature See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

6. All tributarie in Segments 4	es to St. Vrain Creek, including wetland la, 4b, 4c and 5.	s from Hygiene Road to the confluer	nce with the Sou	th Platte Riv	ver, except for specific listing	in the Boulder Cre	ek subbasin and
COSPSV06	Classifications	Physical and Bio	logical		M	ietals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	100(T)
Qualifiers:		D.O. (mg/L)		5.0	Beryllium		
Other:		рН	6.5 - 9.0		Cadmium	TVS	TVS
		chlorophyll a (mg/m ²)			Chromium III	TVS	TVS
		E. Coli (per 100 mL)		126	Chromium III		100(T)
		Inorganic (r	ng/L)		Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron		1000(T)
		Boron		0.75	Lead	TVS	TVS
		Chloride			Manganese	TVS	TVS
		Chlorine	0.019	0.011	Mercury		0.01(t)
		Cyanide	0.005		Molybdenum		150(T)
		Nitrate	100		Nickel	TVS	TVS
		Nitrite		0.5	Selenium	TVS	TVS
		Phosphorus			Silver	TVS	TVS
		Sulfate			Uranium		
		Sulfide		0.002	Zinc	TVS	TVS
7. Boulder Res	servoir, Coot Lake, Left Hand Valley Re	eservoir and Spurgeon Reservoir.					
COSPSV07	Classifications	Physical and Bio	logical		M	letals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		5.0	Beryllium		
	DUWS*	рН	6.5 - 9.0		Cadmium	TVS	TVS
Qualifiers:		chlorophyll a (ug/L)			Cadmium	5.0(T)	
Other:		E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS
Temporary M	odification(s):	Inorganic (r	ng/L)		Chromium VI	TVS	TVS
Arsenic(chroni	ic) = hybrid		acute	chronic	Copper	TVS	TVS
Expiration Dat	e of 12/31/2021	Ammonia	TVS	TVS	Iron		WS
*Classification	: DUWS applies to Boulder, Spurgeon	Boron		0.75	Iron		1000(T)
and Left Hand	Valley Reservoirs only.	Chloride		250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead	50(T)	
		Cyanide	0.005		Manganese	TVS	TVS
		Nitrate	10		Manganese		WS
		Nitrite		0.5	Mercury		0.01(t)
		Phosphorus			Molybdenum		150(T)
		Sulfate		WS	Nickel	TVS	TVS
		Sulfide		0.002	Nickel		100(T)
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium		
					Zinc	TVS	TVS

All lakes an	nd reservoirs tributary to St. Vrain Cre	ek that are within the boundary of	the Indian Peaks V	Vilderness Ar	ea and Rocky Mountain N	National Park.	
COSPSV08	Classifications	Physical and	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
OW	Aq Life Cold 1	Temperature °C	CL	CL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
Qualifiers:		D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Other:		рН	6.5 - 9.0		Cadmium	5.0(T)	
		chlorophyll a (ug/L)			Chromium III	50(T)	TVS
		E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorgan	ic (mg/L)		Iron		WS
			acute	chronic	Iron		1000(T)
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus			Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
						-	
9. All lakes an	nd reservoirs tributary to St. Vrain Cre	eek from sources to Hygiene Road	, including Button F	Rock Reservo	ir, except as specified in a	Segment 8.	
9. All lakes an COSPSV09	Classifications	ek from sources to Hygiene Road Physical and	, including Button F Biological	Rock Reservo	ir, except as specified in t	Segment 8. Metals (ug/L)	obronio
9. All lakes an COSPSV09 Designation	nd reservoirs tributary to St. Vrain Cre Classifications Agriculture Ag Life Cold 1	Physical and	, including Button F Biological DM	MWAT	ir, except as specified in s	Segment 8. Metals (ug/L) acute	chronic
9. All lakes an COSPSV09 Designation Reviewable	d reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E	Physical and Temperature °C	, including Button F Biological DM CL,CLL	MWAT CL,CLL	ir, except as specified in s	Segment 8. Metals (ug/L) acute 240	chronic
9. All lakes an COSPSV09 Designation Reviewable	d reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Temperature °C	, including Button F Biological DM CL,CLL acute	MWAT CL,CLL chronic	ir, except as specified in s Aluminum Arsenic Bendlium	Segment 8. Metals (ug/L) acute 340	chronic 0.02(T)
2. All lakes an COSPSV09 Designation Reviewable Qualifiers:	nd reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Temperature °C D.O. (mg/L)	, including Button F Biological DM CL,CLL acute 	MWAT CL,CLL chronic 6.0 7.0	ir, except as specified in s Aluminum Arsenic Beryllium	Segment 8. Metals (ug/L) acute 340 T/(S/tr)	chronic 0.02(T)
2. All takes an COSPSV09 Designation Reviewable Qualifiers:	d reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) nH	, including Button F Biological DM CL,CLL acute 6.5 - 9.0	MWAT CL,CLL Chronic 6.0 7.0	Ir, except as specified in s Aluminum Arsenic Beryllium Cadmium	Segment 8. Metals (ug/L) 340 TVS(tr) 5.0(T)	chronic 0.02(T) TVS
2. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other:	d reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply	Temperature °C D.O. (mg/L) D.O. (spawning) pH	, including Button F Biological DM CL,CLL acute 6.5 - 9.0	MWAT CL,CLL chronic 6.0 7.0 	ir, except as specified in s Aluminum Arsenic Beryllium Cadmium Cadmium	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T)	chronic 0.02(T) TVS TVS
2. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M	Ind reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s):	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 ml.)	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 	MWAT CL,CLL chronic 6.0 7.0 126	ir, except as specified in s Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TV(S)	chronic 0.02(T) TVS TVS TVS
2. All lakes all COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid to of 13/21/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126	ir, except as specified in s Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS	chronic 0.02(T) TVS TVS TVS TVS
2. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/l)	MWAT CL,CLL chronic 6.0 7.0 126	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS WS
2. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) acute	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS 	chronic 0.02(T) TVS TVS TVS S VS S <
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) acute TV/S	Rock Reservo MWAT CL,CLL Chronic 6.0 7.0 126 126 chronic TVS	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS S TVS
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) acute TVS	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126 126 chronic TVS 0.75	ir, except as specified in s Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS 5.0(T)	Chronic 0.02(T) TVS TVS TVS TVS S TVS WS 1000(T) TVS
2. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Nodification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) ic (mg/L) TVS 	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126 126 Chronic TVS 0.75 250	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	Segment 8. Metals (ug/L) acute 340 340 5.0(T) 5.0(T) TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS
2. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) acute TVS TVS 0.019	Rock Reservo MWAT CL,CLL Chronic 6.0 7.0 126 126 Chronic TVS 0.75 250 0.011	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	Segment 8. Metals (ug/L) acute 340 340 5.0(T) 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS S TVS TVS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS WS
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cvanide	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 c ic (mg/L) acute TVS TVS 0.019 0.005	Rock Reservo MWAT CL,CLL Chronic 6.0 7.0 126 Chronic TVS 0.75 250 0.011	ir, except as specified in s Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury	Segment 8. Metals (ug/L) acute 340 TVS(tr) 5.0(T) 5.0(T) TVS TVS TVS	chronic 0.02(T) TVS TVS TVS 1VS TVS TVS TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.00(T) TVS WS 0.01(t)
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) ic (mg/L) acute TVS 0.019 0.005 10	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126 250 0.011 	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum	Segment 8. Metals (ug/L) acute acute	chronic 0.02(T) TVS TVS TVS TVS 1000(T) TVS TVS 0.02(T) TVS US 1000(T) TVS TVS 0.01(t) 150(T)
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Iodification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) ic (mg/L) TVS 0.019 0.005 10	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 7.0 126 0.01 TVS 0.75 250 0.011 0.05	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Marcury Molybdenum	Segment 8. Metals (ug/L) acute acute 340 3	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply fodification(s): hic) = hybrid te of 12/31/2021	Physical and Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 6.5 - 9.0 c ic (mg/L) ic (mg/L) acute TVS 0.019 0.005 10 10 	Rock Reservo MWAT CL,CLL Chronic 6.0 7.0 7.0 126 0.0 0.0 Chronic Chronic 0.75 250 0.011 0.011 0.011 0.05 0.05	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Segment 8. Metals (ug/L) acute 340 340 340 5.0(T) 5.0(T) 5.0(T) TVS TVS 1 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS O.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 1000(T)
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 6.5 - 9.0 c. (c (mg/L) acute TVS 0.019 0.005 10 10 10 	Rock Reservo MWAT CL,CLL Chronic 6.0 7.0 126 126 Chronic Chronic 7VS 0.75 250 0.011 0.05 WS	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Lead Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Segment 8. Metals (ug/L) acute 340 340 340 5.0(T) 5.0(T) 5.0(T) TVS TVS 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Modification(s): hic) = hybrid te of 12/31/2021	ek from sources to Hygiene Road Physical and Temperature °C D.O. (mg/L) D.O. (spawning) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgan Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 6.5 - 9.0 c ic (mg/L) ic (mg/L) acute TVS 0.019 0.005 10 10 10 	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126 0.7.0 126 0.011 0.011 0.05 WS 0.002	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Lead Lead Manganese Manganese Manganese Manganese Mircury Nickel Nickel Selenium	Segment 8. Metals (ug/L) acute 340 340 TVS(tr) 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 1000(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply Nodification(s): hic) = hybrid te of 12/31/2021	Image: Physical and sector of the sector	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 6.5 - 9.0 cont cont cont cont cont cont cont cont	Rock Reservo MWAT CL,CLL chronic 6.0 7.0 126 TVS 0.75 250 0.011 0.05 0.05 WS 0.002	ir, except as specified in s Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Nolybdenum Nickel Selenium Silver Uranium	Segment 8. Metals (ug/L) acute 340 340 340 50(T) 50(T) TVS TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	Chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS
9. All lakes an COSPSV09 Designation Reviewable Qualifiers: Other: Temporary M Arsenic(chron Expiration Dat	Id reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Cold 1 Recreation E Water Supply fodification(s): hic) = hybrid te of 12/31/2021	Image: Physical and sector of the sector	, including Button F Biological DM CL,CLL acute 6.5 - 9.0 ic (mg/L) ic (mg/L) ic (mg/L) ic (mg/L) ic (mg/L) ic (mg/L)	Rock Reservo MWAT CL,CLL Chronic 6.0 7.0 7.0 126 0.0 0.0 Chronic Chronic 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.002	ir, except as specified in S Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Icon Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Selenium Silver Uranium Zinc	Segment 8. Metals (ug/L) acute 340 340 340 340 340 5.0(T) 5.0(T) TVS 5.0(T) TVS 5.0(T) TVS 5.0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS	Chronic 0.02(T) TVS TVS TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

10. All lakes a	ind reservoirs tributary to Left Hand Cr	eek from sources to High	way 36.				
COSPSV10	Classifications	Physic	cal and Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		6.0	Beryllium		
	DUWS*	D.O. (spawning)		7.0	Cadmium	TVS(tr)	TVS
Qualifiers:		рН	6.5 - 9.0		Cadmium	5.0(T)	
Other:		chlorophyll a (ug/L)		8*	Chromium III	50(T)	TVS
*chlorophyll a	(ug/L)(chronic) - applies only above	E. Coli (per 100 mL)		126	Chromium VI	TVS	TVS
the facilities list	sted at 38.5(4), applies only to lakes				Copper	TVS	TVS
and reservoirs *Classification	larger than 25 acres surface area.	I	norganic (mg/L)		Iron		WS
only.			acute	chronic	Iron		1000(T)
facilities listed	at 38.5(4), applies only to lakes and	Ammonia	TVS	TVS	Lead	TVS	TVS
reservoirs larg	ger than 25 acres surface area.	Boron		0.75	Lead	50(T)	
		Chloride		250	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Manganese		WS
		Cyanide	0.005		Mercury		0.01(t)
		Nitrate	10		Molybdenum		150(T)
		Nitrite		0.05	Nickel	TVS	TVS
		Phosphorus		0.025*	Nickel		100(T)
		Sulfate		WS	Selenium	TVS	TVS
		Sulfide		0.002	Silver	TVS	TVS(tr)
					Uranium		
					Zinc	TVS	TVS
11. Barbour P	onds.						
11. Barbour P COSPSV11	onds. Classifications	Physic	cal and Biological	Mara T		Metals (ug/L)	- kura nia
11. Barbour P COSPSV11 Designation	onds. Classifications Agriculture	Physic	cal and Biological DM	MWAT	Aluminum	Metals (ug/L) acute	chronic
11. Barbour P COSPSV11 Designation Reviewable	onds. Classifications Agriculture Aq Life Warm 1 Recreation E	Physic Temperature °C	cal and Biological DM WL	MWAT WL	Aluminum	Metals (ug/L) acute	chronic
11. Barbour P COSPSV11 Designation Reviewable	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C	cal and Biological DM WL acute	MWAT WL chronic	Aluminum Arsenic	Metals (ug/L) acute 340	chronic 0.02(T)
11. Barbour P COSPSV11 Designation Reviewable	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L)	cal and Biological DM WL acute	MWAT WL chronic 5.0	Aluminum Arsenic Beryllium	Metals (ug/L) acute 340 	chronic 0.02(T)
11. Barbour P COSPSV11 Designation Reviewable Qualifiers:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH	cal and Biological DM WL acute 6.5 - 9.0	MWAT WL chronic 5.0	Aluminum Arsenic Beryllium Cadmium	Metals (ug/L) acute 340 TVS	chronic 0.02(T) TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L)	cal and Biological DM WL acute 6.5 - 9.0	MWAT WL chronic 5.0 	Aluminum Arsenic Beryllium Cadmium Cadmium	Metals (ug/L) acute 340 TVS 5.0(T)	chronic 0.02(T) TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	cal and Biological DM WL acute 6.5 - 9.0 	MWAT WL chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) acute 340 TVS 5.0(T) 50(T)	chronic 0.02(T) TVS TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physia Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	cal and Biological DM WL acute 6.5 - 9.0 c norganic (mg/L)	MWAT WL chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	cal and Biological DM WL acute 6.5 - 9.0 norganic (mg/L) acute	MWAT WL chronic 5.0 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS	chronic 0.02(T) TVS TVS TVS TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	cal and Biological DM WL CUP	MWAT WL chronic 5.0 126 chronic TVS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) acute 340 TVS 5.0(T) TVS TVS TVS TVS acute TVS TVS	chronic 0.02(T) TVS TVS TVS TVS S VS TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) E. Coli (per 100 mL)	Cal and Biological DM WL acute 6.5 - 9.0 norganic (mg/L) TVS 	MWAT WL chronic 5.0 126 chronic TVS 0.75	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	Metals (ug/L) Acute 340 5.0(T) 50(T) TVS TVS TVS TVS	chronic 0.02(T) TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Chloride	cal and Biological DM WL acute 6.5 - 9.0 0.5 - 9.0 norganic (mg/L) acute TVS	MWAT WL chronic 5.0 126 chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS TVS TVS TVS	chronic 0.02(T) TVS TVS TVS S VS TVS TVS TVS TVS TVS TVS TVS TVS TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Chlorophyll Boron Chloride Chlorine	cal and Biological DM WL acute 6.5 - 9.0 norganic (mg/L) acute TVS 0.019	MWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS	chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) E. Coli (per 100 mL) Ammonia Boron Chloride Chlorine Cyanide	cal and Biological DM WL acute 6.5 - 9.0 6.5 - 9.0 0.07 morganic (mg/L) TVS 0.019 0.005	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	Metals (ug/L) acute 340 340 5.0(T) 5.0(T) TVS TVS TVS TVS TVS TVS 5.0(T) TVS TVS TVS TVS TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS WS 1000(T) TVS TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) E. Coli (per 100 mL) Ammonia Boron Chloride Chlorine Cyanide Nitrate	cal and Biological DM WL Cal and Biological WL Cal and Biological WL Cal and Biological WL Gal and Biological	MWAT WL chronic 5.0 126 126 250 0.011 	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese	Metals (ug/L) acute 340 340 5.0(T) 5.0(T) 5.0(T) TVS S0(T)	chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Chloride Chloride Chloride Chlorine Cyanide Nitrate	Cal and Biological DM WL WL Calcute Calcut	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury	Metals (ug/L) acute 340 TVS 5.0(T) 5.0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS US 1000(T) TVS TVS WS 0.01(t)
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Chlorophyll Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus	cal and Biological DM WL acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.5 - 9.0 0.5 - 9.0 0.0 0.019 0.005 10 0.019 0.005 10	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese	Metals (ug/L) acute 340 340 5.0(T) 5.0(T) TVS 5.0(T) TVS 5.0(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS	chronic 0.02(T) TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T)
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) E. Coli (per 100 mL) Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	cal and Biological DM WL WL acute 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.5 - 9.0 0.019 0.005 10 0.005 10 0.019 0.005 10 <tr tr=""> </tr>	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute 340 340 5.0(T) 5.0(T) TVS TVS TVS S0(T) TVS TVS S0(T) TVS TVS S0(T) TVS	chronic 0.02(T) TVS TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) E. Coli (per 100 mL) Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	cal and Biological DM WL QM WL acute 6.5 - 9.0 6.5 - 9.0 norganic (mg/L) 0.019 0.005 10	MWAT WL chronic 5.0 126 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel	Metals (ug/L) acute 340 340 340 5.0(T) 5.0(T) 5.0(T) TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS TVS S VS 0.00(T) TVS O.01(t) 150(T) TVS 100(T)
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	Onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) E. Coli (per 100 mL) Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	cal and Biological DM WL 0.01 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.019 0.019 0.019 10 0.019 0.019 0.019	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Marcury Molybdenum Nickel Selenium	Metals (ug/L) acute 340 340 5.0(T) 5.0(T) 5.0(T) 5.0(T) 5.0(T) 5.0(T) 1.000 5.0(T) 1.000 <td< td=""><td>chronic 0.02(T) TVS TVS TVS TVS TVS TVS Oloc(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 1000(T)</td></td<>	chronic 0.02(T) TVS TVS TVS TVS TVS TVS Oloc(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 1000(T)
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	Onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Chloride Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	cal and Biological DM WL WL acute 6.5 - 9.0 6.5 - 9.0 morganic (mg/L) 0.019 0.005 10 <td>MWAT WL chronic 5.0 126 Chronic Chronic 0.5 250 0.011 0.5 WS 0.002</td> <td>Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium</td> <td>Metals (ug/L) acute acuta 340 340 340 5.0(T) 5.0(T) 5.0(T) 5.0(T) 1000000000000000000000000000000000000</td> <td>chronic 0.02(T) TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS TVS VS 0.01(t) TVS 100(T) TVS TVS TVS 100(T) TVS</td>	MWAT WL chronic 5.0 126 Chronic Chronic 0.5 250 0.011 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	Metals (ug/L) acute acuta 340 340 340 5.0(T) 5.0(T) 5.0(T) 5.0(T) 1000000000000000000000000000000000000	chronic 0.02(T) TVS TVS TVS TVS TVS TVS 0.00(T) TVS 0.00(T) TVS 0.01(t) 150(T) TVS 100(T) TVS TVS VS 0.01(t) TVS 100(T) TVS TVS TVS 100(T) TVS
11. Barbour P COSPSV11 Designation Reviewable Qualifiers: Other:	onds. Classifications Agriculture Aq Life Warm 1 Recreation E Water Supply	Physic Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	cal and Biological DM WL w acute 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 morganic (mg/L) TVS 0.019 0.005 10 0.005 10 <tr tr=""> </tr>	MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WS 0.002	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Uranium	Metals (ug/L) acute 340 340 340 50(T) 50(T) TVS TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS	chronic 0.02(T) TVS TVS TVS TVS TVS (WS 1000(T) TVS (WS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

D.O. = dissolved oxygen

MWAT = maximum weekly average temperature See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

12. All lakes a	and reservoirs tributary to Left Hand Cr	eek from Highway 36 to the conflu	uence with St. Vrain	n Creek, exc	ept as specified in Segme	ent 7.	
COSPSV12	Classifications	Physical and B	Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 2	Temperature °C	WL	WL	Aluminum		
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)		5.0	Beryllium		
Qualifiers:		рН	6.5 - 9.0		Cadmium	TVS	TVS
Water + Fish	Standards	chlorophyll a (ug/L)			Cadmium	5.0(T)	
Other:		E. Coli (per 100 mL)		126	Chromium III	50(T)	TVS
		Inorgani	c (mg/L)		Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron		WS
		Boron		0.75	Iron		1000(T)
		Chloride		250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead	50(T)	
		Cyanide	0.005		Manganese	TVS	TVS
		Nitrate	10		Manganese		WS
		Nitrite		0.5	Mercury		0.01(t)
		Phosphorus			Molybdenum		150(T)
		Sulfate		WS	Nickel	TVS	TVS
		Sulfide		0.002	Nickel		100(T)
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium		
					Zinc	TVS	TVS
						_	
13. All lakes a	and reservoirs tributary to St. Vrain Cre	ek from Hygiene Road to the con	fluence with the So	uth Platte Ri	ver, except as specified i	n Segments 7, 10, 11	and 12.
13. All lakes a	and reservoirs tributary to St. Vrain Cre Classifications	ek from Hygiene Road to the cont Physical and I	fluence with the So Biological	uth Platte Ri	ver, except as specified i	n Segments 7, 10, 11 Metals (ug/L)	and 12.
13. All lakes a COSPSV13 Designation	and reservoirs tributary to St. Vrain Cre Classifications Agriculture	ek from Hygiene Road to the cont Physical and I	fluence with the So Biological DM	uth Platte Ri	ver, except as specified i	n Segments 7, 10, 11 Metals (ug/L) acute	and 12. chronic
13. All lakes a COSPSV13 Designation Reviewable	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E	ek from Hygiene Road to the cont Physical and I Temperature °C	fluence with the So Biological DM WL	MWAT	Aluminum	n Segments 7, 10, 11 Metals (ug/L) acute	and 12. chronic
13. All lakes a COSPSV13 Designation Reviewable	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply	ek from Hygiene Road to the cont Physical and E Temperature °C	fluence with the So Biological DM WL acute	MWAT WL chronic	Aluminum Arsenic	n Segments 7, 10, 11 Metals (ug/L) acute 340	and 12. chronic 0.02-10(T) A
13. All lakes a COSPSV13 Designation Reviewable	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS*	ek from Hygiene Road to the cont Physical and I Temperature °C D.O. (mg/L)	fluence with the So Biological DM WL acute 	MWAT WL chronic 5.0	Aluminum Arsenic Beryllium	n Segments 7, 10, 11 Metals (ug/L) acute 340 	and 12. chronic 0.02-10(T) A Tr(2)
13. All lakes a COSPSV13 Designation Reviewable	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS*	ek from Hygiene Road to the cont Physical and B Temperature °C D.O. (mg/L) pH shiaraphyll o (ug/L)	fluence with the So Biological DM WL acute 6.5 - 9.0	MWAT WL chronic 5.0 	Aluminum Arsenic Beryllium Cadmium	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5 o(T)	and 12. chronic 0.02-10(T) ^A TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers:	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS*	ek from Hygiene Road to the cont Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L)	fluence with the So Biological DM WL acute 6.5 - 9.0 	WWAT WL chronic 5.0 420	Aluminum Arsenic Beryllium Cadmium	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T)	and 12. chronic 0.02-10(T) A TVS TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other:	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS*	ek from Hygiene Road to the cont Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL)	fluence with the So Biological DM WL acute 6.5 - 9.0 	WWAT WL chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TV(0)	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L)	WWAT WL chronic 5.0 126	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium VI	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TV0	WWAT WL chronic 5.0 126 chronic	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS	and 12. chronic 0.02-10(T) ^A TVS TVS TVS TVS TVS WC
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) TVS	MWAT WL chronic 5.0 126 chronic TVS	Aluminum Arsenic Beryllium Cadmium Chromium III Chromium VI Copper Iron	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 4000(T)
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TVS 	WWAT WL chronic 5.0 126 chronic TVS 0.75 250	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS TVS WS 1000(T) TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloride	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TVS 0.040	WWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.241	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS TVS TVS	and 12. chronic 0.02-10(T) TVS TVS TVS VS VS 1000(T) TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005	WWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) TVS TVS TVS TVS 50(T) TVS 50(T) TVS	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the con Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 40	WWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.011	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS WS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10	uth Platte Ri MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS 	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS VS 1000(T) TVS 1000(T) TVS WS 0.01(t)
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) C (mg/L) C (mg/L) 0.019 0.005 10 	uth Platte Ri MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 250 0.011 0.5	Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) -	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 1000(T) TVS S WS 0.01(t) 150(T)
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the cont Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfato	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) acute TVS 0.019 0.005 10 	Uth Platte Ri MWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 WE	ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Nolybdenum Nickel	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS WS 1000(T) TVS WS 0.01(t) 150(T) TVS
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the con Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate	Aluence with the So Biological DM WL acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.5 - 9.0 0.0 0.019 0.005 10 0.019 0.005 10 0.019 0.02	WWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.011 0.5 0.5 0.5 0.5 0.5 WS	ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Nolybdenum Nickel Nickel	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4000(T) TVS 0.01(t) 150(T) TVS 4000(T)
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the con Physical and B Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrate Nitrite Phosphorus Sulfate Sulfide	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) C (mg/L) acute TVS 0.019 0.005 10 10 	WWAT WL chronic 5.0 126 chronic TVS 0.75 2500 0.011 0.55 WS 0.002	ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Sclasium	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS 50(T) TVS 50(T) TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS -	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS WS 0.01(t) 150(T) TVS 1000(T)
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	ek from Hygiene Road to the con Physical and E Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) C (mg/L) C (mg/L) 0.019 0.005 10 10 	WWAT WL chronic 5.0 126 chronic TVS 0.75 250 0.011 0.5 0.5 0.5 WS 0.002	ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS TVS -	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) 150(T) 100(T) 1
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	k from Hygiene Road to the con Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	fluence with the So Biological DM WL acute 6.5 - 9.0 c (mg/L) TVS 0.019 0.005 10 10 	WWAT WL chronic 5.0 126 TVS 0.75 250 0.011 0.5 0.5 0.5 0.5 WS 0.002	ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Nickel Selenium Silver Ltranium	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) 50(T) 50(and 12. chronic 0.02-10(T) A TVS TVS TVS TVS US 1000(T) TVS US 0.01(t) 150(T) TVS 100(T)
13. All lakes a COSPSV13 Designation Reviewable Qualifiers: Other: *Classification	and reservoirs tributary to St. Vrain Cre Classifications Agriculture Aq Life Warm 2 Recreation E Water Supply DUWS* n: DUWS applies to Burch lake only.	k from Hygiene Road to the con Physical and I Temperature °C D.O. (mg/L) pH chlorophyll a (ug/L) E. Coli (per 100 mL) Inorgani Ammonia Boron Chloride Chlorine Cyanide Nitrate Nitrite Phosphorus Sulfate Sulfide	Aluence with the So Biological DM WL acute 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 6.5 - 9.0 0.01 0.019 0.005 10 0.005 10 </td <td>WWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5 0.5 0.5 WS 0.002</td> <td>ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Selenium Silver Uranium</td> <td>n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) TVS TVS TVS TVS TVS </td> <td>and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4 0.01(t) 150(T) TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS</td>	WWAT WL chronic 5.0 126 Chronic TVS 0.75 250 0.011 0.5 0.5 0.5 0.5 WS 0.002	ver, except as specified i Aluminum Arsenic Beryllium Cadmium Cadmium Chromium III Chromium VI Copper Iron Iron Lead Lead Manganese Manganese Manganese Mercury Molybdenum Nickel Selenium Silver Uranium	n Segments 7, 10, 11 Metals (ug/L) acute 340 TVS 5.0(T) 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) TVS 50(T) TVS TVS 50(T) TVS TVS TVS TVS TVS 	and 12. chronic 0.02-10(T) A TVS TVS TVS TVS WS 1000(T) TVS 4 0.01(t) 150(T) TVS 0.01(t) 150(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS 100(T) TVS

t = totaltr = trout This page intentionally left blank.

Appendix F. 2016 303(d) List for Boulder Creek/ St. Vrain Creek Watershed

Appendix F. Boulder Creek and St. Vrain Creek Stream Segments Listed on the 2016 303(d) List and Monitoring and Evaluation List

WBID	Description	Portion	M&E	303(d)	Priority
Boulder Creek Wat	tershed		ind L	666(a)	Thomy
00000000	Mainstem of Boulder Creek, from the boundary of the	- 11		A -	
COSPB002a	Indian Peaks Wilderness Area to a point immediately	all		As	L
	below the confidence with North Boulder Creek				
	Mainstom of Boulder Crock, including all tributories	North Boulder Creek from			
	from the boundary of the Indian Peaks Wilderness Area	Caribou Creek to the	Fo(Dis)	Cu	н
0001 0002a	to North Boulder Creek	confluence with Como	1 6(D13)	Cu	п
		Creek			
	Mainstem of Boulder Creek, including all tributaries	Como Creek to the			
COSPB002a	from the boundary of the Indian Peaks Wilderness Area	confluence of North Boulder		Fe(Trec), Fe(Dis)	H/L
	to North Boulder Creek	Creek			
COSPRONZA	from the boundary of the Indian Books Wilderness Area	Confluence of Caribou			u
003F 0002a	to North Boulder Creek	Creek		Cu, Fb	
		Middle Boulder Creek from			
	Mainstem of Boulder Creek, including all tributaries	the outlet of Barker			
COSPBO02a	from the boundary of the Indian Peaks Wilderness Area	Reservoir to	Mn	Aquatic Life	L
	to North Boulder Creek	Longitude: -105.475577°		(provisional)	
		Latitude: 39.971275°			
	Boulder Creek, from below the confluence with North				
COSPBO02b	Boulder Creek to above the confluence with South	all		As	L
	Boulder Creek				
COSPBO03	Mainstem of Middle Boulder Creek from source to the	all		As	L
	Outlet of Barker Reservoir			A supplied life	
COSPBO03	Mainstern of Middle Boulder Creek from Source to the	Middle Boulder Creek		Aquatic Life	L
	Mainstem of South Boulder Creek, including all			(provisional)	
COSPB004a	tributaries from the source to the outlet of Gross	all		Cu	н
0001 0004a	Reservoir	an		ou	
	Mainstem of South Boulder Creek, including all				
COSPBO04b	tributaries from the outlet of Gross Reservoir to South	all		Cu. As	H/L
	Boulder Road				
	Mainstem of Coal Creek from Highway 93 to Highway			Aquatic Life	u
COSFBOUIA	36	all		(provisional)	п
COSPBO07b	Coal Creek, HWY 36 to Boulder Creek	all	Aquatic Life	E. coli	Н
COSPBO07b	Coal Creek, HWY 36 to Boulder Creek	Below Confluence of Rock		Se	М
	All tribe to South Doulder Creek and all tribe to Cool	Сгеек			
COSPBO08	Creek	Rock Creek	E. Coli	Se	L
	Mainstem of Boulder Creek, from South Boulder Creek			As. E. coli (Julv to	
COSPBO09	to Coal Creek	all		October)	L/H
	Mainstem of Boulder Creek, from South Boulder Creek	From 107th Street to the		Aquatic Life	
COSPBO09	to Coal Creek	confluence with Coal Creek		(provisional)	L
00000000					
COSPB010	Boulder Creek, Coal Creek to St. Vrain Creek	all		<i>E. coli</i> , pH, As	H/H/L
COSPBO14	Lakes and reservoirs indutary to Boulder Creek from	Barker Reservoir	Mn, Fe(dis), Ag	Cu, As	H/L
	Source to South Doulder Oreek.		Aquatic Life		
COSPBO18	Gross Reservoir	all	Use (Ha Fish		
			Tissue)		
St. Vrain Creek Wa	tershed		_	_	_
COSPSV02b	St. Vrain Creek, RMNP to Hygiene Road	all	Ag	Temperature, As	H/L
		South Saint Vrain Creek			
		from just below its			
COSPSV02b	St. Vrain Creek, RMNP to Hygiene Road	confluence with Red Hill		Cu	н
		Gulch to its confluence with			
		North Saint Vrain Creek.			
COSPSV03	St. Vrain Creek, Hygiene Rd, to S. Platte River	all		E. coli	Н
0000001/04-	Left Hand Creek, from source to blw confluence with				
COSPSV04a	James Creek	(Hwy 72 to James Ck);	IVIN		
	Mainstem of Left Hand Creek, including all tributaries	Lefthand Creek below US			
COSPSV05	and wetlands from Highway 36 to the confluence with	36 to a point above the		Mn, pH	L/H
	St. Vrain Creek.	Lefthand Feeder Canal			
	Mainstem of Left Hand Creek, including all tributaries				
COSPSV05	and wetlands from Highway 36 to the confluence with	all		Cu	M
COSPENDE	St. Vrain Ureek.			Mo	1
COSPSVOR	Tributaries to the St Vrain River	all Dry Creek		NIII So	L M
COSPSV06	Tributaries to the St Vrain River	Boulder Reservoir		E. coli	H
00000007	Boulder Reservoir, Coot Lake, and Left Hand Vallev	Deulder Deserver		A	
00353707	Reservoir	Boulder Reservoir		A5	L

Appendix G. Quality Assurance / Quality Control

Appendix G1 Quality Assurance / Quality Control - Field Replicates

Common Name	Data Provider	Plot_ID	Date	Routine	Replicate	Relative % Difference
Alkalinity (mg/L)	Longmont	M9.5-SV	22-Jan-15	61.21	63.52	4%
Alkalinity (mg/L)	Longmont	M9.5-SV	19-Aug-15	76.11	82.17	7%
Alkalinity (mg/L)	Longmont	M8.9-SV	19-Oct-15	118.20	120.80	2%
Alkalinity (mg/L)	Longmont	M8.4-SV	22-Jul-15	100.90	125.00	19%
Alkalinity (mg/L)	Longmont	M8.2-SV	22-Apr-15	126.00	125.70	0%
Alkalinity (mg/L)	Longmont	M8.2-SV	23-Sep-15	166.00	164.80	1%
Alkalinity (mg/L)	Longmont	T11-LH	20-May-15	50.95	51.01	0%
Alkalinity (mg/L)	Longmont	T-EFF	25-Jun-15	128.00	125.50	2%
Alkalinity (mg/L)	Longmont	T-EFF	16-Dec-15	101.20	105.00	4%
Alkalinity (mg/L)	Longmont	M7-SV	25-Feb-15	132.30	132.20	0%
Alkalinity (mg/L)	Longmont	M6-SV	17-Mar-15	168.80	168.50	0%
Alkalinity (mg/L)	Longmont	M6-SV	17-Nov-15	126.10	125.70	0%
Conductivity (umhos/cm)	Longmont	M9.5-SV	22-Jan-15	232.50	235.40	1%
Conductivity (umhos/cm)	Longmont	M9.5-SV	19-Aug-15	286.55	301.80	5%
Conductivity (umhos/cm)	Longmont	M8.9-SV	19-Oct-15	431.01	434.66	1%
Conductivity (umhos/cm)	Longmont	M8.4-SV	22-Jul-15	389.12	596.08	35%
Conductivity (umhos/cm)	Longmont	M8.2-SV	22-Apr-15	897.39	922.21	3%
Conductivity (umhos/cm)	Longmont	M8.2-SV	23-Sep-15	707.77	717.17	1%
Conductivity (umhos/cm)	Longmont	T11-LH	20-May-15	228.60	231.30	1%
Conductivity (umhos/cm)	Longmont	T-EFF	25-Jun-15	1058.95	1062.30	0%
Conductivity (umhos/cm)	Longmont	T-EFF	16-Dec-15	803.05	814.18	1%
Conductivity (umhos/cm)	Longmont	M7-SV	25-Feb-15	831.04	815.72	2%
Conductivity (umhos/cm)	Longmont	M6-SV	17-Mar-15	977.48	975.98	0%
Conductivity (umhos/cm)	Longmont	M6-SV	17-Nov-15	631.95	649.85	3%
Hardness, Total as CaCO3 (mg/L)	Longmont	M9.5-SV	22-Jan-15	99.00	102.00	3%
Hardness, Total as CaCO3 (mg/L)	Longmont	M9.5-SV	19-Aug-15	110.00	117.00	6%
Hardness, Total as CaCO3 (mg/L)	Longmont	M8.9-SV	19-Oct-15	187.00	191.00	2%
Hardness, Total as CaCO3 (mg/L)	Longmont	M8.4-SV	22-Jul-15	156.00	157.00	1%
Hardness, Total as CaCO3 (mg/L)	Longmont	M8.2-SV	22-Apr-15	344.00	344.00	0%
Hardness, Total as CaCO3 (mg/L)	Longmont	M8.2-SV	23-Sep-15	298.00	292.00	2%
Hardness, Total as CaCO3 (mg/L)	Longmont	111-LH	20-May-15	106.00	104.00	2%
Hardness, Total as CaCO3 (mg/L)	Longmont		25-Jun-15	305.00	300.00	2%
Hardness, Total as CaCO3 (mg/L)	Longmont	I-EFF	16-Dec-15	208.00	210.00	1%
Hardness, Total as CaCO3 (mg/L)	Longmont	MC SV	25-Feb-15	274.00	273.00	0%
Hardness, Total as CaCO3 (mg/L)	Longmont	IVID-SV	17-IVIar-15	383.00	374.00	2%
	Longmont	1010-30	17-1000-15	241.00	245.00	1%
E. coli (MPN/100 mL)	Lafayette	3-00	04-Nov-15	47.00	/8.00	12%
E. coli (MPN/100 mL)	Lafayette	6-00	05-Aug-15	291.00	272.00	1%
E. coli (MPN/100 mL)	Lafayette	7-00	06-May-15	921.00	980.00	1%
E. COII (MPN/100 mL)	Lafayette	5-RC	04-Feb-15	98.00	128.00	6%
E. coli (MPN/100 mL)	Longmont	M9.5-SV	22-Jan-15	7.50	4.10	36%
E. coli (MPN/100 mL)	Longmont	M9.5-SV	19-Aug-15	36.40	40.40	3%
E. coli (MPN/100 mL)	Longmont	M8.9-SV	19-Oct-15	85.70	58.10	9%
E. coli (MPN/100 mL)	Longmont	M8.4-SV	22-Jul-15	157.60	235.90	8%
E. coli (MPN/100 mL)	Longmont	M8.2-SV	22-Apr-15	83.90	98.80	4%
E. COII (MPN/100 mL)	Longmont	M8.2-SV	23-Sep-15	123.40	67.00	14%
E. coli (MPN/100 mL)	Longmont	T11-LH	20-May-15	344.80	290.90	3%
	Longmont		25-JUN-15	84.20	/8.00	2%
E. coli (MPN/100 mL)	Longmont	I-EFF	16-Dec-15	24.30	13.20	21%
E. coli (MPN/100 mL)	Longmont	M7-SV	25-Feb-15	56.30	62.00	2%
E. coli (MPN/100 mL)	Longmont	IVI6-SV	17-IVIar-15	27.90	25.30	3%
	Longmont	1010-30	17-1000-13	410.00	410.00	0%
TSS (mg/L)	Longmont	N9.5-SV	22-Jan-15	2.40	2.80	14%
	Longmont	1019.5-50	19-Aug-15	5.00	4.60	9%
TSS (mg/L)	Longmont	M8.9-SV	19-Oct-15	1.60	1.40	14%
	Longmont	1018.4-50	22-JUI-15	4.00	4.40	9%
ISS (mg/L)	Longmont	M8.2-SV	22-Apr-15	5.40	4.60	17%
ISS (mg/L)	Longmont	M8.2-SV	23-Sep-15	4.60	3.80	21%
TSS (mg/L)	Longmont	T11-LH	20-May-15	206.00	252.00	18%
155 (mg/L)	Longmont	I-EFF 	25-Jun-15	3.60	3.80	5%
TSS (mg/L)	Longmont	I-EFF	16-Dec-15	10.40	10.40	0%
TSS (mg/L)	Longmont	M7-SV	25-Feb-15	8.80	8.40	5%
TSS (mg/L)	Longmont	M6-SV	1/-Mar-15	3.20	4.60	30%
ISS (mg/L)	Longmont	M6-SV	17-Nov-15	/.00	/.00	0%
Nitrogen Ammonia as N (mg/L)	Lafayette	3-CC	04-Nov-15	0.02	0.02	0%
Nitrogen Ammonia as N (mg/L)	Lafayette	6-CC	05-Aug-15	0.06	0.07	14%
Appendix G1						
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Quality Assurance / Quality Control - Field Replicates						

Common Name	Data Provider	Plot_ID	Date	Routine	Replicate	Relative % Difference
Nitrogen Ammonia as N (mg/L)	Longmont	M9.5-SV	22-Jan-15	0.03	0.03	15%
Nitrogen Ammonia as N (mg/L)	Longmont	M9.5-SV	19-Aug-15	0.03	0.03	8%
Nitrogen Ammonia as N (mg/L)	Longmont	M8.9-SV	19-Oct-15	0.03	0.03	4%
Nitrogen Ammonia as N (mg/L)	Longmont	M8.4-SV	22-Jul-15	0.04	0.05	3%
Nitrogen Ammonia as N (mg/L)	Longmont	M8.2-SV	22-Apr-15	0.03	0.04	13%
Nitrogen Ammonia as N (mg/L)	Longmont	M8.2-SV	23-Sep-15	0.04	0.03	30%
Nitrogen Ammonia as N (mg/L)	Longmont	T11-LH	20-May-15	0.25	0.11	131%
Nitrogen Ammonia as N (mg/L)	Longmont	T-EFF	25-Jun-15	0.11	0.12	6%
Nitrogen Ammonia as N (mg/L)	Longmont	T-EFF	16-Dec-15	0.12	0.10	21%
Nitrogen Ammonia as N (mg/L)	Longmont	M7-SV	25-Feb-15	0.05	0.05	4%
Nitrogen Ammonia as N (mg/L)	Longmont	IVI6-SV	17-Mar-15	0.09	0.07	34%
Nitrogen Ammonia as N (mg/L)	Longmont	1010-50	17-NOV-15	0.13	0.07	92%
Nitrogen Nitrate as N (mg/L)	Lafayette	3-00	04-INOV-15	5.90	5.90	0%
Nitrogen Nitrate AS N (ffig/L)	Lafayette	B-CC	05-Aug-15	1.80 E.00	1.80 E 00	0%
Nitrogen Nitrate/Nitrite as N (mg/L)	Lafayette	3-00	04-1000-15	5.90	5.90	0%
Nitrogen Nitrate/Nitrite as N (mg/L)	Larayette		05-Aug-15	1.80	1.80	0%
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	1V19.5-5V MQ E SV	10 Aug 15	0.23	0.25	1270/
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	M9.5-5V	19-Aug-15	0.05	0.01	09/
Nitrogon Nitrate/Nitrite as N (mg/L)	Longmont	MQ 4 SV	22 Jul 15	0.03	0.03	970 19/
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	M8 2-SV	22-Jul-15	0.22	0.22	2%
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	M8 2-SV	22-Apr-15	0.42	0.33	2 %
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	T11-I H	20-May-15	0.42	0.42	2%
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	T_FFF	25-lun-15	12.67	13.14	2 /0 4%
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	T-EFF	16-Dec-15	13.57	13.14	2%
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	M7-SV	25-Eeb-15	2 38	2 46	3%
Nitrogen Nitrate/Nitrite as N (mg/L)	Longmont	M6-SV	17-Mar-15	3.07	3.05	1%
Nitrogen Nitrate/Nitrite as N (mg/l)	Longmont	M6-SV	17-Nov-15	2.54	2.51	1%
Nitrogen Nitrite as N (mg/L)	Lafavette	3-CC	04-Nov-15	0.01	0.01	1%
Nitrogen Nitrite as N (mg/L)	Lafavette	6-CC	05-Aug-15	0.03	0.02	82%
Nitrogen TKN (mg/L)	Lafavette	3-CC	04-Nov-15	0.94	1.10	15%
Nitrogen TKN (mg/L)	Lafavette	6-CC	05-Aug-15	0.05	0.18	71%
Nitrogen TKN (mg/L)	Longmont	M7-SV	25-Feb-15	0.83	0.83	0%
Nitrogen Total (mg/L)	Lafayette	3-CC	04-Nov-15	6.84	7.00	2%
Nitrogen Total (mg/L)	Lafayette	6-CC	05-Aug-15	1.85	1.98	6%
Nitrogen Total Inorganic (mg/L)	Lafayette	3-CC	04-Nov-15	5.92	5.92	0%
Nitrogen Total Inorganic (mg/L)	Lafayette	6-CC	05-Aug-15	1.86	1.87	1%
Phosphorus as P, Tot (mg/L)	Lafayette	3-CC	04-Nov-15	0.06	0.07	21%
Phosphorus as P, Tot (mg/L)	Lafayette	6-CC	05-Aug-15	0.11	0.11	0%
Phosphorus as P, Tot (mg/L)	Longmont	M9.5-SV	22-Jan-15	0.02	0.02	9%
Phosphorus as P, Tot (mg/L)	Longmont	M9.5-SV	19-Aug-15	0.02	0.02	1%
Phosphorus as P, Tot (mg/L)	Longmont	M8.9-SV	19-Oct-15	0.01	0.01	7%
Phosphorus as P, Tot (mg/L)	Longmont	M8.4-SV	22-Jul-15	0.04	0.04	0%
Phosphorus as P, Tot (mg/L)	Longmont	M8.2-SV	22-Apr-15	0.02	0.03	1%
Phosphorus as P, Tot (mg/L)	Longmont	M8.2-SV	23-Sep-15	0.03	0.03	0%
Phosphorus as P, Tot (mg/L)	Longmont	T11-LH	20-May-15	0.42	0.49	13%
Phosphorus as P, Tot (mg/L)	Longmont	T-EFF	25-Jun-15	0.88	0.85	4%
Phosphorus as P, Tot (mg/L)	Longmont	T-EFF	16-Dec-15	3.22	3.28	2%
Phosphorus as P, Tot (mg/L)	Longmont	M7-SV	25-Feb-15	0.61	0.61	0%
Phosphorus as P, Tot (mg/L)	Longmont	M6-SV	17-Mar-15	0.18	0.18	2%
Phosphorus as P, Tot (mg/L)	Longmont	M6-SV	17-Nov-15	0.48	0.48	1%
Arsenic, T (ug/L)	Longmont	N9.5-SV	22-Jan-15	0.00	0.30	Not Calc.
Arsonic, T (ug/L)	Longmont	IVI9.5-5V	19-Aug-15	0.70	1.00	30%
Arsonic, T (ug/L)	Longmont	IVI8.9-5V	19-001-15	0.30	0.50	40%
Arcopic T (ug/L)	Longmont	IVIO.4-5V	22-JUI-15	0.70	0.70	0%
Arsonic, T (ug/L)	Longmont	Ng 2 CV	22-Apt-15	0.50	0.50	0%
Arsenic, $T(ug/L)$	Longmont	T11-I H	20-May-15	4.00	3 00	0 /0 30/_
Arsenic T (ug/L)			20-1viay-15 25-lun-15	4.00	0.40	3 /0 25%
Arsenic, T (ug/L)	Longmont		16-Dec 15	0.30	0.40	50%
Arsenic T ($\mu g/L$)		M7-SV	25-Feb-15	0.30	0.20	20%
Arsenic, T (ug/L)		M6-SV	17-Mar-15	0.50	0.50	0%
Arsenic, T (ug/L)	Longmont	M6-SV	17-Nov-15	0.50	0.60	17%
Note: E. coli evaluated using a log-transfe	ormed procedure to ca	lculate the RPD.				,.

Appendix G2
Quality Assurance / Quality Control - Field Blanks

Common Name	Date	Data Provider	Field Blank Result
Alkalinity (mg/L)	1/20/2015	Longmont	1.49
Alkalinity (mg/L)	2/25/2015	Longmont	1.72
Alkalinity (mg/L)	3/17/2015	Longmont	1.52
Alkalinity (mg/L)	4/21/2015	Longmont	1.60
Alkalinity (mg/L)	5/20/2015	Longmont	1.65
Alkalinity (mg/L)	6/25/2015	Longmont	2.07
Alkalinity (mg/L)	7/21/2015	Longmont	1.89
Alkalinity (mg/L)	8/18/2015	Longmont	1.64
Alkalinity (mg/L)	9/22/2015	Longmont	1.53
Alkalinity (mg/L)	10/20/2015	Longmont	1.69
Alkalinity (mg/L)	11/17/2015	Longmont	1.44
Alkalinity (mg/L)	12/16/2015	Longmont	1.58
Conductivity (umhos/cm)	1/20/2015	Longmont	1.95
Conductivity (umhos/cm)	2/25/2015	Longmont	2.21
Conductivity (umhos/cm)	3/17/2015	Longmont	1.30
Conductivity (umhos/cm)	4/21/2015	Longmont	1.49
Conductivity (umhos/cm)	5/20/2015	Longmont	2.46
Conductivity (umhos/cm)	6/25/2015	Longmont	1.63
Conductivity (umhos/cm)	7/21/2015	Longmont	0.98
Conductivity (umhos/cm)	8/18/2015	Longmont	1.31
Conductivity (umhos/cm)	9/22/2015	Longmont	1.63
Conductivity (umhos/cm)	10/20/2015	Longmont	0.86
Conductivity (umhos/cm)	11/17/2015	Longmont	1.03
Conductivity (umhos/cm)	12/16/2015	Longmont	0.87
Hardness, Total as CaCO3 (mg/L)	1/20/2015	Longmont	Non-detect
Hardness, Total as CaCO3 (mg/L)	2/25/2015	Longmont	1.70
Hardness, Total as CaCO3 (mg/L)	3/17/2015	Longmont	1.20
Hardness, Total as CaCO3 (mg/L)	4/21/2015	Longmont	Non-detect
Hardness, Total as CaCO3 (mg/L)	5/20/2015	Longmont	0.82
Hardness, Total as CaCO3 (mg/L)	6/25/2015	Longmont	0.82
Hardness, Total as CaCO3 (mg/L)	7/21/2015	Longmont	Non-detect
Hardness, Total as CaCO3 (mg/L)	8/18/2015	Longmont	Non-detect
Hardness, Total as CaCO3 (mg/L)	9/22/2015	Longmont	Non-detect
Hardness, Total as CaCO3 (mg/L)	10/20/2015	Longmont	Non-detect
Hardness, Total as CaCO3 (mg/L)	11/17/2015	Longmont	0.82
Hardness, Total as CaCO3 (mg/L)	12/16/2015	Longmont	1.24
E. coli (MPN/100 mL)	2/4/2015	Lafayette	Non-detect
E. coli (MPN/100 mL)	5/6/2015	Lafayette	Non-detect
E. coli (MPN/100 mL)	8/5/2015	Lafayette	Non-detect
E. coli (MPN/100 mL)	11/4/2015	Lafayette	Non-detect
E. coli (MPN/100 mL)	1/20/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	2/25/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	3/17/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	4/21/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	5/20/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	6/25/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	7/21/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	8/18/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	9/22/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	10/20/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	11/17/2015	Longmont	Non-detect
E. coli (MPN/100 mL)	12/16/2015	Longmont	Non-detect

Appendix G2
Quality Assurance / Quality Control - Field Blanks

Common Name	Date	Data Provider	Field Blank Result
TSS (mg/L)	1/20/2015	Longmont	Non-detect
TSS (mg/L)	2/25/2015	Longmont	Non-detect
TSS (mg/L)	3/17/2015	Longmont	0.20
TSS (mg/L)	4/21/2015	Longmont	Non-detect
TSS (mg/L)	5/20/2015	Longmont	Non-detect
TSS (mg/L)	6/25/2015	Longmont	Non-detect
TSS (mg/L)	7/21/2015	Longmont	Non-detect
TSS (mg/L)	8/18/2015	Longmont	Non-detect
TSS (mg/L)	9/22/2015	Longmont	Non-detect
TSS (mg/L)	10/20/2015	Longmont	Non-detect
TSS (mg/L)	11/17/2015	Longmont	Non-detect
TSS (mg/L)	12/16/2015	Longmont	Non-detect
Nitrogen Ammonia as N (mg/L)	8/5/2015	Lafayette	0.04
Nitrogen Ammonia as N (mg/L)	11/4/2015	Lafayette	Non-detect
Nitrogen Ammonia as N (mg/L)	1/20/2015	Longmont	0.02
Nitrogen Ammonia as N (mg/L)	2/25/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	3/17/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	4/21/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	5/20/2015	Longmont	Non-detect
Nitrogen Ammonia as N (mg/L)	6/25/2015	Longmont	Non-detect
Nitrogen Ammonia as N (mg/L)	7/21/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	8/18/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	9/22/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	10/20/2015	Longmont	0.02
Nitrogen Ammonia as N (mg/L)	11/17/2015	Longmont	0.01
Nitrogen Ammonia as N (mg/L)	12/16/2015	Longmont	0.01
Nitrogen Nitrate as N (mg/L)	8/5/2015	Lafayette	Non-detect
Nitrogen Nitrate as N (mg/L)	11/4/2015	Lafayette	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	8/5/2015	Lafayette	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	11/4/2015	Lafayette	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	1/20/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	2/25/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	3/17/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	4/21/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	5/20/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	6/25/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	7/21/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	8/18/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	9/22/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	10/20/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	11/17/2015	Longmont	Non-detect
Nitrogen Nitrate/Nitrite as N (mg/L)	12/16/2015	Longmont	Non-detect
Nitrogen Nitrite as N (mg/L)	8/5/2015	Lafayette	Non-detect
Nitrogen Nitrite as N (mg/L)	11/4/2015	Lafayette	Non-detect
Nitrogen TKN (mg/L)	8/5/2015	Lafayette	0.07
Nitrogen TKN (mg/L)	11/4/2015	Lafayette	Non-detect
Nitrogen TKN (mg/L)	1/20/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	2/25/2015	Longmont	0.36
Nitrogen TKN (mg/L)	3/17/2015	Longmont	0.19
Nitrogen TKN (mg/L)	4/21/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	5/20/2015	Longmont	0.29
Nitrogen TKN (mg/L)	6/25/2015	Longmont	Non-detect

Appendix G2	
Quality Assurance / Quality Control - F	[;] ield Blanks

Common Name	Date	Data Provider	Field Blank Result
Nitrogen TKN (mg/L)	7/21/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	8/18/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	9/22/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	10/20/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	11/17/2015	Longmont	Non-detect
Nitrogen TKN (mg/L)	12/16/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	8/5/2015	City of Boulder	Non-detect
Phosphorus as P, Tot (mg/L)	11/4/2015	City of Boulder	Non-detect
Phosphorus as P, Tot (mg/L)	1/20/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	2/25/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	3/17/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	4/21/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	5/20/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	6/25/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	7/21/2015	Longmont	0.01
Phosphorus as P, Tot (mg/L)	8/18/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	9/22/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	10/20/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	11/17/2015	Longmont	Non-detect
Phosphorus as P, Tot (mg/L)	12/16/2015	Longmont	Non-detect
Arsenic, T (ug/L)	1/20/2015	Longmont	Non-detect
Arsenic, T (ug/L)	2/25/2015	Longmont	Non-detect
Arsenic, T (ug/L)	3/17/2015	Longmont	Non-detect
Arsenic, T (ug/L)	4/21/2015	Longmont	Non-detect
Arsenic, T (ug/L)	5/20/2015	Longmont	Non-detect
Arsenic, T (ug/L)	6/25/2015	Longmont	Non-detect
Arsenic, T (ug/L)	7/21/2015	Longmont	Non-detect
Arsenic, T (ug/L)	8/18/2015	Longmont	Non-detect
Arsenic, T (ug/L)	9/22/2015	Longmont	Non-detect
Arsenic, T (ug/L)	10/20/2015	Longmont	Non-detect
Arsenic, T (ug/L)	11/17/2015	Longmont Non-detect	
Arsenic, T (ug/L)	12/16/2015	Longmont	Non-detect

Appendix H. List of Stream Restoration Projects in Response to 2013 Flood

Appendix H Stream Rehabilitation/Restoration Project List

Watershed	DSR	Project	Organization Implementing	Estimated Construction Start Date*	Organization Completing 30% Design	Estimated 30% Design Completion Date*
Fourmile	Fourmile Creek	Project 2- Ingram Gulch	Fourmile Watershed Coalition	Nov-2016	Fourmile Watershed Coalition	Jun-2016
Fourmile	Fourmile Creek	Project 3- Wallstreet	Fourmile Watershed Coalition	Dec-2016	Boulder County	Jun-2016
Fourmile	N/A	Upper Fourmile	Boulder County	Dec-2016	Boulder County	Jun-2016
Fourmile	Fourmile Creek	Project 1- Poorman	Boulder County	Dec-2016	Boulder County	Jul-2016
Fourmile	Fourmile Creek	Project 2- Ingram Gulch (Gold Run portion)	Boulder County	Jan-2017	Boulder County	Jul-2016
Fourmile	Fire Station	Project 1- Fire Station	Fourmile Fire District	Nov-2016	Fourmile Fire District	16-Jun
Fourmile	N/A	Logan Mill Reveg	Fourmile Watershed Coalition	Nov-2017	Fourmile Watershed Coalition	16-Jul
Fourmile	N/A	Fourmile Creek Bank Protection	Fourmile Watershed Coalition	Oct-2016	Fourmile Watershed Coalition	16-Aug
Fourmile	N/A	Lower Fourmile- Black Swan	Fourmile Watershed Coalition	2017	Boulder County	Jul-2016
Fourmile Canyon Creek	Wagon Wheel Gap Road	Project 1- Wagon Wheel Gap Road	Boulder County	Dec-2016	Boulder County	May-2016
Left Hand	James Creek	Project 1- Lower James Creek	Boulder County	Nov-2016	LWOG	Jun-2016
Left Hand	James Creek	Project 2- Mill Street	Boulder County	Nov-2016	LWOG	Jun-2016
Left Hand	James Creek	Project 3- Fike	Boulder County	Nov-2016	Boulder County	Jun-2016
Left Hand	James Creek	Project 4- Blowout	Boulder County	Nov-2016	Boulder County	Jun-2016
Left Hand	Plains	Project 9- Beilins Hock	Boulder County	Sep 2016-January 2017	Boulder County	July - September 2016
Left Hand	N/A	James Creek Reach 17	Boulder County	Nov-2016	Boulder County	Jun-2016
Left Hand	N/A	Geer Canvon	Boulder County	Not provided	Boulder County	Not provided
Left Hand	N/A	Left Hand Creek Revegetation	Boulder County	Mar-2017	Boulder County	Sep-2016
Left Hand	N/A	Brewbaker	Boulder County	Not provided	Boulder County	Not provided
Left Hand	Plains	Project 1- N. 41st St Bridge	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 2- Haystack Golf Course	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 3- N.63rd Street Bridge	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 4- Nimbus Bridge	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 5- N. 73rd Street	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 6- Deutschteig	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 7- N. 81st St Bridge	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Plains	Project 8- Airport Rd Bridge	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Streamcrest	Project 1- Ranch	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Streamcrest	Project 2- Streamcrest	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Streamcrest	Project 3- Lefthand CD	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Left Hand	Upper Left Hand Creek	Upper Left Hand Creek	LWOG	Sep 2016-January 2017	LWOG	July - September 2016
Little Thompson	Reach 1-4	Project 3- North 83rd St. Bridge	LTWC	Oct-2016	LTWC	Sep-2016
Little Thompson	Reach 1-4	Project 4- Parrish Ranch	LTWC	unknown yet	LTWC	unknown yet
St.Vrain	S. St. Vrain- Reach 4B	Project 1- S. St. Vrain 1 (Hall)	Boulder County	Jan-17	Boulder County	Sep-2016
St.Vrain	S. St. Vrain- Reach 4B	Project 2- S. St. Vrain 2 (Triangle)	Boulder County	Jan-17	Boulder County	Sep-2016
St.Vrain	Breaches- Reach 3	Project 1- Breaches	Boulder County	Jan-17	Boulder County	Sep-2016
St.Vrain	N/A	Hall	Boulder County	Not provided	Boulder County	Sep-2016
St.Vrain	S. St. Vrain- Reach 4B	Project 3- S. St. Vrain 3	Lyons	Nov-16	Lyons	Sep-2016
St.Vrain	McConnell- Reach 4C	Project 1- McConnell	Lyons	undetermined	Lyons	undetermined
St.Vrain	Apple Valley- Reach 4A	Project 1- Apple Valley	SVCC	Aug-2017	SVCC	Dec-2016

*Design and construction dates are estimates and are subject to change.

Note: This list is all of the stream restoration/rehabilitation projects that are funded under the NRCS Emergency Watershed Protection program, Phase 2. There are three other projects in Fourmile (lower Fourmile bank stabilization, Logan Mill revegetation, upper portion of lower Fourmile stream rehabilitation) and two in Left Hand (Airport Road, 63rd Street)