Data used for Calculating Chloride Flux out of Yellowstone National Park for the Water Years 1983-1999

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ABSTRACT

Monitoring of chloride flux as a surrogate for heat flux out of Yellowstone National Park has been carried out to quantify the scientific data which can be used to understand the temporal changes in the plumbing system that connect the magmatic reservoirs to shallow geothermal systems underlying the Park, and establishment of baseline data to assess possible future adverse impacts on the thermal features by proposed commercial development of geothermal, oil and gas resources adjacent to the Park.

Tabulated here without interpretative comment are river discharge, chloride concentrations and instantaneous chloride fluxes for the Fall, Madison, Snake, and Yellowstone Rivers at sites near the boundary of the Park, and for the Firehole and Gibbon Rivers near their confluence to form the Madison River. In addition data is presented for the Gardner River above it's confluence with the Yellowstone River, and the Henry's Fork River near Ashton, Idaho. This study includes the water years 1983-1999.

INTRODUCTION

Monitoring of chloride flux as a surrogate for heat flux in Yellowstone National Park and vicinity has been carried out by a number of investigators including Fournier and others (1976), Norton and Friedman (1985), Friedman and Norton (1990), Norton and Friedman (1991), Friedman and others (1993). The reasons for these investigations varied from purely scientific, including the acquisition of an understanding of temporal changes in the plumbing system that connects the magmatic reservoir to the shallow geothermal system under Yellowstone, to the practical need of establishing baseline data to assess possible adverse impacts on thermal features of the Park from proposed commercial development of geothermal, oil and gas resources adjacent to the Park.

The data in this report extends the monitoring by Norton and Friedman (1991) of the chloride flux that leaves the Park via four major rivers, which are the Yellowstone, Madison, Snake, and Fall, which they estimated to be 94% of the total flux exiting the Park. They postulated that most of the remainder of the chloride exits along the west boundary of the Park in the Henry's Fork drainage (Norton and Friedman, 1985; Friedman et al., 1993). Data are also presented for the Firehole and Gibbon Rivers which combine in the Park to form the Madison River.

This study, a cooperative effort between the U.S. Geological Survey (USGS) and the National Park Service, includes data for the Water Years (WY) 1982-1989 previously published by Norton and Friedman (1991). These data have been recalculated using improved protocols and are included with new data acquired for WY1990-1998.

This report only presents data, the interpretation of which is planned to be published in a seperately.

Definition of Water Year

All reported values of annual data are calculated for the Water Year (WY) which is defined as 12 months beginning with October 1 and ending September 30.

SITE DESCRIPTIONS

The location of the gauging sites are shown in FIGURE 1, while the site descriptions are given in TABLE 1. All of the monitoring sites are official USGS gauging stations. Sites for discharge measurements were selected on the Snake, Falls, Madison, and Yellowstone Rivers, which are the four major rivers draining the Park. The Madison River was gauged from September 1982 to October 1986 and again from 1990 through 1999. During the three years that this site was inoperative, we used data from sites on the Firehole and Gibbon River tributaries to calculate discharge and chloride flux for the Madison River. These were gauged several kilometers above their confluence at Madison Junction, where the Madison River originates. The gauging site on the Madison River was 24 km from this confluence. For a period of 11 years all three rivers (Madison, Firehole, and Gibbon) were monitored, which allowed us to compare the discharge and chloride flux from the Madison River with the sum of the values for the other two rivers. This relationship will be discussed in a later section.

Water sampling sites were located at the gauging sites with the exception of the Yellowstone River. To avoid chloride input from La Duke Hot Spring which discharges into the river 3.2 km upstream from the gauging site, the water sampling site was located about 1 km upstream from this hot spring.

The Gardner River was monitored at a gauging station near it's confluence with the Yellowstone River, while the Henry's Fork River was monitored near Ashton, 0.2 miles below the power dam at the ouitlet of Ashton Reservoir.

FIELD MEASUREMENTS AND SAMPLING

Stream discharge measurements

Discharge measurements are those reported by the Water Resources Division (WRD) of the USGS using standard hydrologic methods and automated recorders. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6, and were reported to have an accuracy of 5 percent.

The water samples for chloride determinations were withdrawn with 50-ml plastic syringes and filtered on site through 5-micron membrane filters into plastic bottles, and submitted, together with appropriate analytical standards, to the WRD National Water Quality Laboratory in Denver for analysis by spectrophotometric or ion chromatographic procedures.

We chose a schedule for water sampling of the rivers which was monthly for January, February, November, and December; bi-monthly for March, April, September, and October; and weekly for May, June, July , and August. This 28 sample protocol allowed for greater accuracy than the WRD sampling protocol, particularly during period of high runoff in the spring and summer. The standard water sampling protocol used by WRD is to collect a sample at each site every six weeks. Using data from these two sampling protocols, we calculated the annual chloride flux for 1985 and 1986 for the four major rivers draining the Park. The data show that the flux calculated for individual rivers by the two protocols differs by as much as 12%. The discrepancy will depend upon the specific dates of sampling as related to the timing of snowmelt runoff. In view of these results we chose our sampling schedule that allowed for increased sampling during the period of high discharge. To the 28 samples per year for each site that we collected, we incorporated some of the 9 samples per year collected by the WRD.

Problems encountered in measuring the discharge of the Fall and Madison Rivers

Measurements of the discharge of the rivers were not made for certain time periods, and had to be reconstructed. The following is a description of the methods used to calculate this data.

Fall River

The flow of the Fall River was measured at the USGS gauging site at Squirrel (USGS site 13047500) for the period October 1, 1983 through August 31, 1993. Two irrigation canals (Marysville and Yellowstone) diverted water above the gauging site. The sum of the measured diversions through these two canals was added to the river discharge measured at the Squirrel gauge to derive a value of the total flow of the river as it exits the park.

A major diversion of the Fall River through the Marysville Canal for electricity generation began operation on September 1, 1993 and an alternate gauging station above all of the diversions did not begin operation until mid November, 1993 (see FIGURE 2 for a diagram showing the

positions of the Fall River gauging sites and diversions). An estimate of the Fall River discharge during the missing data collection period which included all of September and October, as well as early November of 1993, was made as follows:

(1) The average daily water flow through the power station for September, October, and November of the following year (1994) was calculated by subtracting the sum of the daily discharges as measured at Squirrel (USGS site 13047500) and the daily irrigation diversions from the Fall River, from the daily total flow of the river as measured at a newly established gauging station located above all of the diversions from the Fall River (USGS site 13046995).

(2) The resulting power station turbine discharge was plotted against the daily average electrical power generated as recorded at the power station.

(3) Power station discharge for the missing months was calculated using the relation between power generated and turbine discharge as calculated at step 2.

(4) To derive the flow of the Fall River as it left the Park, power station discharge was added to the sum of the measured Fall River discharge as gauged at the Squirrel site and the measured diversions for irrigation that occurred above this gauge.

Although this estimate, which is based on the sum of four measurements (two irrigation canal flows, flow of the river at the Squirrel gauge, and the calculated power plant discharge), is less precise than a direct measurement of the flow, the added error to the annual discharge is small because the stage of the river during the period September through mid-November was low, and constituted only approximately 6% of the annual discharge of the Fall River.

Madison River discharge and flux calculations for 1987, 1988, and 1989.

The discharge and chloride flux for the Madison River were not measured for the three water years 1987, 1988, and 1989. However, the Firehole and Gibbon Rivers were gauged during this time above Madison Junction, just upstream of their confluence to form the Madison River, and 24 km (15 mi) from the Madison River gauging site near West Yellowstone. No streams or hot springs are known to discharge into the Madison River along this 24 km reach, and it appeared feasible to use the sum of the discharges of the Firehole and Gibbon Rivers to calculate the flow of the Madison during this period. However subsurface inflow is a factor to consider.

To determine the amount and chloride content of subsurface inflow to the Madison River between Madison Junction and West Yellowstone, we used data for years when all three rivers were gauged, and compared the discharge of the Madison at West Yellowstone with the sum of the discharges of the Firehole and Gibbon Rivers near Madison Junction. The chloride fluxes were also compared in a similar manner.

The first set of calculations, using data for 1984, 1985 and 1986, (Norton and Friedman, 1991), showed that the discharge of the Madison River measured at West Yellowstone was 11.7% greater than the sum of the discharges of the Firehole and Gibbon Rivers measured 24 km downstream at Madison Junction. The chloride flux was also 3.6% greater in the Madison River than the sum of the fluxes of the Firehole and Gibbon Rivers.

New calculations, using data for 1990 through 1994, in addition to 1984. 1985 and 1986, has resulted in changes to these factors, which now are: 6.7% added discharge and 5.7% added chloride flux in the Madison River as compared to the sum of the Firehole and Gibbon Rivers near their confluence to form the Madison. These last factors have been used in this paper to derive the discharge and chloride flux for the Madison River in 1987, 1988, and 1989 when the discharge of the Madison river was not measured directly.

CHLORIDE ANALYSIS

Methods

For WY 1983 through 1989 the chloride determinations were made by a modification of the thiocyanate-spectrophotometric method of **Skoustad et al. (1979)** in which the discrete sample analyzer was replaced by an automated segmented sample analyzer. To increase the accuracy of the method we introduced our own chloride standard solutions between every 10 to 15 samples. We then normalized the laboratory results against these standards which were prepared gravimetrically from pure NaCl.

For WY 1990 through 1999 the chloride determinations were made utilizing the ion chromatographic procedure described by Fishman and Friedman, 1989. A series of gravimetrically prepared KCl standards were inserted at the beginning, middle, and end of each group of 50 samples, and the laboratory results of the chloride analyses were normalized to these standards. The automated chloride analysis apparatus has a digital readout which limits the precision of the readout, and results in the precision varying with chloride concentration from about 1% relative standard deviation for chloride concentrations greater than 50 ppm, to 3% for concentrations below 10 ppm.

CHLORIDE FLUX

Instantaneous chloride fluxes in grams per second, shown in the Appendix, were calculated by multiplying the chloride concentration of the sample by the river discharge reported for the time of collection. (Chloride flux in grams per second= chloride concentration in parts per million x river discharge in cubic meters per second. Cubic meters per second =cubic feet per second x 0.028317)

The error assigned to the the instantaneous chloride flux calculations is ±5.4 percent. This value is derived from the error of the individual chloride concentration (E=2 percent) and the discharge measurements (E=5 percent) as follows, where E=error.

$$\text{Chloride flux error} = \sqrt{E^2_{\text{chloride}} + E^2_{\text{discharge}}}$$

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Table 1

Gauging Site Descriptions[a]

USGS Station No.	Site Name and Location	Topographic map[b]	Drainage[c] Area, km^2
13047500	Fall[d] River near Squirrel, Idaho, 14.0 km from southwest corner of Yellowstone National Park	Porcupine Lake, ID	909
13046995	Fall River above Yellowstone Canal appx. 9 km from southwest corner of Yellowstone National Park and above all irrigation diversions	Porcupine Lake, ID	909
06036905	Firehole River, 4.2 km upstream from Madison Junction	Madison Junction, WY	730
06191000	Gardner River near Mammoth YNP	Mammoth, WY-MT	202
06037000	Gibbon River, 6.4 km upstream from Madison Junction	Madison Junction, WY.	306
13046000	Henry's Fork River near Ashton, 0.2 miles below power dam	Ashton, ID	1040
06037500	Madison River near West Yellowstone, MT : gauging site not shown on 7.5 min quad., but on older 15 min quad.	West Yellowstone, MT-WY-ID	1088
13010200	Snake River at Flagg Ranch, WY, 3.7 km south of Snake River Ranger Station, at bridge on hwy. U.S. 287	Flagg Ranch, WY	405
06191500	Yellowstone River at Corwin Springs, MT.	Electric Peak, MT, WY	6793

[a] Detailed descriptions of gauging sites are given in the USGS Water-Data Reports for ID, MT, and WY.

[b] Topographic maps are USGS 7.5-minute quadrangle maps.

[c] Drainage area from USGS Water-Data Reports for ID, MT, WY.

[d] The Falls River, named by the fur trappers in the early 1800's, was renamed the Fall River in 1997.

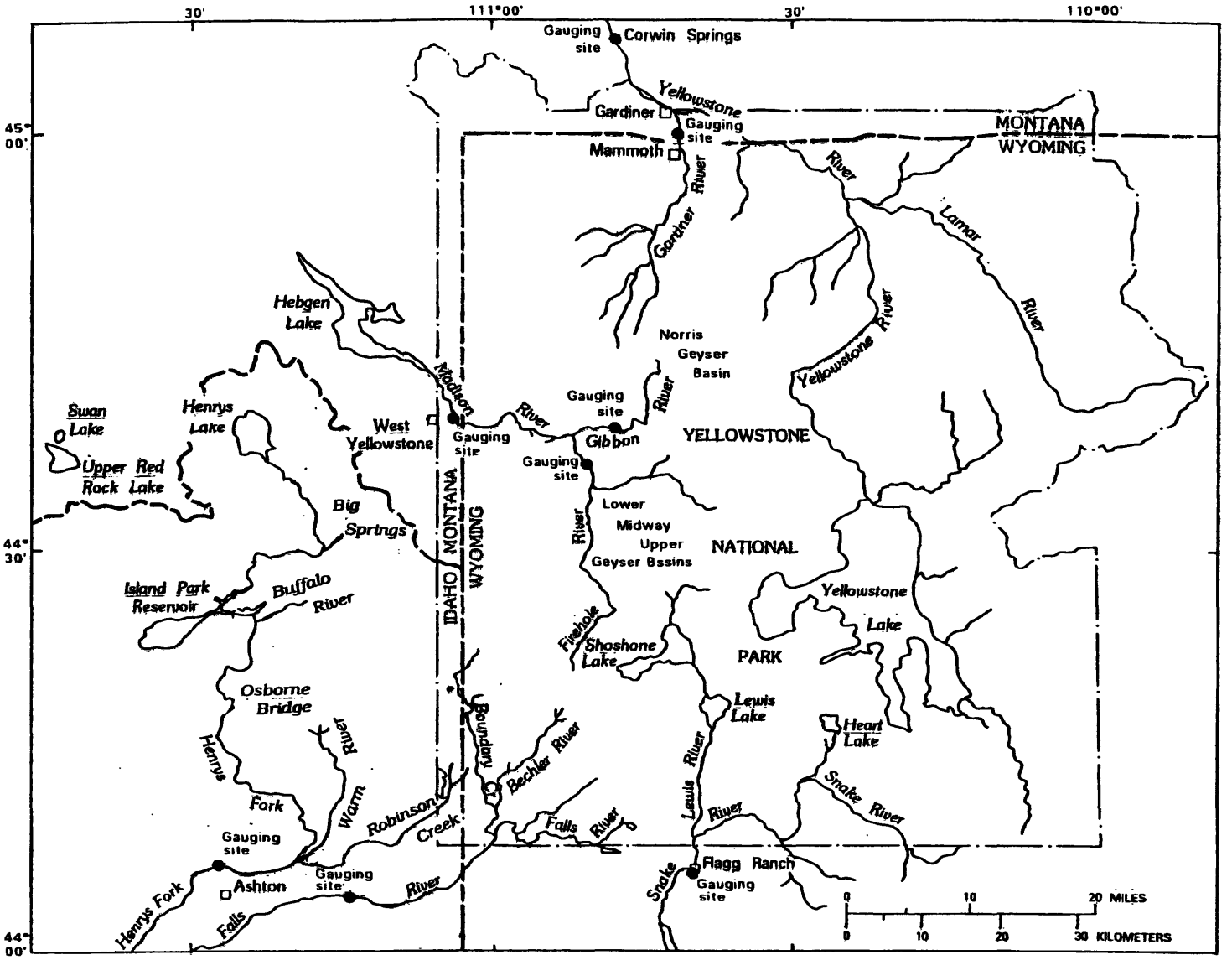

Figure 1

Map showing location of gauging sites

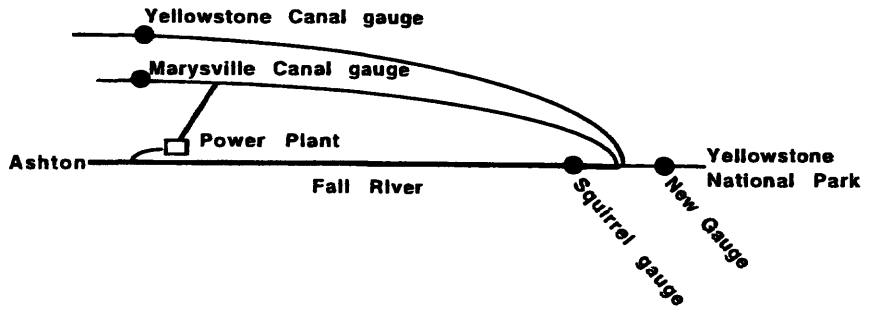

Figure 2

Diagram showing gauging stations on the upper Fall River

APPENDIX

Sample-data record showing date and time of collection, chloride concentration of sample, river discharge, and chloride flux for individual collections and for interpolated end-of-month values; all for the Fall, Firehole, Gardner, Gibbon, Madison, Snake, and Yellowstone Rivers for the water years 1983 through 1999, and for the Henry's Fork River for water year 1999.

[mg/L,milligrams per Liter; m^3/s, cubic meters per second; g/s, grams per second; water year is 12 months beginning October 1]

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[1] Date number 1 is January 1, 1980

[2] Where no time is reported, all data shown are interpolated values.

Fall River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1983:					
1-Oct-82	274		9.7	23.0	223
21-Oct-82	294	1630	9.9	18.7	186
10-Nov-82	314	1025	9.6	19.0	182
30-Nov-82	334	1030	11.0	18.7	206
19-Dec-82	353	1235	12.5	16.1	201
26-Jan-83	391	1020	12.1	13.7	166
23-Feb-83	419	1010	13.0	12.6	164
8-Mar-83	432	1010	13.2	12.8	169
21-Mar-83	445	1730	13.8	12.8	176
5-Apr-83	460	1535	13.4	11.6	155
19-Apr-83	474	1430	11.4	16.1	183
2-May-83	487	1350	8.6	29.4	253
9-May-83	494	1745	7.2	38.5	277
17-May-83	502	1000	8.8	26.4	232
23-May-83	508	0950	4.1	67.7	277
31-May-83	516	1035	2.7	99.4	268
7-Jun-83	523	0925	3.0	83.8	251
14-Jun-83	530	0955	3.3	73.3	242
22-Jun-83	538	1300	3.6	60.3	217
27-Jun-83	543	0910	3.5	65.8	230
6-Jul-83	552	0830	3.5	44.6	156
11-Jul-83	557	0840	4.2	55.2	232
18-Jul-83	564	0910	5.3	31.4	167
26-Jul-83	572	1000	6.7	24.5	164
1-Aug-83	578	1030	7.3	21.4	156
9-Aug-83	586	0915	7.7	18.3	141
16-Aug-83	593	0905	7.7	20.1	155
29-Aug-83	606	0900	8.2	22.7	186
13-Sep-83	621	0945	8.6	20.3	175
26-Sep-83	634	1230	9.6	16.3	156
30-Sep-83	638		9.4	30.0	267
Water Year 1984:					
1-Oct-83	639		9.3	30.6	273
12-Oct-83	650	0920	8.7	25.0	218
25-Oct-83	663	1100	9.7	26.2	254
8-Nov-83	677	1335	7.2	32.5	234
15-Dec-83	714	1530	11.2	18.5	207
8-Jan-84	738	1056	10.3	17.0	176
30-Jan-84	760	1435	11.8	15.7	185
29-Feb-84	790	1440	11.6	13.5	157
3-Mar-84	803	1345	11.9	13.3	158
26-Mar-84	816	1520	11.6	13.7	159
4-Apr-84	825	1400	11.7	13.1	153
22-Apr-84	843	1930	7.0	24.7	173
30-Apr-84	851	1035	7.7	21.9	162
8-May-84	859	0950	6.7	21.9	141
15-May-84	866	1004	3.0	106	319
21-May-84	872	1025	3.1	111	345
29-May-84	880	1740	3.1	77.3	327
8-Jun-84	890	0645	2.9	93.7	269
13-Jun-84	895	1955	4.0	65.7	263
19-Jun-84	901	1915	3.1	88.3	274
25-Jun-84	907	2030	2.7	102	278
30-Jun-84	912	1030	2.3	106	244

Fall River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
9-Jul-84	921	1100	3.7	51.5	191
17-Jul-84	929	1005	5.2	32.6	169
24-Jul-84	936	0908	5.8	31.4	182
30-Jul-84	942	2050	6.4	28.6	183
9-Aug-84	952	0757	6.3	23.5	148
15-Aug-84	958	0710	7.9	22.4	177
23-Aug-84	966	1030	7.2	23.5	169
29-Aug-84	972	1005	7.5	24.7	185
9-Sep-84	983	1855	8.8	20.8	183
23-Sep-84	997	1855	9.0	21.9	197
30-Sep-84	1004		9.1	16.6	151
Water year 1985:					
1-Oct-84	1005		9.2	16.5	152
9-Oct-84	1013	1543	9.3	16.1	150
22-Oct-84	1026	1619	10.4	15.9	165
7-Nov-84	1042	0924	11.0	16.1	178
4-Dec-84	1069	1410	11.7	14.6	171
7-Jan-85	1103	0930	11.6	14.2	164
22-Jan-85	1118	1342	11.6	12.5	145
12-Feb-85	1139	1645	11.9	14.7	175
19-Feb-85	1146	0650	14.1	16.3	230
5-Mar-85	1160	1545	12.5	12.5	156
25-Mar-85	1180	0755	12.9	13.5	175
3-Apr-85	1189	0955	13.9	14.2	197
15-Apr-85	1201	1445	9.8	27.7	271
29-Apr-85	1215	1844	8.4	33.7	283
13-May-85	1229	1230	4.9	56.0	274
28-May-85	1244	1940	3.3	91.5	302
4-Jun-85	1251	1005	3.9	55.2	215
9-Jun-85	1256	1930	3.3	82.8	273
18-Jun-85	1265	0922	4.0	58.5	234
23-Jun-85	1270	2035	5.5	39.8	219
25-Jun-85	1272	0930	5.6	38.5	216
1-Jul-85	1278	0750	7.6	29.5	224
9-Jul-85	1286	0800	8.0	25.6	205
17-Jul-85	1294	0955	8.4	25.8	217
23-Jul-85	1300	0945	9.1	26.6	242
29-Jul-85	1306	0939	9.1	21.0	191
6-Aug-85	1314	0849	9.6	20.3	195
13-Aug-85	1321	1002	9.8	18.7	183
20-Aug-85	1328	1902	10.2	16.6	170
27-Aug-85	1335	0900	10.4	15.7	163
9-Sep-85	1348	0958	10.7	21.5	230
17-Sep-85	1356	0958	10.8	16.2	175
23-Sep-85	1362	1511	10.4	16.2	168
30-Sep-85	1369		11.0	14.2	156
Water year 1986:					
1-Oct85	1370		11.0	16.5	183
8-Oct-85	1377	1652	11.6	16.4	190
21-Oct-85	1390	0944	11.1	14.7	163
30-Oct-85	1399	0900	11.7	16.1	188
4-Nov-85	1404	1043	11.4	15.2	174
4-Dec-85	1434	1010	12.4	13.7	170
11-Dec-85	1441	1030	13.6	11.6	158
4-Jan-86	1465	1010	13.1	13.5	177
23-Jan-86	1484	1000	13.5	11.4	154

Fall River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
3-Feb-86	1495	1525	13.1	12.0	158
4-Mar-86	1524	0904	12.8	14.0	179
19-Mar-86	1539	0925	12.6	14.0	176
31-Mar-86	1551	1030	9.0	29.3	264
14-Apr-86	1565	1650	7.6	34.8	264
16-Apr-86	1567	0945	8.0	33.8	270
30-Apr-86	1581	0948	5.9	30.9	182
14-May-86	1595	0955	7.7	32.5	250
19-May-86	1600	1053	6.5	48.5	315
26-May-86	1607	2025	4.0	91.5	366
29-May-86	1610	0930	2.6	103.9	270
2-Jun-86	1614	1053	2.3	134.4	309
9-Jun-86	1621	1017	2.8	108.3	303
17-Jun-86	1629	0922	2.5	102.7	260
24-Jun-86	1636	0845	3.2	70.4	225
1-Jul-86	1643	1100	2.9	58.6	170
8-Jul-86	1650	0910	5.6	36.8	206
13-Jul-86	1655	2035	6.4	34.1	218
16-Jul-86	1658	0930	6.5	33.1	215
23-Jul-86	1665	0815	7.2	29.8	215
30-Jul-86	1672	0920	7.6	27.8	2121
5-Aug-86	1678	0839	8.2	25.6	210
12-Aug-86	1685	0848	8.2	24.1	198
18-Aug-86	1691	0927	8.4	23.0	193
27-Aug-86	1700	0840	8.8	21.5	189
2-Sep-86	1706	0932	8.1	23.6	191
16-Sep-86	1720	1030	9.5	18.7	178
29-Sep-86	1733	0944	10.7	18.4	197
30-Sep-86	1734		10.7	17.9	193
Water year 1987:					
1-Oct-86	1735		10.7	18.4	198
16-Oct-86	1750	0959	10.9	17.3	188
28-Oct-86	1762	1430	10.6	16.1	170
10-Nov-86	1775	1710	12.1	16.3	198
9-Dec-86	1804	1540	13.0	12.5	162
13-Jan-87	1839	1047	13.2	13.5	178
9-Feb-87	1866	1307	13.5	12.3	165
9-Feb-87	1866	1718	13.5	12.3	165
10-Mar-87	1895	1015	13.7	12.9	176
24-Mar-87	1909	1612	14.6	11.4	167
26-Mar-87	1911	1620	14.3	11.4	164
8-Apr-87	1924	1032	12.9	17.0	219
20-Apr-87	1936	1022	9.1	27.1	247
29-Apr-87	1945	1223	4.4	50.5	222
4-May-87	1950	1944	6.4	40.8	261
11-May-87	1957	0945	4.0	51.8	209
19-May-87	1965	0845	4.8	51.3	248
26-May-87	1972	0920	7.4	42.0	312
3-Jun-87	1980	1001	7.6	28.5	218
9-Jun-87	1986	1907	9.0	23.1	208
15-Jun-87	1992	1032	10.0	18.5	186
18-Jun-87	1995	1300	10.3	16.2	166
23-Jun-87	2000	1007	10.8	15.5	167
29-Jun-87	2006	0911	9.3	18.7	173
8-Jul-87	2015	0906	9.5	15.9	152
14-Jul-87	2021	0918	10.6	14.2	150
21-Jul-87	2028	1023	11.8	12.9	152

Fall River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
30-Jul-87	2037	0920	11.3	14.5	163
4-Aug-87	2042	1050	11.7	12.9	151
13-Aug-87	2051	0900	12.9	11.1	142
17-Aug-87	2055	0950	13.1	11.0	144
26-Aug-87	2064	1021	13.4	10.6	142
31-Aug-87	2069	0934	13.5	10.3	138
8-Sep-87	2077	0910	13.7	9.6	131
24-Sep-87	2093	1200	14.3	9.0	129
30-Sep-87	2099		14.5	8.0	118
Water year 1988:					
1-Oct-87	2100		14.6	7.9	115
8-Oct-87	2107	0955	14.8	8.2	121
20-Oct-87	2119	1045	14.5	8.5	123
29-Oct-87	2128	1100	13.7	8.9	122
31-Oct-87	2130		13.8	8.9	122
30-Nov-87	2160	1310	15.9	8.5	135
28-Dec-87	2188	1655	16.3	10.1	164
31-Dec-87	2191		16.1	10.0	161
12-Jan-88	2203	1130	15.5	9.5	147
26-Jan-88	2217	1722	16.2	7.8	126
31-Jan-88	2222		16.1	8.0	129
22-Feb-88	2244	1745	16.0	9.1	145
24-Feb-88	2246	1145	16.0	9.3	150
29-Feb-88	2251		16.1	9.0	145
15-Mar-88	2266	1150	16.5	8.0	131
28-Mar-88	2279	1010	16.5	8.0	131
31-Mar-88	2282		15.8	9.3	147
8-Apr-88	2290	1100	14.0	12.9	180
13-Apr-88	2295	1110	12.3	17.7	218
25-Apr-88	2307	1645	10.0	31.1	311
30-Apr-88	2312		9.1	34.2	312
11-May-88	2323	1017	7.2	41.1	296
16-May-88	2328	1035	4.4	56.1	248
17-May-88	2329		4.5	66.3	298
23-May-88	2335	0904	3.6	59.3	215
31-May-88	2343		4.8	35.0	167
1-Jun-88	2344	0835	4.9	32.0	157
6-Jun-88	2349	0925	3.3	63.2	210
14-Jun-88	2357	0935	6.2	31.0	192
20-Jun-88	2363	0953	6.6	25.7	170
27-Jun-88	2370	0905	9.8	16.8	165
29-Jun-88	2372	1200	9.5	16.2	154
30-Jun-88	2373		9.5	16.5	157
5-Jul-88	2378	0900	9.6	18.1	173
10-Jul-88	2383	2040	8.6	19.5	167
20-Jul-88	2393	1055	9.2	17.7	163
27-Jul-88	2400	2002	9.4	16.8	158
31-Jul-88	2404		9.6	15.7	150
1-Aug-88	2405	1110	9.6	15.5	148
9-Aug-88	2413	1140	10.9	11.1	121
10-Aug-88	2414	0718	11.0	11.4	126
17-Aug-88	2421	0748	11.5	12.5	143
22-Aug-88	2426	0950	11.6	12.1	141
30-Aug-88	2434	0730	12.1	11.4	138
31-Aug-88	2435		12.1	11.3	138
6-Sep-88	2441	1009	12.4	10.8	134
20-Sep-88	2455	1015	12.5	11.8	147
30-Sep-88	2465		12.6	10.1	131

Fall River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1989:					
1-Oct-88	2466		12.7	10.3	133
4-Oct-88	2469	1000	12.4	10.6	135
20-Oct-88	2485	0925	12.8	10.6	153
16-Nov-88	2512	1715	13.9	10.3	149
12-Dec-88	2538	1635	14.0	9.9	149
13-Jan-89	2570	1030	16.6	8.8	146
8-Feb-89	2596	1535	17.6	9.3	164
6-Mar-89	2622	1430	16.2	8.8	142
9-Mar-89	2625	0917	15.7	10.8	170
21-Mar-89	2637	1645	16.1	9.2	148
6-Apr-89	2653	0955	16.3	8.5	138
18-Apr-89	2665	1020	11.8	19.0	224
2-May-89	2679	1410	8.6	34.5	295
12-May-89	2689	1043	3.9	88.9	342
17-May-89	2694	1038	4.0	76.0	307
23-May-89	2700	0918	3.3	73.6	244
31-May-89	2708	1022	4.4	55.6	244
6-Jun-89	2714	1327	3.0	82.1	245
14-Jun-89	2722	0917	3.1	68.8	212
21-Jun-89	2729	0840	3.7	62.9	232
27-Jun-89	2735	0850	4.6	40.1	186
4-Jul-89	2742	1040	5.5	31.2	171
11-Jul-89	2749	0907	7.9	21.5	169
12-Jul-89	2750	1000	7.9	20.8	164
18-Jul-89	2756	0845	8.0	20.8	166
27-Jul-89	2765	0954	8.1	20.2	163
1-Aug-89	2770	0841	8.5	18.5	157
8-Aug-89	2777	1000	9.2	17.0	157
17-Aug-89	2786	0940	9.6	16.7	159
23-Aug-89	2792	0905	9.0	16.7	150
27-Aug-89	2796	0935	10.2	17.0	172
11-Sep-89	2811	0930	10.5	15.7	165
27-Sep-89	2827	0914	10.7	14.4	155
30-Sep-89	2830		10.9	12.2	132
Water year 1990					
1-Oct-89	2831		10.4	16.4	171
2-Oct-89	2832	1225	10.3	15.5	160
10-Oct-89	2840	0938	11.3	15.2	163
24-Oct-89	2854	1145	11.2	14.0	157
6-Nov-89	2867	1715	11.2	14.2	159
15-Nov-89	2876	1255	12.7	13.5	172
5-Dec-89	2896	1043	15.9	13.3	212
2-Jan-90	2924	1010	17.9	11.2	201
16-Jan-90	2938	1140	14.5	11.3	163
23-Jan-90	2945	1155	14.4	11.7	169
14-Feb-90	2967	1620	15.8	11.2	177
21-Feb-90	2974	1030	15.1	10.9	164
20-Mar-90	3001	0953	16.2	10.4	169
31-Mar-90	3012	1700	12.0	19.7	237
6-Apr-90	3018	1010	13.8	22.4	309
17-Apr-90	3029	1010	6.5	27.2	177
1-May-90	3043	1039	7.6	37.2	282
9-May-90	3051	0953	6.5	36.0	234
14-May-90	3056	1935	7.0	40.6	284

Fall River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
21-May-90	3063	1012	6.7	35.5	238
21-May-90	3063	1530	6.7	33.4	224
1-Jun-90	3074	0948	5.5	53.2	292
6-Jun-90	3079	0918	4.8	51.5	247
12-Jun-90	3085	0935	3.8	67.1	255
19-Jun-90	3092	1020	4.6	45.3	209
25-Jun-90	3098	0839	4.5	50.0	226
26-Jun-90	3099	1210	5.7	46.0	262
30-Jun-90	3103	0833	10.3	35.1	370
3-Jul-90	3106	0930	6.5	36.9	245
9-Jul-90	3112	0850	9.5	20.8	205
17-Jul-90	3120	0800	8.9	21.2	196
24-Jul-90	3127	0830	8.9	20.8	191
7-Aug-90	3141	1435	10.1	16.7	176
14-Aug-90	3148	0800	10.6	15.2	167
21-Aug-90	3155	0745	11.3	16.5	188
28-Aug-90	3162	0837	11.2	15.2	171
11-Sep-90	3176	1000	11.5	14.4	165
26-Sep-90	3191	937	12.3	13.0	162
30-Sep-90	3195		12.4	10.9	159
Water year 1991:					
1-Oct-90	3196		12.1	11.0	156
10-Oct-90	3205	0820	11.8	14.0	165
23-Oct-90	3218	0930	12.9	14.8	191
24-Oct-90	3219	1315	10.1	13.8	139
19-Nov-90	3245	1635	14.2	12.9	183
6-Dec-90	3262	1220	14.8	9.5	140
17-Dec-90	3273	1055	8.1	13.1	106
18-Jan-91	3305	1006	15.5	12.7	198
12-Feb-91	3330	1020	18.2	12.5	227
26-Feb-91	3344	1445	16.1	9.7	156
11-Mar-91	3357	822	17.6	9.9	174
2-Apr-91	3379	1215	16.1	11.0	177
9-Apr-91	3386	1350	14.3	13.2	189
16-Apr-91	3393	1307	16.1	11.4	184
6-May-91	3413	1015	12.9	24.7	319
13-May-91	3420	1045	6.8	51.5	350
20-May-91	3427	1023	4.0	87.8	352
21-May-91	3428	1615	3.6	75.6	273
28-May-91	3435	1020	4.9	56.4	277
6-Jun-91	3444	1038	2.9	87.8	256
10-Jun-91	3448	1030	2.9	80.4	235
17-Jun-91	3455	0904	3.5	56.9	200
24-Jun-91	3462	0855	4.7	38.0	179
25-Jun-91	3463	1250	5.0	37.6	189
1-Jul-91	3469	0935	6.9	36.3	250
8-Jul-91	3476	0845	9.1	26.9	245
16-Jul-91	3484	1037	8.6	30.0	258
23-Jul-91	3491	0835	8.3	29.8	248
29-Jul-91	3497	0843	9.2	24.6	227
7-Aug-91	3506	1000	10.7	19.9	213
12-Aug-91	3511	1700	10.5	18.7	196
18-Aug-91	3517	1710	10.9	17.8	194
25-Aug-91	3524	1619	10.0	15.9	159
13-Sep-91	3543	1705	12.2	13.4	163
17-Sep-91	3547	0930	11.1	13.3	147
30-Sep-91	3560		12.1	11.2	137

Fall River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m3/s	Cl flux g/s
Water year 1992					
1-Oct-91	3561		11.9	10.7	129
3-Oct-91	3563	1200	12.0	11.0	132
7-Oct-91	3567	1200	12.6	10.8	137
9-Oct-91	3569	1000	12.9	13.3	172
21-Oct-91	3581	1010	13.6	12.2	166
12-Nov-91	3603	1035	14.7	12.9	189
13-Nov-91	3604	1200	13.7	14.2	194
10-Dec-91	3631	1420	14.5	11.3	163
7-Jan-92	3659	1200	14.3	10.8	154
15-Jan-92	3667	1605	16.8	10.5	176
10-Feb-92	3693	1031	15.8	10.1	160
11-Mar-92	3723	1830	15.9	10.7	170
25-Mar-92	3737	1613	16.1	11.3	181
5-Apr-92	3748	1630	11.2	25.8	289
23-Apr-92	3766	1934	7.4	34.5	256
6-May-92	3779	0825	4.7	50.4	237
11-May-92	3784	0753	5.8	39.2	227
22-May-92	3795	0925	3.92	45.1	177
29-May-92	3802	0847	4.88	34.3	168
10-Jun-92	3814	0808	8.47	16.4	139
20-Jun-92	3824	1107	7.16	22.7	163
24-Jun-92	3828	0938	9.04	17.6	159
29-Jun-92	3833	0938	10.17	17.8	181
11-Jul-92	3845	1012	10.1	15.1	153
16-Jul-92	3850	1012	11.5	14.6	168
21-Jul-92	3855	0912	12.1	13.5	163
28-Jul-92	3862	0852	12	13.3	159
4-Aug-92	3869	0843	12.6	12.5	157
13-Aug-92	3878	0900	12.6	11.6	147
16-Aug-92	3881	0910	12.7	12.4	157
26-Aug-92	3891	0942	12.9	11.9	153
8-Sep-92	3904	0953	12.8	13.1	168
17-Sep-92	3913	0930	10.5	12.4	131
23-Sep-92	3919	0855	13.7	11.0	151
30-Sep-92	3926		14.0	10.5	159
Water year 1993					
1-Oct-92	3927		14.1	11.4	148
8-Oct-92	3934	0953	14.4	13.0	199
22-Oct-92	3948	1037	14.5	13.8	164
27-Oct-92	3953	1200	11.3	11.3	126
8-Dec-92	3995	1200	11.7	11.2	139
16-Dec-92	4003	1346	16.6	11.9	194
13-Jan-93	4031	1005	12.0	11.7	122
20-Jan-93	4038	1200	14.4	10.2	156
8-Feb-93	4057	1055	15.9	10.8	155
9-Mar-93	4086	1200	16.3	9.8	161
10-Mar-93	4087	1325	17.2	9.9	164
22-Mar-93	4099	1640	17.6	9.5	171
9-Apr-93	4117	1515	14.7	9.7	221
19-Apr-93	4127	1437	14.9	15.0	214
20-Apr-93	4128	1200	13.9	14.4	187
7-May-93	4145	1315	8.1	13.4	310
15-May-93	4153	1015	2.3	38.5	312
20-May-93	4158	1517	2.2	137.1	280
26-May-93	4164	0745	3.0	126.0	338
8-Jun-93	4177	1200	3.3	113.6	311

Fall River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m3/s	Cl flux g/s
12-Jun-93	4181	1625	2.9	94.0	286
19-Jun-93	4188	0716	3.3	100.2	266
23-Jun-93	4192	1052	2.7	81.6	266
29-Jun-93	4198	0938		97.8	
1-Jul-93	4200	1020	4.6		210
9-Jul-93	4208	1057	5.4	45.8	204
15-Jul-93	4214	0842	6.7	37.6	207
21-Jul-93	4220	0800	6.9	30.9	198
27-Jul-93	4226	1200	7.3	28.8	235
30-Jul-93	4229	1130	6.9	32.3	197
6-Aug-93	4236	0913	9.0	28.4	220
10-Aug-93	4240	0822	8.8	24.3	199
19-Aug-93	4249	0918	9.3	22.6	198
25-Aug-93	4255	0850	9.4	21.3	183
31-Aug-93	4261	WRD	9.0	19.4	172
1-Sep-93	4262	1200	9.0	17.9	159
8-Sep-93	4269	0855	9.3	16.9	158
21-Sep-93	4282	0718	10.6	17.1	180
30-Sep-93	4291		10.3	15.5	159
Water year 1994					
1-Oct-93	4292		10.2	16.3	167
9-Oct-93	4300	1343	10.0	19.9	199
20-Oct-93	4311	1047	11.0	16.4	181
27-Oct-93	4318	1200	10.9	16.3	177
16-Nov-93	4338	1612	12.0	12.7	153
8-Dec-93	4360	1500	13.2	14.3	189
13-Dec-93	4365	1555	13.5	12.2	164
15-Jan-94	4398	1015	13.3	11.6	154
25-Jan-94	4408	1300	13.9	12.3	171
12-Feb-94	4426	1355	14.9	10.2	152
8-Mar-94	4450	1640	14.1	11.3	160
26-Mar-94	4468	1547	14.5	10.2	148
8-Apr-94	4481	1510	14.6	11.0	161
18-Apr-94	4491	1915	10.3	18.7	192
20-Apr-94	4493	0730	8.2	33.1	272
2-May-94	4505	1615	7.9	35.7	281
13-May-94	4516	1946	3.5	69.4	240
18-May-94	4521	1351	4.3	63.7	273
25-May-94	4528	0949	3.4	68.4	233
1-Jun-94	4535	0955	2.9	95.3	275
10-Jun-94	4544	0918	7.4	31.5	232
18-Jun-94	4552	0840	8.9	26.7	238
24-Jun-94	4558	0848	10.0	23.6	236
29-Jun-94	4563	0905	10.0	23.1	230
9-Jul-94	4573	1905	10.0	22.1	221
12-Jul-94	4576	1105	9.5	19.8	189
16-Jul-94	4580	1140	10.2	19.3	198
21-Jul-94	4585	0840	10.5	18.3	192
28-Jul-94	4592	0900	12.3	16.6	204
5-Aug-94	4600	0915	13.7	15.6	163
12-Aug-94	4607	0915	14.4	14.7	163
20-Aug-94	4615	1025	12.3	13.8	160
24-Aug-94	4619	1200	14.5	11.7	168
27-Aug-94	4622	0857	14.8	11.0	158
6-Sep-94	4632	0948	14.3	11.2	160
20-Sep-94	4646	0958	15.5	11.9	155

Fall River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
30-Sep-94	4656		13.8	12.8	163
Water Years 1995-1996 no data					
Water year 1997					
1-Oct-96	5388	1420	9.8	18.3	180
15-Oct-96	5402	1300	10.4	19.0	198
12-Nov-96	5430	1325	11.9	19.9	238
10-Dec-96	5458	1040	10.9	18.5	202
15-Jan-97	5494	1455	11.2	26.2	293
22-Jan-97	5501	1300	12.3	15.5	191
11-Feb-97	5521	1402	13.2	12.9	170
5-Mar-97	5543	1640	13.5	11.8	158
19-Mar-97	5557	1531	13.1	13.2	173
4-Apr-97	5573	1115	12.2	15.9	193
8-Apr-97	5577	1745	12.3	15.2	188
11-Apr-97	5580	1030	12.7	14.4	182
15-Apr-97	5584	1620	11.7	15.7	184
24-Apr-97	5593	1040	7.3	46.7	342
1-May-97	5600	1200	6.1	50.7	309
6-May-97	5605	0816	5.1	63.1	322
13-May-97	5612	2003	2.6	111.9	290
20-May-97	5619	1000	2.2	125.7	282
27-May-97	5626	0845	2.3	99.7	224
3-Jun-97	5633	1654	2.0	134.2	268
10-Jun-97	5640	0820	1.9	127.4	247
17-Jun-97	5647	1130	2.1	111.9	233
24-Jun-97	5654	1633	2.6	88.3	231
1-Jul-97	5661	1315	3.8	75.6	287
9-Jul-97	5669	1610	4.4	70.8	314
15-Jul-97	5675	1605	4.5	52.5	236
29-Jul-97	5689	1453	3.9	41.3	162
5-Aug-97	5696	1106	5.2	39.9	208
19-Aug-97	5710	1336	5.4	34.0	185
22-Aug-97	5713	1230	6.7	32.8	220
16-Sep-97	5738	0830	4.8	32.3	155
30-Sep-97	5752		8.4	23.0	192
Water year 1998					
1 Oct 97	5753	1200	7.7	22.5	173
17-Oct-97	5769	1735	9.7	22.8	220
12-Nov-97	5795	0745	9.0	22.7	173
17-Dec-97	5830	1655	10.8	15.6	168
14-Jan-98	5858	1615	11.1	15.4	171
10-Feb-98	5885	0825	12.3	14.7	181
3-Mar-98	5906	0830	12.4	13.9	171
24-Mar-98	5927	0910	10.4	21.9	227
4-Apr-98	5938	1810	10.6	17.0	180
14-Apr-98	5948	1815	12.0	16.3	196
21-Apr-98	5955		8.8	17.0	150
28-Apr-98	5962	0820	9.1	33.1	302
5-May-98	5969	2030	3.1	85.2	264
13-May-98	5977	0845	3.7	71.9	263
19-May-98	5983	0745	4.5	55.2	250
26-May-98	5990	1140	3.1	66.8	208
9-Jun-98	6004	0850	3.3	63.4	210
16-Jun-98	6011	0620	3.4	82.7	277

Fall River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
23-Jun-98	6018	0906	3.3	61.7	202
30-Jun-98	6025	1025	2.9	67.1	194
7-Jul-98	6032	1040	2.5	73.3	184
14-Jul-98	6039	0835	2.5	50.7	128
28-Jul-98	6053	0725	2.8	29.2	80.2
4-Aug-98	6060	1227	6.0	25.2	151
11-Aug-98	6067	0738	6.6	22.3	146
18-Aug-98	6074	0755	8.1	23.5	190
1-Sep-98	6088	0710	6.8	19.3	132
15-Sep-98	6102	1850	8.4	18.1	152
30-Sep-98	6117		8.0	19.2	154
Water year 1999					
1-Oct-98	6118	1515	8.0	18.5	148
22-Oct-98	6139	0940	9.7	15.9	154
19-Nov-98	6167	1650	9.3	16.3	151
10-Dec-98	6188	0750	9.5	21.2	200
14-Jan-99	6223	1030	12.1	13.3	161
18-Feb-99	6258	0920	12.5	12.7	159
11-Mar-99	6279	1705	12.0	11.9	143
25-Mar-99	6293	0810	11.4	14.2	161
1-Apr-99	6300	0535	11.7	13.3	155
15-Apr-99	6314	1040	12.5	14.0	175
22-Apr-99	6321	1810	8.8	19.3	170
6-May-99	6335	1555	5.9	35.7	210
13-May-99	6342	0805	5.9	39.9	235
20-May-99	6349	0745	3.8	47.9	181
27-May-99	6356	0745	1.9	116.4	220
3-Jun-99	6363	1830	2.1	115.3	237
10-Jun-99	6370	1650	2.5	77.6	196
24-Jun-99	6384	1530	2.1	86.9	178
30-Jun-99	6390		2.4	56.4	134
7-Jul-99	6397		2.8	56.1	155
15-Jul-99	6405	0910	3.2	41.3	133
5-Aug-99	6426	0910	5.8	25.6	150
19-Aug-99	6440	1850	5.2	24.1	125
9-Sep-99	6461	0745	7.0	22.1	155
23-Sep-99	6475	0815	7.5	21.2	158
30-Sep-99	6482		7.5	21.4	160

Firehole River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1984					
1-Oct-83	639		59.9	14.16	849
9-Oct-83	647	1730	60.7	9.91	602
23-Oct-83	661	1105	60.1	9.40	565
6-Nov-83	675	1230	59.0	10.45	616
4-Dec-83	703	1215	65.9	8.78	578
1-Jan-84	731	1330	66.1	8.52	563
29-Jan-84	759	1130	67.9	8.24	559
29-Feb-84	790	1145	70.7	7.84	555
16-Mar-84	806	1130	73.4	8.33	611
29-Mar-84	819	1340	71.2	8.07	575
10-Apr-84	831	1400	70.6	8.13	574
25-Apr-84	846	1100	64.8	9.12	591
3-May-84	854	1420	68.1	9.12	621
9-May-84	860	1045	66.4	9.12	606
17-May-84	868	1230	39.8	15.55	619
23-May-84	874	0900	30.1	18.52	557
30-May-84	881	1540	31.8	18.94	602
6-Jun-84	888	0620	46.4	15.29	710
6-Jun-84	888	1810	43.2	15.04	650
13-Jun-84	895	1450	44.6	13.65	609
20-Jun-84	902	1250	37.0	15.06	557
28-Jun-84	910	2000	42.7	12.20	521
5-Jul-84	917	1940	50.9	10.17	518
11-Jul-84	923	1010	56.9	9.68	551
19-Jul-84	931	1540	58.7	9.32	547
25-Jul-84	937	1240	56.9	9.49	539
1-Aug-84	944	1210	59.3	9.68	574
9-Aug-84	952	0845	59.9	8.95	536
16-Aug-84	959	1445	58.9	9.03	532
22-Aug-84	965	1413	59.7	9.12	545
30-Aug-84	973	1430	60.5	9.03	547
11-Sep-84	985	1530	59.7	9.20	550
26-Sep-84	1000	1120	63.1	9.20	581
30-Sep-84	1004		62.7	9.03	573
Water year 1985					
1-Oct-84	1005		62.6	9.00	563
12-Oct-84	1016	1200	61.3	8.95	548
26-Oct-84	1030	1436	62.8	9.12	572
9-Nov-84	1044	1400	64.8	9.20	596
7-Dec-84	1072	1520	65.2	8.50	554
2-Jan-85	1098	1240	67.3	8.69	585
23-Jan-85	1119	1450	66.9	8.07	540
21-Feb-85	1148	0745	67.5	7.82	527
21-Feb-85	1148	1820	70.6	7.99	564
14-Mar-85	1169	0630	70.3	7.82	550
17-Apr-85	1203	1000	48.3	12.01	580
11-Jun-85	1258	1630	39.9	12.43	496
23-Jul-85	1300	1450	53.1	12.63	670
4-Sep-85	1343	1700	70.2	8.33	585
30-Sep-85	1369		66.8	8.41	562
Water year 1986					
1-Oct-85	1370		66.6	8.50	566
16-Oct-85	1385	1500	64.7	8.86	573
8-Nov-85	1408	0925	66.7	9.49	633

Firehole River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
5-Dec-85	1435	1630	67.1	8.75	587
3-Jan-86	1464	1450	68.7	8.58	590
3-Feb-86	1495	1435	71.6	8.50	609
5-Feb-86	1497	1120	70.2	8.24	579
2-Mar-86	1522	1010	71.8	8.95	643
16-Mar-86	1536	0920	72.4	8.33	603
18-Mar-86	1538	1600	71.2	8.50	605
8-Apr-86	1559	0900	56.7	11.89	675
17-Apr-86	1568	1030	63.6	11.36	722
18-Apr-86	1569	1730	70.2	9.88	694
1-May-86	1582	1620	61.7	13.99	864
5-May-86	1586	0811	53.3	15.66	834
29-May-86	1610	0830	17.8	33.78	601
8-Jun-86	1620	0735	24.5	25.51	625
26-Jun-86	1638	1640	35.6	15.06	537
10-Jul-86	1652	0848	44.7	13.08	584
23-Jul-86	1665	0740	49.8	12.01	597
24-Jul-86	1666	1150	48.8	11.27	550
6-Aug-86	1679	0845	51.9	10.17	528
20-Aug-86	1693	0830	52.0	10.25	533
3-Sep-86	1707	0830	50.9	10.36	527
4-Sep-86	1708	0735	52.0	10.17	529
17-Sep-86	1721	1745	52.6	10.05	529
30-Sep-86	1734		52.9	10.51	555
Water year 1987					
1-Oct-86	1735	0804	52.9	10.56	558
8-Oct-86	1742	1100	52.4	9.88	518
15-Oct-86	1749	1135	53.5	9.32	498
25-Oct-86	1759	1605	53.2	9.68	515
18-Nov-86	1783	1100	63.1	9.32	588
27-Nov-86	1792	1112	59.4	9.03	537
10-Dec-86	1805	1200	60.0	8.33	500
24-Dec-86	1819	1150	58.5	8.50	497
6-Jan-87	1832	1300	63.4	8.58	544
7-Jan-87	1833	1437	62.2	8.50	528
21-Jan-87	1847	1230	66.8	8.07	539
4-Feb-87	1861	1555	64.0	8.50	544
18-Feb-87	1875	0937	67.0	8.16	547
18-Feb-87	1875	1100	66.1	8.16	539
11-Mar-87	1896	1000	71.5	8.67	620
25-Mar-87	1910	1545	68.6	7.99	548
3-Apr-87	1919	0900	67.4	7.82	527
8-Apr-87	1924	1347	62.1	8.67	538
23-Apr-87	1939	1712	50.4	10.17	512
6-May-87	1952	0902	44.4	11.78	523
19-May-87	1965	0930	51.2	12.32	631
20-May-87	1966	0928	53.9	11.55	623
4-Jun-87	1981	1727	63.4	8.33	528
17-Jun-87	1994	1725	68.6	7.65	524
30-Jun-87	2007	1145	64.8	7.48	484
1-Jul-87	2008	1727	67.6	7.39	500
15-Jul-87	2022	1229	67.8	7.22	490
26-Jul-87	2033	1800	68.4	7.48	511
12-Aug-87	2050	1725	69.7	7.08	494
18-Aug-87	2056	1220	69.6	7.16	498
26-Aug-87	2064	1645	67.8	7.25	491
9-Sep-87	2078	1510	69.6	6.91	481

Firehole River

Day-month-year	Date 1 No.	Time 2	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
23-Sep-87	2092	1729	71.0	6.58	475
30-Sep-87	2099		71.1	6.82	485
Water year 1988					
1-Oct-87	2100		71.1	6.85	487
6-Oct-87	2105	1205	71.2	6.91	492
7-Oct-87	2106	1734	72.0	6.99	503
21-Oct-87	2120	1530	73.1	6.82	499
4-Nov-87	2134	1030	72.2	6.91	499
17-Nov-87	2147	1130	72.9	6.82	497
1-Dec-87	2161	0837	74.8	6.68	500
30-Dec-87	2190	1445	77.5	6.91	536
5-Jan-88	2196	1120	77.3	6.99	541
28-Jan-88	2219	1303	80.5	7.16	577
17-Feb-88	2239	1210	81.1	6.91	560
24-Feb-88	2246	1328	73.7	6.91	509
16-Mar-88	2267	0856	79.9	6.82	545
29-Mar-88	2280	1130	73.1	7.16	524
31-Mar-88	2282	1201	80.5	6.91	556
13-Apr-88	2295	1726	66.2	9.88	654
21-Apr-88	2303	1740	59.9	10.36	621
27-Apr-88	2309	1709	74.3	9.88	734
4-May-88	2316	1705	70.2	8.75	614
12-May-88	2324	1544	51.2	11.04	565
17-May-88	2329	1130	30.6	16.93	518
18-May-88	2330	1709	37.5	14.10	529
25-May-88	2337	1709	38.9	12.74	496
1-Jun-88	2344	1714	52.4	10.45	548
8-Jun-88	2351	1846	54.9	8.75	480
15-Jun-88	2358	1713	66.5	7.39	491
22-Jun-88	2365	1049	70.0	7.08	496
22-Jun-88	2365	1210	69.0	7.08	488
29-Jun-88	2372	0715	72.8	6.68	487
6-Jul-88	2379	0734	71.6	6.37	456
13-Jul-88	2386	0845	76.0	6.31	480
20-Jul-88	2393	0748	76.9	6.09	468
27-Jul-88	2400	0741	77.5	6.23	483
3-Aug-88	2407	0726	76.7	6.09	467
9-Aug-88	2413	1215	78.6	6.12	481
9-Aug-88	2413	1715	77.6	6.09	472
17-Aug-88	2421	917	76.4	5.95	454
24-Aug-88	2428	0915	75.6	6.06	458
31-Aug-88	2435	1659	78.4	6.00	471
7-Sep-88	2442	1827	78.8	5.95	469
20-Sep-88	2455	1215	79.1	6.31	499
21-Sep-88	2456	1712	76.5	6.31	483
30-Sep-88	2465		76.3	6.14	469
Water year 1989					
1-Oct-88	2465		76.3	6 .34	484
5-Oct-88	2470	1702	76.2	6.54	498
6-Oct-88	2471	1230	77.5	6.46	500
19-Oct-88	2484	1754	79.3	6.60	523
3-Nov-88	2499	1145	79.9	7.08	566
16-Nov-88	2512	0901	85.1	6.46	549
13-Dec-88	2539	1515	82.8	6.46	535
15-Dec-88	2541	1508	84.3	5.58	470
10-Jan-89	2567	1615	75.9	6.31	479

Firehole River

Day month-year	Date 1 No.	Time 2	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
7-Feb-89	2595	1515	85.7	6.54	561
9-Feb-89	2597	1015	83.4	6.37	531
7-Mar-89	2623	0945	87.3	7.08	618
8-Mar-89	2624	1330	85.4	6.82	583
23-Mar-89	2639	0910	85.0	6.68	568
4-Apr-89	2651	1125	83.9	6.54	549
19-Apr-89	2666	1750	60.9	10.40	636
3-May-89	2680	1752	60.9	10.20	619
3-May-89	2680	1015	56.4	11.20	629
14-Jun-89	2722	1115	39.6	13.50	536
5-Jul-89	2743	0850	65.0	7.99	519
13-Jul-89	2751	1140	61.5	8.95	550
21-Jul-89	2759	1000	68.9	7.56	521
26-Jul-89	2764	1000	68.3	7.56	516
28-Jul-89	2766	1100	67.4	8.33	561
4-Aug-89	2773	1630	68.7	7.65	525
10-Aug-89	2779	1645	71.7	7.73	554
12-Aug-89	2781	1515	68.1	7.90	538
21-Aug-89	2790	1000	70.3	7.99	561
27-Aug-89	2796	0930	70.2	7.65	537
12-Sep-89	2812	1100	71.0	7.16	509
26-Sep-89	2826	1308	71.8	7.08	508
30-Sep-89	2830		71.6	7.25	519
Water year 1990					
1-Oct-89	2831		71.6	7.87	564
10-Oct-89	2840	1754	71.2	7.42	528
11-Oct-89	2841	1305	71.3	7.36	525
7-Nov-89	2868	1646	74.2	7.62	565
5-Dec-89	2896	1230	78.8	7.48	589
6-Jan-90	2928	0944	77.7	7.05	548
16-Jan-90	2938	0918	78.5	7.48	587
25-Jan-90	2947	0915	78.0	7.11	554
15-Feb-90	2968	1204	87.7	6.82	598
7-Mar-90	2988	0930	81.3	7.31	594
22-Mar-90	3003	1822	79.5	7.82	621
18-Apr-90	3030	1118	47.7	11.84	565
1-May-90	3043	1430	66.1	8.67	573
2-May-90	3044	1238	65.4	9.12	596
9-May-90	3051	1447	60.2	9.68	583
16-May-90	3058	0944	57.4	9.85	566
23-May-90	3065	1007	39.3	13.20	519
30-May-90	3072	1118	30.2	12.52	378
6-Jun-90	3079	1832	48.1	10.99	528
13-Jun-90	3086	1824	65.7	11.89	781
20-Jun-90	3093	1829	56.3	10.11	569
27-Jun-90	3100	1820	62.1	8.33	517
4-Jul-90	3107	1257	67.3	7.65	515
11-Jul-90	3114	2104	69.9	7.22	505
18-Jul-90	3121	1808	70.9	7.08	502
25-Jul-90	3128	1851	70.1	7.31	512
25-Jul-90	3128	0845	70.1	7.65	536
1-Aug-90	3135	1806	72.4	7.19	521
8-Aug-90	3142	1809	72.8	7.16	522
15-Aug-90	3149	1805	73.0	7.39	540
22-Aug-90	3156	1802	73.2	7.11	520
29-Aug-90	3163	1837	72.6	7.05	512
12-Sep-90	3177	1758	78.3	6.91	541

Firehole River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
12-Sep-90	3177	0930	78.3	6.97	545
26-Sep-90	3191	1806	70.6	7.11	502
30-Sep-90	3195		71.1	7.02	499
Water year 1991					
1-Oct-90	3196		71.2	6.91	492
10-Oct-90	3205	0858	72.2	7.28	525
23-Oct-90	3218	0900	74.1	7.39	548
24-Oct-90	3219	1344	73.8	7.16	529
20-Nov-90	3246	0946	75.9	7.65	580
19-Dec-90	3275	1424	82.6	6.99	578
13-Feb-91	3331	0930	77.3	6.91	534
13-Feb-91	3331	1315	79.8	6.77	540
28-Feb-91	3346	0915	85.3	6.77	577
31-Mar-91	3377	1312	80.1	6.82	547
10-Apr-91	3387	1439	75.6	7.82	591
18-Apr-91	3395	1415	81.3	7.73	628
30-Apr-91	3407	1410	79.1	7.73	611
16-May-91	3423	1703	57.0	13.68	780
30-May-91	3437	2016	52.0	13.76	716
31-May-91	3438	815	40.9	16.82	688
13-Jun-91	3451	1101	32.5	18.38	597
20-Jun-91	3458	806	36.9	16.31	602
27-Jun-91	3465	1333	53.6	10.36	556
30-Jun-91	3468	1649	61.5	9.03	556
11-Jul-91	3479	1513	65.5	8.75	573
16-Jul-91	3484	1626	66.0	8.41	555
18-Jul-91	3486	915	82.8	7.65	633
26-Jul-91	3494	1946	70.1	7.56	530
31-Jul-91	3499	1128	69.6	7.90	550
15-Aug-91	3514	1836	70.4	7.16	504
21-Aug-91	3520	2034	70.7	7.22	511
22-Aug-91	3521	1220	71.1	7.28	518
30-Aug-91	3529	1509	71.2	7.19	512
31-Aug-91	3530	1858	69.6	7.19	501
26-Sep-91	3556	1708	70.4	7.08	498
30-Sep-91	3560	1241	71.3	7.36	525
Water year 1992					
1-Oct-91	3561		71.5	7.19	514
9-Oct-91	3569	1647	73.3	7.14	523
26-Oct-91	3586	1108	76.2	7.93	604
13-Nov-91	3604	1647	78.6	7.65	601
14-Dec-91	3635	1212	75.0	7.36	552
13-Jan-92	3665	1148	73.7	6.80	501
10-Feb-92	3693	1205	86.0	7.08	609
9-Mar-92	3721	1050	80.2	6.54	525
23-Mar-92	3735	1051	80.3	6.99	562
10-Apr-92	3753	1635	71.8	9.20	661
20-Apr-92	3763	1423	62.4	8.21	512
15-May-92	3788	1322	50.8	10.14	515
22-May-92	3795	1607	53.4	8.83	472
29-May-92	3802	1353	61.5	8.07	496
11-Jun-92	3815	1212	74.2	6.99	519
20-Jun-92	3824	1705	66.1	7.48	494
27-Jun-92	3831	1624	71.1	8.33	592
4-Jul-92	3838	1639	72.5	8.07	585
10-Jul-92	3844	1622	73.2	7.16	524

Firehole River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
17-Jul-92	3851	1736	73.0	6.99	511
24-Jul-92	3858	1717	77.8	6.77	527
31-Jul-92	3865	2055	79.1	6.31	499
8-Aug-92	3873	1831	80.1	6.14	492
14-Aug-92	3879	1922	80.1	6.09	488
21-Aug-92	3886	1747	77.8	6.46	502
28-Aug-92	3893	1802	81.5	6.23	508
12-Sep-92	3908	1215	74.9	6.82	511
28-Sep-92	3924	1006	76.5	6.82	522
30-Sep-92	3926		75.9	6.77	513
Water year 1993					
1-Oct-92	3927		75.5	6.77	511
10-Oct-92	3936	1703	72.6	6.54	475
20-Oct-92	3946	1202	77.1	6.54	504
20-Nov-92	3977	1011	79.6	6.46	514
6-Jan-93	4024	1015	78.3	5.95	466
16-Jan-93	4034	1214	79.6	6.23	496
8-Feb-93	4057	1420	81.5	6.37	519
24-Feb-93	4073	0955	82.9	6.68	554
7-Mar-93	4084	1145	79.2	6.43	509
21-Mar-93	4098	1448	80.5	6.82	549
1-Apr-93	4109	1200	73.9	6.82	504
17-Apr-93	4125	1522	76.6	7.31	560
24-Apr-93	4132	1158	73.0	8.07	589
8-May-93	4146	1627	56.5	10.25	579
15-May-93	4153	1200	33.8	17.19	581
18-May-93	4156	930	27.8	19.34	538
22-May-93	4160	2026	29.4	26.50	779
29-May-93	4167	1636	31.7	16.82	533
4-Jun-93	4173	2008	38.9	14.22	553
12-Jun-93	4181	1612	37.0	15.43	571
19-Jun-93	4188	1741	43.4	12.40	538
26-Jun-93	4195	1623	52.1	11.89	620
3-Jul-93	4202	1559	58.8	10.36	609
6-Jul-93	4205	1800	57.7	10.96	632
10-Jul-93	4209	1913	62.5	9.03	565
16-Jul-93	4215	1517	62.6	9.03	565
23-Jul-93	4222	1853	61.7	8.58	529
31-Jul-93	4230	2100	63.4	8.41	533
7-Aug-93	4237	1715	64.1	8.75	561
13-Aug-93	4243	1852	64.2	8.33	534
16-Aug-93	4246	1615	63.7	8.07	514
20-Aug-93	4250	1901	63.9	7.73	494
27-Aug-93	4257	1751	65.4	7.59	496
10-Sep-93	4271	1726	66.0	7.76	512
24-Sep-93	4285	1629	63.9	7.99	510
30-Sep-93	4291		65.5	7.65	501
Water year 1994					
1-Oct-93	4292		65.8	7.42	488
5-Oct-93	4296	1500	66.9	7.48	500
9-Oct-93	4300	1715	68.1	7.99	543
22-Oct-93	4313	1639	66.2	8.13	538
5-Nov-93	4327	1200	65.2	8.07	526
17-Nov-93	4339	1310	69.1	7.73	534
25-Dec-93	4377	1516	72.9	7.50	547

Firehole River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values: Chloride mg/L	Discharge m^3/s	Cl flux g/s
25-Jan-94	4408		72.2	7.42	536
25-Feb-94	4439		70.3	7.67	539
29-Mar-94	4471	1200	75.0	7.08	531
10-Apr-94	4483		72.5	7.39	535
20-Apr-94	4493		45.6	13.11	597
1-May-94	4504		60.2	9.29	559
7-May-94	4510		42.0	14.50	609
16-May-94	4519	1215	35.3	14.92	527
28-May-94	4531	1549	34.8	16.85	586
5-Jun-94	4539	1824	54.7	8.81	482
12-Jun-94	4546		67.5	8.07	545
18-Jun-94	4552	1639	63.7	7.93	505
25-Jun-94	4559	1735	66.4	7.39	491
2-Jul-94	4566	1600	66.8	6.91	462
9-Jul-94	4573	1805	66.8	6.91	462
16-Jul-94	4580	1707	68.5	6.68	458
25-Jul-94	4589	1401	67.4	6.68	450
30-Jul-94	4594	1705	68.8	6.23	429
6-Aug-94	4601	1917	69.3	5.86	406
14-Aug-94	4609	1135	72.7	6.09	443
20-Aug-94	4615	1332	72.7	6.23	453
27-Aug-94	4622	1834	69.0	6.14	424
11-Sep-94	4637	1919	68.7	6.60	453
25-Sep-94	4651	1007	71.5	6.37	456
30-Sep-94	4656		71.08	7.59	539

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water Year 1985					
1-Oct-84	1005		24.8	4.39	109
1-Nov-84	1036		27.4	3.94	108
1-Dec-84	1066		31.0	3.43	106
1-Jan-85	1097		34.6	3.03	105
22-Feb-85	1149	1220	38.2	2.94	112
8-Mar-85	1163	1235	44.6	2.94	131
14-Mar-85	1169	1000	40.6	2.61	106
2-Apr-85	1188	1315	37.8	3.26	123
18-Apr-85	1204	1440	18.4	6.82	126
26-Apr-85	1212	1220	32.5	3.96	129
5-May-85	1221	2115	12.3	9.63	118
14-May-85	1230	1615	12.5	9.37	117
24-May-85	1240	1500	6.3	18.94	119
30-May-85	1246	1425	7.8	16.37	127
5-Jun-85	1252	1830	9.3	12.77	118
6-Jun-85	1253	1600	7.6	17.44	132
13-Jun-85	1260	1730	9.9	11.61	115
21-Jun-85	1268	0936	12.5	8.89	111
27-Jun-85	1274	1400	15.1	7.33	111
5-Jul-85	1282	1547	17.9	5.86	105
11-Jul-85	1288	0800	19.0	5.35	102
13-Jul-85	1290	1530	20.0	5.52	110
18-Jul-85	1295	1610	20.6	5.01	103
24-Jul-85	1301	1035	20.7	5.01	104
30-Jul-85	1307	1327	21.7	4.79	104
3-Aug-85	1311	1238	21.5	4.84	104
15-Aug-85	1323	1420	26.0	4.02	105
19-Aug-85	1327	1200	26.8	3.88	104
22-Aug-85	1330	1510	27.1	3.82	104
30-Aug-85	1338	1450	29.0	3.54	103
2-Sep-85	1341	1145	24.3	4.02	98
11-Sep-85	1350	1140	27.9	3.88	108
27-Sep-85	1366	0930	28.8	3.74	108
30-Sep-85	1369		30.4	3.74	114
Water year 1986					
1-Oct-85	1370		30.9	3.74	132
11-Oct-85	1380	1500	36.2	3.74	135
22-Oct-85	1391	1307	28.3	3.91	111
5-Nov-85	1405	1300	29.7	3.65	109
7-Nov-85	1407	1215	33.9	3.03	103
30-Dec-85	1460	1535	43.5	2.92	127
14-Jan-86	1475	1630	39.1	2.92	114
5-Feb-86	1497	1800	37.1	2.38	88.2
6-Feb-86	1498	820	40.2	2.55	102
13-Mar-86	1533	1545	38.7	3.11	121
18-Mar-86	1538	1425	40.8	2.92	119
19-Mar-86	1539	1630	39	3.03	118
2-Apr-86	1553	954	28.1	4.25	119
15-Apr-86	1566	1330	23.5	5.21	122
30-Apr-86	1581	720	21	5.41	114
3-May-86	1584	1200	13.3	10.8	144
21-May-86	1602	1035	10.3	13.9	143
27-May-86	1608	1435	6.1	23.6	144
4-Jun-86	1616	1700	4.2	38.3	159
1-Oct-85	1370		30.9	3.74	132

Gardner River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
11-Oct-85	1380	1500	36.2	3.74	135
22-Oct-85	1391	1307	28.3	3.91	111
5-Nov-85	1405	1300	29.7	3.65	109
7-Nov-85	1407	1215	33.9	3.03	103
30-Dec-85	1460	1535	43.5	2.92	127
14-Jan-86	1475	1630	39.1	2.92	114
5-Feb-86	1497	1800	37.1	2.38	88.2
6-Feb-86	1498	820	40.2	2.55	102
13-Mar-86	1533	1545	38.7	3.11	121
18-Mar-86	1538	1425	40.8	2.92	119
19-Mar-86	1539	1630	39	3.03	118
2-Apr-86	1553	954	28.1	4.25	119
15-Apr-86	1566	1330	23.5	5.21	122
30-Apr-86	1581	720	21	5.41	114
3-May-86	1584	1200	13.3	10.8	144
21-May-86	1602	1035	10.3	13.9	143
27-May-86	1608	1435	6.1	23.6	144
4-Jun-86	1616	1700	4.2	38.3	159
9-Jun-86	1621	1400	6.3	35.6	223
20-Jun-86	1632	1038	6.3	20.2	128
27-Jun-86	1639	1130	8.8	13.5	118
3-Jul-86	1645	1420	11.8	9.71	115
9-Jul-86	1651	1005	11.5	9.97	115
17-Jul-86	1659	1415	14.6	7.56	110
22-Jul-86	1664	1040	16.5	6.34	105
22-Jul-86	1664	1730	16.7	6.14	103
27-Jul-86	1669	1040	16.7	6.54	109
5-Aug-86	1678	1015	20.1	5.04	101
13-Aug-86	1686	1625	21.4	4.7	101
21-Aug-86	1694	1905	19.8	5.78	114
29-Aug-86	1702	1630	24.3	4.25	103
2-Sep-86	1706	641	24.3	4.53	110
15-Sep-86	1719	1015	25.1	4.33	109
30-Sep-86	1734		25.1	4.33	109
Water Year 1987					
1-Oct-86	1735	1335	25.2	4.33	109
16-Oct-86	1750	1350	30.2	3.74	113
22-Oct-86	1756	930	29.1	3.74	109
30-Oct-86	1764	1047	29.3	3.82	112
18-Nov-86	1783	1610	29.7	3.57	106
4-Dec-86	1799	900	44.2	2.64	117
12-Dec-86	1807	1545	40.3	3.11	126
14-Jan-87	1840	1645	37.4	3.11	116
20-Feb-87	1877	1645	51	3.23	165
25-Feb-87	1882	1610	41.1	2.83	116
13-Mar-87	1898	1130	39.7	2.83	112
10-Apr-87	1926	930	39.9	2.92	116
17-Apr-87	1933	1520	32.6	4.7	153
23-Apr-87	1939	1422	27.6	5.66	156
5-May-87	1951	1330	16.9	7.14	121
18-May-87	1964	1110	14	9.6	134
20-May-87	1966	1040	12.9	9.49	122
21-May-87	1967	1607	15.8	7.87	124
28-May-87	1974	1529	14.7	9	132
5-Jun-87	1982	1000	17.5	6.74	118
11-Jun-87	1988	839	21.7	7.14	155
25-Jun-87	2002	1547	23.3	4.62	108

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
30-Jun-87	2007	1650	25.9	4.33	112
3-Jul-87	2010	1201	26.6	4.08	108
9-Jul-87	2016	1325	23.1	4.96	114
15-Jul-87	2022	945	28.1	3.91	110
24-Jul-87	2031	1650	26.7	4.16	111
31-Jul-87	2038	945	28.0	3.48	98.0
4-Aug-87	2042	1315	29.1	3.48	101
11-Aug-87	2049	1900	32.3	3.40	110
12-Aug-87	2050	955	30.9	3.48	108
21-Aug-87	2059	1515	32.6	3.23	105
27-Aug-87	2065	1025	32.3	3.48	113
2-Sep-87	2071	742	34.2	3.11	107
3-Sep-87	2072	1200	35.2	3.23	114
11-Sep-87	2080	1525	34.9	3.11	109
18-Sep-87	2087	1625	35.3	2.92	103
25-Sep-87	2094	1327	37.5	2.92	109
30-Sep-87	2099	1530	40.0	2.92	117
Water Year 1988					
1-Oct-87	2100		35.8	2.92	101
9-Oct-87	2108	1540	35.8	2.83	101
23-Oct-87	2122	1350	42.4	2.83	93.0
4-Nov-87	2134	1620	37.9	2.20	104
6-Nov-87	2136	1255	41.2	2.74	98.0
Dec-87	2164	1205	38.9	2.38	93
15-Dec-87	2175	1400	47.3	2.38	104
6-Jan-88	2197	1550	42.8	2.20	67.0
27-Jan-88	2218	1350	42.6	1.56	97.0
5-Feb-88	2227	1530	43.0	2.29	114
26-Feb-88	2248	1430	45.7	2.64	121
8-Mar-88	2259	1201	47.4	2.64	104
18-Mar-88	2269	1345	50.1	2.20	166
1-Apr-88	2283	1500	36.7	3.31	87.0
15-Apr-88	2297	1350	34.8	2.38	121
29-Apr-88	2311	1130	27.2	3.48	118
4-May-88	2316	1440	28.7	4.33	115
13-May-88	2325	1435	14.9	3.99	127
19-May-88	2331	1405	12.3	8.55	148
27-May-88	2339	1315	8.9	12.0	171
3-Jun-88	2346	1325	12.2	19.2	135
7-Jun-88	2350	1410	12.5	11.1	198
10-Jun-88	2353	1430	11.9	15.9	138
17-Jun-88	2360	1315	14.0	11.6	117
24-Jun-88	2367	1055	16.8	8.33	118
1-Jul-88	2374	1355	20.9	7.02	101
7-Jul-88	2380	1320	23.6	4.84	104
19-Jul-88	2392	1545	28.0	4.39	101
21-Jul-88	2394	1500	29.5	3.62	102
29-Jul-88	2402	1400	32.3	3.45	107
5-Aug-88	2409	1005	34.3	3.31	107
11-Aug-88	2415	1020	36.6	3.11	109
19-Aug-88	2423	1325	38.4	2.97	111
25-Aug-88	2429	1201	35.3	2.89	100
31-Aug-88	2435	1400	38.1	2.83	105
1-Sep-88	2436	0900	40.0	2.75	110
3-Sep-88	2438	1440	39.4	2.75	108
3-Sep-88	2438	1448	39.9	2.75	110
8-Sep-88	2443	1000	40.4	2.75	109

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
24-Sep-88	2459	1105	44.8	2.69	115
30-Sep-88	2465		44.8	2.58	111
Water Year 1989					
1-Oct-88	2466		41.8	2.83	118
4-Oct-88	2469	1700	40.5	2.75	111
13-Oct-88	2478	0810	41.7	2.75	115
27-Oct-88	2492	0850	43.5	2.61	113
1-Nov-88	2497	1130	43.4	2.61	113
18-Nov-88	2514	1550	43.4	2.61	113
12-Dec-88	2538	1700	47.2	2.46	116
16-Dec-88	2542	1253	49.2	1.98	98.0
11-Jan-89	2568	1650	41.3	2.41	99.0
27-Jan-89	2584	1458	41.3	2.69	111
14-Feb-89	2602	1321	51.1	2.15	110
6-Mar-89	2622	1220	46.0	2.61	120
8-Mar-89	2624	0930	48.9	2.46	120
30-Mar-89	2646	1540	47.4	2.69	128
11-Apr-89	2658	1530	44.5	2.97	132
5-May-89	2682	1645	13.3	10.1	134
9-May-89	2686	1730	6.80	22.4	152
22-May-89	2699	0845	8.22	16.0	131
24-May-89	2701	1120	7.30	20.1	147
6-Jun-89	2714	1715	7.22	17.5	126
15-Jun-89	2723	1313	6.76	18.1	123
22-Jun-89	2730	1635	9.28	12.6	117
26-Jun-89	2734	1610	11.7	9.97	117
30-Jun-89	2738	1540	13.3	9.85	13
15-Jul-89	2743	1715	12.7	8.30	105
14-Jul-89	2752	1125	15.3	6.88	105
20-Jul-89	2758	1205	18.3	5.35	98.0
28-Jul-89	2766	1250	21.2	5.10	108
3-Aug-89	2772	1107	23.4	4.13	97.0
17-Aug-89	2786	1308	26.0	3.68	96.0
23-Aug-89	2792	1330	27.1	3.68	100
31-Aug-89	2800	1445	28.2	3.45	97.0
8-Sep-89	2808	1015	29.9	3.31	99.0
8-Sep-89	2808	1407	32.4	3.31	107
11-Sep-89	2811	1530	28.7	3.17	91.0
22-Sep-89	2822	1340	31.1	3.11	97.0
22-Sep-89	2822	1345	33.2	3.11	103
28-Sep-89	2828	1550	31.8	3.26	104
30-Sep-89	2830		31.4	3.26	102
Water Year 1990					
1-Oct-89	2831		31.2	3.26	112
3-Oct-89	2833	1515	30.8	3.60	115
12-Oct-89	2842	1442	36.3	3.74	120
3-Nov-89	2864	1600	34.6	3.31	113
15-Nov-89	2876	1500	34.8	3.26	124
13-Dec-89	2904	1135	45.0	3.57	143
3-Jan-90	2925	1310	52.4	3.17	113
17-Jan-90	2939	1450	42.6	2.15	124
16-Feb-90	2969	1130	39.6	2.92	103
19-Feb-90	2972	1310	47.3	2.61	131
27-Mar-90	3008	1315	46.1	2.78	120
4-Apr-90	3016	1715	28.1	2.61	110

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
13-Apr-90	3025	1120	22.2	3.91	113
18-Apr-90	3030	1030	13.2	5.10	141
25-Apr-90	3037	1600	10.8	10.7	136
7-May-90	3049	1300	12.7	12.6	162
9-May-90	3051	1830	13.2	12.7	123
17-May-90	3059	1430	15.2	9.32	120
22-May-90	3064	1201	13.9	7.87	123
29-May-90	3071	1115	11.9	8.86	140
6-Jun-90	3079	1330	9.7	11.8	128
6-Jun-90	3079	1435	10.3	13.2	134
12-Jun-90	3085	1730	8.3	13	148
13-Jun-90	3086	1730	8.1	17.8	120
22-Jun-90	3095	1315	10.9	14.9	151
29-Jun-90	3102	1130	13.4	13.9	161
6-Jul-90	3109	1030	14.6	12.0	124
19-Jul-90	3122	1515	21.2	6.40	115
24-Jul-90	3127	1450	24.3	5.44	127
2-Aug-90	3136	1440	23.3	5.24	110
17-Aug-90	3151	1100	21.5	4.70	111
6-Sep-90	3171	1330	27.5	5.15	108
30-Sep-90	3195		32.9	3.91	105
Water Year 1991					
1-Oct-90	3196		31.4	3.17	100
4-Oct-90	3199	1100	31.9	3.26	104
19-Oct-90	3214	1423	31.5	3.48	110
6-Nov-90	3232	1354	38.7	2.83	110
15-Nov-90	3241	1245	35.8	2.97	106
11-Dec-90	3267	1535	35.9	3.03	109
16-Jan-91	3303	1611	40.4	2.38	105
13-Feb-91	3331	1109	43.0	2.61	110
13-Mar-91	3359	1328	44.2	2.55	105
27-Mar-91	3373	1700	43.4	2.38	103
1-Apr-91	3378	1046	43.1	2.38	105
17-Apr-91	3394	1325	40.3	2.61	134
8-May-91	3415	1245	24.7	5.44	132
16-May-91	3423	1040	10.7	12.3	152
22-May-91	3429	1155	4.8	31.7	160
5-Jun-91	3443	1145	4.8	33.4	132
11-Jun-91	3449	1616	5.9	22.4	112
19-Jun-91	3457	1443	9.0	12.5	118
26-Jun-91	3464	2040	12.2	9.68	115
5-Jul-91	3473	1130	15.1	7.65	118
10-Jul-91	3478	1032	16.5	7.14	112
17-Jul-91	3485	1122	20.2	5.52	112
24-Jul-91	3492	1536	22.0	5.07	107
6-Aug-91	3505	1444	24.2	4.42	103
15-Aug-91	3514	1715	26.4	3.91	108
22-Aug-91	3521	1348	28.2	3.82	107
30-Aug-91	3529	1733	30.0	3.57	107
23-Sep-91	3553	1810	31.1	3.48	108
30-Sep-91	3560	1830	32.0	3.48	111
Water Year 1992					
1-Oct-91	3561		32.1	3.48	112
9-Oct-91	3569	1707	32.5	3.31	108

Gardner River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
15-Nov-91	3606	1440	32.6	3.20	104
11-Dec-91	3632	1650	43.4	2.32	101
16-Jan-92	3668	1428	36.2	2.61	94
13-Feb-92	3696	1645	40.3	2.55	103
10-Mar-92	3722	1210	43.2	2.49	108
26-Mar-92	3738	1600	38.0	2.78	105
10-Apr-92	3753	1644	26.6	4.33	115
23-Apr-92	3766	1330	14.6	8.18	119
5-May-92	3778	1615	9.0	14.0	126
7-May-92	3780	1456	8.1	16.1	130
13-May-92	3786	1235	10.8	10.7	116
19-May-92	3792	1111	8.9	14.0	125
27-May-92	3800	1028	6.8	17.5	119
7-Jun-92	3811	1423	15.2	7.76	118
17-Jun-92	3821	1325	12.4	9.91	123
24-Jun-92	3828	1408	15.0	7.76	116
30-Jun-92	3834	1121	15.3	7.45	114
7-Jul-92	3841	1606	17.9	6.20	111
15-Jul-92	3849	1639	20.3	5.44	110
21-Jul-92	3855	1512	20.7	5.24	108
30-Jul-92	3864	1526	24.8	4.25	105
4-Aug-92	3869	1257	24.9	4.25	106
8-Aug-92	3873	1135	27.7	3.82	106
12-Aug-92	3877	1201	27.9	3.74	104
19-Aug-92	3884	1037	28.2	3.65	103
26-Aug-92	3891	1206	29.0	3.57	103
9-Sep-92	3905	1110	26.4	3.62	96.0
27-Sep-92	3923	1455	31.2	3.26	102
30-Sep-92	3926		31.5	3.14	99.0
Water Year 1993					
1-Oct-92	3927		31.6	3.26	99
22-Oct-92	3948	1400	33.9	3.11	103
18-Nov-92	3975	1636	35.8	3.03	106
15-Dec-92	4002	1439	34.9	2.97	109
12-Jan-93	4030	1600	37.5	3.11	104
14-Jan-93	4032	1342	34.2	2.78	102
8-Feb-93	4057	1545	42.4	2.97	120
11-Mar-93	4088	1115	47.1	2.83	109
23-Mar-93	4100	1211	40.9	2.32	109
6-Apr-93	4114	1150	38.1	2.66	111
8-Apr-93	4116	1750	35.2	2.92	105
20-Apr-93	4128	1446	37.1	2.97	108
5-May-93	4143	1042	17.1	2.92	113
13-May-93	4151	1029	6.6	6.63	120
19-May-93	4157	1505	4.0	18.2	125
28-May-93	4166	1548	4.8	31.1	139
8-Jun-93	4177	1605	5.4	28.9	135
16-Jun-93	4185	1107	5.5	24.9	127
23-Jun-93	4192	1615	6.1	23.2	115
28-Jun-93	4197	1645	7.1	18.9	108
29-Jun-93	4198	1604	7.6	15.2	112
6-Jul-93	4205	1608	8.9	14.7	112
13-Jul-93	4212	0820	11.3	12.6	105
21-Jul-93	4220	1155	12.9	9.32	99.0
27-Jul-93	4226	1158	12.9	7.65	99.0
5-Aug-93	4235	1405	14.7	7.65	94.0
11-Aug-93	4241	1705	16.1	6.40	94.0

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
18-Aug-93	4248	1518	17.8	5.83	93.0
25-Aug-93	4255	1126	19.0	5.15	93.0
8-Sep-93	4269	1157	22.4	4.87	97.0
22-Sep-93	4283	1710	24.0	4.33	94.0
30-Sep-93	4291		24.6	3.91	93.0
Water Year 1994					
1-Oct-93	4292		24.7	3.79	94.0
5-Oct-93	4296	1406	25.0	3.74	93.0
20-Oct-93	4311	1036	29.1	3.03	88.0
15-Nov-93	4337	1244	35.7	2.83	101
16-Dec-93	4368	1100	30.3	2.78	84.0
14-Jan-94	4397	1530	32.8	2.72	89.0
11-Feb-94	4425	1500	33.7	2.27	76.0
9-Mar-94	4451	1538	38.8	3.57	138
24-Mar-94	4466	1522	39.1	3.91	153
8-Apr-94	4481	1136	39.0	2.97	116
20-Apr-94	4493	1345	15.0	7.65	115
3-May-94	4506	0940	16.2	6.71	109
10-May-94	4513	1407	7.1	17.0	120
19-May-94	4522	1350	8.5	13.0	111
25-May-94	4528	1655	9.0	11.9	107
8-Jun-94	4542	1750	11.2	9.09	117
16-Jun-94	4550	0910	11.5	8.64	117
22-Jun-94	4556	0750	11.8	8.07	95.0
29-Jun-94	4563	1545	17.0	5.35	91.0
6-Jul-94	4570	1400	17.7	5.44	96.0
13-Jul-94	4577	1405	20.6	4.33	109
26-Jul-94	4590	1121	28.6	3.74	107
3-Aug-94	4598	1555	24.0	3.57	107
10-Aug-94	4605	1620	26.2	3.31	106
17-Aug-94	4612	1726	33.2	3.17	105
25-Aug-94	4620	1546	28.7	3.11	105
8-Sep-94	4634	1150	30.3	3.03	105
22-Sep-94	4648	1715	30.3	2.92	104
30-Sep-94	4656		35.2	2.97	105
Water Year 1995					
1-Oct-94	4657		2.83	36.9	105
3-Oct-94	4659	1400	3.26	28.6	93.1
19-Oct-94	4675	1338	3.03	34.8	105
17-Nov-94	4704	1338	2.92	36.0	105
19-Dec-94	4736	1330	2.55	40.6	104
22-Jan-95	4770	1450	2.49	38.3	95.1
17-Feb-95	4796	1434	2.72	35.8	97.3
8-Mar-95	4815	1605	2.83	33.5	94.9
22-Mar-95	4829	1116	2.72	36.0	97.9
5-Apr-95	4843	1416	2.83	33.8	95.7
19-Apr-95	4857	1421	3.82	29.1	111
4-May-95	4872	1335	4.87	23.9	116
10-May-95	4878	1550	9.20	12.9	119
17-May-95	4885	1600	19.0	7.43	141
24-May-95	4892		21.7	5.9	129
31-May-95	4899		28.9	4.6	133
7-Jun-95	4906		28.6	4.6	133
14-Jun-95	4913		34.0	4.0	135
21-Jun-95	4920		20.2	6.4	128
28-Jun-95	4927		21.5	6.0	129

Gardner River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
5-Jul-95	4934		15.6	8.0	125
12-Jul-95	4941		17.1	7.4	126
18-Jul-95	4947		10.9	11.0	120
23-Jul-95	4952		9.43	12.6	118
27-Jul-95	4956	1510	7.99	16.1	129
9-Aug-95	4969	1700	6.12	16.9	104
16-Aug-95	4976	1510	5.44	15.8	85.7
23-Aug-95	4983	1430	6	17.1	103
6-Sep-95	4997	1628	4.87	20.6	100
13-Sep-95	5004	1039	4.62	23.8	110
21-Sep-95	5012	1546	4.42	24.8	110
28-Sep-95	5019	0925	4.33	23.7	103
30-Sep-95	5021		4.39	23.3	102
Water Year 1996					
1-Oct-95	5022		25.2	4.33	109
4-Oct-95	5025	1512	22.5	4.79	108
11-Oct-95	5032	1412	25.7	4.25	109
18-Oct-95	5039	1253	23.8	4.62	110
1-Nov-95	5053	1011	35.5	2.66	94.0
8-Nov-95	5060	1527	26.3	3.82	100
20-Nov-95	5072	1550	27.7	3.57	99.0
13-Dec-95	5095	1135	30.5	4.02	123
9-Jan-96	5122	1329	31.8	3.26	103
18-Jan-96	5131	1420	35.0	2.27	79.0
20-Feb-96	5164	1403	35.1	3.31	116
1-Mar-96	5174	1231	39.2	2.72	106
19-Mar-96	5192	1141	47.9	2.46	118
8-Apr-96	5212	1710	29.6	5.52	164
15-Apr-96	5219	1148	26.3	4.62	122
1-May-96	5235	1305	21.5	6.00	129
7-May-96	5241		16.1	7.14	115
14-May-96	5248		6.4	20.1	128
21-May-96	5255		5.7	22.6	130
28-May-96	5262		5.1	25.5	131
5-Jun-96	5270		3.3	42.2	138
12-Jun-96	5277		3.5	39.1	137
19-Jun-96	5284		4.8	27.6	132
26-Jun-96	5291		6.5	19.6	128
3-Jul-96	5298		8.3	14.9	124
10-Jul-96	5305		11.8	10.1	119
17-Jul-96	5312		13.3	8.86	118
24-Jul-96	5319		16.8	6.82	115
31-Jul-96	5326		17.2	6.63	114
6-Aug-96	5332		18.0	6.31	114
13-Aug-96	5339		21.3	5.24	111
20-Aug-96	5346		21.9	5.07	111
27-Aug-96	5353		23.4	4.70	110
15-Sep-96	5372		24.4	4.50	110
30-Sep-96	5387		25.7	4.25	109
Water Year 1997					
1-Oct-96	5388		25.7	4.25	109
10-Nov-96	5428		28.8	3.74	108
10-Dec-96	5458	1645	27.8	3.91	109
16-Dec-96	5464	1300	29.6	2.97	88

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
22-Jan-97	5501	1300	29.6	3.57	106
4-Feb-97	5514	1450	42.6	2.61	111
18-Feb-97	5528	1222	34.5	3.11	107
28-Mar-97	5566	0800	36.6	3.65	134
15-Apr-97	5584	1330	35.0	3.17	111
23-Apr-97	5592	1645	18.6	6.12	114
1-May-97	5600	1600	13.5	7.99	107
7-May-97	5606	1500	3.6	15.3	55.0
13-May-97	5612	1930	5.4	34.3	185
20-May-97	5619		3.3	42.2	138
27-May-97	5626		4.3	31.1	134
4-Jun-97	5634		3.4	41.1	138
11-Jun-97	5641		3.3	41.9	138
18-Jun-97	5648		4.6	29.2	133
25-Jun-97	5655		7.7	16.3	125
3-Jul-97	5663		8.8	14.0	123
14-Jul-97	5674	1540	10.3	10.2	104
18-Jul-97	5678	0915	13.3	9.8	130
23-Jul-97	5683	1624	12.2	8.98	109
31-Jul-97	5691	1444	13.8	7.87	108
7-Aug-97	5698	1125	17.0	7.02	119
13-Aug-97	5704	1105	15.0	6.91	104
20-Aug-97	5711	1210	19.5	5.24	102
27-Aug-97	5718	1700	18.0	4.96	89.0
2-Sep-97	5724	1415	18.4	5.52	102
4-Sep-97	5726	1000	20.6	5.52	114
10-Sep-97	5732	1640	22.7	4.87	111
18-Sep-97	5740	1717	23.4	4.70	110
30-Sep-97	5752		25.7	4.25	109

Water Year 1998

1-Oct-97	5753	0755	20.4	4.42	90.3
14-Oct-97	5766	1700	23.1	4.96	114
17-Nov-97	5800	1540	23.0	4.42	102
17-Dec-97	5830	1347	26.3	3.91	103
12-Jan-98	5856	1710	27.7	3.57	98.9
11-Feb-98	5886	1342	31.5	3.65	115
12-Mar-98	5915	1105	34.8	3.17	110
24-Mar-98	5927	1408	27.3	4.28	117
31-Mar-98	5934	1630	31.0	3.74	116
7-Apr-98	5941	1500	29.9	4.08	122
14-Apr-98	5948	1458	29.6	3.91	116
21-Apr-98	5955	1137	31.2	4.08	127
4-May-98	5968	1405	7.4	17.3	129
13-May-98	5977	1520	7.0	20.3	142
19-May-98	5983	1455	9.9	12.6	125
26-May-98	5990	1522	7.5	16.6	124
2-Jun-98	5997	1150	6.3	19.0	119
9-Jun-98	6004	0800	8.4	14.2	119
16-Jun-98	6011	1125	6.7	21.0	140
22-Jun-98	6017	1545	6.7	18.9	126
30-Jun-98	6025	1200	6.3	19.8	124
8-Jul-98	6033	0830	7.1	16.8	120
14-Jul-98	6039	1510	9.4	12.7	120
20-Jul-98	6045	1515	11.4	9.43	107
28-Jul-98	6053	1410	13.1	7.33	96.1
4-Aug-98	6060	1632	15.0	6.63	100

Gardner River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
12-Aug-98	6068	1030	17.2	5.92	102
18-Aug-98	6074	1631	17.1	6.12	104
26-Aug-98	6082	1447	19.5	5.07	98.7
9-Sep-98	6096	1623	20.3	4.70	95.6
15-Sep-98	6102	1508	21.6	4.79	103
30-Sep-98	6117	1508	23.1	4.42	102

Gibbon River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values: Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1984					
1-Oct-83	639		52.4	4.39	231
15-Oct-83	653	1750	47.8	3.20	153
26-Oct-83	664	1045	48.8	2.97	145
9-Nov-83	678	1305	47.5	3.03	144
6-Dec-83	705	1215	58.9	2.92	172
6-Jan-84	736	1430	60.3	2.78	167
25-Jan-84	755	1715	64.3	2.44	156
2-Feb-84	763	1200	61.9	2.24	139
29-Feb-84	790	1230	65.9	2.32	153
14-Mar-84	804	1140	70.6	2.24	158
29-Mar-84	819	1315	68.2	2.32	158
10-Apr-84	831	1420	66.3	2.35	156
25-Apr-84	846	1130	40.5	3.43	139
3-May-84	854	1440	46.9	3.14	148
9-May-84	860	1100	47.5	3.43	163
17-May-84	868	1245	17.5	10.25	179
23-May-84	874	0920	15.4	10.36	160
29-May-84	880	1300	18.3	8.47	155
6-Jun-84	888	1245	21.1	7.76	163
12-Jun-84	894	0620	21.1	7.87	166
12-Jun-84	894	1740	21.1	7.02	148
20-Jun-84	902	1235	25.0	5.18	129
28-Jun-84	910	1940	29.4	4.28	126
5-Jul-84	917	1100	29.7	3.99	119
11-Jul-84	923	1030	32.1	4.33	139
9-Jul-84	931	1600	34.2	3.99	137
25-Jul-84	937	1300	35.8	4.19	150
1-Aug-84	944	1230	32.7	4.08	133
9-Aug-84	952	0900	37.1	3.20	119
16-Aug-84	959	1500	44.7	3.79	170
22-Aug-84	965	1345	42.7	3.26	139
30-Aug-84	973	1450	43.6	3.09	135
11-Sep-84	985	1545	48.2	3.26	157
26-Sep-84	1000	1200	49.5	3.31	164
30-Sep-84	1004		49.0	2.86	137
Water year 1985					
1-Oct-84	1005		49.1	2.86	141
3-Oct-84	1007	0840	49.0	2.80	137
12-Oct-84	1016	1220	52.4	2.66	139
26-Oct-84	1030	1410	55.0	2.72	149
9-Nov-84	1044	1330	58.9	2.86	168
9-Nov-84	1044	1100	60.4	2.78	168
7-Dec-84	1072	1550	61.2	2.58	158
20-Dec-84	1085	1130	64.5	2.44	157
2-Jan-85	1098	1315	61.2	2.44	149
23-Jan-85	1119	1505	64.0	2.32	149
23-Jan-85	1119	1520	64.7	2.32	150
21-Feb-85	1148	0815	60.7	2.04	124
21-Feb-85	1148	1850	55.2	2.04	1133
14-Mar-85	1169	0800	55.4	2.04	113
17-Apr-85	1203	1200	34.7	4.96	172
11-Jun-85	1258	1915	32.4	4.19	136
23-Jul-85	1300	1840	48.9	3.48	170
4-Sep-85	1343	0900	53.1	2.44	129
30-Sep-85	1369		55.1	2.35	130

Gibbon River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values: Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1986					
1-Oct-85	1370		55.2	2.35	130
16-Oct-85	1385	1300	56.4	2.52	142
8-Nov-85	1408	0900	87.5	2.58	225
5-Dec-85	1435	1600	55.2	2.29	127
3-Jan-86	1464	1420	52.2	2.04	106
3-Feb-86	1495	1420	69.0	2.24	154
5-Feb-86	1497	1000	63.0	2.21	139
2-Mar-86	1522	0935	58.9	2.52	148
16-Mar-86	1536	1448	64.5	2.24	144
18-Mar-86	1538	1800	64.5	2.24	144
8-Apr-86	1559	0933	39.5	3.99	158
17-Apr-86	1568	1345	52.1	3.62	189
18-Apr-86	1569	1655	48.5	3.37	164
1-May-86	1582	1637	40.1	6.06	243
11-May-86	1592	0730	33.4	5.10	170
8-Jun-86	1620	0710	16.3	11.53	188
26-Jun-86	1638	1615	24.9	5.61	139
10-Jul-86	1652	0825	29.5	5.97	176
23-Jul-86	1665	0730	32.1	3.88	125
24-Jul-86	1666	1717	31.6	4.08	129
6-Aug-86	1679	0820	35.7	3.37	120
20-Aug-86	1693	0805	45.9	3.14	144
3-Sep-86	1707	1239	44.1	2.97	131
4-Sep-86	1708	0710	41.7	2.80	117
17-Sep-86	1721	0845	45.5	2.72	124
30-Sep-86	1734		47.3	2.69	127
Water year 1987					
1-Oct-86	1735	0743	47.4	2.80	133
8-Oct-86	1742	0900	41.3	2.58	106
15-Oct-86	1749	1153	36.0	2.46	88.7
25-Oct-86	1759	1729	36.7	2.58	94.4
9-Nov-86	1774	1442	48.2	2.72	131
18-Nov-86	1783	0900	50.9	2.72	138
27-Nov-86	1792	1125	50.5	2.66	134
10-Dec-86	1805	1215	46.5	2.32	108
24-Dec-86	1819	1133	30.0	2.38	71.4
7-Jan-87	1833	1345	57.1	3.03	173
21-Jan-87	1847	1215	61.8	2.32	143
4-Feb-87	1861	1527	62.6	2.24	140
18-Feb-87	1875	0900	63.4	2.12	135
18-Feb-87	1875	0915	63.6	2.12	135
11-Mar-87	1896	0750	64.2	2.32	149
25-Mar-87	1910	1615	68.4	1.95	134
2-Apr-87	1918	1545	68.0	1.95	133
8-Apr-87	1924	1325	58.1	2.46	143
23-Apr-87	1939	1650	36.7	3.74	137
6-May-87	1952	0840	36.5	3.26	119
19-May-87	1965	0800	42.9	4.50	193
20-May-87	1966	0907	42.4	3.79	161
4-Jun-87	1981	1515	45.2	3.14	142
17-Jun-87	1994	1727	50.9	2.61	133
30-Jun-87	2007		59.4	2.45	145
1-Jul-87	2008	1715	60.0	2.44	146
15-Jul-87	2022	1521	45.3	2.32	105
26-Jul-87	2033	1530	40.1	2.29	92

Gibbon River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
12-Aug-87	2050	1700	51.4	2.10	108
18-Aug-87	2056	0900	46.1	2.12	97
26-Aug-87	2064	1708	55.5	2.24	124
9-Sep-87	2078	1450	60.6	1.95	118
23-Sep-87	2092	1655	59.5	1.84	110
30-Sep-87	2099		59.0	1.98	117
Water year 1988					
1-Oct-87	2100		60.4	2.01	121
7-Oct-87	2106	1711	61.0	2.07	126
21-Oct-87	2120	1600	66.9	1.98	133
4-Nov-87	2134	1010	67.1	2.04	137
17-Nov-87	2147	0845	76.2	2.07	158
1-Dec-87	2161	0850	71.5	1.81	130
30-Dec-87	2190	1510	82.3	1.81	149
5-Jan-88	2196	1025	78.8	2.12	167
28-Jan-88	2219	1237	80.2	1.76	141
17-Feb-88	2239	1100	74.0	1.67	124
24-Feb-88	2246	1303	71.7	1.70	122
16-Mar-88	2267	0836	77.3	1.70	131
29-Mar-88	2280	0910	59.8	1.67	100
31-Mar-88	2282	1130	62.0	1.61	100
13-Apr-88	2295	1658	43.6	2.78	121
17-Apr-88	2299	1645	52.4	3.54	186
21-Apr-88	2303	1716	40.3	3.94	159
4-May-88	2316	1645	46.2	2.92	135
12-May-88	2324	1614	26.9	5.18	139
17-May-88	2329	0815	18.9	8.69	164
18-May-88	2330	1648	20.1	7.56	152
25-May-88	2337	1650	23.2	5.44	126
1-Jun-88	2344	1600	28.7	4.96	142
8-Jun-88	2351	1827	38.5	3.14	121
15-Jun-88	2358	1654	42.8	2.80	120
22-Jun-88	2365	0845	46.9	2.58	121
29-Jun-88	2372	0656	49.1	2.46	121
6-Jul-88	2379	0017	46.4	2.15	100
20-Jul-88	2393	0725	49.3	1.95	96.3
27-Jul-88	2400	0723	50.7	1.93	97.6
3-Aug-88	2407	0707	50.8	1.93	97.8
9-Aug-88	2413	0911	53.5	1.87	100
9-Aug-88	2413	1743	59.8	1.93	115
17-Aug-88	2421	0941	56.9	1.84	105
24-Aug-88	2428	0934	57.5	1.76	101
31-Aug-88	2435	1643	61.9	1.87	116
7-Sep-88	2442	1810	68.5	1.87	128
20-Sep-88	2455	0915	67.6	1.87	126
21-Sep-88	2456	1654	67.1	1.93	129
30-Sep-88	2465		65.1	1.89	123
Water year 1989					
1-Oct-88	2466		64.8	1.87	121
6-Oct-88	2471	0930	63.7	1.84	117
19-Oct-88	2484	1738	74.7	1.98	148
3-Nov-88	2499	0850	73.9	2.15	159
16-Nov-88	2512	0835	73.5	2.15	158
13-Dec-88	2539	0945	62.2	2.04	127
15-Dec-88	2541	1448	57.1	1.76	100
10-Jan-89	2567	1200	72.3	2.15	156

Gibbon River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
7-Feb-89	2595	1530	75.6	1.81	137
9-Feb-89	2597	1100	78.8	1.90	150
7-Mar-89	2623	1330	79.5	2.21	176
8-Mar-89	2624	1400	81.2	2.12	172
23-Mar-89	2639	0925	72.7	2.21	161
4-Apr-89	2651	1151	73.5	2.04	150
19-Apr-89	2666	1815	28.9	6.23	180
3-May-89	2680	1828	33.5	6.23	209
3-May-89	2680	1430	33.4	6.23	205
13-Jun-89	2721	1615	29.5	4.64	137
5-Jul-89	2743	1945	39.7	3.09	123
13-Jul-89	2751	1210	50.2	3.48	175
21-Jul-89	2759	0940	42.4	2.80	119
26-Jul-89	2764	1400	42.4	3.09	131
27-Jul-89	2765	1800	46.6	3.14	146
4-Aug-89	2773	1540	45.6	2.78	127
12-Aug-89	2781	1445	46.3	2.78	128
16-Aug-89	2785	1200	53.1	2.72	144
21-Aug-89	2790	1030	52.7	2.66	140
27-Aug-89	2796	0900	52.2	2.61	136
12-Sep-89	2812	1245	43.4	2.32	101
12-Sep-89	2812	1426	44.5	2.32	103
26-Sep-89	2826	1251	45.0	2.29	103
30-Sep-89	2830		47.4	2.29	109
Water year 1990					
1-Oct-89	2831		48.0	2.69	129
10-Oct-89	2840	1738	53.3	2.57	137
11-Oct-89	2841	1456	56.1	2.44	137
7-Nov-89	2868	1705	67.7	2.44	165
4-Dec-89	2895	1457	77.1	2.24	172
5-Dec-89	2896	1200	65.2	2.33	152
6-Jan-90	2928	0846	79	2.21	174
16-Jan-90	2938	0900	74.6	2.38	177
25-Jan-90	2947	1030	71.1	2.21	157
15-Feb-90	2968	1141	73.6	2.01	148
7-Mar-90	2988	1400	70.6	2.12	149
22-Mar-90	3003	1846	70.3	2.27	159
18-Apr-90	3030	1138	25.8	8.78	226
2-May-90	3044	0900	30.7	5.86	180
2-May-90	3044	0311	30.7	6.34	195
9-May-90	3051	1503	28.7	6.43	184
16-May-90	3058	0924	31.9	5.72	182
23-May-90	3065	1025	29.2	5.86	171
30-May-90	3072	1018	45.4	6.37	289
6-Jun-90	3079	1130	39.5	4.39	173
6-Jun-90	3079	1816	39.5	4.33	171
13-Jun-90	3086	1809	34	4.84	165
20-Jun-90	3093	1813	38.1	3.85	147
27-Jun-90	3100	1803	41.2	3.31	136
4-Jul-90	3107	1316	43.6	3.03	132
11-Jul-90	3114	2045	44	2.83	125
15-Jul-90	3118	1833	50	2.76	138
18-Jul-90	3121	1747	46.6	2.61	121
25-Jul-90	3128	1130	50.4	2.86	144
1-Aug-90	3135	1748	52.1	2.66	139
8-Aug-90	3142	1748	53.4	2.52	134
15-Aug-90	3149	1749	53.7	2.47	133

Gibbon River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
22-Aug-90	3156	1746	53.5	2.52	135
12-Sep-90	3177	1743	51	2.27	116
12-Sep-90	3177	1300	50.6	2.27	115
30-Sep-90	3195		57.1	2.18	125
Water year 1991					
1-Oct-90	3196		57.5	2.21	127
10-Oct-90	3205	0839	60.7	2.41	146
23-Oct-90	3218	1245	61.7	2.38	147
24-Oct-90	3219	1325	62.0	2.29	142
20-Nov-90	3246	1005	70.0	2.38	167
19-Dec-90	3275	1442	72.6	2.18	158
3-Jan-91	3290	1330	71.5	2.15	154
15-Jan-91	3302	1421	87.4	2.24	196
13-Feb-91	3331	1250	71.3	1.95	139
13-Feb-91	3331	1300	71.3	1.95	139
12-Mar-91	3358	1231	76.8	2.12	163
3-Apr-91	3380	0015	68.0	2.61	177
10-Apr-91	3387	1215	72.8	2.78	202
18-Apr-91	3395	1439	75.5	2.66	201
1-May-91	3408		18.2	9.57	175
9-May-91	3416	1735	39.3	6.80	267
16-May-91	3423	2054	19.2	14.16	272
30-May-91	3437	1145	20.2	11.33	229
6-Jun-91	3444	1748	15.3	8.21	126
12-Jun-91	3450	1814	19.7	5.18	102
20-Jun-91	3458	1356	23.1	4.42	102
27-Jun-91	3465	1825	23.7	4.42	105
1-Jul-91	3469	1817	25.3	4.64	117
11-Jul-91	3479	1736	28.6	4.13	118
16-Jul-91	3484	1130	30.2	3.54	107
18-Jul-91	3486	2038	27.3	3.68	100
26-Jul-91	3494	1233	32.4	3.54	115
8-Aug-91	3507	1901	38.8	3.14	122
15-Aug-91	3514	2052	41.6	2.86	119
20-Aug-91	3519	1645	48.0	2.86	137
22-Aug-91	3521	1745	47.8	2.78	133
30-Aug-91	3529	2035	47.0	2.61	122
12-Sep-91	3542	1640	51.9	2.86	148
26-Sep-91	3556	0846	61.0	2.41	147
30-Sep-91	3560		58.7	2.38	140
Water year 1992					
1-Oct-91	3561		58.1	2.38	138
9-Oct-91	3569	0958	53.5	2.24	120
25-Oct-91	3585	1651	63.4	2.66	169
14-Nov-91	3605	1904	65.5	2.61	171
14-Dec-91	3635	1139	60.5	2.41	146
1-Jan-92	3653	1114	70.1	2.21	155
2-Feb-92	3685	1235	60.8	2.12	129
3-Mar-92	3715	1217	62.8	2.15	135
23-Mar-92	3735	1040	66.2	2.12	141
10-Apr-92	3753	1659	54.5	3.74	204
20-Apr-92	3763	1414	35.5	4.81	171
1-May-92	3774		18.6	9.32	174
7-May-92	3780		23.9	6.88	164
15-May-92	3788	1301	33.5	5.38	180

Gibbon River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
22-May-92	3795	1551	35.3	3.96	140
29-May-92	3802	1334	39.8	3.82	152
11-Jun-92	3815	1152	43.4	3.03	131
20-Jun-92	3824	1613	37.5	4.13	155
27-Jun-92	3831	1605	36.5	4.28	156
4-Jul-92	3838	1543	38.2	3.85	147
10-Jul-92	3844	1602	44.8	3.43	154
18-Jul-92	3852	1559	42.5	3.09	131
24-Jul-92	3858	1641	41.3	2.92	120
1-Aug-92	3866	1701	40.8	2.66	109
8-Aug-92	3873	1809	44.8	2.46	110
15-Aug-92	3880	1606	47.8	2.38	114
21-Aug-92	3886	1726	53.8	2.61	140
28-Aug-92	3893	1741	54.8	2.44	133
12-Sep-92	3908	1145	56	2.52	141
29-Sep-92	3925	0941	55.9	2.38	133
30-Sep-92	3926		56.1	2.38	133
Water year 1993					
1-Oct-92	3927		56.3	2.41	135
4-Oct-92	3930	1631	57.0	2.69	138
20-Oct-92	3946	1222	58.7	2.38	134
28-Nov-92	3985	0947	70.0	2.21	132
13-Dec-92	4000	1540	67.6	2.24	133
6-Jan-93	4024	1200	53.8	2.38	134
16-Jan-93	4034	1143	63.2	2.38	134
8-Feb-93	4057	1443	68.8	2.32	134
24-Feb-93	4073	1200	69.6	2.46	136
7-Mar-93	4084	1212	70.4	2.29	133
20-Mar-93	4097	1421	71.4	2.32	134
7-Apr-93	4115	0930	55.7	2.72	139
17-Apr-93	4125	1439	59.2	2.80	139
24-Apr-93	4132	1135	54.9	3.26	144
8-May-93	4146	1649	28.6	7.67	175
15-May-93	4153	1551	11.2	24.49	226
17-May-93	4155	1845	11.2	17.16	209
22-May-93	4160	2205	9.3	27.44	232
29-May-93	4167	1807	12.5	12.01	193
4-Jun-93	4173	2035	15.5	10.31	186
12-Jun-93	4181	1644	15.4	9.85	185
19-Jun-93	4188	1818	20.3	8.10	177
26-Jun-93	4195	1653	24.0	7.02	171
3-Jul-93	4202	1621	39.0	6.82	170
7-Jul-93	4206	0915	23.3	7.19	172
10-Jul-93	4209	1854	28.2	5.18	160
16-Jul-93	4215	1553	29.7	4.70	157
24-Jul-93	4223	1836	35.3	8.64	179
7-Aug-93	4237	1742	33.4	3.82	149
13-Aug-93	4243	1917	35.6	3.74	149
16-Aug-93	4246	1730	37.3	3.60	147
21-Aug-93	4251	1842	42.3	4.84	158
27-Aug-93	4257	1912	39.6	3.45	146
10-Sep-93	4271	1750	44.5	3.14	143
24-Sep-93	4285	1649	47.0	3.03	142
30-Sep-93	4291		50.9	2.97	141
Water year 1994					

Gibbon River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values		
			Chloride mg/L	Discharge m^3/s	Cl flux g/s
1-Oct-93	4292		51.5	2.78	143
5-Oct-93	4296	1615	54.10	2.80	152
8-Oct-93	4299	1814	46.20	3.14	145
22-Oct-93	4313	1655	43.20	2.72	117
5-Nov-93	4327	1240	49.30	2.52	124
17-Nov-93	4339	1320	49.80	2.24	111
25-Dec-93	4377	1537	58.60	2.15	126
25-Jan-94	4408		59.50	2.24	133
25-Feb-94	4439		63.50	2.07	131
29-Mar-94	4471	1410	59.56	1.93	115
10-Apr-94	4483		58.90	2.27	133
20-Apr-94	4493		22.00	7.62	168
1-May-94	4504		30.50	5.10	155
7-May-94	4510		16.50	10.85	179
11-May-94	4514		20.20	8.44	170
16-May-94	4519	1045	22.30	7.87	176
28-May-94	4531	1617	29.50	5.97	176
4-Jun-94	4538	1850	32.60	4.45	145
11-Jun-94	4545		38.50	3.82	147
18-Jun-94	4552	1704	36.90	3.74	138
25-Jun-94	4559	1801	40.80	3.54	144
2-Jul-94	4566	1600	44.90	3.03	136
9-Jul-94	4573	1907	44.83	3.03	136
16-Jul-94	4580	1729	45.56	2.86	130
25-Jul-94	4589	1443	49.04	2.66	131
30-Jul-94	4594	1640	49.04	2.55	125
6-Aug-94	4601	1804	48.02	2.44	117
14-Aug-94	4609	1232	44.16	2.38	105
20-Aug-94	4615	1353	42.40	2.29	97
27-Aug-94	4622	1854	46.75	2.24	105
25-Sep-94	4651	1046	50.66	2.15	109
30-Sep-94	4656		53.3	2.44	130

Madison River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1983					
1-Oct-82	274		54.8	15.15	830
27-Oct-82	300	1035	56.0	16.11	902
26-Nov-82	330	1035	58.5	12.60	737
26-Jan-83	391	1000	64.0	12.60	806
19-Feb-83	415	1230	64.6	13.05	843
17-Mar-83	441	0945	63.7	13.05	831
31-Mar-83	455	1000	63.3	12.60	797
13-Apr-83	468	0730	66.2	11.72	776
1-May-83	486	0930	57.4	15.38	883
8-May-83	493	1000	51.3	16.88	865
15-May-83	500	1000	60.9	14.89	907
22-May-83	507	1000	47.0	19.20	902
29-May-83	514	1000	21.0	41.34	868
5-Jun-83	521	1000	28.9	32.00	923
12-Jun-83	528	1000	26.1	34.83	910
26-Jun-83	542	1000	37.8	19.51	737
3-Jul-83	549	1000	34.8	23.96	834
17-Jul-83	563	1000	45.8	16.88	773
24-Jul-83	570	1000	47.8	16.37	783
31-Jul-83	577	1000	50.4	13.05	658
7-Aug-83	584	1000	50.8	12.83	652
14-Aug-83	591	1000	52.2	12.29	641
11-Sep-83	619	1000	53.8	11.95	642
25-Sep-83	633	1000	52.0	11.95	621
30-Sep-83	638		51.6	12.34	637
Water year 1984					
1-Oct-83	639		51.6	19.85	1024
9-Oct-83	647	1000	51.0	13.79	703
12-Oct-83	650	1015	53.9	14.41	776
23-Oct-83	661	1000	56.2	13.22	734
25-Oct-83	663	1450	52.6	13.22	743
6-Nov-83	675	1000	56.2	15.15	852
4-Dec-83	703	1000	57.7	12.74	735
14-Dec-83	713	1000	59.5	12.91	768
31-Dec-83	730	1000	58.5	12.83	750
25-Jan-84	755	1000	60.3	12.15	733
29-Jan-84	759	1000	61.5	12.15	747
6-Mar-84	796	1410	63.7	11.50	732
11-Mar-84	801	1500	65.0	11.69	760
25-Mar-84	815	1000	64.7	11.72	758
8-Apr-84	829	1000	64.3	11.69	752
17-Apr-84	838	1120	53.2	13.59	723
22-Apr-84	843	1900	52.7	13.42	707
30-Apr-84	851	1000	61.4	12.37	760
7-May-84	858	1000	61.1	12.63	772
13-May-84	864	1000	35.3	23.47	829
21-May-84	872	1000	20.7	45.59	944
30-May-84	881	1615	22.1	34.83	770
6-Jun-84	888	0820	29.9	25.68	768
10-Jun-84	892	0630	34.4	25.46	876
22-Jun-84	904	1000	33.3	22.80	759
6-Jul-84	918	1000	42.7	14.89	636
11-Jul-84	923	1215	46.1	14.50	668
14-Jul-84	926	1000	44.5	13.73	611
20-Jul-84	932	1000	45.1	13.73	619

Madison River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
27-Jul-84	939	1500	47.5	14.89	708
10-Aug-84	953	1000	49.7	13.73	683
17-Aug-84	960	1000	49.2	15.15	745
21-Aug-84	964	1410	48.6	13.82	672
24-Aug-84	967	1000	52.3	14.41	754
31-Aug-84	974	1000	52.4	13.51	708
6-Sep-84	980	1000	53.1	13.73	729
14-Sep-84	988	1000	52.9	12.83	679
30-Sep-84	1004		55.4	13.48	747
Water year 1985					
1-Oct-84	1005		55.6	13.48	749
3-Oct-84	1007	1200	55.9	13.28	742
7-Oct-84	1011	1600	52.6	13.03	685
21-Oct-84	1025	1000	56.2	13.03	732
4-Nov-84	1039	1000	59.5	13.51	804
14-Nov-84	1049	1330	57.5	13.62	783
2-Dec-84	1067	1200	60.1	12.83	771
18-Dec-84	1083	0915	59.8	12.83	767
30-Dec-84	1095	1500	59.4	13.48	801
22-Jan-85	1118	1200	63.2	12.15	768
6-Feb-85	1133	1200	63.1	11.33	715
13-Mar-85	1168	1000	61.7	12.15	750
17-Mar-85	1172	1000	61.8	12.15	751
19-Mar-85	1174	1540	63.5	11.69	743
31-Mar-85	1186	1000	66.5	12.37	823
14-Apr-85	1200	1000	50.5	17.19	868
28-Apr-85	1214	1100	56.7	14.64	830
1-May-85	1217	1645	39.5	18.80	743
12-May-85	1228	1000	33.5	30.16	1010
18-May-85	1234	2000	33.4	24.32	812
26-May-85	1242	1000	27.3	33.13	904
3-Jun-85	1250	1000	37.0	20.73	767
9-Jun-85	1256	1000	36.9	23.47	866
12-Jun-85	1259	1000	39.0	17.90	698
16-Jun-85	1263	1000	41.5	16.37	679
23-Jun-85	1270	1000	47.3	13.93	659
7-Jul-85	1284	1000	51.0	12.37	631
14-Jul-85	1291	1000	51.5	12.83	661
21-Jul-85	1298	1000	53.8	11.92	641
24-Jul-85	1301	0830	51.2	15.12	774
28-Jul-85	1305	1000	57.6	11.69	674
4-Aug-85	1312	1000	54.6	13.48	736
11-Aug-85	1319	1000	56.1	11.92	669
25-Aug-85	1333	1430	55.4	11.47	635
5-Sep-85	1344	0850	56.9	11.92	678
30-Sep-85	1369		58.1	12.29	732
Water year 1986					
1-Oct-85	1370		58.3	12.37	721
13-Oct-85	1382	1000	60.0	13.35	795
16-Oct-85	1385	1735	59.0	13.03	769
20-Oct-85	1389	1100	57.8	13.03	753
21-Nov-85	1421	0900	61.0	12.37	755
1-Dec-85	1431	1330	61.3	12.83	786
7-Jan-86	1468	1000	60.1	11.92	716
12-Jan-86	1473	1000	60.5	11.69	708
3-Feb-86	1495	1000	64.3	12.37	796

Madison River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
2-Mar-86	1522	1000	63.4	13.25	840
5-Mar-86	1525	0900	64.8	12.83	831
16-Mar-86	1536	1000	64.4	12.60	812
30-Mar-86	1550	0900	49.4	18.15	897
17-Apr-86	1568	0815	55.1	16.62	916
27-Apr-86	1578	1000	48.0	17.90	859
11-May-86	1592	1000	44.9	21.27	955
18-May-86	1599	1000	46.7	19.43	907
25-May-86	1606	1130	20.0	32.08	642
28-May-86	1609	1425	16.2	51.57	835
1-Jun-86	1613	1000	14.8	63.40	938
8-Jun-86	1620	1000	20.5	40.58	832
15-Jun-86	1627	1000	27.5	36.81	1012
6-Jul-86	1648	1300	37.7	18.41	694
13-Jul-86	1655	1345	38.9	18.66	726
15-Jul-86	1657	1530	40.3	17.41	702
20-Jul-86	1662	1300	41.4	17.16	710
27-Jul-86	1669	1100	37.3	21.01	784
5-Aug-86	1678	1400	44.9	15.60	701
10-Aug-86	1683	1330	45.9	16.11	740
17-Aug-86	1690	1200	45.9	14.87	682
24-Aug-86	1697	1000	45.9	16.62	763
3-Sep-86	1707	1125	45.9	15.86	728
30-Sep-86	1734		47.5	15.74	748

Water Year 1987, 1988, 1989 no data

Water Year 1990

1-Oct-89	2831		59.8	11.07	662
10-Oct-89	2840	1627	60.1	10.93	657
26-Oct-89	2856	1128	65.4	13.93	911
9-Nov-89	2870	1028	66.4	11.02	731
3-Dec-89	2894	1600	68.6	10.51	721
8-Dec-89	2899	0900	81.1	10.68	866
3-Jan-90	2925	1630	74.5	9.80	730
15-Jan-90	2937	1422	71.4	10.87	776
24-Jan-90	2946	1330	71.1	10.34	735
19-Feb-90	2972	1356	80.6	9.85	794
6-Mar-90	2987	1715	72.4	10.25	742
21-Mar-90	3002	1144	71.6	11.27	807
13-Apr-90	3025	1430	52.5	15.38	807
20-Apr-90	3032	0955	43.6	22.09	963
2-May-90	3044	0945	52.8	16.62	878
9-May-90	3051	1228	44.1	18.38	810
16-May-90	3058	1341	47.1	17.10	806
23-May-90	3065	1117	42.4	21.66	918
6-Jun-90	3079	1445	44.5	17.61	784
11-Jun-90	3084	0954	48.5	19.54	948
14-Jun-90	3087	1802	63.5	18.69	1187
20-Jun-90	3093	0849	49.0	15.18	744
27-Jun-90	3100	0757	60.7	13.14	798
4-Jul-90	3107	0847	62.8	11.89	747
11-Jul-90	3114	2015	59.2	11.50	681
18-Jul-90	3121	0720	59.6	10.87	648
25-Jul-90	3128	0724	63.6	12.37	787
1-Aug-90	3135	1635	69.3	11.30	783
8-Aug-90	3142	0735	67.7	10.68	723
15-Aug-90	3149	0719	70.0	10.85	759
22-Aug-90	3156	0716	73.1	11.02	805

Madison River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
29-Aug-90	3163	1644	75.9	10.56	802
12-Sep-90	3177	0743	75.1	10.02	753
26-Sep-90	3191	1035	65.3	10.22	668
30-Sep-90	3195		65.8	10.45	687

Water Year 1991

1-Oct-90	3196		65.9	10.34	681
11-Oct-90	3206	1250	67.0	11.41	765
23-Oct-90	3218	1600	66.6	11.58	772
24-Oct-90	3219	1630	66.6	11.10	739
21-Nov-90	3247	0831	69.8	11.13	777
20-Dec-90	3276	1426	82.9	7.99	662
2-Jan-91	3289	1200	68.6	10.76	738
18-Jan-91	3305	1550	77.9	10.42	812
13-Feb-91	3331	1545	71.9	10.68	767
15-Feb-91	3333	1445	71.4	10.59	756
19-Mar-91	3365	1509	73.7	10.45	770
4-Apr-91	3381	1621	72.6	11.50	835
11-Apr-91	3388	0900	73.4	11.95	877
22-Apr-91	3399	1801	68.5	13.05	894
9-May-91	3416	1555	44.8	22.65	1015
16-May-91	3423	1855	36.0	24.86	895
29-May-91	3436	1815	28.6	30.02	858
6-Jun-91	3444	1730	26.6	29.45	783
13-Jun-91	3451	0722	31.8	23.08	734
20-Jun-91	3458	1143	41.4	16.79	695
28-Jun-91	3466	1635	47.2	16.62	785
3-Jul-91	3471	1627	47.5	14.41	685
11-Jul-91	3479	1745	50.4	13.96	704
16-Jul-91	3484	1330	52.0	12.37	643
18-Jul-91	3486	1833	52.6	12.15	639
25-Jul-91	3493	1739	54.1	12.71	688
8-Aug-91	3507	0846	55.6	11.47	638
15-Aug-91	3514	1952	56.5	11.07	626
21-Aug-91	3520	0815	63.0	11.10	699
22-Aug-91	3521	1719	62.6	10.99	688
30-Aug-91	3529	1927	59.5	10.79	642
12-Sep-91	3542	1540	60.4	11.98	723
26-Sep-91	3556	1730	62.5	11.07	692
30-Sep-91	3560		62.3	11.55	720

Water Year 1992

1-Oct-91	3561		62.3	11.36	708
9-Oct-91	3569	1805	62.0	11.13	690
25-Oct-91	3585	1554	66.8	12.60	842
16-Nov-91	3607	1415	66.4	11.78	782
13-Dec-91	3634	1305	66.5	12.15	808
19-Dec-91	3640	1445	69.7	11.95	833
17-Jan-92	3669	1415	69.4	11.07	768
11-Feb-92	3694	1500	66.6	10.87	724
29-Mar-92	3741	1555	67.2	10.87	731
7-Apr-92	3750	1430	60.2	11.69	704
9-May-92	3782	1740	38.4	23.67	909
13-May-92	3786	1805	42.8	17.13	733
22-May-92	3795	1255	45.6	15.86	723
28-May-92	3801	1656	46.7	15.63	730
11-Jun-92	3815	0942	57.2	12.15	695
20-Jun-92	3824	1006	51.8	14.19	735

Madison River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
25-Jun-92	3829	1400	54.5	14.19	773
1-Jul-92	3835	1332	54.5	12.83	699
9-Jul-92	3843	2114	59.3	11.67	692
13-Jul-92	3847	1322	55.8	12.83	716
21-Jul-92	3855	0830	59.9	13.25	794
30-Jul-92	3864	1200	60.0	10.45	627
6-Aug-92	3871	0831	64.0	10.05	643
13-Aug-92	3878	1000	62.5	10.05	628
19-Aug-92	3884	1410	63.6	10.11	643
26-Aug-92	3891	0915	64.1	10.05	644
7-Sep-92	3903	0830	64.0	13.34	854
12-Sep-92	3908	1000	65.2	10.45	681
23-Sep-92	3919	1632	65.9	10.05	662
30-Sep-92	3926		66.3	10.05	666
Water Year 1993					
1-Oct-92	3927		66.3	10.00	663
7-Oct-92	3933	1400	66.7	10.45	697
24-Oct-92	3950	1230	67.8	10.05	682
21-Nov-92	3978	1457	69.0	10.25	707
19-Dec-92	4006	1445	69.7	10.37	723
5-Jan-93	4023	1545	67.2	10.45	702
13-Jan-93	4031	1500	72.7	10.68	776
11-Feb-93	4060	1300	70.9	10.45	741
24-Feb-93	4073	1430	73.5	10.87	799
7-Mar-93	4084	1410	72.7	10.45	760
24-Mar-93	4101	1500	69.2	11.50	796
8-Apr-93	4116	0945	64.6	12.15	785
20-Apr-93	4128		60.2	12.15	731
1-May-93	4139		50.2	15.09	758
7-May-93	4145		37.2	21.63	804
15-May-93	4153	1740	20.7	42.67	883
17-May-93	4155	1530	19.8	45.73	905
30-May-93	4168	1015	24.7	35.11	867
7-Jun-93	4176	0910	27.0	41.34	1116
17-Jun-93	4186	0815	33.0	22.94	757
22-Jun-93	4191	0850	36.2	20.16	730
28-Jun-93	4197	0850	41.7	16.37	683
4-Jul-93	4203	1646	39.4	18.15	715
7-Jul-93	4206	1145	38.7	18.15	702
14-Jul-93	4213	1540	46.0	13.68	629
22-Jul-93	4221	1712	47.4	13.73	651
28-Jul-93	4227	1530	47.2	13.51	638
4-Aug-93	4234	0845	51.1	12.37	632
11-Aug-93	4241	1200	49.8	12.83	639
17-Aug-93	4247	0945	57.4	13.11	753
21-Aug-93	4251	1500	51.7	14.67	758
24-Aug-93	4254	0830	51.5	12.83	661
5-Sep-93	4266	1350	55.0	13.05	718
25-Sep-93	4286	1700	54.1	12.15	657
30-Sep-93	4291		55.9	11.92	666
Water Year 1994					
1-Oct-93	4292		56.3	12.18	685
5-Oct-93	4296	1300	57.7	12.20	704

Madison River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
17-Oct-93	4308	1350	54.9	13.11	720
30-Nov-93	4352	1300	60.8	11.98	728
18-Dec-93	4370	1145	62.7	11.75	737
13-Jan-94	4396	1400	65.8	11.98	788
8-Feb-94	4422	1410	64.0	11.98	767
7-Mar-94	4449	1330	65.6	11.55	758
20-Mar-94	4462	1510	65.6	11.50	754
6-Apr-94	4479	1440	67.2	12.26	824
19-Apr-94	4492	1025	40.1	21.83	875
8-May-94	4511	1230	44.6	31.01	1383
16-May-94	4519	1330	29.9	27.55	825
20-May-94	4523	950	38.4	23.33	895
26-May-94	4529	802	39.5	19.68	777
9-Jun-94	4543	2011	45.0	16.28	732
17-Jun-94	4551	737	46.1	15.26	704
24-Jun-94	4558	550	47.3	14.07	665
30-Jun-94	4564	1100	48.1	12.20	587
9-Jul-94	4573	1045	57.5	11.75	675
13-Jul-94	4577	2130	52.5	11.33	594
23-Jul-94	4587	1735	64.1	11.19	717
30-Jul-94	4594	1415	53.5	10.68	571
6-Aug-94	4601	1415	54.2	10.45	566
13-Aug-94	4608	900	63.5	10.90	692
20-Aug-94	4615	1800	54.4	9.83	534
26-Aug-94	4621	1740	58.8	9.63	566
7-Sep-94	4633	1540	58.2	10.05	585
30-Sep-94	4656		62.1	11.36	705
Water Year 1995, 1996 no data					
Water Year 1997					
1-Oct-96	5388	0925	41.6	15.52	646
14-Oct-96	5401	1500	40.6	15.52	630
18-Nov-96	5436	1200	41.6	16.54	688
10-Dec-96	5458	1200	50.1	19.68	986
14-Jan-97	5493	1425	48.9	16.03	784
12-Feb-97	5522	0830	49.5	13.82	684
4-Mar-97	5542	0900	51.7	14.07	728
18-Mar-97	5556	1130	51.8	13.88	719
1-Apr-97	5570		50.4	15.04	757
7-Apr-97	5576		53.2	14.07	749
14-Apr-97	5583		54.0	13.82	747
25-Apr-97	5594	1200	34.8	22.77	793
1-May-97	5600		31.8	26.05	829
7-May-97	5606	0922	27.5	31.01	852
8-May-97	5607	1200	33.7	33.98	1144
14-May-97	5613	1538	16.8	56.92	958
21-May-97	5620	1515	14.6	67.96	992
28-May-97	5627	1650	18.4	46.30	851
4-Jun-97	5634	1615	18.4	47.71	879
11-Jun-97	5641		19.0	48.42	920
18-Jun-97	5648		21.0	43.04	902
24-Jun-97	5654	1200	29.0	30.87	895
1-Jul-97	5661		30.9	26.96	834
7-Jul-97	5667	1200	29.8	25.15	750
17-Jul-97	5677	1200	31.7	21.35	676
22-Jul-97	5682	1200	33.2	20.78	691
29-Jul-97	5689	1200	34.0	21.63	735

Madison River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
8-Aug-97	5699	1200	38.9	20.50	797
19-Aug-97	5710	1200	33.9	19.37	657
2-Sep-97	5724	1200	37.0	19.14	708
16-Sep-97	5738	1200	37.4	18.89	706
30-Sep-97	5752	1200	38.4	18.35	704
Water Year 1998					
1-Oct-97	5753	1200	41.6	18.1	752
16-Oct-97	5768	1200	38.6	17.8	688
12-Nov-97	5795	1420	43.2	16.0	693
17-Dec-97	5830	1535	46.7	16.8	784
15-Jan-98	5859	1405	48.6	16.5	803
12-Feb-98	5887	1405	50.7	14.3	725
3-Mar-98	5906	1311	52.1	13.8	719
24-Mar-98	5927	1030	49.2	16.5	813
31-Mar-98	5934	1600	51.3	13.8	709
7-Apr-98	5941	1340	50.7	14.2	718
15-Apr-98	5949	1153	48.5	14.6	706
21-Apr-98	5955	1345	50.5	13.8	697
28-Apr-98	5962	0740	41.0	18.1	741
5-May-98	5969	1210	20.4	34.8	712
12-May-98	5976	1623	23.9	31.4	752
19-May-98	5983	1530	30.0	27.0	809
26-May-98	5990	1730	24.9	29.2	726
2-Jun-98	5997	1730	26.7	24.2	647
8-Jun-98	6003	1750	30.9	20.8	643
16-Jun-98	6011	1745	26.2	29.2	763
23-Jun-98	6018	1720	30.1	21.0	630
30-Jun-98	6025	1715	30.8	23.4	720
7-Jul-98	6032	1716	35.1	15.5	544
14-Jul-98	6039	1555	37.7	14.3	540
21-Jul-98	6046	1715	40.5	13.8	560
28-Jul-98	6053	1500	42.5	15.3	649
5-Aug-98	6061	1800	41.5	14.3	593
12-Aug-98	6068	1420	43.0	14.3	614
19-Aug-98	6075	1435	42.9	15.3	655
1-Sep-98	6088	1720	44.4	13.9	616
14-Sep-98	6101	1655	43.2	14.6	628
30-Sep-98	6117		43.3	14.8	654
Water Year 1999					
1-Oct-98	6118		45.5	14.2	647
7-Oct-98	6124	1740	45.5	14.2	647
18-Nov-98	6166	0900	50.7	14.5	733
15-Dec-98	6193		53.0	13.7	728
6-Jan-99	6215	1000	53.0	13.7	728
17-Jan-99	6226	1300	53.0	13.7	728
31-Jan-99	6240		55.5	13.2	734
25-Feb-99	6265	1200	54.1	14.0	755
1-Mar-99	6269	0954	56.7	14.0	791
3-Mar-99	6271	0830	55.3	13.7	759
13-Mar-99	6281	1000	55.7	13.5	751
14-Apr-99	6313	0910	56.0	14.0	781
21-Apr-99	6320		42.4	18.5	783
1-May-99	6330		28.1	30.3	850
8-May-99	6337		30.4	27.6	837
15-May-99	6344		35.1	23.2	813

Madison River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
21-May-99	6350		25.5	34.0	867
26-May-99	6355	1820	16.0	50.1	801
1-Jun-99	6361		18.8	49.0	921
8-Jun-99	6368		21.0	43.0	902
15-Jun-99	6375		24.5	35.7	874
21-Jun-99	6381		26.2	32.8	862
28-Jun-99	6388		31.9	26.0	829
7-Jul-99	6397		39.4	20.2	795
14-Jul-99	6404	1200	40.3	19.6	791
15-Jul-99	6405	1213	36.6	19.9	729
1-Aug-99	6422	1530	37.6	15.0	564
15-Aug-99	6436	1715	35.8	15.5	555
31-Aug-99	6452	1130	42.7	18.5	790
2-Sep-99	6454		48.4	15.8	763
15-Sep-99	6467	1418	52.8	14.2	750
30-Sep-99	6482		51.2	14.7	755

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water Year 1983					
1-Oct-82	274		14.0	13.5	190
8-Oct-82	281	850	12.8	14.3	183
1-Nov-82	305	840	14.1	13.9	196
10-Dec-82	344	1245	15.6	12.5	195
24-Dec-82	358	1250	16.1	14.2	228
26-Jan-83	391	1315	16.5	11.0	181
18-Feb-83	414	1245	16.4	11.0	180
11-Mar-83	435	1545	16.9	11.0	186
23-Mar-83	447	910	17.1	10.8	184
18-Apr-83	473	1515	16.8	10.2	171
13-May-83	498	850	12.1	15.9	193
16-May-83	501	1520	13.2	16.1	213
25-May-83	510	1230	4.4	79.9	352
30-May-83	515	1010	2.9	198	575
7-Jun-83	523	1020	3.2	160	503
13-Jun-83	529	1120	4.3	118	505
20-Jun-83	536	1530	4.0	105	418
27-Jun-83	543	1305	3.6	98.5	358
11-Jul-83	557	1140	5.7	51.5	292
28-Jul-83	574	1310	10.2	21.0	214
22-Aug-83	599	1605	10.4	17.8	185
2-Sep-83	610	945	13.0	18.1	235
12-Sep-83	620	1030	13.3	17.0	226
30-Sep-83	638		11.5	18.8	216
Water year 1984					
1-Oct-83	639		11.4	18.9	215
7-Oct-83	645	1145	10.8	19.5	211
24-Oct-83	662	515	9.8	16.7	164
7-Nov-83	676	1223	8.4	21.0	176
12-Dec-83	711	1215	12.1	16.8	203
12-Jan-84	742	1410	15.8	15.7	249
27-Feb-84	788	1515	15.9	10.9	173
15-Mar-84	805	1505	16.2	10.6	172
2-Apr-84	823	1130	18.0	10.0	179
16-Apr-84	837	1145	15.1	11.4	173
27-Apr-84	848	835	14.0	13.2	184
3-May-84	854	1330	14.4	14.4	208
11-May-84	862	930	11.5	18.8	216
14-May-84	865	1330	4.9	60.3	294
15-May-84	866	1820	3.5	109	382
20-May-84	871	1330	4.1	100	406
24-May-84	875	1410	3.3	88.3	292
1-Jun-84	883		2.7	189	515
7-Jun-84	889		4.2	93.4	392
9-Jun-84	891	1210	5.7	79.9	455
12-Jun-84	894	1603	5.7	71.4	407
20-Jun-84	902		3.5	129	444
27-Jun-84	909		3.8	110	419
4-Jul-84	916		5.5	60.0	331
17-Jul-84	929	1810	8.6	24.7	213
26-Jul-84	938	1525	9.8	21.8	214
7-Aug-84	950		11.5	18.0	207
14-Aug-84	957	1303	10.4	15.2	158
21-Aug-84	964		12.7	15.4	195
30-Sep-84	1004		14.0	11.9	167

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1985					
1-Oct-84	1005		14.0	11.8	165
7-Oct-84	1011	1745	14.5	11.4	166
21-Oct-84	1025	1715	15.7	11.0	172
23-Oct-84	1027	1723	14.8	11.8	174
4-Nov-84	1039	1630	15.1	13.0	197
2-Dec-84	1067	1320	14.9	11.1	165
11-Dec-84	1076	1500	15.5	11.8	183
30-Dec-84	1095	1600	15.2	11.7	177
20-Jan-85	1116	1500	16.2	11.0	178
9-Feb-85	1136	1345	15.5	10.8	167
17-Feb-85	1144	0730	19.2	9.37	180
3-Mar-85	1158	1600	17.9	9.49	170
18-Mar-85	1173	1130	19.7	9.46	186
31-Mar-85	1186	850	21.0	9.74	205
15-Apr-85	1201	1445	11.6	16.9	196
16-Apr-85	1202	1350	11.9	19.8	236
28-Apr-85	1214	1610	12.4	16.4	204
5-May-85	1221		5.3	63.4	338
12-May-85	1228	1745	5.4	70.2	377
14-May-85	1230	1850	5.9	64.0	379
21-May-85	1237		3.8	109	416
29-May-85	1245	1730	4.2	125	522
2-Jun-85	1249	1800	5.8	75.3	434
10-Jun-85	1257	1800	4.4	80.4	351
16-Jun-85	1263	1740	5.2	60.3	316
18-Jun-85	1265	2000	5.4	52.7	282
23-Jun-85	1270	1750	6.9	36.0	247
30-Jun-85	1277	1635	8.0	27.5	219
10-Jul-85	1287	1645	9.2	18.3	169
14-Jul-85	1291	1715	10.8	16.4	177
16-Jul-85	1293	1850	11.2	15.2	171
21-Jul-85	1298	1645	11.9	14.7	176
28-Jul-85	1305	1200	12.1	14.3	174
5-Aug-85	1313	1645	12.4	14.2	176
13-Aug-85	1321	1700	13.5	12.1	163
18-Aug-85	1326	1645	14.4	11.2	161
20-Aug-85	1328	1639	14.5	10.5	152
29-Aug-85	1337	1745	15.7	10.1	158
9-Sep-85	1348	1805	13.3	10.9	145
25-Sep-85	1364	1900	15.4	11.1	171
30-Sep-85	1369		15.5	10.2	158
Water year 1986					
1-Oct-85	1370	1100	15.5	11.7	181
13-Oct-85	1382	1630	16.8	10.1	170
22-Oct-85	1391	1630	15.9	10.7	170
5-Nov-85	1405	1300	14.8	13.6	202
2-Dec-85	1432	1500	16.2	11.6	188
17-Dec-85	1447	0815	16.8	10.5	177
5-Jan-86	1466	1530	17.4	9.6	167
3-Feb-86	1495	1630	17.4	10.7	186
19-Feb-86	1511	1445	14.6	14.9	217
11-Mar-86	1531	0830	15.7	15.1	237
22-Mar-86	1542	1600	16.4	12.5	205
4-Apr-86	1555	0800	12.8	21.7	278
15-Apr-86	1566	1300	11.8	17.4	205
2-May-86	1583	1500	8.6	27.2	234
13-May-86	1594	1015	9.6	26.1	251
23-May-86	1604	1045	4.6	53.8	250
30-May-86	1611	0900	2.9	190	556

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
6-Jun-86	1618		6.1	261	1591
12-Jun-86	1624	0900	5.5	177	973
18-Jun-86	1630	1815	3.2	136	435
19-Jun-86	1631		3.2	132	428
28-Jun-86	1640	1050	3.9	83.5	326
5-Jul-86	1647	1100	6.0	49.5	297
9-Jul-86	1651	1810	6.7	41.1	276
15-Jul-86	1657	1530	7.6	33.1	253
19-Jul-86	1661	1315	7.9	31.2	247
26-Jul-86	1668	1300	7.1	36.7	260
2-Aug-86	1675	1430	9.1	23.4	212
9-Aug-86	1682	0815	10.3	19.7	203
13-Aug-86	1686	1905	10.8	18.0	194
19-Aug-86	1692	1630	11.8	15.9	187
23-Aug-86	1696	1215	11.2	16.8	188
27-Aug-86	1700	1800	11.2	17.6	197
6-Sep-86	1710	1150	12.5	14.5	182
20-Sep-86	1724	1100	12.4	14.7	183
30-Sep-86	1734	1436	12.4	14.4	178
Water year 1987					
1-Oct-86	1735		13.0	14.4	186
4-Oct-86	1738	1200	13.1	13.4	175
15-Oct-86	1749	1200	13.8	11.8	163
21-Oct-86	1755	1420	13.7	12.5	171
30-Oct-86	1764	1345	15.7	13.5	213
10-Nov-86	1775	1030	15.5	11.7	181
17-Dec-86	1812	0930	17.7	10.1	179
31-Dec-86	1826	0850	16.1	9.74	156
12-Jan-87	1838	1030	18.5	8.30	153
10-Feb-87	1867	0930	17.3	10.3	177
13-Feb-87	1870	1215	17.7	10.6	187
15-Mar-87	1900	1100	17.6	9.88	174
20-Mar-87	1905	0915	17.6	9.34	164
10-Apr-87	1926	1100	16.1	10.3	165
21-Apr-87	1937	1310	10.9	18.5	202
6-May-87	1952	1000	4.3	50.5	216
14-May-87	1960	0715	4.9	54.2	264
23-May-87	1969	1100	6.8	38.2	260
27-May-87	1973	1538	6.6	40.8	269
29-May-87	1975	1435	5.6	46.5	261
6-Jun-87	1983	1135	7.2	30.2	219
9-Jun-87	1986	1335	7.3	28.8	209
13-Jun-87	1990	1130	8.3	25.2	209
19-Jun-87	1996	0830	10.2	18.3	187
27-Jun-87	2004	1130	11.8	13.2	156
3-Jul-87	2010	0745	12.4	12.5	155
11-Jul-87	2018	0950	10.6	15.1	159
14-Jul-87	2021	1315	14.2	10.6	150
18-Jul-87	2025	1300	10.5	17.0	178
25-Jul-87	2032	1030	13.5	10.7	145
31-Jul-87	2038	0900	13.9	10.1	141
8-Aug-87	2046	1050	16.4	7.79	128
15-Aug-87	2053	1320	17.1	7.22	124
19-Aug-87	2057	1645	17.9	6.77	121
22-Aug-87	2060	0830	19.0	6.43	122
28-Aug-87	2066	1045	18.9	6.65	126
5-Sep-87	2074	1530	19.4	6.88	134

Snake River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
11-Sep-87	2080	1230	20.2	6.12	124
27-Sep-87	2096	1430	22.5	5.55	125
30-Sep-87	2099		22.6	5.41	122
Water year 1988					
1-Oct-87	2100		22.7	5.32	121
9-Oct-87	2108	1200	23.1	5.21	120
20-Oct-87	2119	1630	22.6	4.73	107
28-Nov-87	2158	1520	18.3	5.86	107
16-Dec-87	2176	1200	21.2	7.08	150
30-Dec-87	2190	1315	20.4	7.22	147
29-Jan-88	2220	1510	20.1	8.81	177
23-Feb-88	2245	1200	22.6	8.04	182
24-Feb-88	2246	1535	20.6	8.55	176
19-Mar-88	2270	1630	21.6	7.45	161
30-Mar-88	2281	0900	21.6	7.79	168
13-Apr-88	2295	0930	15.7	14.6	229
26-Apr-88	2308	1000	13.6	17.4	237
3-May-88	2315	1200	11.9	18.3	218
9-May-88	2321	1130	11.0	20.6	227
15-May-88	2327	1410	4.9	61.2	300
22-May-88	2334	1245	4.3	86.1	371
29-May-88	2341	0645	3.5	86.5	303
5-Jun-88	2348	1220	4.1	94.9	386
12-Jun-88	2355	1605	5.5	49.6	273
19-Jun-88	2362	0930	7.2	29.7	214
26-Jun-88	2369	0745	9.8	18.7	183
3-Jul-88	2376	0830	11.3	12.5	141
10-Jul-88	2383	1015	12.9	10.8	140
17-Jul-88	2390	1000	15.0	8.30	124
5-Aug-88	2409	0900	18.3	6.12	112
11-Aug-88	2415	0915	19.8	5.78	114
14-Aug-88	2418	0945	19.7	5.78	114
22-Aug-88	2426	1000	22.3	5.18	116
28-Aug-88	2432	1330	22.5	5.15	116
4-Sep-88	2439	0945	23.3	5.10	119
20-Sep-88	2455	1145	24.5	5.04	123
30-Sep-88	2465		24.7	5.15	127
Water year 1989					
1-Oct-88	2466		24.7	5.13	127
7-Oct-88	2472	1520	24.8	5.18	129
20-Oct-88	2485	1120	23.7	5.66	134
10-Nov-88	2506	1030	23.1	6.00	139
16-Dec-88	2542	1150	25.7	6.29	162
8-Jan-89	2565	1400	22.0	7.79	171
12-Feb-89	2600	1000	21.1	7.93	167
26-Feb-89	2614	1150	21.3	7.45	159
5-Mar-89	2621	1700	19.8	8.44	167
26-Mar-89	2642	1630	19.2	10.0	192
10-Apr-89	2657	1630	17.5	10.1	177
18-Apr-89	2665	1625	9.8	17.0	167
30-Apr-89	2677	1300	10.1	28.1	284
7-May-89	2684	1200	4.4	108	476
17-May-89	2694	0757	4.4	110	489
21-May-89	2698	1430	4.2	121	507
29-May-89	2706	1230	4.1	114	471
4-Jun-89	2712	0930	4.0	104	417

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
11-Jun-89	2719	0750	3.7	106	389
18-Jun-89	2726	1725	4.9	75.9	368
25-Jun-89	2733	0900	6.8	43.9	297
2-Jul-89	2740	0730	7.0	35.4	248
9-Jul-89	2747	1700	9.2	22.9	210
16-Jul-89	2754	0950	10.3	19.1	197
23-Jul-89	2761	0730	11.3	14.6	164
2-Aug-89	2771	1525	12.2	14.6	178
6-Aug-89	2775	0720	13.5	12.0	162
13-Aug-89	2782	0830	13.4	12.0	161
20-Aug-89	2789	0745	13.4	11.4	153
27-Aug-89	2796	1000	14.9	8.81	131
10-Sep-89	2810	1930	14.8	8.30	123
24-Sep-89	2824	1800	17.0	6.99	119
30-Sep-89	2830		15.6	8.67	135
Water year 1990					
1-Oct-89	2831		15.6	9.66	151
11-Oct-89	2841	1045	15.5	10.1	157
24-Oct-89	2854	1730	15.6	10.4	163
8-Nov-89	2869	1400	17.4	8.95	156
9-Nov-89	2870	1030	17.7	11.0	194
6-Dec-89	2897	1615	23.2	10.8	252
1-Jan-90	2923	1130	22.2	9.34	207
16-Jan-90	2938	1700	18.7	10.1	190
20-Jan-90	2942	1315	20.6	10.0	206
18-Feb-90	2971	1430	18.9	11.1	210
26-Mar-90	3007	1500	19.3	9.34	180
6-Apr-90	3018	1420	13.8	18.9	261
21-Apr-90	3033	1630	6.7	74.5	499
2-May-90	3044	1330	11.4	36.0	410
8-May-90	3050	1900	5.7	60.0	342
16-May-90	3058	1730	7.5	45.0	338
24-May-90	3066	0840	3.6	93.7	338
24-May-90	3066	WRD	3.3	86.1	280
31-May-90	3073	0920	4.4	96.8	427
6-Jun-90	3079	1015	3.7	88.6	329
13-Jun-90	3086	0810	5.4	72.5	390
17-Jun-90	3090	1030	6.1	60.9	370
24-Jun-90	3097	0730	4.5	70.2	316
1-Jul-90	3104	0830	6.9	37.7	258
17-Jul-90	3120	1200	12.2	15.7	192
22-Jul-90	3125	0740	13.0	14.2	185
29-Jul-90	3132	0745	13.8	10.6	147
5-Aug-90	3139	1000	15.0	11.4	171
17-Aug-90	3151	1800	15.8	11.0	174
20-Aug-90	3154	0900	16.9	10.0	169
9-Sep-90	3174	1545	18.4	8.44	155
26-Sep-90	3191	0900	19.2	7.79	150
30-Sep-90	3195		19.3	7.73	149
Water Year 1991					
1-Oct-90	3196		19.3	7.73	150
10-Oct-90	3205	1230	19.4	8.44	164
24-Oct-90	3219	1130	20.2	8.44	170
13-Nov-90	3239	1220	18.0	7.79	140
20-Nov-90	3246	1200	19.4	9.71	188
19-Dec-90	3275	1630	20.5	8.92	183

Snake River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
18-Jan-91	3305	1630	20.6	8.83	182
24-Jan-91	3311	1540	24.4	9.03	220
16-Feb-91	3334	1600	24.6	8.16	201
13-Mar-91	3359	1425	25.2	10.4	262
18-Mar-91	3364	1710	19.5	10.4	203
28-Mar-91	3374	0945	21.1	9.51	201
16-Apr-91	3393	0900	17.8	11.0	197
9-May-91	3416	1559	7.9	30.3	238
16-May-91	3423	1330	5.5	66.0	361
22-May-91	3429	1530	4.1	145	593
22-May-91	3429	1330	3.5	145	506
6-Jun-91	3444	1300	3.3	149	489
7-Jun-91	3445	1145	4.2	156	652
11-Jun-91	3449	0900	3.4	135	455
12-Jun-91	3450	1751	4.3	153	653
19-Jun-91	3457	1820	5.3	75.3	397
27-Jun-91	3465	1300	7.0	39.1	272
30-Jun-91	3468	1717	7.7	35.7	276
11-Jul-91	3479	1300	10.5	22.0	231
17-Jul-91	3485	1200	12.3	17.2	211
28-Aug-91	3527	1405	16.3	10.8	177
11-Sep-91	3541	1550	14.1	12.6	177
24-Sep-91	3554	1515	18.3	8.69	159
28-Sep-91	3558	1830	17.9	9.12	163
30-Sep-91	3560		16.6	9.88	164
Water year 1992					
1-Oct-91	3561		18.3	9.88	181
18-Oct-91	3578	1155	20.4	7.90	161
29-Oct-91	3589	0955	18.6	9.37	174
12-Nov-91	3603	1200	19.5	9.06	177
1-Dec-91	3622	1330	20.6	7.93	163
15-Jan-92	3667	1458	22.1	7.65	169
11-Feb-92	3694	1102	21.3	8.69	185
10-Mar-92	3722	1310	20.9	9.12	191
27-Mar-92	3739	1205	17.2	9.37	162
11-Apr-92	3754	1020	14.0	16.3	229
25-Apr-92	3768	1700	9.8	31.2	306
8-May-92	3781	1237	3.6	123	441
15-May-92	3788	1115	4.6	68.2	314
18-May-92	3791	1320	3.7	69.4	259
29-May-92	3802	1037	5.9	36.4	213
5-Jun-92	3809	1321	7.7	24.7	190
12-Jun-92	3816	1301	9.3	19.1	178
19-Jun-92	3823	0935	5.6	30.9	172
26-Jun-92	3830	1100	8.7	20.8	182
3-Jul-92	3837	1420	10.9	18.7	204
10-Jul-92	3844	1430	13.1	14.0	183
11-Jul-92	3845	1200	13.0	14.8	193
22-Jul-92	3856	1445	13.7	12.9	177
28-Jul-92	3862	1440	16.0	10.3	164
5-Aug-92	3870	1115	17.2	8.69	150
11-Aug-92	3876	0817	18.6	7.53	140
18-Aug-92	3883	1415	17.5	8.83	155
25-Aug-92	3890	1630	20.4	7.16	146
7-Sep-92	3903	1050	15.5	11.3	175
23-Sep-92	3919	1400	21.1	7.42	157
30-Sep-92	3926		20.8	7.73	161

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water Year 1993					
1-Oct-92	3927		20.0	7.50	155
6-Oct-92	3932	1200	19.1	8.24	157
9-Oct-92	3935	1200	20.5	8.04	165
24-Oct-92	3950	1530	22.6	6.94	157
25-Nov-92	3982	1700	23.0	6.51	150
15-Dec-92	4002		19.8	8.72	173
18-Dec-92	4005	1330	21.6	8.69	188
14-Jan-93	4032	1500	21.1	9.40	198
8-Feb-93	4057	1545	22.3	8.35	186
7-Mar-93	4084	1640	22.3	8.16	182
24-Mar-93	4101	1930	22.3	8.95	200
10-Apr-93	4118	1630	18.0	11.3	203
22-Apr-93	4130	1015	15.3	12.7	195
28-Apr-93	4136		12.9	15.0	193
7-May-93	4145	1345	8.4	30.3	254
14-May-93	4152	1040	3.1	133	408
18-May-93	4156	1045	3.4	165	562
22-May-93	4160	1500	3.3	183	598
31-May-93	4169	1600	5.1	141	716
10-Jun-93	4179		4.2	91.7	390
18-Jun-93	4187	1200	6.1	73.6	447
23-Jun-93	4192	1500	6.0	62.6	377
30-Jun-93	4199	0915	9.1	41.3	377
10-Jul-93	4209	1030	7.4	30.9	229
17-Jul-93	4216	0845	9.0	22.1	199
23-Jul-93	4222	1545	11.9	19.3	229
28-Jul-93	4227	1045	12.0	19.1	228
3-Aug-93	4233	0800	15.7	15.0	236
10-Aug-93	4240	0945	16.8	13.3	223
16-Aug-93	4246	1030	13.1	12.2	160
28-Aug-93	4258	1420	15.2	10.7	162
10-Sep-93	4271	1030	15.9	9.23	147
30-Sep-93	4291		17.4	8.83	154
Water Year 1994					
1-Oct-93	4292		17.5	8.35	146
1-Nov-93	4323		17.5	8.33	146
1-Dec-93	4353		17.4	7.36	128
1-Jan-94	4384	1630	17.5	9.23	161
9-Jan-94	4392	1750	19.0	9.94	189
1-Feb-94	4415		19.5	7.65	149
11-Mar-94	4453	1555	19.1	9.09	174
23-Mar-94	4465	1350	19.7	8.44	166
4-Apr-94	4477	1350	18.2	9.51	173
12-Apr-94	4485		17.3	9.26	160
19-Apr-94	4492		9.1	26.3	240
22-Apr-94	4495	1640	5.3	55.5	294
1-May-94	4504		8.1	32.3	260
11-May-94	4514	1545	3.2	112	362
19-May-94	4522		4.8	75.9	362
27-May-94	4530	1500	6.1	60.9	373
3-Jun-94	4537	1503	6.5	45.9	298
10-Jun-94	4544	1245	8.5	29.4	251
17-Jun-94	4551		9.1	26.5	241
24-Jun-94	4558	1620	11.7	18.1	211
1-Jul-94	4565	1245	13.1	13.3	173

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
8-Jul-94	4572	1609	13.9	11.4	159
15-Jul-94	4579	1100	15.1	9.66	146
22-Jul-94	4586	1415	17.5	8.04	141
29-Jul-94	4593	1556	16.4	7.79	128
5-Aug-94	4600		18.4	6.94	127
18-Aug-94	4613	1450	19.3	5.80	112
25-Aug-94	4620		24.7	5.18	128
30-Sep-94	4656		25.4	4.96	126
Water Year 1995, 1996 no data					
Water Year 1997					
1-Oct-96	5388		13.2	12.40	164
2-Oct-96	5389	1810	13.7	12.23	167
15-Oct-96	5402	1235	12.9	11.44	148
22-Oct-96	5409	1335	15.1	12.23	185
11-Nov-96	5429	1115	13.4	9.66	129
10-Dec-96	5458	1635	14.6	16.11	234
17-Dec-96	5465	1345	12.9	15.01	193
15-Jan-97	5494	1625	14.1	18.07	254
30-Jan-97	5509	1306	13.2	15.18	200
12-Feb-97	5522	1445	15.0	12.9	194
19-Feb-97	5529	1245	15.7	11.8	184
4-Mar-97	5542	1145	15.2	11.8	179
18-Mar-97	5556	1445	15.2	11.4	174
19-Mar-97	5557	1635	15.4	11.6	179
2-Apr-97	5571	0955	15.0	11.4	171
8-Apr-97	5577		15.1	11.6	175
21-Apr-97	5590	1720	8.2	31.1	256
22-Apr-97	5591	1705	8.3	30.6	255
30-Apr-97	5599		9.4	35.1	329
6-May-97	5605	1335	5.5	60.3	331
14-May-97	5613	1110	3.2	177	565
21-May-97	5620	1225	2.9	210	601
28-May-97	5627	1020	2.9	143	416
4-Jun-97	5634	1000	2.8	247	696
13-Jun-97	5643	0900	2.9	155	451
18-Jun-97	5648	1430	3.2	174	563
25-Jun-97	5655		4.3	90.6	388
1-Jul-97	5661		4.9	72.2	355
7-Jul-97	5667		5.9	53.8	317
15-Jul-97	5675	1130	5.8	44.2	256
22-Jul-97	5682		7.8	34.3	266
1-Aug-97	5692		8.8	28.0	246
7-Aug-97	5698		8.9	27.5	244
14-Aug-97	5705		9.1	26.4	241
21-Aug-97	5712		10.2	21.9	224
26-Aug-97	5717	1055	10.2	21.5	219
17-Sep-97	5739		11.3	18.5	208
30-Sep-97	5752		11.7	16.1	189
Water Year 1998					
1-Oct-97	5753		13.9	12.4	172
15-Oct-97	5767	1200	11.4	17.2	196
2-Dec-97	5815	1100	14.0	13.8	193
18-Dec-97	5831	1630	14.0	13.5	188
14-Jan-98	5858	1330	15.1	15.7	236

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
2-Feb-98	5877	1115	16.2	13.3	215
11-Mar-98	5914	1140	14.4	11.4	164
24-Mar-98	5927	1400	14.8	14.7	218
8-Apr-98	5942	1115	15.3	13.2	201
15-Apr-98	5949	1730	14.6	13.6	198
22-Apr-98	5956	1200	13.0	14.1	183
29-Apr-98	5963	1530	7.5	35.1	265
7-May-98	5971	0900	2.9	114	328
13-May-98	5977	1200	3.2	105	333
20-May-98	5984	1200	3.8	90.6	346
28-May-98	5992	1200	3.3	122	396
4-Jun-98	5999	1200	3.1	126	387
10-Jun-98	6005	1106	3.1	99.4	311
17-Jun-98	6012	1400	4.1	80.7	333
25-Jun-98	6020	1500	3.5	90.3	320
1-Jul-98	6026	1430	3.3	80.4	265
7-Jul-98	6032	0830	5.0	58.9	294
15-Jul-98	6040	1200	7.2	32.8	235
23-Jul-98	6048	1530	9.2	22.0	202
30-Jul-98	6055	1000	8.8	21.6	189
4-Aug-98	6060	1000	8.2	19.0	155
18-Aug-98	6074	1500	10.1	17.6	176
1-Sep-98	6088	1000	12.2	12.3	149
15-Sep-98	6102	2000	12.2	12.4	151
30-Sep-98	6117		14.0	11.2	156

Water Year 1999

1-Oct-98	6118	1117	14.1	11.2	157.
15-Oct-98	6132	1310	14.1	10.2	144.
4-Nov-98	6152	1100	14.8	10.5	155.
19-Nov-98	6167	1300	15.6	10.4	161.
10-Dec-98	6188	1050	15.6	12.9	202.
15-Jan-99	6224	1430	14.9	11.5	171.
18-Feb-99	6258	1315	14.5	13.4	194.
12-Mar-99	6280	1700	15.4	11.6	178.
24-Mar-99	6292	1515	15.4	10.9	168.
1-Apr-99	6300	1445	15.2	11.0	168.
9-Apr-99	6308	1730	15.0	10.8	161.
16-Apr-99	6315	1801	15.2	10.5	159.
22-Apr-99	6321		12.4	15.8	197.
29-Apr-99	6328		4.9	28.6	141.
7-May-99	6336	2000	7.5	57.2	430.
13-May-99	6342	1440	7.3	35.1	257.
22-May-99	6351		2.7	97.7	260.
27-May-99	6356		2.3	187	433.
3-Jun-99	6363		2.6	177	451.
12-Jun-99	6372		2.8	135	373.
17-Jun-99	6377		2.3	162	368.
26-Jun-99	6386	1530	2.8	112	317.
2-Jul-99	6392		4.5	77.3	349.
16-Jul-99	6406	815	5.6	36.8	204.
23-Jul-99	6413		8.4	27.0	228.
30-Jul-99	6420		9.3	23.0	214.
6-Aug-99	6427	945	9.3	19.8	184.
14-Aug-99	6435		10.1	17.8	179.
21-Aug-99	6442	1000	11.0	15.7	172.
9-Sep-99	6461	1500	11.8	14.0	166.
24-Sep-99	6476	1100	12.7	12.0	153.

Snake River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
30-Sep-99	6482		15.2	11.0	168

Yellowstone River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water Year 1983					
1-Oct-82	274		10.1	68.5	689
5-Oct-82	278	1715	10.0	71.4	714
26-Oct-82	299	1645	12.1	53.8	651
4-Nov-82	308	1640	11.0	47.6	523
24-Nov-82	328	1444	13.8	36.5	504
24-Dec-82	358	1327	13.9	33.7	468
19-Jan-83	384	1100	16.7	31.4	525
17-Feb-83	413	1225	13.9	30.3	421
10-Mar-83	434	1645	15.7	29.7	467
22-Mar-83	446	1645	15.5	27.2	420
31-Mar-83	455	1230	15.0	29.7	446
14-Apr-83	469	0900	15.4	26.8	413
4-May-83	489	1615	11.6	44.2	512
12-May-83	497	1710	11.2	43.3	485
17-May-83	502	1645	11.4	41.6	475
1-Jun-83	517	1400	3.0	250.9	743
15-Jun-83	531	1535	3.2	251.7	811
21-Jun-83	537	1430	3.7	241.0	896
28-Jun-83	544	1545	3.4	286.0	9722
6-Jul-83	552	1215	3.8	250.9	961
11-Jul-83	557	1845	4.1	261.9	1077
21-Jul-83	567	1710	5.4	173.9	944
29-Jul-83	575	1503	6.6	140.5	928
5-Aug-83	582	1127	6.7	122.3	816
11-Aug-83	588	1810	7.4	109.6	811
19-Aug-83	596	1630	7.8	93.4	731
1-Sep-83	609	1330	8.6	74.8	643
27-Sep-83	635	1700	9.9	51.5	510
30-Sep-83	638		9.6	72.5	699
Water year 1984					
1-Oct-83	639		8.1	81.6	659
18-Oct-83	656	1200	8.1	63.4	513
1-Nov-83	670	1200	10.2	56.4	575
15-Nov-83	684	1100	9.4	57.2	538
8-Dec-83	707	1200	13.4	47.0	630
3-Jan-84	733	1625	12.9	38.5	497
7-Feb-84	768	0915	13.6	32.6	443
27-Feb-84	788	1645	14.0	30.3	424
13-Mar-84	803	1630	14.6	30.9	451
3-Apr-84	824	1145	15.1	29.4	445
10-Apr-84	831	0920	13.8	32.0	442
26-Apr-84	847	1645	11.1	43.6	484
2-May-84	853	1515	10.5	41.6	437
9-May-84	860	1035	11.0	43.3	477
16-May-84	867	0820	2.1	337.0	694
23-May-84	874	1730	2.8	214.1	606
30-May-84	881	1624	2.5	297.3	743
6-Jun-84	888	2043	3.3	262.8	878
16-Jun-84	898	0700	2.4	379.4	911
22-Jun-84	904	2145	2.9	342.6	987
30-Jun-84	912	2150	3.3	385.1	1271
7-Jul-84	919	1050	3.7	288.8	1054
14-Jul-84	926	2000	5.1	211.0	1076
22-Jul-84	934	0930	10.7	184.9	1979
28-Jul-84	940	2030	6.5	165.9	1075

Yellowstone River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
4-Aug-84	947	2001	6.1	140.5	857
18-Aug-84	961	2120	6.9	102.8	709
25-Aug-84	968	2010	7.1	18.5	655
13-Sep-84	987	1730	8.4	64.3	540
30-Sep-84	1004		9.0	56.4	509
Water year 1985					
1-Oct-84	1005	1930	9.0	56.6	521
2-Oct-84	1006	1600	9.4	55.9	525
13-Oct-84	1017	1205	10.7	49.0	524
27-Oct-84	1031	1530	11.1	42.8	475
12-Nov-84	1047	1655	11.4	41.9	478
14-Nov-84	1049	1200	11.7	41.7	488
14-Dec-84	1079	1530	13.4	33.7	452
12-Jan-85	1108	1730	14.1	28.9	407
24-Jan-85	1120	1435	13.5	27.4	370
30-Jan-85	1126	1630	17.5	26.9	471
17-Feb-85	1144	0845	13.5	29.7	401
3-Mar-85	1158	1800	14.6	28.3	413
12-Mar-85	1167	1430	13.6	28.3	385
17-Mar-85	1172	1130	13.5	29.2	394
1-Apr-85	1187	1630	10.6	30.3	321
14-Apr-85	1200	1630	9.1	51.0	464
15-Apr-85	1201	1530	7.7	59.0	455
28-Apr-85	1214	2045	8.9	50.2	447
14-May-85	1230	2200	4.6	135.2	622
24-May-85	1240	2100	2.5	223.8	703
1-Jun-85	1248	1430	3.7	215.6	798
3-Jun-85	1250	1445	3.9	209.6	817
8-Jun-85	1255	1750	4.7	341.5	1544
15-Jun-85	1262	1920	5.0	214.1	1073
22-Jun-85	1269	1930	5.6	171.9	958
29-Jun-85	1276	2000	5.6	150.1	846
5-Jul-85	1282	1230	5.8	132.3	773
7-Jul-85	1284	2130	6.9	126.7	873
8-Jul-85	1285	1135	6.0	125.0	745
20-Jul-85	1297	2030	7.3	100.7	734
8-Jul-85	1305	2030	7.4	88.6	653
4-Aug-85	1312	1900	7.8	89.6	700
10-Aug-85	1318	2020	9.2	71.9	660
17-Aug-85	1325	1920	9.4	64.1	603
19-Aug-85	1327	1130	8.4	63.0	529
24-Aug-85	1332	1720	9.2	56.2	517
31-Aug-85	1339	1920	9.8	51.5	505
19-Sep-85	1358	1820	9.3	53.9	501
30-Sep-85	1369		11.0	43.3	474
Water year 1986					
1-Oct-85	1370	1700	11.1	43.3	481
3-Oct-85	1372	1725	11.4	43.7	499
4-Oct-85	1373	0845	10.2	43.3	442
17-Oct-85	1386	1450	12.3	40.0	492
31-Oct-85	1400	1600	14.0	39.7	556
10-Dec-85	1440	1030	14.6	23.9	349
6-Feb-86	1498	0845	14.2	29.2	415
9-Feb-86	1501	0900	15.4	24.1	371
6-Mar-86	1526	1630	12.3	36.2	445
20-Mar-86	1540	1000	12.3	34.6	426
30-Mar-86	1550	1130	9.7	52.5	510

Yellowstone River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
15-Apr-86	1566	1630	8.5	56.6	481
29-Apr-86	1580	1400	4.6	69.1	318
1-May-86	1582	0840	7.4	67.9	503
30-May-86	1611	1000	3.2	492.7	1577
1-Jun-86	1613	1030	2.0	572.0	1144
4-Jun-86	1616	1030	4.1	567.5	2327
10-Jun-86	1622	1730	2.9	462.4	1341
12-Jun-86	1624	1030	4.2	497.2	2088
19-Jun-86	1631	1630	5.2	442.3	2300
26-Jun-86	1638	1730	5.2	329.0	1711
3-Jul-86	1645	1630	5.1	261.1	1332
11-Jul-86	1653	1630	5.4	230.5	1245
17-Jul-86	1659	1850	7.3	188.4	1375
22-Jul-86	1664	1530	5.6	160.1	897
25-Jul-86	1667	1720	6.8	162.1	1102
31-Jul-86	1673	1630	7.7	139.2	1072
8-Aug-86	1681	1030	8.6	116.9	1006
15-Aug-86	1688	1920	8.0	99.7	798
30-Aug-86	1703	1420	8.0	81.4	652
4-Sep-86	1708	1020	8.5	77.4	639
23-Sep-86	1727	1105	9.1	62.7	567
30-Sep-86	1734		9.6	58.2	542
Water year 1987					
1-Oct-86	1735		9.7	58.0	563
7-Oct-86	1741	1300	10.1	54.9	554
16-Oct-86	1750	1400	10.6	47.7	504
22-Oct-86	1756	1110	10.7	45.8	489
31-Oct-86	1765	1230	12.3	44.3	547
4-Dec-86	1799	1200	13.5	32.3	436
12-Dec-86	1807	1030	14.5	28.3	411
14-Jan-87	1840	1420	14.0	26.8	375
11-Feb-87	1868	1330	14.4	29.7	428
3-Mar-87	1888	1700	14.6	25.5	374
13-Mar-87	1898	1630	15.2	28.3	429
27-Mar-87	1912	1015	15.1	24.9	375
8-May-87	1954	1145	3.9	163.3	637
15-May-87	1961	1430	4.3	157.6	677
17-May-87	1963	1000	4.9	187.7	918
20-May-87	1966	1210	3.7	169.9	634
28-May-87	1974	1115	5.2	173.9	906
5-Jun-87	1982	1735	4.9	138.0	678
9-Jun-87	1986	0805	4.9	182.6	900
17-Jun-87	1994	1030	5.8	127.2	733
26-Jun-87	2003	1030	7.2	100.7	720
30-Jun-87	2007	1100	6.9	91.9	630
11-Jul-87	2018	1030	7.3	111.1	814
17-Jul-87	2024	1930	8.5	80.2	684
25-Jul-87	2032	1030	8.8	73.5	645
30-Jul-87	2037	1630	11.2	74.7	834
7-Aug-87	2045	0930	10.0	57.6	576
11-Aug-87	2049	1420	9.6	53.5	512
14-Aug-87	2052	1920	11.2	49.6	555
22-Aug-87	2060	2030	11.2	43.4	487
4-Sep-87	2073	1130	11.5	39.7	457
11-Sep-87	2080	1430	12.0	35.1	422
26-Sep-87	2095	1030	14.8	29.2	434
30-Sep-87	2099	1440	13.7	28.1	385

Yellowstone River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1988					
1-Oct-87	2100		15.1	27.7	418
10-Oct-87	2109	1200	15.1	24.7	372
24-Oct-87	2123	1300	16.2	22.1	358
4-Nov-87	2134	1420	15.9	23.1	366
6-Nov-87	2136	1650	16.8	21.5	361
7-Dec-87	2167	1240	19.6	21.2	415
15-Dec-87	2175	1000	21.8	20.8	453
4-Jan-88	2195	1430	23.9	17.5	418
27-Jan-88	2218	1010	22.9	13.5	308
29-Jan-88	2220	1620	23.1	13.5	310
29-Feb-88	2251	0900	19.5	17.9	348
18-Mar-88	2269	1620	18.3	19.9	364
31-Mar-88	2282	1015	14.2	22.3	317
13-Apr-88	2295	1230	12.4	37.8	469
29-Apr-88	2311	1520	9.2	54.2	496
4-May-88	2316	1410	9.3	48.6	452
12-May-88	2324	1020	3.7	132.3	490
20-May-88	2332	1620	2.9	154.4	446
1-Jun-88	2344	1620	4.3	215.6	923
7-Jun-88	2350	0900	2.4	324.5	776
24-Jun-88	2367	1030	5.3	151.9	805
26-Jun-88	2369	1420	6.5	140.4	913
4-Jul-88	2377	1200	7.5	101.2	759
11-Jul-88	2384	1400	9.4	83.2	782
20-Jul-88	2393	1100	8.1	66.4	538
22-Jul-88	2395	1020	9.7	64.1	622
29-Jul-88	2402	2020	10.3	58.0	597
11-Aug-88	2415	1625	10.7	44.9	481
19-Aug-88	2423	0820	13.1	37.8	495
31-Aug-88	2435	0940	12.1	30.6	371
1-Sep-88	2436	1620	12.7	29.7	377
10-Sep-88	2445	1200	14.1	27.0	381
25-Sep-88	2460	1750	17.2	24.5	421
30-Sep-88	2465		16.3	23.6	384
Water year 1989					
1-Oct-88	2466		16.1	23.6	378
4-Oct-88	2469	1230	15.5	23.3	361
13-Oct-88	2478	1420	16.4	22.1	363
24-Oct-88	2489	1225	18.4	21.4	393
31-Oct-88	2496	1500	16.8	19.9	334
16-Nov-88	2512	1600	17.5	19.4	339
8-Dec-88	2534	1130	17.9	19.2	344
11-Dec-88	2537	1530	18.8	19.4	364
9-Jan-89	2566	1700	22.7	15.1	344
24-Jan-89	2581	1630	23.5	13.2	309
10-Feb-89	2598	1230	24.1	13.3	321
13-Feb-89	2601	1545	24.6	14.7	362
7-Mar-89	2623	1630	19.6	13.6	266
7-Mar-89	2623	1315	24.8	13.3	330
15-Mar-89	2631	1400	19.7	17.2	338
22-Mar-89	2638	1730	15.9	18.5	294
9-Apr-89	2656	1030	13.6	30.0	408
10-Apr-89	2657	1400	14.0	26.4	370
29-Apr-89	2676	1430	3.5	75.6	262
10-May-89	2687	1200	2.9	342.6	1004

Yellowstone River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
11-May-89	2688	1920	3.8	323.7	1233
9-Jun-89	2717	1000	2.9	347.4	997
14-Jun-89	2722	1625	4.1	300.7	1230
30-Jun-89	2738	1710	5.4	208.1	1124
3-Jul-89	2741	1530	4.7	193.4	899
11-Jul-89	2749	0900	7.3	165.9	1213
13-Jul-89	2751	1000	7.8	165.4	1285
28-Jul-89	2766	2200	7.9	111.6	878
3-Aug-89	2772	1445	8.4	92.3	774
10-Aug-89	2779	1410	8.7	79.3	693
18-Aug-89	2787	1600	9.3	68.0	630
25-Aug-89	2794	1515	9.9	64.0	630
28-Aug-89	2797	1630	11.3	41.1	464
31-Aug-89	2800	1245	10.4	56.6	589
12-Sep-89	2812	1430	10.9	46.2	501
30-Sep-89	2830		11.3	39.08	441
Water year 1990					
1-Oct-89	2831		11.3	40.8	513
5-Oct-89	2835	1130	11.4	45.3	517
16-Oct-89	2846	1045	11.3	37.1	419
29-Oct-89	2859	1245	10.8	33.7	364
12-Nov-89	2873	1300	12.3	34.5	425
15-Nov-89	2876	1630	12.4	30.3	376
3-Dec-89	2894	1300	16.8	27.4	461
3-Jan-90	2925	1230	16.5	23.9	394
10-Jan-90	2932	1145	20.2	25.7	520
18-Jan-90	2940	1720	17.8	21.7	387
12-Feb-90	2965	1730	19.2	25.1	482
20-Mar-90	3001	1240	5.5	28.0	154
3-Apr-90	3015	1545	13.2	51.3	677
19-Apr-90	3031	1205	4.3	127	545
4-May-90	3046	1740	5.7	90.6	518
7-May-90	3049	1500	4.1	198	809
14-May-90	3056		5.7	125	714
21-May-90	3063		5.7	127	717
25-May-90	3067	1100	3.5	213	742
1-Jun-90	3074	1315	4.3	253	1085
6-Jun-90	3079	1240	4.1	266	1087
11-Jun-90	3084	1215	2.2	421	942
14-Jun-90	3087	1430	5.8	248	1433
15-Jun-90	3088	1630	4.1	250	1013
22-Jun-90	3095	0900	4.2	342	1427
28-Jun-90	3101	1620	5.3	299	1576
7-Jul-90	3110	1900	6.0	202	1207
14-Jul-90	3117	1230	3.4	161	542
23-Jul-90	3126	2105	6.7	125	837
23-Jul-90	3126	1345	6.7	125	837
27-Jul-90	3130	1420	7.8	117	908
3-Aug-90	3137	1200	8.1	98.0	796
10-Aug-90	3144	1950	8.9	82.4	730
17-Aug-90	3151	1230	8.6	89.2	768
24-Aug-90	3158	1800	9.3	72.2	669
1-Sep-90	3166	2110	9.7	58.9	569
5-Sep-90	3170	1430	10.1	59.5	599
10-Sep-90	3175	1100	10.6	53.8	570
30-Sep-90	3195	1000	11.6	42.2	489

Yellowstone River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1991					
1-Oct-90	3196		11.7	41.6	485
12-Oct-90	3207	1430	12.3	39.9	491
22-Oct-90	3217	1210	12.9	39.9	515
15-Nov-90	3241	1545	13.1	34.3	449
23-Nov-90	3249	1530	15.7	32.0	502
17-Dec-90	3273	1530	19.2	22.6	434
2-Jan-91	3289	1145	19.3	19.8	383
17-Jan-91	3304	1130	20.5	19.2	394
11-Feb-91	3329	1545	20.9	17.6	369
18-Mar-91	3364	1515	16.4	23.3	382
26-Mar-91	3372	1615	15.6	28.9	451
6-Apr-91	3383	1630	13.1	48.4	634
18-Apr-91	3395	1615	12.1	34.5	418
8-May-91	3415	1445	8.3	68.2	564
9-May-91	3416	1231	6.5	110	708
16-May-91	3423	0950	4.5	182	817
22-May-91	3429	1255	1.5	417	638
5-Jun-91	3443	1250	2.3	479	1077
11-Jun-91	3449	1648	2.6	425	1092
19-Jun-91	3457	1409	4.6	315	1450
25-Jun-91	3463	1045	4.4	275	1214
26-Jun-91	3464	2112	3.4	259	887
27-Jun-91	3465	0800	4.9	256	1257
5-Jul-91	3473	1038	5.2	216	1129
10-Jul-91	3478	1003	5.9	183	1077
17-Jul-91	3485	1200	6.6	148	980
24-Jul-91	3492	1615	6.9	131	898
6-Aug-91	3505	1513	7.8	98.3	768
13-Aug-91	3512	1227	8.4	81.8	691
15-Aug-91	3514	2000	8.6	77.6	666
22-Aug-91	3521	1420	9.1	69.1	629
30-Aug-91	3529	1807	9.8	58.6	573
12-Sep-91	3542	1420	10.3	56.4	580
23-Sep-91	3553	1927	11.0	46.8	514
30-Sep-91	3560		11.6	43.3	501
Water year 1992					
1-Oct-91	3561		11.1	44.2	490
9-Oct-91	3569	1345	11.8	39.6	468
15-Nov-91	3606	1810	14.2	30.3	430
31-Dec-91	3652	1215	16.1	25.3	408
16-Jan-92	3668	1353	16.3	23.7	386
4-Feb-92	3687	1610	15.4	22.9	353
13-Feb-92	3696	1313	16.1	24.7	398
11-Mar-92	3723	1133	15.2	25.5	388
26-Mar-92	3738	1525	14.4	27.4	395
10-Apr-92	3753	1715	10.0	46.4	464
23-Apr-92	3766	1300	5.7	87.8	500
7-May-92	3780	1428	2.4	323	759
13-May-92	3786	0946	2.9	170	493
19-May-92	3792	1137	2.0	286	569
27-May-92	3800	1000	2.0	360	726
2-Jun-92	3806		4.4	190	829
9-Jun-92	3813	1455	3.7	160	589
17-Jun-92	3821	1255	4.1	219	909
24-Jun-92	3828	1333	3.2	201	638

Yellowstone River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
30-Jun-92	3834	1050	3.6	189	681
7-Jul-92	3841	1550	4.5	151	676
15-Jul-92	3849	1620	4.7	129	609
21-Jul-92	3855	1455	3.9	154	592
30-Jul-92	3864	1542	7.2	90.0	647
4-Aug-92	3869	1240	7.5	82.4	616
12-Aug-92	3877	1045	8.7	66.0	571
19-Aug-92	3884	1116	9.1	58.6	531
26-Aug-92	3891	1228	9.8	51.3	502
8-Sep-92	3904	1200	9.4	56.4	530
27-Sep-92	3923	1510	11.8	41.1	485
30-Sep-92	3926		11.9	38.2	454
Water year 1993					
1-Oct-92	3927		11.9	37.7	448
22-Oct-92	3948	1333	12.4	36.0	446
18-Nov-92	3975	1655	13.4	32.6	438
4-Dec-92	3991	1655	15.3	25.5	390
15-Dec-92	4002	1500	14.1	26.6	376
11-Jan-93	4029	1405	18.3	22.3	408
14-Jan-93	4032	1400	17.8	21.4	381
8-Feb-93	4057	1455	19.4	17.3	336
23-Feb-93	4072	1440	19.8	15.3	303
11-Mar-93	4088	1135	19.5	17.0	331
23-Mar-93	4100	1225	17.8	18.7	332
6-Apr-93	4114	1342	11.6	34.1	396
9-Apr-93	4117	710	11.3	37.2	419
20-Apr-93	4128	1525	11.1	37.1	412
5-May-93	4143	1014	5.0	91.3	460
13-May-93	4151	851	2.0	345	691
19-May-93	4157	1455	1.8	394	705
19-May-93	4157	1030	2.4	440	1061
28-May-93	4166	1605	2.4	430	1015
8-Jun-93	4177	1620	3.3	348	1146
16-Jun-93	4185	1120	3.0	357	1063
23-Jun-93	4192	1530	3.5	307	1085
28-Jun-93	4197	1110	4.0	276	1117
29-Jun-93	4198	1629	4.0	259	1036
6-Jul-93	4205	1624	4.1	242	984
13-Jul-93	4212	840	4.4	200	887
21-Jul-93	4220	1254	4.9	165	806
27-Jul-93	4226	1015	4.7	168	790
5-Aug-93	4235	1423	5.6	135	760
11-Aug-93	4241	1550	6.1	118	720
17-Aug-93	4247	2000	6.8	101	689
18-Aug-93	4248	1429	6.5	98.8	646
25-Aug-93	4255	1047	7.2	86.4	624
8-Sep-93	4269	1215	8.6	64.1	548
22-Sep-93	4283	1815	9.6	51.5	493
22-Sep-93	4283	1432	9.3	51.7	481
30-Sep-93	4291		10.1	46.2	464
Water year 1994					
1-Oct-93	4292		10.2	45.6	463
5-Oct-93	4296	1120	10.5	43.6	459
20-Oct-93	4311	0940	10.5	42.3	444

Yellowstone River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
4-Nov-93	4326	1705	12.0	34.0	408
1-Dec-93	4353		14.7	28.6	420
1-Jan-94	4384		16.6	23.6	392
11-Feb-94	4425	1429	16.8	21.5	362
9-Mar-94	4451	1604	15.5	23.7	367
24-Mar-94	4466	1454	15.3	24.0	367
8-Apr-94	4481	1059	13.6	27.2	369
20-Apr-94	4493	1403	4.6	109	496
3-May-94	4506	1000	6.0	81.8	487
10-May-94	4513	1428	2.1	278	580
19-May-94	4522	1425	3.3	238	784
25-May-94	4528	0515	3.2	287	931
8-Jun-94	4542	1815	4.9	168	822
16-Jun-94	4550	0940	3.8	189	717
22-Jun-94	4556	0820	5.0	157	783
29-Jun-94	4563	1150	5.9	119	704
6-Jul-94	4570	1420	6.3	112	709
12-Jul-94	4576	2025	7.2	87.2	627
13-Jul-94	4577	1430	7.3	85.5	622
26-Jul-94	4590	0955	8.4	68.0	573
3-Aug-94	4598	1340	10.3	57.6	593
10-Aug-94	4605	1352	10.2	52.4	532
17-Aug-94	4612	1454	10.6	44.5	473
25-Aug-94	4620	1600	11.3	38.8	439
8-Sep-94	4634	1130	13.1	32.0	418
22-Sep-94	4648	1600	13.4	28.9	386
30-Sep-94	4656		15.3	26.9	411
Water year 1995, 1996 no data					
Water year 1997					
1-Oct-96	5388		10.0	51.8	520
15-Oct-96	5402	1535	10.4	43.3	451
12-Nov-96	5430	1350	11.9	37.4	446
9-Dec-96	5457	1255	12.0	36.8	442
16-Dec-96	5464	1520	11.3	31.0	351
22-Jan-97	5501	1200	11.6	41.3	480
4-Feb-97	5514	1242	11.7	39.1	456
18-Feb-97	5528		11.6	39.5	459
1-Mar-97	5539		13.2	34.0	447
15-Mar-97	5553		13.2	34.0	447
1-Apr-97	5570		11.3	43.0	486
7-Apr-97	5576	1600	11.8	40.5	476
16-Apr-97	5585	1620	11.3	38.5	434
23-Apr-97	5592	1525	7.5	66.8	500
1-May-97	5600	1445	6.2	87.9	544
7-May-97	5606	0745	7.9	161	1276
14-May-97	5613	?	1.8	334	611
21-May-97	5620		2.4	484	1160
28-May-97	5627		2.9	365	1048
7-Jun-97	5637		1.7	816	1399
14-Jun-97	5644		2.0	654	1292
21-Jun-97	5651		2.2	555	1218
1-Jul-97	5661		2.6	416	1099
7-Jul-97	5667		3.0	348	1030
14-Jul-97	5674	1030	5.1	279	1409
18-Jul-97	5678	1645	4.5	262	1173

Yellowstone River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
23-Jul-97	5683	1515	4.5	218	979
31-Jul-97	5691	1151	5.2	195	1015
7-Aug-97	5698	1155	5.1	158	812
13-Aug-97	5704	1245	5.5	142	784
20-Aug-97	5711	1745	6.4	125	804
27-Aug-97	5718	1355	6.6	108	714
2-Sep-97	5724	1630	6.7	93.7	625
10-Sep-97	5732	1730	7.0	81.7	572
18-Sep-97	5740		8.2	77.4	631
30-Sep-97	5752		8.5	66.5	569
Water year 1998					
1-Oct-97	5753		8.7	64.6	563
7-Oct-97	5759	1720	8.3	60.0	498
20-Oct-97	5772	1500	8.1	60.6	492
17-Nov-97	5800	1625	11.0	42.5	466
10-Dec-97	5823	1050	11.3	38.2	432
12-Jan-98	5856	1730	11.9	35.4	420
11-Feb-98	5886	1437	12.3	35.1	432
12-Mar-98	5915	1045	13.1	32.8	431
24-Mar-98	5927	1426	11.8	38.5	453
7-Apr-98	5941	1425	11.4	37.9	431
14-Apr-98	5948	1448	10.8	39.6	428
21-Apr-98	5955	1154	10.8	42.2	457
28-Apr-98	5962		6.5	82.4	534
4-May-98	5968	1150	2.8	228	628
13-May-98	5977	1438	2.9	226	655
19-May-98	5983	1426	4.1	160	653
26-May-98	5990	1431	8.3	245	2038
2-Jun-98	5997	1105	2.5	281	701
9-Jun-98	6004	0735	2.3	211	487
16-Jun-98	6011	0950	3.6	314	1125
22-Jun-98	6017	1505	2.8	283	793
30-Jun-98	6025	1120	3.0	305	914
8-Jul-98	6033	0800	2.8	286	795
14-Jul-98	6039	1434	3.0	221	663
20-Jul-98	6045	1350	4.1	182	747
28-Jul-98	6053	1440	4.7	147	688
4-Aug-98	6060	1620	5.6	126	709
12-Aug-98	6068	0957	5.5	103	568
18-Aug-98	6074	1530	6.4	99.7	637
26-Aug-98	6082	1312	7.3	79.3	577
15-Sep-98	6102	1452	8.2	59.5	486
30-Sep-98	6117		8.2	48.4	486
Water year 1999					
1-Oct-98	6118	1140	10.1	50.0	504
21-Oct-98	6138	1229	10.2	40.0	409
20-Nov-98	6168	1400	11.3	35.0	395
10-Dec-98	6188	1755	13	31.0	404
11-Jan-99	6220	1711	12.1	32.0	393
16-Feb-99	6256	829	12.5	31.0	390
11-Mar-99	6279	1924	12.6	31.0	386
25-Mar-99	6293	1711	11.2	36.0	403
14-Apr-99	6313	1642	11.9	36.0	426
21-Apr-99	6320	1746	8.2	53.0	433
4-May-99	6333	1052	4	122	482
12-May-99	6341	1734	4.8	95.0	455

Yellowstone River

Day month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
17-May-99	6346	1325	5.3	86.0	461
21-May-99	6350		3.7	217	811
26-May-99	6355	1655	1.8	396	694
3-Jun-99	6363	830	2.8	425	1181
10-Jun-99	6370	1200	3.4	326	1104
16-Jun-99	6376	1630	2.5	439	1115
22-Jun-99	6382	1200	2.6	547	1426
1-Jul-99	6391	1200	4.0	351	1408
8-Jul-99	6398	1200	4.0	314	1245
14-Jul-99	6404	1200	4.3	258	1117
22-Jul-99	6412	852	4.6	198.0	920
27-Jul-99	6417	1200	5.1	169.0	867
3-Aug-99	6424	1200	5.4	143.0	768
19-Aug-99	6440	912	6.1	102.0	622
30-Aug-99	6451	1442	6.6	82.0	543
15-Sep-99	6467	1200	7.9	65.0	512
29-Sep-99	6481	1424	8.9	52.0	459
30-Sep-99	6482		8.9	51.0	459

Henry's Fork River

Day-month-year	Date [1] No.	Time [2]	Instantaneous values Chloride mg/L	Discharge m^3/s	Cl flux g/s
Water year 1999					
1-Oct-98	6118	1210	2.9	50.1	143
16-Oct-98	6133	1630	3.0	47.6	142
4-Nov-98	6152	0900	2.9	45.9	131
23-Nov-98	6171	0800	2.8	51.0	143
15-Dec-98	6193	0900	2.9	41.3	118
15-Jan-99	6224	1400	2.9	39.9	115
18-Feb-99	6258	0845	3.7	42.8	160
25-Mar-99	6293	1000	3.7	41.3	154
23-Apr-99	6322	1100	3.2	55.5	180
6-May-99	6335	1700	2.7	81.8	220
20-May-99	6349	1400	3.0	106	316
2-Jun-99	6362	1600	2.9	125	359
11-Jun-99	6371	1500	2.3	109	249
19-Jun-99	6379	1200	2.5	93.2	236
24-Jun-99	6384	1000	2.5	73.6	186
13-Jul-99	6403	1840	3.0	57.2	172
19-Aug-99	6440	1430	3.5	48.7	169
25-Sep-99	6477	1500	3.5	43.6	154
30-Sep-99	6482		3.5	44.5	156