### Data Transmittal Report



**To:** Upper Clear Creek Watershed Association (UCCWA)

CC:

From: Mike Crouse

Date: 5-January-2015

**Re:** Stream Gaging Report 2014 – Clear Creek at Kermitts (Station CC-40)

Clear Creek Consultants (CCC) has been retained by UCCWA to operate and maintain the stream flow gaging station on Clear Creek above Johnson Gulch near Kermitts (Station CC-40). The UCCWA and others utilize streamflow data from this gage to assess water quality conditions in Clear Creek. From October 1994 to October 2005, the gage was operated by the U.S. Geological Survey and records were published in annual reports. CCC has operated the CC-40 gage and published the flow data since 2006. This report presents data collected at the gage from October 2013 to October 2014.

#### **Data Collection Activities**

A continuous recording Campbell Scientific data logger was used to measure a submersible pressure transducer to develop the stage height record for CC-40. The 15-minute average stream stage height was recorded during ice-free periods extending from approximately March to November. The transducer was calibrated using an electronic tape gage referenced to the base of the gage enclosure box. An outside staff gage mounted in the stream is also utilized as a stream stage height reference.

Continuous recording water quality probes were also operated at the CC-40 gage. A combination conductivity/temperature probe recorded in-stream temperature and conductivity (dissolved solids) conditions related to salt loading in Clear Creek (see attached data plot). An in-stream turbidity probe was used to monitor stream turbidity conditions related to suspended sediment loading (see attached data plot). These water quality parameters are recorded by the data logger as 15-minute average and daily maximum values. A tipping bucket rainfall intensity gauge was also operated at the CC-40 gage.

Operation of the CC-40 streamgage requires the development and maintenance of a discharge rating to define the relationship between stream stage height and discharge. Direct measurements of streamflow using a current meter are required each year to document this relationship at various seasonal flow rates. These measurements are compared to the discharge rating and, if necessary, shift adjustments are applied to maintain accuracy. Data collection methods and procedures used at the CC-40 streamgage follow standard USGS guidelines and protocols (USGS, 1982 – Measurement and Computation of Streamflow, Volumes 1 and 2).

Five direct current meter discharge measurements were taken in 2014 to maintain the discharge rating. Measurement results are available upon request. These measurements are plotted on log-normal distribution using a computer program for comparison to the existing rating. Each year the discharge

rating is evaluated to assess the accuracy of the rating in comparison to the direct measurements. Shifts are applied when appropriate to maintain accuracy.

The low-flow and medium-flow ratings used in 2014 are designated as Rating No. 8. Three separate rating curves were developed and utilized for the CC-40 gage representing low flow (20-70 cfs), medium flow (70-300 cfs), and high flow (300-3,000 cfs). The streamflow rating table for CC-40 is attached.

The stage height record was compiled for review, plotted, and any necessary corrections were made based on field calibration measurements. The final stage height record was then imported into an Access database program for the computation of discharge and archiving. Water quality parameter data is also maintained in the Access database for CC-40. This data is available upon request.

The discharge rating equations were applied to the corrected stage height data for the computation of discharge. A stream flow calculator program was used within the Access database framework to compute the 15-minute discharge. Statistical output summaries from the database program include mean daily flow; mean hourly flow; and maximum and minimum instantaneous flow by month.

#### **Results**

The gage was audited approximately monthly during ice-free periods to check calibration against the gage reference points and make any necessary adjustments to maintain accuracy. Routine maintenance of the gage included removal of silt accumulated in the stilling well and instrument maintenance. The flow results are posted in real-time on the Clear Creek Watershed Foundation Web Site for rafters and other water users to obtain current stream flow conditions (<a href="https://www.clearcreekwater.org-flow.html">www.clearcreekwater.org-flow.html</a>).

The CC-40 mean daily discharge results for October 2013 to October 2014 are presented in the attached table, along with the flow hydrograph. The gage is not operated over the winter months (November-March) because the rating is not accurate during ice-cover conditions which occur each year at CC-40. Significant channel ice accumulation renders the flow rating useless during the winter. When possible, wintertime flows are estimated based on Clear Creek flows at the Golden USGS gage (CC-60) adjusted using the average flow ratio for the estimated period.

Minimum Clear Creek flows occur in winter with maximum flows typically in June. Minimum flows typically range from 25 to 40 cfs at CC-40. Mean daily flows were above average in April and near average in May 2014. Peak snowmelt flows were above average in June and flow remained above average in July 2014. Flow was near average from August to October 2014.

Data graphs for 2014 specific conductance, temperature, and turbidity at CC-40 are attached. Daily precipitation data summary for the 2006-2014 monitoring period is also tabulated.

## CLEAR CREEK ABOVE JOHNSON GULCH NEAR KERMITTS WY 2014

Provisional Data - Subject to Revision

LOCATION -- 0.5 mi upstream Johnson Gulch

LATITUDE 39 44'47" LONGITUDE 105 26'08"

GAGE DRAINAGE AREA -- 267 sq-mi

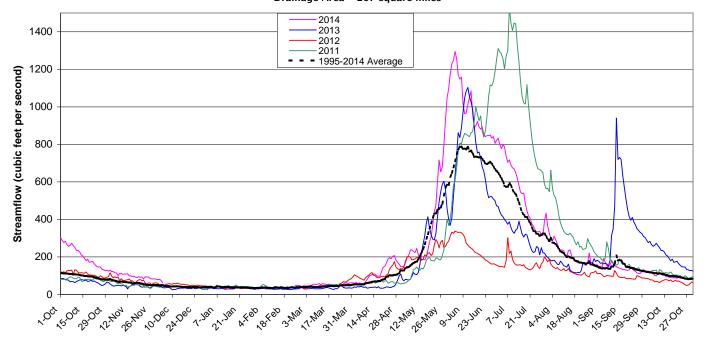
Clear Creek Consultants

GAGE ELEVATION -- 7210 ft-msl

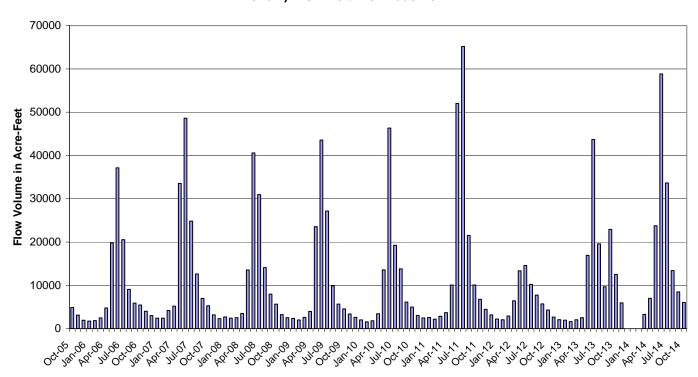
PERIOD OF RECORD -- October 1994 to Current Year

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14 211 100 e NA NA NA NA 55 e 109 188 1084 581 234 143 15 206 95 e NA NA NA NA 55 e 107 185 967 545 237 140 166 193 98 e NA NA NA NA 55 e 98.4 184 891 537 204 137 17 180 92 e NA NA NA NA 55 e 96.8 201 899 541 190 132 18 188 90 e NA NA NA NA 51 e 96.8 201 899 541 190 132 18 188 90 e NA NA NA NA 51 e 96.8 201 899 541 190 132 19 171 95 e NA NA NA NA 51 e 98.3 237 923 483 179 132 20 174 91 e NA NA NA 51 e 122 278 892 446 173 131 20 174 91 e NA NA NA 51 e 13 e 14 122 278 892 446 173 131 22 164 83 e NA NA NA 51 e 14 122 278 892 446 173 131 22 164 83 e NA NA NA 51 e 19 168 441 855 377 168 144 23 155 94 e NA NA NA 51 e 19 168 441 855 377 168 144 23 155 94 e NA NA NA 52 e 13 e 14 148 93 e NA NA NA 52 e 14 148 93 e NA NA NA 52 e 13 e 14 148 93 e NA NA NA 52 e 14 148 93 e NA NA NA 49 e 52 e 19 176 848 333 155 122 12 14 148 93 e NA NA NA 49 e 52 e 19 176 848 333 155 122 12 14 14 14 14 14 14 14 14 14 14 14 14 14											0.00			102
15 206 95 e NA NA NA NA 55 e 107 185 967 545 237 140  16 193 98 e NA NA NA NA 53 e 98.4 184 891 537 204 137  17 180 92 e NA NA NA NA 55 e 96.8 201 899 541 190 132  18 188 90 e NA NA NA NA 53 e 98.3 237 923 483 179 132  19 171 95 e NA NA NA NA 51.4 122 278 892 446 173 131  20 174 91 e NA NA NA 50.3 144 307 881 419 170 129  21 177 93 e NA NA NA NA 51.7 151 370 894 407 165 131  22 184 83 e NA NA NA S1.7 151 370 894 407 165 131  23 155 94 e NA NA NA S0.0 188 473 842 365 169 136  24 148 93 e NA NA NA NA 52.3 196 599 846 345 160 128  25 146 93 e NA NA NA 49 e 52.0 191 716 848 333 155 122  26 146 87 e NA NA NA 48 e 60.0 207 681 834 336 220 112  28 132 83 e NA NA NA 48 e 60.0 207 681 834 336 220 112  28 132 83 e NA NA NA 60.3 161 1046 822 392 161 133  31 125 NA NA NA NA 60.3 161 1046 822 392 161 133  31 125 NA NA NA NA S3 18 18 794 842 318 170 112  20 TAL 6319 2997 e NA NA NA NA 62 207 1098 1296 833 365 191  INTANTANEOUS MEASUREMENTS  AXFLOW 311 8 NA NA NA NA NA A A S2.3 45.6 140 755 298 145 107  ATE 1-Oct 15 19-Mar 4-Apr 2-May 29-Jun 129-Jul 1-Aug 6-9-Sep 10 1-Mar 14-Apr 2-May 29-Jun 129-Jul 25-Aug 28-Sep 10 1-Mar 14-Apr 2-May 29-Jun 29-Jun 25-Aug 28-Sep 10 1-Mar 14-Apr 2-M														102
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17 180 92 e NA NA NA S5 e 96.8 201 899 541 190 132 18 188 90 e NA NA NA S5 e 96.8 233 923 483 179 132 19 171 95 e NA NA NA S5 1.4 122 278 892 446 173 131 20 174 91 e NA NA NA 51.4 122 278 892 446 173 131 20 174 91 e NA NA NA S50.3 144 307 881 419 170 129  21 177 93 e NA NA NA NA 51.7 151 370 894 407 165 131 22 164 83 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 23 155 94 e NA NA NA S5 1.9 168 441 855 377 168 144 25 146 93 e NA NA NA S5 1.9 168 441 855 377 168 144 25 146 87 e NA NA NA S5 1.9 176 848 333 155 122  26 146 87 e NA NA A 48 e 60.0 207 681 834 336 220 112 28 132 83 e NA NA A 7 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 47 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA 62 207 1098 433 157  OTAL 6319 2997 e NA NA NA NA 55 3 118 387 989 547 218 142 AX 304 129 e NA NA NA NA 55 81 18 80 5 313 155 112  C-FT 12,534 5,944 e NA NA NA NA 62 207 1098 1296 833 365 191  INSTANTANEOUS MEASUREMENTS  AX FLOW 311	15	206	95 e	NA.	NA	NA	55 e	107	185	967	545	237	140	96.4
18	16	193	98 e	NA	NA	NA	53 e	98.4	184	891	537	204	137	90.
19 171 95 e NA NA NA S1.4 122 278 892 446 173 131 20 174 91 e NA NA NA S0.3 144 307 881 419 170 129 21 177 93 e NA NA NA S0.3 144 307 881 419 170 129 21 177 93 e NA NA NA S1.7 151 370 894 407 165 131 22 164 83 e NA NA NA NA S1.9 168 441 855 377 168 144 23 165 94 e NA NA NA NA S0.0 188 473 842 365 169 136 24 148 93 e NA NA NA NA S0.0 188 473 842 365 169 136 24 148 93 e NA NA NA NA S2.3 196 599 846 345 160 128 25 146 93 e NA NA NA 49 e 52.0 191 716 848 333 155 122 26 146 87 e NA NA NA 48 e 60.0 207 681 834 336 220 112 28 132 83 e NA NA 47 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 59.0 173 925 805 313 170 124 30 129 81 e NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62 207 1098 433 157 150 150 150 150 150 150 150 150 150 150	17	180	92 e	NA.	NA	NA	55 e	96.8	201	899	541	190	132	90.
20	18	188	90 e	NA	NA	NA	53 e	98.3	237	923	483	179	132	88.8
20	19	171	95 e	NA			51.4	122	278	892	446	173	131	88.
22 164 83 e NA NA NA 51.9 168 441 855 377 168 144 23 165 94 e NA NA NA 50.0 188 473 842 365 169 136 24 148 93 e NA NA NA 50.0 188 473 842 365 169 136 24 148 93 e NA NA NA 50.0 188 473 842 365 169 136 25 146 93 e NA NA NA 49 e 52.0 191 716 848 333 155 122 26 146 87 e NA NA 49 e 52.0 191 716 848 333 155 122 28 132 83 e NA NA 48 e 60.0 207 681 834 336 220 112 28 132 83 e NA NA 47 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 59.0 173 925 805 313 170 124 29 127 84 e NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62.2 1098 433 157 25 25 25 26 26 26 26 26 26 26 26 26 26 26 26 26	20		91 e	NA			50.3			881	419			88.
22 164 83 e NA NA NA 51.9 168 441 855 377 168 144 23 155 94 e NA NA NA 50.0 188 473 842 365 169 136 24 148 93 e NA NA NA S0.0 188 473 842 365 169 136 24 148 93 e NA NA NA S0.0 188 473 842 365 169 136 25 146 93 e NA NA NA S2.3 196 599 846 345 160 128 25 146 93 e NA NA A9 e 52.0 191 716 848 333 155 122 26 146 87 e NA NA A9 e 52.0 191 716 848 333 155 122 28 132 83 e NA NA 48 e 60.0 207 681 834 336 220 112 28 132 83 e NA NA 47 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 59.0 173 925 805 313 170 124 29 127 84 e NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62.2 1098 433 157 31 125 NA NA NA 62.2 1098 433 157 31 125 NA NA NA 62.2 1098 433 157 31 125 NA NA NA 62.2 1098 433 157 31 125 NA NA NA 62 207 1098 1296 833 365 191 11 12 12 12 12 12 12 12 12 12 12 12 12	21	177	03.0	NA	NA	NA	51.7	151	370	804	407	165	131	87.1
23														90.6
24         148         93 e         NA         NA         NA         52.3         196         599         846         345         160         128           25         146         93 e         NA         NA         49 e         52.0         191         716         848         333         155         122           26         146         87 e         NA         NA         48 e         55.5         204         654         850         333         170         115           27         133         83 e         NA         NA         48 e         60.0         207         681         834         336         220         112           28         132         83 e         NA         NA         47 e         61.1         183         794         842         318         170         112           29         127         84 e         NA         NA         59.0         173         925         805         313         170         112           30         129         81 e         NA         NA         60.3         161         1046         822         392         161         133           31         125<														88.0
25 146 93 e NA NA 49 e 52.0 191 716 848 333 155 122  26 146 87 e NA NA 48 e 55.5 204 654 850 333 170 115  27 133 83 e NA NA 48 e 60.0 207 681 834 336 220 112  28 132 83 e NA NA 47 e 61.1 183 794 842 318 170 112  29 127 84 e NA NA 59.0 173 925 805 313 170 124  30 129 81 e NA NA 60.3 161 1046 822 392 161 133  31 125 NA NA 62.2 1098 433 157  OTAL 6319 2997 e NA NA NA 1662 3529 11982 29656 16961 6765 4268 16AN 204 100 e NA NA NA 53 118 387 989 547 218 142  INSTANTANEOUS MEASUREMENTS  AX FLOW 311														90.0
26 146 87 e NA NA 48 e 55.5 204 654 850 333 170 115 27 133 83 e NA NA 48 e 60.0 207 681 834 336 220 112 28 132 83 e NA NA 47 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 59.0 173 925 805 313 170 124 30 129 81 e NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62.2 1098 433 157  OTAL 6319 2997 e NA NA NA 1652 3529 11982 29656 16961 6765 4268 IEAN 204 100 e NA NA NA 53 118 387 989 547 218 142 IAX 304 129 e NA NA NA 62 207 1098 1296 833 365 191 IIN 125 81 e NA NA NA 62 207 1098 1296 833 365 191 IIN 125 81 e NA NA NA NA 45 58 148 805 313 155 C-FT 12,534 5,944 e NA NA NA NA 3,276 7,001 23,766 58,822 33,642 13,418 8,466  INSTANTANEOUS MEASUREMENTS  AX FLOW 311 8 38-7 989 141 209  INSTANTANEOUS MEASUREMENTS  AX FLOW 311 209 115 27-Apr 31-May 4-Jun 1-Jul 1-Aug 5-Sep 1N FLOW 115 42.3 45.6 140 755 298 145 107  ATE 31-Oct 19-Mar 4-Apr 2-May 29-Jun 29-Jul 25-Aug 28-Sep														
27 133 83 e NA NA 48 e 60.0 207 681 834 336 220 112 28 132 83 e NA NA 47 e 61.1 183 794 842 318 170 112 29 127 84 e NA NA 59.0 173 925 805 313 170 124 30 129 81 e NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62.2 1098 433 157  OTAL 6319 2997 e NA NA NA 1652 3529 11982 29656 16961 6765 4268 IEAN 204 100 e NA NA NA 53 118 387 989 547 218 142 AX 304 129 e NA NA NA 62 207 1098 1296 833 365 191 IIN 125 81 e NA NA NA 62 207 1098 1296 833 365 191 IIN 125 81 e NA NA NA 45 58 148 805 313 155 112 C-FT 12,534 5,944 e NA NA NA NA 3,276 7,001 23,766 58,822 33,642 13,418 8,466  INSTANTANEOUS MEASUREMENTS  AX FLOW 311 69.8 215 1227 1420 901 411 209 ATE 1-oct 31-Mar 27-Apr 31-May 4-Jun 1-Jul 1-Aug 5-Sep IN FLOW 115 42.3 45.6 140 755 298 145 107 ATE 31-Oct 19-Mar 4-Apr 2-May 29-Jun 29-Jul 25-Aug 28-Sep	25	146	93 e	NA	NA	49 e	52.0	191	/16	040	333	100	122	89.2
28														87.6
29 127 84 e NA NA S 59.0 173 925 805 313 170 124 30 129 81 e NA NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62.2 1098 433 157  OTAL 6319 2997 e NA NA NA 1652 3529 11982 29656 16961 6765 4268 EAN 204 100 e NA NA NA 53 118 387 989 547 218 142 AX 304 129 e NA NA NA 62 207 1098 1296 833 365 191 IN 125 81 e NA NA NA 45 58 148 805 313 155 112 C-FT 12,534 5,944 e NA NA NA NA 3,276 7,001 23,766 58,822 33,642 13,418 8,466  INSTANTANEOUS MEASUREMENTS  AX FLOW 311 69.8 215 1227 1420 901 411 209 ATE 1-Oct 1 31-Mar 27-Apr 31-May 4-Jun 1-Jul 1-Aug 5-Sep 1N FLOW 115 42.3 45.6 140 755 298 145 107 ATE 31-Oct 1 19-Mar 4-Apr 2-May 29-Jun 29-Jul 25-Aug 28-Sep														87.
30 129 81 e NA NA NA 60.3 161 1046 822 392 161 133 31 125 NA NA NA 62.2 1098 433 157  OTAL 6319 2997 e NA NA NA NA 1652 3529 11982 29656 16961 6765 4268 EAN 204 100 e NA NA NA S3 118 387 989 547 218 142 AX 304 129 e NA NA NA NA 62 207 1098 1296 833 365 191 IN 125 81 e NA NA NA NA 45 58 148 805 313 155 112 C-FT 12,534 5,944 e NA NA NA NA NA 3,276 7,001 23,766 58,822 33,642 13,418 8,466  INSTANTANEOUS MEASUREMENTS  AX FLOW 311 69.8 215 1227 1420 901 411 209 ATE 1-Oct 31-Mar 27-Apr 31-May 4-Jun 1-Jul 1-Aug 5-Sep IN FLOW 115 42.3 45.6 140 755 298 145 107 19-Mar 4-Apr 2-May 29-Jun 29-Jul 25-Aug 28-Sep				NA		47 e			794					80.
31   125   NA				NA	NA									84.6
OTAL 6319 2997 e NA NA NA 1652 3529 11982 29656 16961 6765 4268  EAN 204 100 e NA NA NA 53 118 387 989 547 218 142  AX 304 129 e NA NA NA 62 207 1098 1296 833 365 191  IN 125 81 e NA NA NA 45 58 148 805 313 155 112  C-FT 12,534 5,944 e NA NA NA NA 3,276 7,001 23,766 58,822 33,642 13,418 8,466   INSTANTANEOUS MEASUREMENTS  AX FLOW 311 69.8 215 1227 1420 901 411 209  ATE 1-Oct 31-Mar 27-Apr 31-May 4-Jun 1-Jul 1-Aug 5-Sep IN FLOW 115 42.3 45.6 140 755 298 145 107  ATE 31-Oct 19-Mar 4-Apr 2-May 29-Jun 29-Jul 25-Aug 28-Sep			81 e	NA	NA			161		822			133	86.
EAN         204         100 e         NA         NA         NA         53         118         387         989         547         218         142           AX         304         129 e         NA         NA         NA         NA         62         207         1098         1296         833         365         191           IIN         125         81 e         NA         NA         NA         45         58         148         805         313         155         112           C-FT         12,534         5,944 e         NA         NA         NA         3,276         7,001         23,766         58,822         33,642         13,418         8,466           INSTANTANEOUS MEASUREMENTS           AX FLOW         311         69,8         215         1227         1420         901         411         209           ATE         1-Oct         31-Mar         27-Apr         31-May         4-Jun         1-Jul         1-Aug         5-Sep           IN FLOW         115         42.3         45.6         140         755         298         145         107           ATE         31-Oct         93-Mar         4-Apr	31	125		NA	NA		62.2		1098		433	157		84.7
EAN 204 100 e NA NA NA 53 118 387 989 547 218 142  AX 304 129 e NA NA NA NA 62 207 1098 1296 833 365 191  IN 125 81 e NA NA NA 45 58 148 805 313 155 112  C-FT 12,534 5,944 e NA NA NA NA 3,276 7,001 23,766 58,822 33,642 13,418 8,466  INSTANTANEOUS MEASUREMENTS  69.8 215 1227 1420 901 411 209  ATE 1-Oct	OTAL	6319	2997 e	NA	NA	NA	1652	3529	11982	29656	16961	6765	4268	3048
AX   304   129 e NA NA NA NA 62   207   1098   1296   833   365   191														98
N														124
Sep														80
AX FLOW     311     69.8     215     1227     1420     901     411     209       ATE     1-Oct     31-Mar     27-Apr     31-May     4-Jun     1-Jul     1-Aug     5-Sep       IN FLOW     115     42.3     45.6     140     755     298     145     107       ATE     31-Oct     19-Mar     4-Apr     2-May     29-Jun     29-Jul     25-Aug     28-Sep														6,04
AX FLOW     311     69.8     215     1227     1420     901     411     209       ATE     1-Oct     31-Mar     27-Apr     31-May     4-Jun     1-Jul     1-Aug     5-Sep       IN FLOW     115     42.3     45.6     140     755     298     145     107       ATE     31-Oct     19-Mar     4-Apr     2-May     29-Jun     29-Jul     25-Aug     28-Sep			1										- 4	
ATE     1-Oct     31-Mar     27-Apr     31-May     4-Jun     1-Jul     1-Aug     5-Sep       IN FLOW     115     42.3     45.6     140     755     298     145     107       ATE     31-Oct     19-Mar     4-Apr     2-May     29-Jun     29-Jul     25-Aug     28-Sep						INSTAN			REMENTS					
IN FLOW     115     42.3     45.6     140     755     298     145     107       ATE     31-Oct     19-Mar     4-Apr     2-May     29-Jun     29-Jul     25-Aug     28-Sep														13
ATE 31-Oct 19-Mar 4-Apr 2-May 29-Jul 25-Aug 28-Sep			4			-								10-00
						-						-		66.
= estimated during ice affected period using average ratio of CC-60 flow	ATE	31-Oct					19-Mar	4-Apr	2-May	29-Jun	29-Jul	25-Aug	28-Sep	28-00
	= estimated	during ice a	ffected period u	using average	ratio of CC-	60 flow								
= provisional data subject to revision NA = not available	= provisiona	al data subje	ect to revision	NA	= not availa	able								

#### Clear Creek Mean Daily Streamflow by Water Year above Johnson Gulch near Kermitts (CC-40) Drainage Area = 267 square miles



#### Clear Creek above Johnson Gulch near Kermitts (Station CC-40) Monthly Flow Volume: 2006-2014

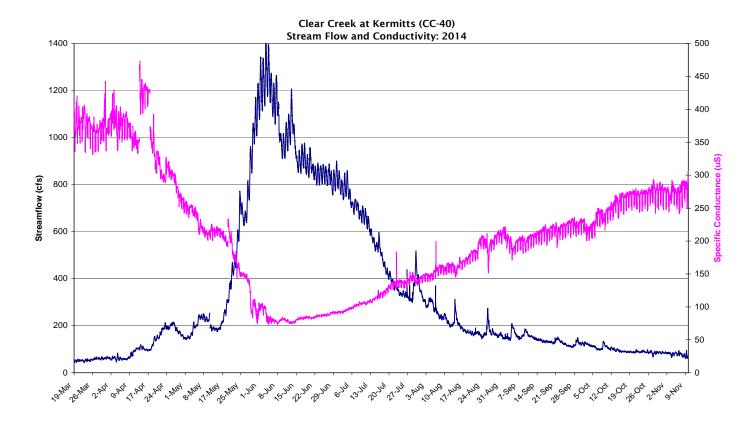


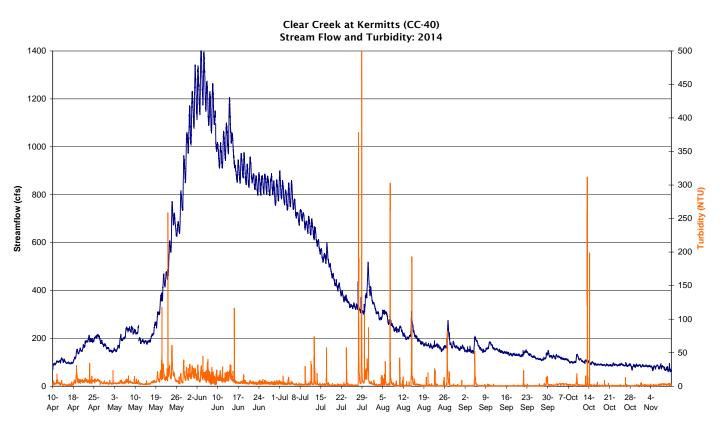
	EEK NEAR KERMITTS
PROVISIONAL ST	REAMFLOW RATING TABLE
STAFF GAGE HEI	GHT STREAMFLOW
(feet)	(cubic feet per second)
3.3	24
3.4	32
3.5	42
3.6	56
3.7	78
3.8	91
3.9	106
4.0	123
4.1	141
4.2	163
4.3	186
4.4	213
4.5	242
4.6	275
4.7	326
4.8	351
4.9	377
5.0	405
5.1	434
5.2	465
5.3	497
5.4	530
5.5	565
5.6	602
5.7	641
5.8	681
5.9	723
6.0	767
6.1	813
6.2	861
6.3	911
6.4	962
6.5	1016
6.6	1072
6.7	1131
6.8	1191
6.9	1254
7.0	1319
7.1	1386
7.2	1456
7.3	1529
7.4	1604
1.7	1007

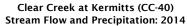
Streamgage sponsored by the Upper Clear Creek Watershed Association

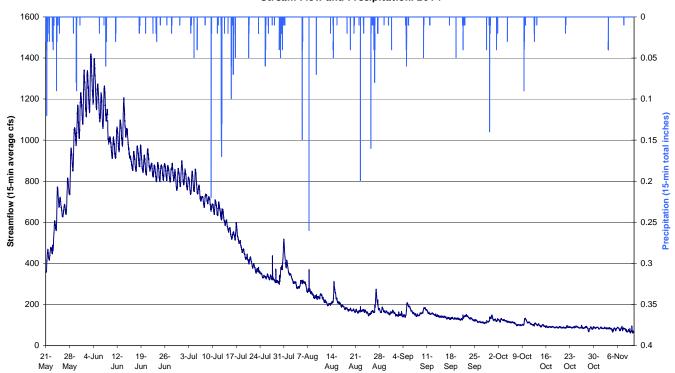
Operated by:

Clear Creek Consultants

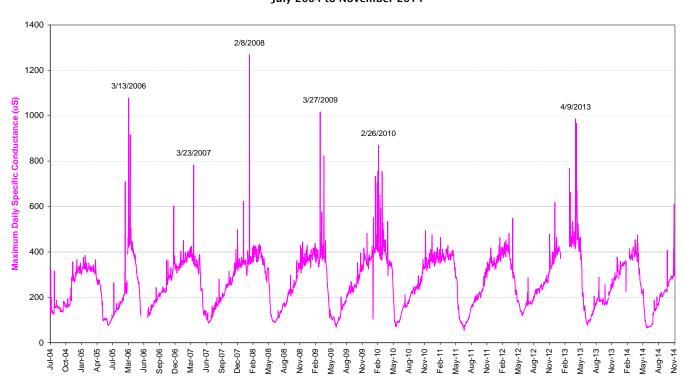








#### Clear Creek at Kermitts (CC-4) Maximum Specific Conductance July 2004 to November 2014



# DAILY RAINFALL RECORDS (inches) CLEAR CREEK STATION CC-4 (above Johnson Gulch) Lat 39 44' 46.27" N Long 105 26' 9.19" W Elev. 7220 ft-MSL YEARS: 2013, 2014, 2015

DATE	2013						2014								20	15						
	MAY	JUN	JUL	AUG	SEP	OCT	MAY	JUN	JUL	AUG	SEP	ОСТ	MAY	JUN	JUL	AUG	SEP	ОСТ				
1	NA	0.00	0.00	0.15	0.03	0.00	NA	0.00	0.00	0.00	0.00	0.12			-							
2	NA	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00										
3	NA	0.00	0.12	0.10	0.00	0.02	NA	0.00	0.04	0.00	0.00	0.00										
4	NA	0.25	0.11	0.00	0.00	0.44	NA	0.00	0.08	0.00	0.06	0.03										
5	NA	0.00	0.11	0.00	0.00	0.00	NA	0.00	0.09	0.34	0.48	0.00										
6	NA	0.00	0.20	0.06	0.10	0.00	NA	0.03	0.00	0.00	0.00	0.02										
7	NA	0.00	0.07	0.00	0.00	0.00	NA	0.01	0.01	0.26	0.00	0.00										
8	NA	0.00	0.07	0.00	0.05	0.00	NA	0.17	0.00	0.00	0.00	0.00										
9	NA	0.01	0.00	0.01	1.67	0.00	NA	0.00	0.30	0.12	0.00	0.43										
10	NA	0.00	0.27	0.01	1.08	0.19	NA	0.00	0.00	0.00	0.08	0.02			J-1							
11	NA	0.00	0.56	0.04	0.36	0.00	NA	0.05	0.08	0.00	0.02	0.00			1			,				
12	NA	0.00	0.04	0.27	2.30	0.00	NA	0.00	0.77	0.00	0.02	0.00										
13	NA	0.00	0.56	0.22	0.01	0.00	NA	0.00	0.03	0.03	0.00	0.01	-									
14	0.00	0.02	0.02	0.01	0.06	0.08	NA	0.00	0.02	0.24	0.00	0.00										
15	0.05	0.02	0.08	0.00	0.57	0.00	NA	0.00	0.24	0.01	0.00	0.00										
16	0.00	0.00	0.00	0.00	0.00	0.03	NA:	0.00	0.26	0.00	0.00	0.00										
17	0.00	0.01	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.01	0.00										
18	0.00	0.03	0.00	0.03	0.00	0.00	NA	0.06	0.00	0.02	0.00	0.00										
19	0.00	0.01	0.12	0.00	0.00	0.00	NA	0.00	0.00	0.07	0.07	0.00										
20	0.00	0.00	0.00	0.00	0.00	0.00	NA	0.02	0.10	0.04	0.00	0.00										
21	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.13	0.05										
22	0.03	0.00	0.01	0.52	0.12	0.00	0.17	0.04	0.00	0.25	0.02	0.00										
23	0.00	0.00	0.00	0.29	0.08	0.00	0.12	0.06	0.04	0.04	0.00	0.00										
24	0.00	0.01	0.08	0.27	0.00	0.00	0.32	0.01	0.00	0.00	0.00	0.00					-					
25	0.00	0.00	0.09	0.02	0.00	0.00	0.08	0.00	0.17	0.21	0.00	0.00			1							
26	0.00	0.00	0.04	0.33	0.04	0.00	0.00	0.01	0.03	0.33	0.00	0.00										
27	0.00	0.00	0.12	0.00	0.17	0.00	0.00	0.00	0.01	0.07	0.00	0.00										
28	0.02	0.17	0.09	0.00	0.01	0.00	0.00	0.04	0.01	0.00	0.07	0.00										
29	0.05	0.27	0.11	0.04	0.00	0.00	0.03	0.00	0.20	0.03	0.42	0.00			1							
30	0.00	0.04	0.03	0.01	0.00	0.00	0.19	0.01	0.62	0.02	0.00	0.00										
31	0.00		0.02	0.09		0.00	0.01		0.04	0.04		0.00										
TOTAL		0.84	2.92	2.47	6.65	0.76		0.51	3.14	2.12	1.38	0.68	0.00	0.00	0.00	0.00	0.00	0.00				
RainDays		11	22	18	15	5		12	20	17	11	7	0	0	0	0	0	0				
MAX		0.27	0.56	0.52	2.30	0.44		0.17	0.77	0.34	0.48	0.43	0.00	0.00	0.00	0.00	0.00	0.00				
X-2D		0.44	0.83	0.81	2.75	0.46		0.18	0.85	0.54	0.54	0.45	0.00	0.00	0.00	0.00	0.00	0.07				
X-3D		0.48	1.16	1.08	3,74	0.46		0.21	0.88	0.61	0.54	0.45	0.00	0.00	0.00	0.00	0.00	31.00				
DryDays		19	9	13	15	26		18	11	14	19	24	0	0	0	0	0	0				

NA No data collected at raingauge / Not available