



# United States Department of the Interior

BUREAU OF RECLAMATION  
Central Valley Operations Office  
3310 El Camino Avenue, Suite 300  
Sacramento, California 95821

IN REPLY  
REFER TO:

CVO-400  
WTR-4.10

OCT 05 2017

VIA ELECTRONIC MAIL

Mr. Les Grober  
Deputy Director, Division of Water Rights  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812

Subject: Monitoring and Reporting Program on Water Rights Order No. 90-5 (Water Rights)

Dear Mr. Grober:

For the month of September 2017, the temperature control point was set at Balls Ferry, per the June 2017, Sacramento River Temperature Plan.

During September 2017, the average daily water temperature compliance of 56.0°F or less was met at the Balls Ferry compliance point on the Sacramento River. During the month of September 2017, the average monthly water temperature was 53.6°F at Balls Ferry.

Enclosed is the monitoring report for September 2017, under Order No. 90-5. The report contains the following data:

| <b>Station</b>                         | <b>Description</b>  |
|--|---|
| Shasta Inlets (R-1)<br>“               | Water Temperature Profile<br>Turbidity, monthly, ntu  |
| Shasta Dam (R-2)<br>“                  | Water Temperature, daily average, degrees F<br>Turbidity, ntu, monthly                            |
| Shasta Dam (R-2a)                      | Flow, average daily, cfs  |
| Keswick (R-3)<br>“                     | Water Temperature, daily average, degrees F<br>Turbidity, ntu, monthly                            |
| Keswick (R-3a)                         | Flow, average daily, cfs  |
| Spring Creek<br>Power plant (R-4)<br>“ | Water Temperature, daily average, degrees F<br>Turbidity, ntu, monthly<br>Flow, average daily cfs |

| <b>Station</b>                       | <b>Description</b>   |
|--------------------------------------|--|
| Control Point (R-5)<br>Control Point | Water Temperature, daily average, degrees F<br>Turbidity, ntu, monthly |
| Sacramento at<br>Delta (R-6)         | Water Temperature, monthly, degrees F<br>Turbidity, ntu, monthly       |
| McCloud (R-7)<br>“                   | Water Temperature, monthly, degrees F<br>Turbidity, ntu, monthly       |
| Pit River (R-8)<br>“                 | Water Temperature, monthly, degrees F<br>Turbidity, ntu, monthly       |
| Lewiston (R-9)                       | Water Temperature, daily average, degrees F                            |
| Lewiston (R-9a)                      | Flow, average daily, cfs   |

Please contact Ms. Randi Field at 916-979-2066, should you have any questions regarding this data.

Sincerely,



Elizabeth Kiteck  
Chief, Water Operations

Enclosures

cc: Mr. Kenneth Emanuel  
Division of Water Rights  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812  
(w/encl)

Central Valley Operations Office  
 \*Data obtained from the California Data Exchange Center  
 \*\*Data calculated by the Central Valley Operations Office  
 \*\*\*Measurements taken by the Northern CA Area Office Personnel  
**Water Temperature Data in Degrees F**  
**September 2017**

| Req. Sampling Frequency - Daily Average<br>(Reading indicates daily average) |       |       |       |       |      |  | Req. Sampling Frequency - Monthly |        |        |
|--|-------|-------|-------|-------|------|--|-----------------------------------|--------|--------|
|  | Sta 2 | Sta 3 | Sta 4 | Sta 5 | Sta9 |  | Sta 6                             | Sta 7  | Sta 8  |
| Date   | Shd*  | Kwk*  | Spp** | Bsf** | Lws* |  | Dlt***                            | Mss*** | Pmn*** |
| 1  | 49.3  | 51.6  | 54.8  | 54.5  | 50.5 |  |                                   |        |        |
| 2  | 49.5  | 51.7  | 54.9  | 54.4  | 50.1 |  |                                   |        |        |
| 3  | 49.4  | 51.8  | 54.9  | 54.5  | 50.0 |  |                                   |        |        |
| 4  | 49.4  | 51.6  | 54.8  | 54.5  | 50.2 |  |                                   |        |        |
| 5  | 49.6  | 51.6  | 54.9  | 54.7  | 50.4 |  |                                   |        |        |
| 6  | 49.7  | 52.0  | 54.9  | 54.9  | 50.9 |  | 67.3                              |        |        |
| 7  | 48.9  | 52.2  | 54.9  | 54.7  | 50.6 |  |                                   |        |        |
| 8  | 48.7  | 51.1  | 54.9  | 54.5  | 50.9 |  |                                   |        |        |
| 9  | 49.0  | 50.5  | 54.7  | 53.6  | 50.8 |  |                                   |        |        |
| 10   | 48.9  | 50.8  | 54.9  | 53.6  | 50.7 |  |                                   |        |        |
| 11   | 48.9  | 50.8  | 54.8  | 53.9  | 50.8 |  |                                   |        |        |
| 12   | 49.1  | 51.1  | 54.8  | 54.2  | 51.2 |  |                                   |        |        |
| 13   | 49.0  | 51.3  | 54.9  | 54.4  | 51.0 |  |                                   |        |        |
| 14   | 49.2  | 51.2  | 54.9  | 53.6  | 50.5 |  |                                   |        |        |
| 15   | 49.0  | 51.2  | 54.7  | 53.4  | 50.3 |  |                                   |        | 64.5   |
| 16   | 49.2  | 50.9  | 54.7  | 52.9  | 50.1 |  |                                   |        |        |
| 17   | 49.3  | 50.9  | 54.7  | 52.9  | 50.0 |  |                                   |        |        |
| 18   | 49.5  | 51.3  | 54.7  | 53.2  | 49.8 |  |                                   |        |        |
| 19   | 49.4  | 51.0  | 54.9  | 53.2  | 49.7 |  |                                   |        |        |
| 20   | 49.5  | 51.0  | 55.1  | 53.1  | 50.4 |  |                                   |        |        |
| 21   | 49.5  | 50.9  | 54.7  | 52.6  | 50.0 |  |                                   | 51.1   |        |
| 22   | 49.4  | 50.8  | 54.9  | 52.6  | 50.2 |  |                                   |        |        |
| 23   | 49.5  | 50.9  | 54.6  | 52.6  | 49.9 |  |                                   |        |        |
| 24   | 49.8  | 50.9  | 54.6  | 52.7  | 49.9 |  |                                   |        |        |
| 25   | 49.7  | 51.1  | 54.6  | 52.8  | 49.9 |  |                                   |        |        |
| 26   | 49.8  | 51.4  | 54.6  | 53.5  | 49.8 |  |                                   |        |        |
| 27   | 49.9  | 51.2  | 54.6  | 53.4  | 49.8 |  |                                   |        |        |
| 28   | 50.0  | 51.4  | 54.6  | 53.3  | 49.8 |  |                                   |        |        |
| 29   | 50.0  | 51.3  | 54.6  | 53.1  | 49.9 |  |                                   |        |        |
| 30   | 50.1  | 51.3  | 54.6  | 53.2  | 49.8 |  |                                   |        |        |
|  |       |       |       |       |      |  |                                   |        |        |
|  |       |       |       |       |      |  |                                   |        |        |

Control Point: 9/1-9/30 BSF @ 56.0 DAT

**Measurements taken by the Northern CA Area Office Personnel  
September 2017**

| <b>TEMPERATURE</b>                         |                            |                          |                          |                          |                          |                          |
|--|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Sampling Frequency                         |                            |                          |                          |                          |                          |                          |
| Every two weeks May 1 through November 30. |                            |                          |                          |                          |                          |                          |
| Lake Elev                                  | Sample 1<br>9/7/2017       | Sample 2<br>9/12/2017    | Sample 3<br>9/19/2017    | Sample 4<br>9/27/2017    | Sample 5                 |                          |
| MSL  | Temperature<br>Degrees F   | Temperature<br>Degrees F | Temperature<br>Degrees F | Temperature<br>Degrees F | Temperature<br>Degrees F | Temperature<br>Degrees F |
|  | (400 Feet Upstream of Dam) |                          |                          |                          |                          |                          |
|  | <b>Time: 11:00</b>         | <b>Time: 10:00</b>       | <b>Time: 11:00</b>       | <b>Time: 10:00</b>       | <b>Time: 10:00</b>       |                          |
| 625  | 45.4                       | 45.4                     | 45.4                     | 45.5                     | 45.5                     |                          |
| 650  | 45.4                       | 45.4                     | 45.4                     | 45.5                     | 45.5                     |                          |
| 675  | 45.4                       | 45.5                     | 45.5                     | 45.6                     | 45.6                     |                          |
| 700  | 45.5                       | 45.6                     | 45.6                     | 45.6                     | 45.6                     |                          |
| 725  | 45.6                       | 45.7                     | 45.7                     | 45.8                     | 45.8                     |                          |
| 750  | 45.8                       | 45.8                     | 45.9                     | 46.0                     | 46.0                     |                          |
| 775  | 46.0                       | 46.1                     | 46.1                     | 46.4                     | 46.4                     |                          |
| 800  | 46.4                       | 46.5                     | 46.6                     | 47.1                     | 47.1                     |                          |
| 825  | 47.4                       | 47.7                     | 48.0                     | 48.6                     | 48.6                     |                          |
| 850  | 48.6                       | 49.3                     | 49.3                     | 50.3                     | 50.3                     |                          |
| 875  | 49.9                       | 50.6                     | 51.2                     | 52.4                     | 52.4                     |                          |
| 900  | 51.9                       | 53.6                     | 54.0                     | 55.9                     | 55.9                     |                          |
| 925  | 56.2                       | 57.2                     | 57.9                     | 59.4                     | 59.4                     |                          |
| 950  | 60.6                       | 62.0                     | 63.9                     | 64.8                     | 64.8                     |                          |
| 975  | 66.3                       | 66.7                     | 67.2                     | 70.2                     | 70.2                     |                          |
| 1000                                       | 70.0                       | 77.6                     | 73.8                     | 70.4                     | 70.4                     |                          |
| 1025                                       | 78.6                       | 78.5                     | 73.8                     | 70.4                     | 70.4                     |                          |
| 1050                                       |                            |                          |                          |                          |                          |                          |
| Lake Surface                               | 78.5 @ 1031.86'            | 78.5 @ 1030.21'          | 73.9 @ 1028.18'          | 70.4 @ 1025.30'          | 70.4 @ 1025.30'          |                          |

| <b>TURBIDITY</b>                           |                            |                       |                       |                       |                    |                  |
|--|----------------------------|-----------------------|-----------------------|-----------------------|--------------------|------------------|
| Sampling Frequency                         |                            |                       |                       |                       |                    |                  |
| Every two weeks May 1 through November 30. |                            |                       |                       |                       |                    |                  |
| Lake Elev                                  | Sample 1<br>9/7/2017       | Sample 2<br>9/12/2017 | Sample 3<br>9/19/2017 | Sample 4<br>9/27/2017 | Sample 5           |                  |
| MSL  | Turbidity<br>ntu           | Turbidity<br>ntu      | Turbidity<br>ntu      | Turbidity<br>ntu      | Turbidity<br>ntu   | Turbidity<br>ntu |
|  | (400 Feet Upstream of Dam) |                       |                       |                       |                    |                  |
|  | <b>Time: 11:00</b>         | <b>Time: 10:00</b>    | <b>Time: 11:00</b>    | <b>Time: 10:00</b>    | <b>Time: 10:00</b> |                  |
| 625  | 14.6                       | 15.2                  | 14.1                  | 13.6                  | 13.6               |                  |
| 650  | 13.1                       | 13.1                  | 12.6                  | 12.7                  | 12.7               |                  |
| 675  | 12.5                       | 12.5                  | 12.0                  | 11.7                  | 11.7               |                  |
| 700  | 12.0                       | 11.8                  | 11.7                  | 11.4                  | 11.4               |                  |
| 725  | 11.2                       | 11.4                  | 10.9                  | 10.9                  | 10.9               |                  |
| 750  | 10.3                       | 10.4                  | 10.0                  | 9.9                   | 9.9                |                  |
| 775  | 9.5                        | 9.5                   | 9.2                   | 8.6                   | 8.6                |                  |
| 800  | 8.4                        | 8.3                   | 7.7                   | 6.5                   | 6.5                |                  |
| 825  | 5.9                        | 5.1                   | 4.6                   | 3.4                   | 3.4                |                  |
| 850  | 3.0                        | 2.2                   | 2.2                   | 1.4                   | 1.4                |                  |
| 875  | 1.4                        | 1.2                   | 0.9                   | 0.7                   | 0.7                |                  |
| 900  | 0.5                        | 0.5                   | 0.5                   | 0.4                   | 0.4                |                  |
| 925  | 0.0                        | 0.3                   | 0.4                   | 0.4                   | 0.4                |                  |
| 950  | 0.0                        | 0.1                   | 0.4                   | 0.4                   | 0.4                |                  |
| 975  | 0.0                        | 0.2                   | 0.4                   | 0.6                   | 0.6                |                  |
| 1000                                       | 0.1                        | 0.6                   | 0.6                   | 0.6                   | 0.6                |                  |
| 1025                                       | 0.3                        | 0.7                   | 0.6                   | 0.6                   | 0.6                |                  |
| 1050                                       |                            |                       |                       |                       |                    |                  |
| Lake Surface                               | 0.3 @ 1031.86'             | 0.6 @ 1030.21'        | 0.6 @ 1028.18'        | 0.6 @ 1025.30'        | 0.6 @ 1025.30'     |                  |



**SHASTA LAKE, DAM AND POWERPLANT  
GENERATION RELEASE, CFS**

**QG**

**WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017**

| DAY          | OCT            | NOV            | DEC            | JAN            | FEB            | MAR            | APR            | MAY            | JUN            | JUL            | AUG            | SEP            |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1            | 6,289          | 4,929          | 4,122          | 5,765          | 18,164         | 18,613         | 9,138          | 8,534          | 8,655          | 7,960          | 8,464          | 7,143          |
| 2            | 6,463          | 4,805          | 4,181          | 5,467          | 18,257         | 19,433         | 8,916          | 7,407          | 8,250          | 7,912          | 8,543          | 6,705          |
| 3            | 6,942          | 4,257          | 4,630          | 4,764          | 18,708         | 18,909         | 8,346          | 6,498          | 8,864          | 8,119          | 8,842          | 6,919          |
| 4            | 6,469          | 4,132          | 4,570          | 3,401          | 18,806         | 18,656         | 8,960          | 4,939          | 8,675          | 8,102          | 8,773          | 7,336          |
| 5            | 6,546          | 3,985          | 4,123          | 3,865          | 18,609         | 19,005         | 8,875          | 4,285          | 9,573          | 7,764          | 8,533          | 7,336          |
| 6            | 5,865          | 4,666          | 4,054          | 4,285          | 18,763         | 18,880         | 8,577          | 3,909          | 8,769          | 8,154          | 8,538          | 6,592          |
| 7            | 4,953          | 4,429          | 4,088          | 8,401          | 18,323         | 18,041         | 7,181          | 8,544          | 8,682          | 8,556          | 7,995          | 6,669          |
| 8            | 6,060          | 4,387          | 4,979          | 11,517         | 17,804         | 17,999         | 8,741          | 9,211          | 7,706          | 8,315          | 8,419          | 7,576          |
| 9            | 6,069          | 3,948          | 5,086          | 9,821          | 15,665         | 16,282         | 8,620          | 9,752          | 7,754          | 8,292          | 8,114          | 7,400          |
| 10           | 5,860          | 3,670          | 4,720          | 9,158          | 15,331         | 13,566         | 8,816          | 9,129          | 7,360          | 8,535          | 8,893          | 7,188          |
| 11           | 6,325          | 4,016          | 4,126          | 12,026         | 17,378         | 11,446         | 8,366          | 8,624          | 8,007          | 8,560          | 7,828          | 7,135          |
| 12           | 6,275          | 4,279          | 3,453          | 18,778         | 17,716         | 9,556          | 10,318         | 8,628          | 7,800          | 7,931          | 8,943          | 6,957          |
| 13           | 5,812          | 4,781          | 3,964          | 17,022         | 18,573         | 7,667          | 13,679         | 8,965          | 6,926          | 7,596          | 8,409          | 6,523          |
| 14           | 6,180          | 4,605          | 3,960          | 18,722         | 18,464         | 8,523          | 13,615         | 10,082         | 7,311          | 8,306          | 8,223          | 7,077          |
| 15           | 5,544          | 4,948          | 1,657          | 18,490         | 18,653         | 7,245          | 13,502         | 9,565          | 7,596          | 8,269          | 8,835          | 6,568          |
| 16           | 6,164          | 5,005          | 2,446          | 18,236         | 18,669         | 6,079          | 13,779         | 8,896          | 6,784          | 7,978          | 9,034          | 7,091          |
| 17           | 6,027          | 4,610          | 2,801          | 18,215         | 19,050         | 6,497          | 14,001         | 9,578          | 6,730          | 8,594          | 8,790          | 6,947          |
| 18           | 5,192          | 4,023          | 2,871          | 17,665         | 19,430         | 6,412          | 13,659         | 10,061         | 8,413          | 7,362          | 7,957          | 7,260          |
| 19           | 4,812          | 4,247          | 2,656          | 17,799         | 18,887         | 6,703          | 13,857         | 9,004          | 7,878          | 7,518          | 8,021          | 7,611          |
| 20           | 5,304          | 4,378          | 3,422          | 18,125         | 18,688         | 6,592          | 14,202         | 9,023          | 8,356          | 8,532          | 8,453          | 7,380          |
| 21           | 5,789          | 4,357          | 7,632          | 18,065         | 18,948         | 5,997          | 14,493         | 9,390          | 8,973          | 8,756          | 8,567          | 7,574          |
| 22           | 5,733          | 4,673          | 7,859          | 18,584         | 19,369         | 4,845          | 15,458         | 9,173          | 8,529          | 8,495          | 9,219          | 7,607          |
| 23           | 5,549          | 4,642          | 9,317          | 18,517         | 19,679         | 6,213          | 15,228         | 9,246          | 8,453          | 8,536          | 7,890          | 7,683          |
| 24           | 5,367          | 4,159          | 9,866          | 17,848         | 19,804         | 6,131          | 16,893         | 9,975          | 8,255          | 8,569          | 8,065          | 8,543          |
| 25           | 4,817          | 4,461          | 9,186          | 18,354         | 19,768         | 5,675          | 16,436         | 8,041          | 7,278          | 9,257          | 8,366          | 7,478          |
| 26           | 4,817          | 4,341          | 9,346          | 17,930         | 19,346         | 6,851          | 17,351         | 8,885          | 8,557          | 9,202          | 9,019          | 7,344          |
| 27           | 4,791          | 4,427          | 8,207          | 18,390         | 19,604         | 7,480          | 16,969         | 9,044          | 7,987          | 8,443          | 8,972          | 7,314          |
| 28           | 4,057          | 4,238          | 8,682          | 18,457         | 19,393         | 7,390          | 12,334         | 8,489          | 8,599          | 7,477          | 8,240          | 7,889          |
| 29           | 3,861          | 4,423          | 9,191          | 18,487         | 18,487         | 9,551          | 11,642         | 8,596          | 8,237          | 9,135          | 7,797          | 7,635          |
| 30           | 5,475          | 4,779          | 8,429          | 18,146         | 18,146         | 9,117          | 10,678         | 9,061          | 8,466          | 8,649          | 6,970          | 7,932          |
| 31           | 4,387          |                | 7,462          | 18,566         |                | 8,778          |                | 8,290          |                | 8,693          | 6,850          |                |
| <b>TOTAL</b> | <b>173,794</b> | <b>132,600</b> | <b>171,086</b> | <b>442,866</b> | <b>519,849</b> | <b>334,132</b> | <b>362,630</b> | <b>262,824</b> | <b>243,423</b> | <b>257,567</b> | <b>259,562</b> | <b>218,412</b> |
| <b>MEAN</b>  | <b>5,606</b>   | <b>4,420</b>   | <b>5,519</b>   | <b>14,286</b>  | <b>18,566</b>  | <b>10,778</b>  | <b>12,088</b>  | <b>8,478</b>   | <b>8,114</b>   | <b>8,309</b>   | <b>8,373</b>   | <b>7,280</b>   |
| <b>MAX</b>   | <b>6,942</b>   | <b>5,005</b>   | <b>9,866</b>   | <b>18,778</b>  | <b>19,804</b>  | <b>19,433</b>  | <b>17,351</b>  | <b>10,082</b>  | <b>9,573</b>   | <b>9,257</b>   | <b>9,219</b>   | <b>8,543</b>   |
| <b>MIN</b>   | <b>3,861</b>   | <b>3,670</b>   | <b>1,657</b>   | <b>3,401</b>   | <b>15,331</b>  | <b>4,845</b>   | <b>7,181</b>   | <b>3,909</b>   | <b>6,730</b>   | <b>7,362</b>   | <b>6,850</b>   | <b>6,523</b>   |

**WATER YEAR TOTALS**

|                   |                   |
|-------------------|-------------------|
| <b>TOTAL</b>      | <b>3,378,745</b>  |
| <b>DAILY MEAN</b> | <b>9,257</b>      |
| <b>DAILY MAX</b>  | <b>19,804</b>     |
| <b>DAILY MIN</b>  | <b>1,657</b>      |
|                   | <b>02/24/2017</b> |
|                   | <b>12/15/2016</b> |

**KESWICK DAM, RESERVOIR, AND POWERPLANT**

**TOTAL RELEASE, CFS**

**QT**

**WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017**

| DAY          | OCT            | NOV            | DEC            | JAN            | FEB              | MAR            | APR            | MAY            | JUN            | JUL            | AUG            | SEP            |
|--------------|----------------|----------------|----------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1            | 7,368          | 4,950          | 4,816          | 6,179          | 21,870           | 66,365         | 8,737          | 9,068          | 10,043         | 9,402          | 9,588          | 8,433          |
| 2            | 7,366          | 5,147          | 4,832          | 5,978          | 21,947           | 56,516         | 8,627          | 7,786          | 10,572         | 9,483          | 9,719          | 8,457          |
| 3            | 7,349          | 5,023          | 4,842          | 5,304          | 22,318           | 47,139         | 8,665          | 6,298          | 10,569         | 9,471          | 9,738          | 8,502          |
| 4            | 7,021          | 4,831          | 4,840          | 4,756          | 22,445           | 40,147         | 8,689          | 5,200          | 10,521         | 9,474          | 9,519          | 8,499          |
| 5            | 7,013          | 4,841          | 4,841          | 4,776          | 22,619           | 33,474         | 8,694          | 4,829          | 10,474         | 9,463          | 9,334          | 8,506          |
| 6            | 6,764          | 4,841          | 4,841          | 4,792          | 27,729           | 28,177         | 8,691          | 4,766          | 10,517         | 9,426          | 9,403          | 8,505          |
| 7            | 6,751          | 4,841          | 4,838          | 9,531          | 25,848           | 23,006         | 9,050          | 11,736         | 10,531         | 9,641          | 9,400          | 8,506          |
| 8            | 6,756          | 4,840          | 4,835          | 13,032         | 21,361           | 18,958         | 8,812          | 12,356         | 9,736          | 10,160         | 9,409          | 8,474          |
| 9            | 6,751          | 4,854          | 4,840          | 13,339         | 17,284           | 15,948         | 8,770          | 12,178         | 9,581          | 10,136         | 9,444          | 8,353          |
| 10           | 6,510          | 4,866          | 4,839          | 13,479         | 38,612           | 13,659         | 8,698          | 12,230         | 9,587          | 9,825          | 9,590          | 8,377          |
| 11           | 6,505          | 4,866          | 4,837          | 16,048         | 49,030           | 12,190         | 8,937          | 12,182         | 9,515          | 9,595          | 9,659          | 8,402          |
| 12           | 6,537          | 4,866          | 4,841          | 32,098         | 59,280           | 10,960         | 11,281         | 12,414         | 9,578          | 9,710          | 9,564          | 8,405          |
| 13           | 6,545          | 4,865          | 4,840          | 32,404         | 67,438           | 9,632          | 17,654         | 12,754         | 9,533          | 9,879          | 9,542          | 8,405          |
| 14           | 6,542          | 4,863          | 4,842          | 32,383         | 73,966           | 9,401          | 20,955         | 12,149         | 9,529          | 9,917          | 9,606          | 8,313          |
| 15           | 6,519          | 4,779          | 4,997          | 32,056         | 65,398           | 8,109          | 22,556         | 12,107         | 9,544          | 9,921          | 9,596          | 8,353          |
| 16           | 6,515          | 4,865          | 4,946          | 31,833         | 46,123           | 7,997          | 22,460         | 12,235         | 9,536          | 9,844          | 9,589          | 8,352          |
| 17           | 6,519          | 4,866          | 4,889          | 31,987         | 53,728           | 7,928          | 22,451         | 12,690         | 9,459          | 9,699          | 9,570          | 8,344          |
| 18           | 6,232          | 4,864          | 4,891          | 28,724         | 45,624           | 7,857          | 25,572         | 12,688         | 9,191          | 9,860          | 9,454          | 8,377          |
| 19           | 6,222          | 4,866          | 4,890          | 25,912         | 45,427           | 7,697          | 26,855         | 12,688         | 9,330          | 9,873          | 9,430          | 8,407          |
| 20           | 6,225          | 4,862          | 4,870          | 25,968         | 26,418           | 7,697          | 26,377         | 12,692         | 9,541          | 9,871          | 9,531          | 8,404          |
| 21           | 5,770          | 4,865          | 9,706          | 26,456         | 29,828           | 7,702          | 26,352         | 12,691         | 9,540          | 9,844          | 9,589          | 8,406          |
| 22           | 5,495          | 4,864          | 9,852          | 25,898         | 57,422           | 7,816          | 26,899         | 12,105         | 9,503          | 9,770          | 9,703          | 8,407          |
| 23           | 5,493          | 4,864          | 9,753          | 25,617         | 66,552           | 8,942          | 28,032         | 11,673         | 9,450          | 9,776          | 9,704          | 8,395          |
| 24           | 5,444          | 4,866          | 9,762          | 25,936         | 68,035           | 9,091          | 28,046         | 10,982         | 9,536          | 9,725          | 9,917          | 8,356          |
| 25           | 5,346          | 4,861          | 9,760          | 25,424         | 68,631           | 9,141          | 22,653         | 10,175         | 9,496          | 9,611          | 10,147         | 8,438          |
| 26           | 4,888          | 4,814          | 9,762          | 26,751         | 68,906           | 8,887          | 18,492         | 10,067         | 9,466          | 9,499          | 10,121         | 8,457          |
| 27           | 4,887          | 4,815          | 9,825          | 26,226         | 68,287           | 8,886          | 15,477         | 10,069         | 9,467          | 9,579          | 10,051         | 8,458          |
| 28           | 4,889          | 4,810          | 9,839          | 22,215         | 68,444           | 8,889          | 12,929         | 10,193         | 9,422          | 9,434          | 10,051         | 8,458          |
| 29           | 4,889          | 4,816          | 9,836          | 21,646         | 68,891           | 8,891          | 11,190         | 10,182         | 9,455          | 9,276          | 8,607          | 8,446          |
| 30           | 4,864          | 4,816          | 8,527          | 21,790         | 68,889           | 8,889          | 10,065         | 10,178         | 9,380          | 9,353          | 8,399          | 8,401          |
| 31           | 4,864          | 7,175          | 4,864          | 21,762         | 68,679           | 8,679          | 9,844          | 9,844          | 9,428          | 9,428          | 8,401          | 8,401          |
| <b>TOTAL</b> | <b>190,839</b> | <b>145,987</b> | <b>201,004</b> | <b>640,300</b> | <b>1,270,570</b> | <b>528,670</b> | <b>492,666</b> | <b>329,205</b> | <b>291,602</b> | <b>299,945</b> | <b>295,375</b> | <b>252,596</b> |
| <b>MEAN</b>  | <b>6,156</b>   | <b>4,866</b>   | <b>6,484</b>   | <b>20,655</b>  | <b>45,378</b>    | <b>17,054</b>  | <b>16,422</b>  | <b>10,620</b>  | <b>9,720</b>   | <b>9,676</b>   | <b>9,528</b>   | <b>8,420</b>   |
| <b>MAX</b>   | <b>7,368</b>   | <b>5,147</b>   | <b>9,852</b>   | <b>32,404</b>  | <b>73,966</b>    | <b>66,365</b>  | <b>28,046</b>  | <b>12,754</b>  | <b>10,572</b>  | <b>10,160</b>  | <b>10,147</b>  | <b>8,506</b>   |
| <b>MIN</b>   | <b>4,864</b>   | <b>4,779</b>   | <b>4,816</b>   | <b>4,756</b>   | <b>17,284</b>    | <b>7,697</b>   | <b>8,627</b>   | <b>4,766</b>   | <b>9,191</b>   | <b>9,276</b>   | <b>8,399</b>   | <b>8,313</b>   |

**WATER YEAR TOTALS**

|                   |                   |
|-------------------|-------------------|
| <b>TOTAL</b>      | <b>4,938,759</b>  |
| <b>DAILY MEAN</b> | <b>13,531</b>     |
| <b>DAILY MAX</b>  | <b>73,966</b>     |
| <b>DAILY MIN</b>  | <b>4,756</b>      |
|                   | <b>02/14/2017</b> |
|                   | <b>01/04/2017</b> |

**LEWISTON DAM, LAKE, AND JUDGE FRANCIS CARR POWERPLANT**

**QR RELEASE TO RIVER, CFS**

**WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017**

| DAY                      | OCT            | NOV          | DEC          | JAN          | FEB          | MAR          | APR               | MAY            | JUN           | JUL           | AUG               | SEP           |
|--------------------------|----------------|--------------|--------------|--------------|--------------|--------------|-------------------|----------------|---------------|---------------|-------------------|---------------|
| 1                        | 466            | 313          | 310          | 306          | 290          | 325          | 316               | 6,033          | 4,171         | 1,995         | 695               | 455           |
| 2                        | 461            | 320          | 311          | 307          | 290          | 324          | 315               | 4,403          | 4,045         | 1,939         | 695               | 455           |
| 3                        | 440            | 319          | 307          | 310          | 291          | 312          | 315               | 3,956          | 3,339         | 1,868         | 694               | 456           |
| 4                        | 440            | 317          | 304          | 315          | 291          | 313          | 315               | 2,786          | 3,874         | 1,860         | 689               | 456           |
| 5                        | 448            | 316          | 306          | 312          | 291          | 316          | 1,037             | 2,502          | 3,780         | 1,731         | 652               | 454           |
| 6                        | 450            | 316          | 305          | 313          | 292          | 316          | 1,511             | 2,228          | 3,715         | 1,630         | 616               | 449           |
| 7                        | 450            | 314          | 306          | 313          | 298          | 315          | 1,519             | 2,091          | 3,588         | 1,593         | 590               | 452           |
| 8                        | 446            | 302          | 306          | 318          | 296          | 311          | 1,522             | 2,217          | 3,515         | 1,510         | 540               | 453           |
| 9                        | 447            | 311          | 306          | 318          | 296          | 314          | 1,517             | 2,424          | 3,379         | 1,439         | 501               | 454           |
| 10                       | 449            | 303          | 308          | 316          | 312          | 312          | 1,528             | 4,865          | 3,328         | 1,402         | 481               | 454           |
| 11                       | 463            | 304          | 309          | 314          | 320          | 313          | 1,534             | 5,423          | 3,249         | 1,325         | 440               | 454           |
| 12                       | 465            | 304          | 308          | 316          | 318          | 317          | 1,540             | 5,427          | 3,183         | 1,275         | 438               | 456           |
| 13                       | 455            | 302          | 308          | 315          | 315          | 316          | 1,515             | 5,438          | 3,088         | 1,263         | 439               | 455           |
| 14                       | 451            | 321          | 308          | 320          | 324          | 315          | 1,508             | 5,497          | 3,006         | 1,237         | 442               | 457           |
| 15                       | 447            | 311          | 313          | 324          | 333          | 316          | 1,509             | 5,301          | 2,898         | 1,146         | 457               | 455           |
| 16                       | 445            | 310          | 311          | 327          | 334          | 317          | 1,507             | 5,026          | 2,766         | 1,131         | 459               | 455           |
| 17                       | 408            | 313          | 311          | 324          | 335          | 316          | 1,507             | 4,971          | 2,702         | 1,160         | 445               | 456           |
| 18                       | 330            | 314          | 312          | 326          | 334          | 317          | 1,511             | 4,905          | 2,660         | 1,160         | 445               | 455           |
| 19                       | 301            | 313          | 309          | 326          | 339          | 315          | 1,336             | 4,744          | 2,572         | 1,167         | 446               | 457           |
| 20                       | 301            | 312          | 307          | 326          | 338          | 313          | 757               | 4,686          | 2,517         | 1,140         | 550               | 452           |
| 21                       | 300            | 313          | 303          | 324          | 335          | 315          | 393               | 4,521          | 2,400         | 1,184         | 2,312             | 453           |
| 22                       | 302            | 311          | 306          | 326          | 334          | 316          | 539               | 4,380          | 2,361         | 1,152         | 1,821             | 448           |
| 23                       | 305            | 309          | 308          | 325          | 337          | 316          | 1,643             | 4,203          | 2,324         | 1,001         | 1,178             | 448           |
| 24                       | 306            | 307          | 308          | 334          | 338          | 317          | 2,988             | 4,359          | 2,229         | 955           | 624               | 450           |
| 25                       | 305            | 311          | 307          | 333          | 330          | 318          | 6,006             | 4,260          | 2,171         | 902           | 469               | 450           |
| 26                       | 317            | 313          | 306          | 317          | 293          | 320          | 9,629             | 4,397          | 2,048         | 860           | 466               | 450           |
| 27                       | 321            | 311          | 307          | 317          | 290          | 317          | 11,029            | 4,279          | 1,979         | 846           | 460               | 449           |
| 28                       | 309            | 311          | 306          | 317          | 326          | 316          | 11,129            | 4,417          | 1,978         | 800           | 465               | 450           |
| 29                       | 308            | 311          | 307          | 313          | 313          | 317          | 10,032            | 4,263          | 1,982         | 761           | 476               | 450           |
| 30                       | 309            | 310          | 307          | 290          | 290          | 317          | 8,000             | 4,359          | 1,978         | 706           | 456               | 450           |
| 31                       | 308            |              | 306          | 290          |              | 316          |                   | 4,310          |               | 652           | 456               |               |
| <b>TOTAL</b>             | <b>11,953</b>  | <b>9,342</b> | <b>9,536</b> | <b>9,832</b> | <b>8,820</b> | <b>9,798</b> | <b>85,507</b>     | <b>132,054</b> | <b>87,442</b> | <b>38,790</b> | <b>19,897</b>     | <b>13,588</b> |
| <b>MEAN</b>              | <b>386</b>     | <b>311</b>   | <b>308</b>   | <b>317</b>   | <b>315</b>   | <b>316</b>   | <b>2,850</b>      | <b>4,260</b>   | <b>2,915</b>  | <b>1,251</b>  | <b>642</b>        | <b>453</b>    |
| <b>MAX</b>               | <b>466</b>     | <b>321</b>   | <b>313</b>   | <b>334</b>   | <b>339</b>   | <b>325</b>   | <b>11,129</b>     | <b>6,033</b>   | <b>4,171</b>  | <b>1,995</b>  | <b>2,312</b>      | <b>457</b>    |
| <b>MIN</b>               | <b>300</b>     | <b>302</b>   | <b>303</b>   | <b>290</b>   | <b>290</b>   | <b>311</b>   | <b>315</b>        | <b>2,091</b>   | <b>1,978</b>  | <b>652</b>    | <b>438</b>        | <b>448</b>    |
| <b>WATER YEAR TOTALS</b> |                |              |              |              |              |              |                   |                |               |               |                   |               |
| <b>TOTAL</b>             | <b>436,559</b> |              |              |              |              |              |                   |                |               |               |                   |               |
| <b>DAILY MEAN</b>        | <b>1,196</b>   |              |              |              |              |              |                   |                |               |               |                   |               |
| <b>DAILY MAX</b>         | <b>11,129</b>  |              |              |              |              |              |                   |                |               |               |                   |               |
| <b>DAILY MIN</b>         | <b>290</b>     |              |              |              |              |              |                   |                |               |               |                   |               |
|                          |                |              |              |              |              |              | <b>04/28/2017</b> |                |               |               | <b>01/30/2017</b> |               |



**WHISKEYTOWN DAM, LAKE, AND SPRING CREEK POWERPLANT**

**GENERATION RELEASE, CFS**

**QG**

**WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017**

| DAY          | OCT           | NOV          | DEC           | JAN           | FEB           | MAR           | APR           | MAY           | JUN           | JUL           | AUG           | SEP           |
|--------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1            | 746           | 18           | 14            | 15            | 2,665         | 3,513         | 14            | 580           | 1,881         | 2,013         | 1,187         | 1,362         |
| 2            | 349           | 14           | 293           | 223           | 3,047         | 3,534         | 852           | 111           | 1,654         | 1,652         | 1,210         | 1,542         |
| 3            | 276           | 530          | 14            | 602           | 2,256         | 1,058         | 1,105         | 16            | 1,650         | 1,771         | 1,164         | 1,146         |
| 4            | 454           | 481          | 14            | 859           | 2,033         | 1,051         | 932           | 14            | 1,660         | 1,604         | 920           | 1,143         |
| 5            | 309           | 519          | 14            | 25            | 1,680         | 865           | 1,190         | 457           | 1,158         | 1,744         | 1,024         | 1,225         |
| 6            | 808           | 14           | 62            | 14            | 1,487         | 1,038         | 806           | 780           | 1,568         | 1,729         | 1,294         | 1,452         |
| 7            | 1,036         | 14           | 220           | 683           | 2,028         | 1,645         | 2,093         | 2,853         | 1,341         | 1,807         | 1,253         | 922           |
| 8            | 398           | 14           | 215           | 1,255         | 2,004         | 1,694         | 808           | 2,858         | 2,265         | 1,312         | 1,293         | 594           |
| 9            | 292           | 471          | 16            | 3,051         | 1,108         | 1,792         | 912           | 3,022         | 1,648         | 1,570         | 1,430         | 1,056         |
| 10           | 292           | 654          | 130           | 3,570         | 2,697         | 1,838         | 779           | 3,617         | 1,731         | 1,497         | 1,272         | 1,370         |
| 11           | 365           | 183          | 14            | 3,354         | 3,004         | 1,474         | 873           | 3,419         | 1,876         | 1,526         | 1,581         | 1,093         |
| 12           | 417           | 180          | 414           | 866           | 2,117         | 1,412         | 839           | 3,332         | 1,696         | 1,517         | 1,001         | 1,222         |
| 13           | 380           | 23           | 393           | 1,641         | 1,928         | 1,460         | 660           | 3,065         | 2,358         | 2,135         | 1,286         | 1,295         |
| 14           | 14            | 166          | 583           | 444           | 2,495         | 695           | 1,057         | 2,856         | 1,967         | 1,798         | 1,730         | 1,229         |
| 15           | 362           | 35           | 2,090         | 854           | 1,143         | 1,934         | 1,468         | 3,424         | 2,207         | 1,691         | 925           | 1,357         |
| 16           | 417           | 86           | 2,161         | 190           | 1,315         | 1,692         | 1,193         | 3,339         | 2,289         | 1,563         | 1,215         | 1,360         |
| 17           | 658           | 164          | 1,723         | 422           | 1,250         | 1,372         | 1,037         | 3,159         | 2,543         | 1,729         | 1,266         | 1,359         |
| 18           | 1,086         | 170          | 1,674         | 1,069         | 14            | 1,368         | 681           | 2,817         | 1,277         | 2,268         | 1,619         | 1,360         |
| 19           | 802           | 193          | 1,821         | 702           | 1,130         | 1,366         | 1,262         | 3,197         | 1,858         | 2,082         | 1,230         | 1,009         |
| 20           | 730           | 135          | 703           | 1,405         | 2,702         | 1,441         | 833           | 3,152         | 1,175         | 1,424         | 1,147         | 627           |
| 21           | 295           | 14           | 519           | 1,482         | 2,415         | 1,659         | 572           | 3,021         | 1,175         | 1,212         | 1,174         | 307           |
| 22           | 16            | 336          | 475           | 719           | 2,484         | 3,192         | 130           | 3,001         | 1,572         | 1,356         | 788           | 735           |
| 23           | 14            | 511          | 122           | 857           | 2,156         | 2,446         | 67            | 3,188         | 1,646         | 707           | 1,692         | 545           |
| 24           | 14            | 238          | 315           | 1,272         | 2,104         | 2,875         | 219           | 1,810         | 1,661         | 1,371         | 1,595         | 236           |
| 25           | 14            | 311          | 152           | 819           | 2,096         | 3,250         | 38            | 2,363         | 2,181         | 666           | 1,067         | 661           |
| 26           | 19            | 171          | 200           | 1,322         | 3,615         | 2,855         | 163           | 1,288         | 1,786         | 875           | 1,114         | 714           |
| 27           | 191           | 280          | 1,049         | 1,116         | 3,767         | 1,701         | 141           | 2,278         | 1,957         | 1,402         | 1,223         | 768           |
| 28           | 14            | 344          | 353           | 997           | 3,505         | 1,713         | 903           | 2,031         | 999           | 1,909         | 1,254         | 601           |
| 29           | 14            | 14           | 164           | 2,235         | 44            | 44            | 668           | 1,643         | 1,804         | 1,499         | 1,238         | 702           |
| 30           | 14            | 14           | 82            | 2,514         | 199           | 199           | 422           | 1,809         | 1,606         | 1,253         | 1,359         | 493           |
| 31           | 989           | 25           | 25            | 2,320         | 239           | 239           | 2,298         | 2,298         | 1,395         | 1,395         | 1,077         | 29,485        |
| <b>TOTAL</b> | <b>11,785</b> | <b>6,314</b> | <b>16,024</b> | <b>36,897</b> | <b>60,245</b> | <b>52,415</b> | <b>22,717</b> | <b>70,798</b> | <b>52,189</b> | <b>48,077</b> | <b>38,628</b> | <b>29,485</b> |
| <b>MEAN</b>  | <b>380</b>    | <b>210</b>   | <b>517</b>    | <b>1,190</b>  | <b>2,152</b>  | <b>1,691</b>  | <b>757</b>    | <b>2,284</b>  | <b>1,740</b>  | <b>1,551</b>  | <b>1,246</b>  | <b>983</b>    |
| <b>MAX</b>   | <b>1,086</b>  | <b>654</b>   | <b>2,161</b>  | <b>3,570</b>  | <b>3,767</b>  | <b>3,534</b>  | <b>2,093</b>  | <b>3,617</b>  | <b>2,543</b>  | <b>2,268</b>  | <b>1,730</b>  | <b>1,542</b>  |
| <b>MIN</b>   | <b>14</b>     | <b>14</b>    | <b>14</b>     | <b>14</b>     | <b>14</b>     | <b>44</b>     | <b>14</b>     | <b>14</b>     | <b>999</b>    | <b>666</b>    | <b>788</b>    | <b>236</b>    |

**WATER YEAR TOTALS**

|                   |                  |
|-------------------|------------------|
| <b>TOTAL</b>      | 445,574          |
| <b>DAILY MEAN</b> | 1,221            |
| <b>DAILY MAX</b>  | 3,767 02/27/2017 |
| <b>DAILY MIN</b>  | 14 10/14/2016    |