

APPENDIX C.5

Second Portage Lake Outlet

Second Portage Lake Outlet Rating Curve

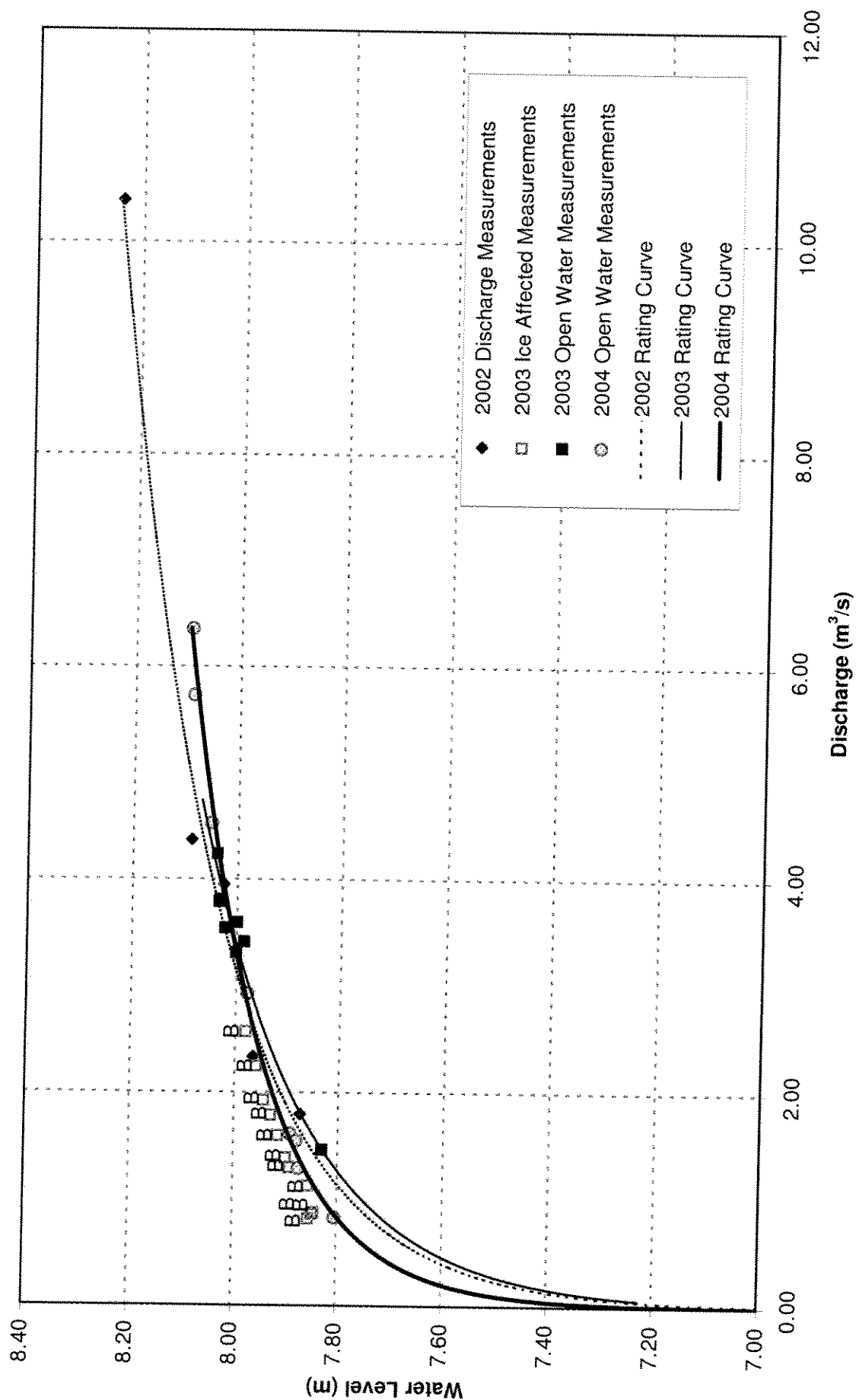


Figure C.5.1

Site Inspection Summary
Outlet of Second Portage Lake (2PL)
Zero Flow Elevation: 7.272 m

Date	Discharge (m ³ /s)	Direct Water Level (DWL) (m)	Depth above Zero Flow (m)	Data Logger (DL) (m)	Time (MST) (hh:mm)	Difference (DWL-DL) (m)
20-Jun-02	2.336	7.964	0.692	N.D.L.R.		
21-Jun-02		8.045	0.773	N.D.L.R.		
22-Jun-02	4.369	8.088	0.816	N.D.L.R.		
22-Jun-02		8.108	0.836	N.D.L.R.		
24-Jun-02		8.204	0.932	N.D.L.R.		
25-Jun-02	10.391	8.238	0.966	8.239	12:55	-0.001
26-Jul-02	3.951	8.025	0.753	8.064	9:45	-0.039
28-Jul-02		8.018	0.746	8.059	6:30	-0.041
20-Sep-02	1.798	7.872	0.600	7.914	9:00	-0.042
08-May-03	0.000 B	7.733	0.461	N.D.L.R.		
03-Jun-03	0.821 B	7.855	0.583	N.D.L.R.		
04-Jun-03	0.879 B	7.845	0.573	N.D.L.R.		
06-Jun-03	0.864 B	7.847	0.575	N.D.L.R.		
08-Jun-03	1.128 B	7.856	0.584	N.D.L.R.		
12-Jun-03	1.300 B	7.891	0.619	N.D.L.R.		
13-Jun-03	1.385 B	7.899	0.627	N.D.L.R.		
14-Jun-03	1.599 B	7.915	0.643	N.D.L.R.		
15-Jun-03	1.792 B	7.929	0.657	N.D.L.R.		
16-Jun-03	1.932 B	7.943	0.671	N.D.L.R.		
17-Jun-03	2.241 B	7.958	0.686	N.D.L.R.		
18-Jun-03	2.570 B	7.979	0.707	N.D.L.R.		
19-Jun-03	3.312	8.001	0.729	N.D.L.R.		
20-Jun-03	3.536	8.023	0.751	N.D.L.R.		
21-Jun-03	3.873	8.035	0.763	N.D.L.R.		
22-Jun-03	3.803	8.033	0.761	8.035	12:30	-0.002
23-Jun-03	4.231	8.040	0.768	8.043	12:00	-0.003
25-Jul-03	3.593	8.000	0.728	8.000	7:15	0.000
26-Jul-03	3.414	7.986	0.714	7.985	12:00	0.001
08-Sep-03	1.465	7.830	0.558	7.838	11:30	-0.008
25-May-04	0.000 B	7.488	0.216	N.D.L.R.		
24-Jun-04	2.928	7.977	0.705	N.D.L.R.	10:30	
26-Jun-04	4.528	8.051	0.779	8.052	14:30	-0.001
27-Jun-04		8.072	0.800	8.072	16:18	0.000
29-Jun-04	6.358	8.093	0.821	8.093	10:30	0.000
01-Jul-04		8.092	0.820	8.094	10:15	-0.002
03-Jul-04		8.094	0.822	8.095	10:50	-0.001
04-Jul-04	5.733	8.088	0.816	8.088	9:00	0.000
06-Aug-04	1.616	7.891	0.619	7.895	9:00	-0.004
08-Aug-04	1.548	7.879	0.607	7.882	14:00	-0.003
10-Aug-04	1.292	7.874	0.602	7.872	8:30	0.002
12-Sep-04	0.832	7.804	0.532	7.805	9:30	-0.001

DWL = Direct water level surveyed from bench mark (adjusted for BM movement)

DL = Data logger water level

Difference = Difference between surveyed water level (DWL) and Data Logger water level reading
= Value by which to adjust the Data Logger reading

N.R. = Not Recorded in Field Notes

N.D.L.R. = No Data Logger Records

B = Ice conditions

Second Portage Lake Outlet Water Level 2002

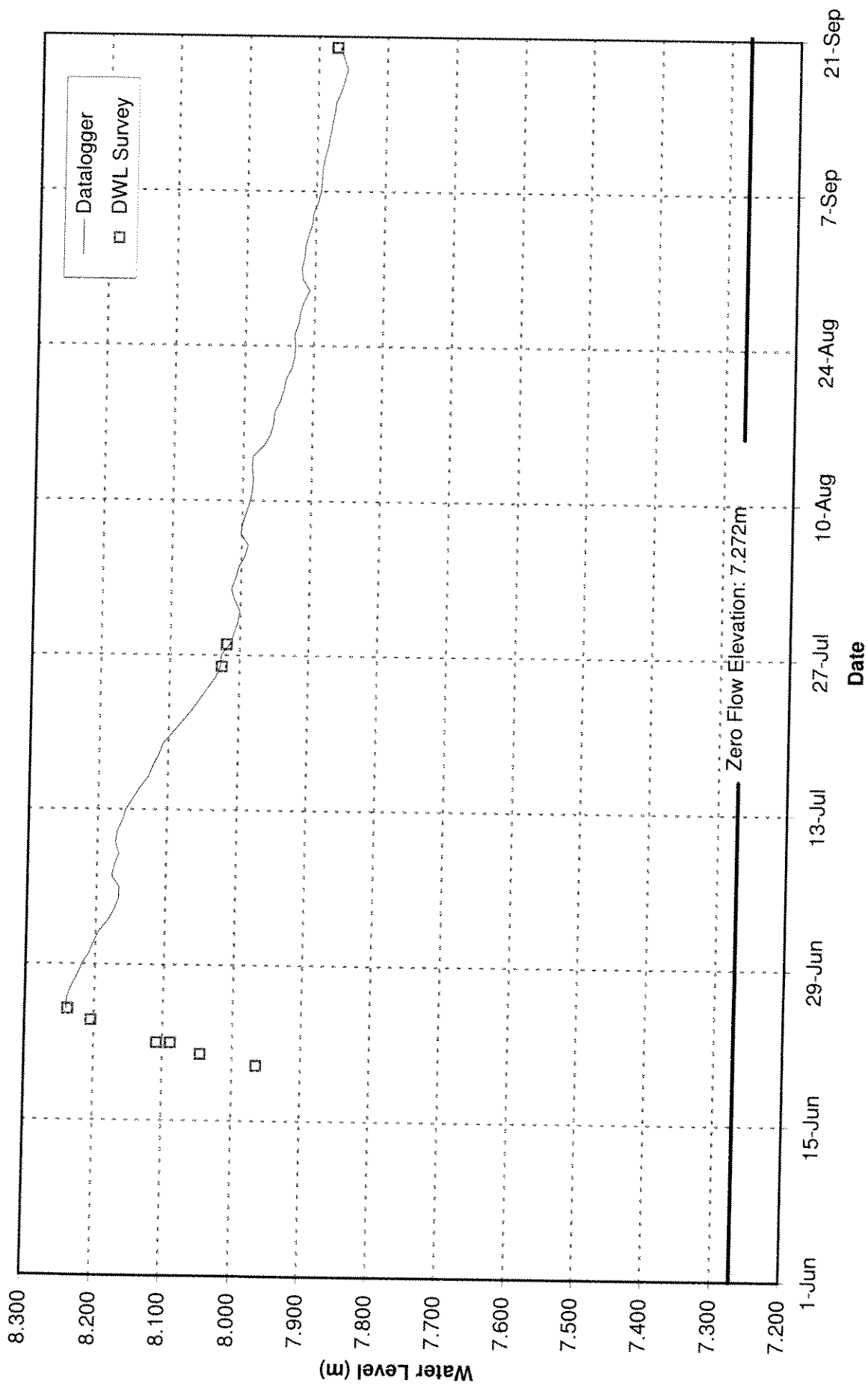
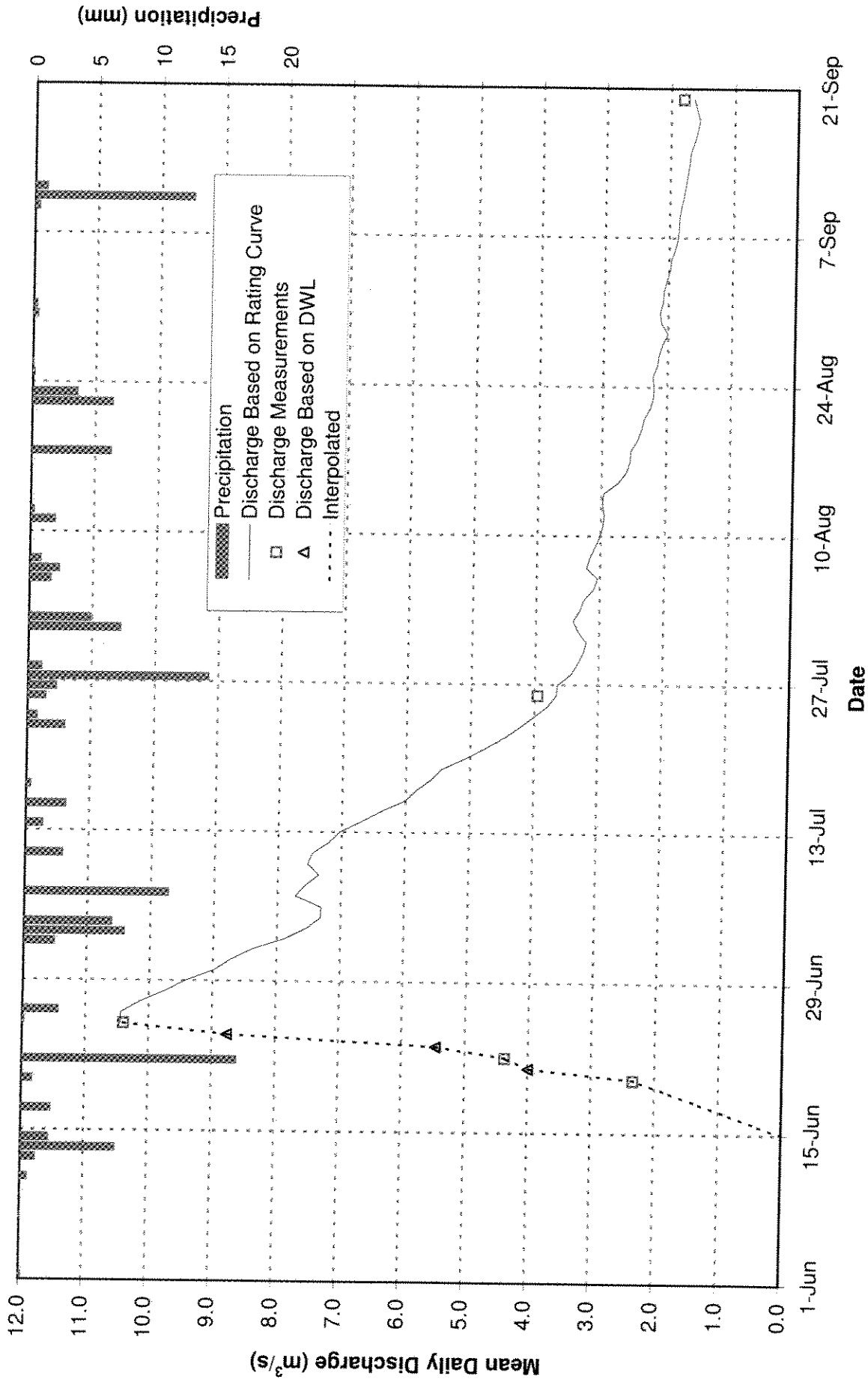
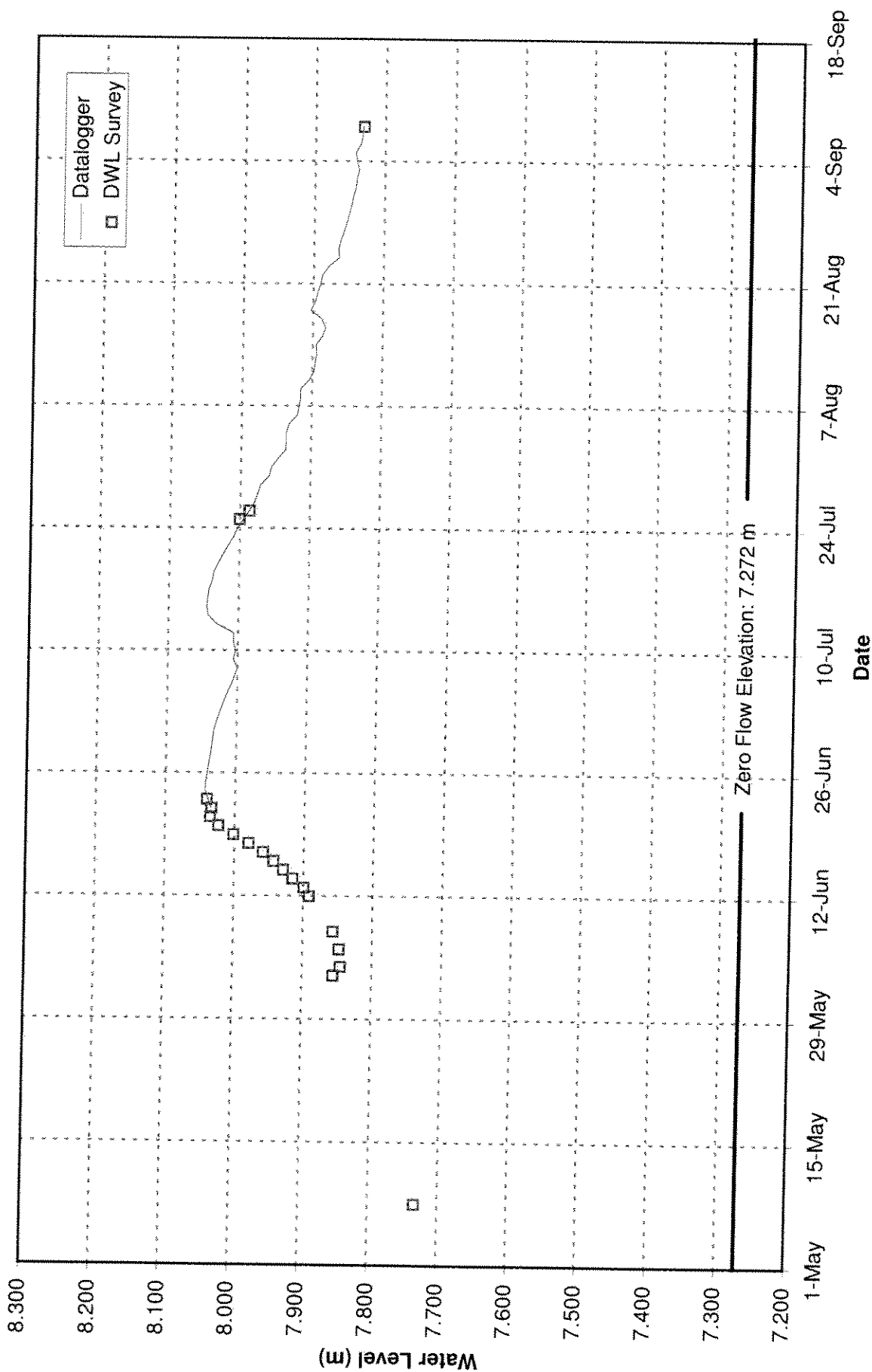


Figure C.5.2

Second Portage Lake Outlet Discharge and Precipitation 2002



Second Portage Lake Outlet Water Level 2003



Second Portage Lake Outlet Discharge and Precipitation 2003

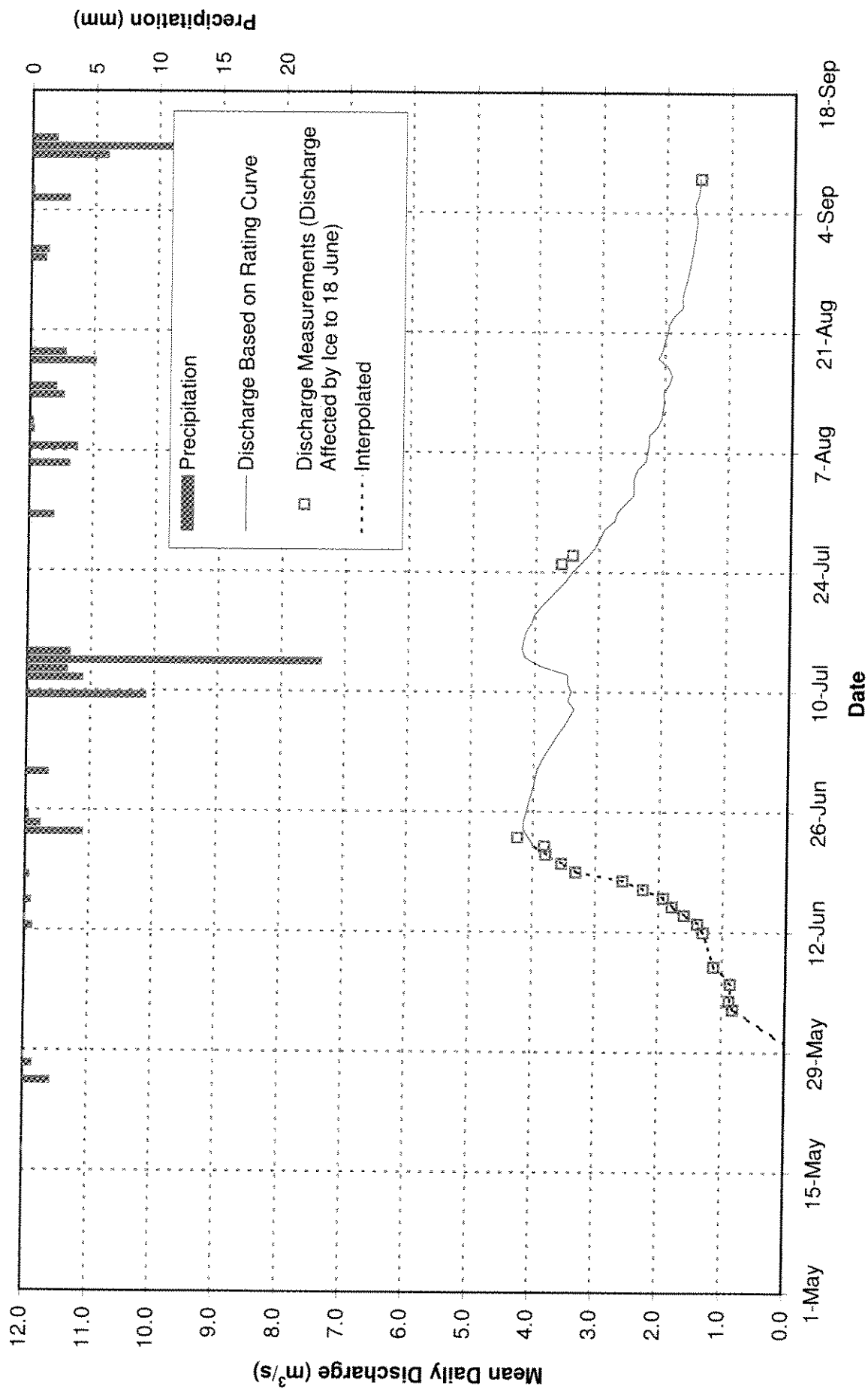
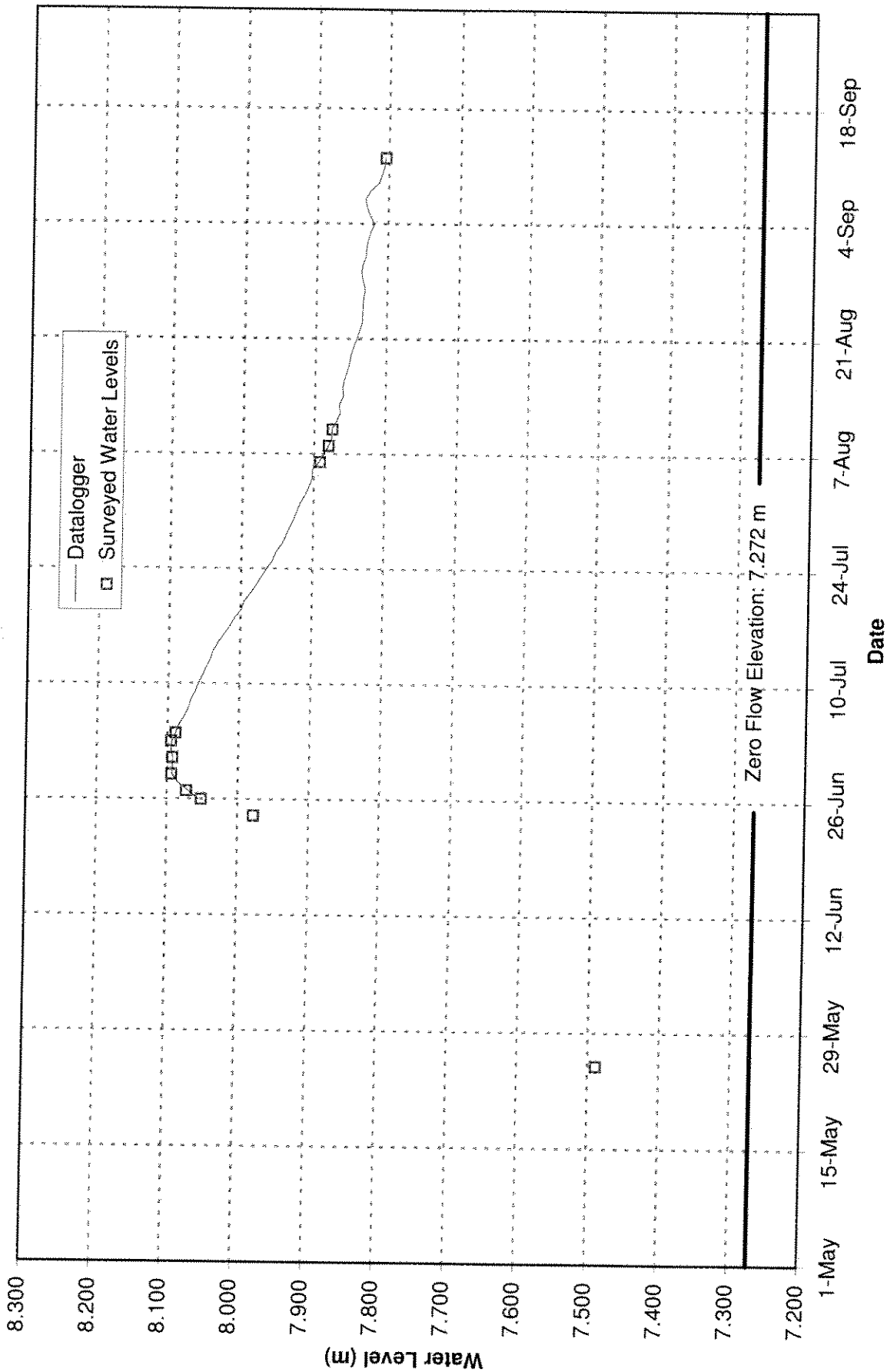


Figure C.5.5

Second Portage Lake Outlet Water Level 2004



Second Portage Lake Outlet Discharge and Precipitation 2004

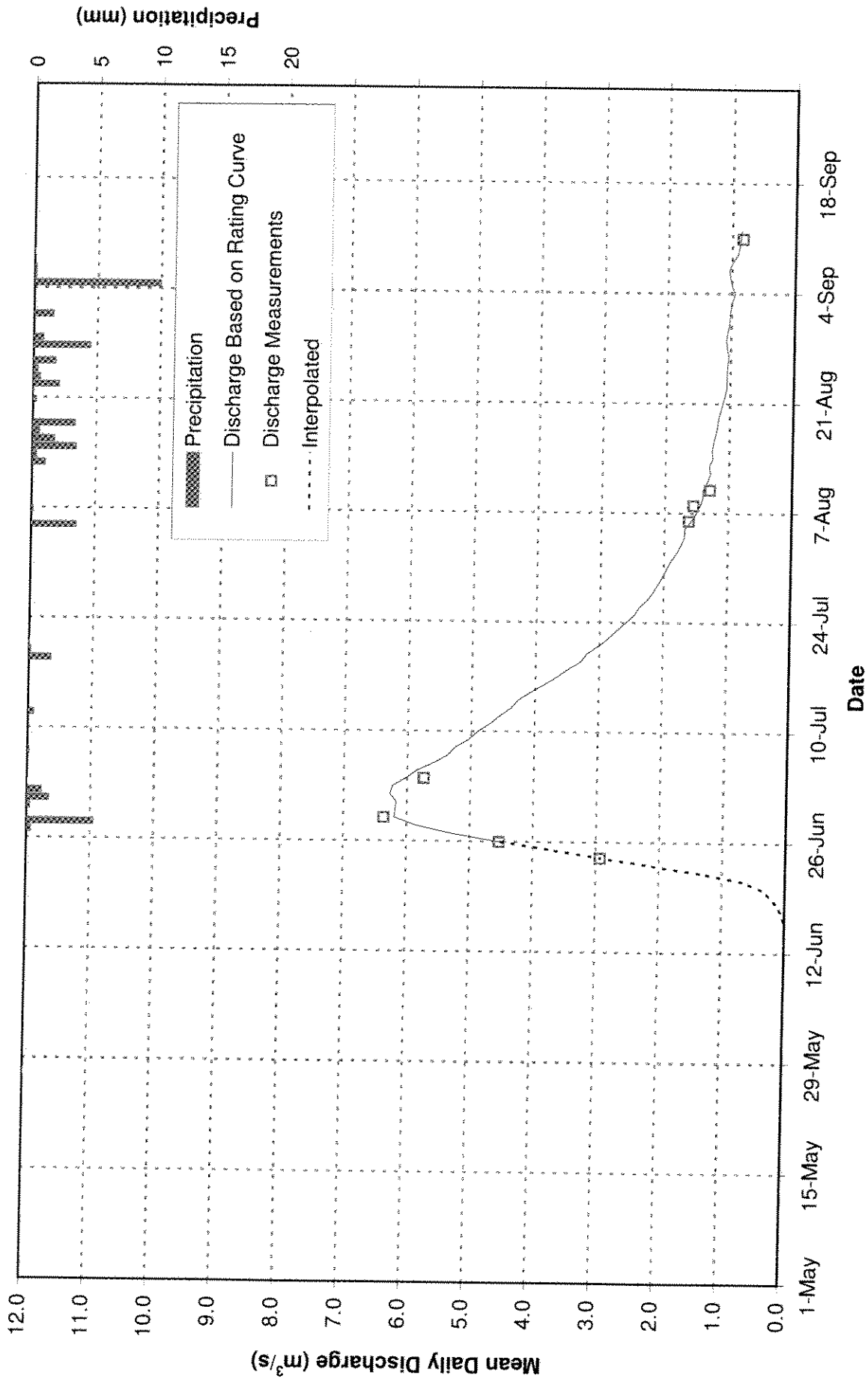


Figure C.5.7

STATION NUMBER: SECOND PORTAGE LAKE OUTLET
 DATA LOGGER START UP DATE: 25 JUNE 2002
 DATA LOGGER ENDING DATE: 20 SEPTEMBER 2002

2002 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	8.203	8.008	7.915	---	---	---
2	---	---	---	---	---	---	8.195	8.013	7.914	---	---	---
3	---	---	---	---	---	---	8.182	8.007	7.910	---	---	---
4	---	---	---	---	---	---	8.173	8.003	7.905	---	---	---
5	---	---	---	---	---	---	8.167	7.994	7.903	---	---	---
6	---	---	---	---	---	---	8.167	7.990	7.897	---	---	---
7	---	---	---	---	---	---	8.178	8.001	7.893	---	---	---
8	---	---	---	---	---	---	8.174	7.998	7.892	---	---	---
9	---	---	---	---	---	---	8.168	7.993	7.891	---	---	---
10	---	---	---	---	---	---	8.173	7.988	7.888	---	---	---
11	---	---	---	---	---	---	8.171	7.985	7.884	---	---	---
12	---	---	---	---	---	---	8.164	7.984	7.881	---	---	---
13	---	---	---	---	---	---	8.159	7.986	7.878	---	---	---
14	---	---	---	---	---	---	8.149	7.985	7.875	---	---	---
15	---	---	---	---	---	---	8.139	7.969	7.873	---	---	---
16	---	---	---	---	---	---	8.127	7.96	7.866	---	---	---
17	---	---	---	---	---	---	8.121	7.956	7.861	---	---	---
18	---	---	---	---	---	---	8.113	7.955	7.857	---	---	---
19	---	---	---	---	---	---	8.107	7.947	7.862	---	---	---
20	---	---	---	---	---	---	8.093	7.942	7.868	---	---	---
21	---	---	---	---	---	---	8.080	7.939	---	---	---	---
22	---	---	---	---	---	---	8.067	7.931	---	---	---	---
23	---	---	---	---	---	---	8.056	7.927	---	---	---	---
24	---	---	---	---	---	---	8.045	7.926	---	---	---	---
25	---	---	---	---	---	---	8.034	7.928	---	---	---	---
26	---	---	---	---	---	8.240	8.027	7.922	---	---	---	---
27	---	---	---	---	---	8.240	8.026	7.920	---	---	---	---
28	---	---	---	---	---	8.234	8.014	7.915	---	---	---	---
29	---	---	---	---	---	8.226	8.008	7.907	---	---	---	---
30	---	---	---	---	---	8.219	8.003	7.917	---	---	---	---
31	---	---	---	---	---	8.209	8.000	7.919	---	---	---	---
MIN	---	---	---	---	---	8.209	8.000	7.907	7.857	---	---	---
MEAN	---	---	---	---	---	8.228	8.112	7.962	7.886	---	---	---
MAX	---	---	---	---	---	8.240	8.203	8.013	7.915	---	---	---

Note: B indicates water level affected by ice conditions

STATION NUMBER: SECOND PORTAGE LAKE OUTLET
 DATA LOGGER START UP DATE: 25 JUNE 2002
 DATA LOGGER ENDING DATE: 20 SEPTEMBER 2002

2002 DAILY MEAN DISCHARGE IN CUBIC METERS PER SECOND

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	8.718	3.324	2.081	---	---	---
2	---	---	---	---	---	---	8.384	3.408	2.071	---	---	---
3	---	---	---	---	---	---	7.867	3.307	2.029	---	---	---
4	---	---	---	---	---	---	7.527	3.242	1.978	---	---	---
5	---	---	---	---	---	---	7.309	3.099	1.958	---	---	---
6	---	---	---	---	---	---	7.309	3.037	1.900	---	---	---
7	---	---	---	---	---	---	7.714	3.209	1.861	---	---	---
8	---	---	---	---	---	---	7.564	3.161	1.852	---	---	---
9	---	---	---	---	---	---	7.345	3.083	1.843	---	---	---
10	---	---	---	---	---	---	7.527	3.007	1.815	---	---	---
11	---	---	---	---	---	---	7.454	2.962	1.778	---	---	---
12	---	---	---	---	---	---	7.202	2.947	1.751	---	---	---
13	---	---	---	---	---	---	7.027	2.977	1.725	---	---	---
14	---	---	---	---	---	---	6.690	2.962	1.699	---	---	---
15	---	---	---	---	---	---	6.369	2.733	1.681	---	---	---
16	---	---	---	---	---	---	6.003	2.612	1.623	---	---	---
17	---	---	---	---	---	---	5.828	2.56	1.582	---	---	---
18	---	---	---	---	---	---	5.603	2.547	1.550	---	---	---
19	---	---	---	---	---	---	5.439	2.446	1.590	---	---	---
20	---	---	---	---	---	---	5.075	2.385	1.639	---	---	---
21	---	---	---	---	---	2.336	4.758	2.350	---	---	---	---
22	---	---	---	---	---	3.998	4.461	2.257	---	---	---	---
23	---	---	---	---	---	4.369	4.223	2.211	---	---	---	---
24	---	---	---	---	---	5.466	3.998	2.200	---	---	---	---
25	---	---	---	---	---	8.761	3.785	2.223	---	---	---	---
26	---	---	---	---	---	10.441	3.655	2.156	---	---	---	---
27	---	---	---	---	---	10.441	3.637	2.134	---	---	---	---
28	---	---	---	---	---	10.141	3.425	2.081	---	---	---	---
29	---	---	---	---	---	9.753	3.324	1.998	---	---	---	---
30	---	---	---	---	---	9.426	3.242	2.102	---	---	---	---
31	---	---	---	---	---	8.977	3.193	2.124	---	---	---	---
MIN	---	---	---	---	---	8.977	3.193	1.998	1.550	---	---	---
MEAN	---	---	---	---	---	9.863	5.860	2.672	1.800	---	---	---
MAX	---	---	---	---	---	10.441	8.718	3.408	2.081	---	---	---

Discharge in cubic meters per second
 Mean 4.087
 Maximum Daily 10.441 on June 25 and June 26
 Maximum instantaneous 10.646 at 07:00 on June 26

Total volume
 31076.995 Cubic Decameters

Note: italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 25 June to 20 September only

STATION NUMBER: SECOND PORTAGE LAKE OUTLET
 DATA LOGGER START UP DATE: 22 JUNE 2003
 DATA LOGGER ENDING DATE: 8 SEPTEMBER 2003

2003 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	8.032	7.947	7.841	---	---	---
2	---	---	---	---	---	---	8.028	7.936	7.840	---	---	---
3	---	---	---	---	---	---	8.024	7.936	7.837	---	---	---
4	---	---	---	---	---	---	8.019	7.936	7.840	---	---	---
5	---	---	---	---	---	---	8.015	7.931	7.842	---	---	---
6	---	---	---	---	---	---	8.009	7.920	7.835	---	---	---
7	---	---	---	---	---	---	8.004	7.918	7.832	---	---	---
8	---	---	---	---	---	---	8.000	7.916	7.832	---	---	---
9	---	---	---	---	---	---	8.006	7.916	---	---	---	---
10	---	---	---	---	---	---	8.003	7.904	---	---	---	---
11	---	---	---	---	---	---	8.006	7.897	---	---	---	---
12	---	---	---	---	---	---	8.006	7.896	---	---	---	---
13	---	---	---	---	---	---	8.030	7.894	---	---	---	---
14	---	---	---	---	---	---	8.043	7.895	---	---	---	---
15	---	---	---	---	---	---	8.045	7.886	---	---	---	---
16	---	---	---	---	---	---	8.044	7.881	---	---	---	---
17	---	---	---	---	---	---	8.042	7.887	---	---	---	---
18	---	---	---	---	---	---	8.038	7.903	---	---	---	---
19	---	---	---	---	---	---	8.036	7.897	---	---	---	---
20	---	---	---	---	---	---	8.030	7.893	---	---	---	---
21	---	---	---	---	---	---	8.023	7.890	---	---	---	---
22	---	---	---	---	---	8.034	8.016	7.887	---	---	---	---
23	---	---	---	---	---	8.039	8.008	7.879	---	---	---	---
24	---	---	---	---	---	8.043	8.003	7.863	---	---	---	---
25	---	---	---	---	---	8.042	7.995	7.865	---	---	---	---
26	---	---	---	---	---	8.040	7.987	7.862	---	---	---	---
27	---	---	---	---	---	8.039	7.979	7.857	---	---	---	---
28	---	---	---	---	---	8.037	7.975	7.853	---	---	---	---
29	---	---	---	---	---	8.035	7.971	7.850	---	---	---	---
30	---	---	---	---	---	8.034	7.959	7.847	---	---	---	---
31	---	---	---	---	---	---	7.956	7.845	---	---	---	---
MIN	---	---	---	---	---	8.034	7.956	7.845	7.832	---	---	---
MEAN	---	---	---	---	---	8.038	8.011	7.893	7.837	---	---	---
MAX	---	---	---	---	---	8.043	8.045	7.947	7.842	---	---	---

Note: B indicates water level affected by ice conditions

STATION NUMBER: SECOND PORTAGE LAKE OUTLET
 DATA LOGGER START UP DATE: 22 JUNE 2003
 DATA LOGGER ENDING DATE: 8 SEPTEMBER 2003

2003 DAILY MEAN DISCHARGE IN CUBIC METERS PER SECOND

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	3.935	2.601	1.547	---	---	---
2	---	---	---	---	---	---	3.863	2.470	1.539	---	---	---
3	---	---	---	---	---	0.821	3.789	2.465	1.518	---	---	---
4	---	---	---	---	---	0.879	3.704	2.465	1.537	---	---	---
5	---	---	---	---	---	---	3.622	2.413	1.557	---	---	---
6	---	---	---	---	---	0.864	3.522	2.283	1.502	---	---	---
7	---	---	---	---	---	---	3.444	2.262	1.483	---	---	---
8	---	---	---	---	---	1.128	3.370	2.237	1.477	---	---	---
9	---	---	---	---	---	---	3.468	2.236	---	---	---	---
10	---	---	---	---	---	---	3.419	2.110	---	---	---	---
11	---	---	---	---	---	---	3.474	2.043	---	---	---	---
12	---	---	---	---	---	1.300	3.474	2.028	---	---	---	---
13	---	---	---	---	---	1.390	3.908	2.006	---	---	---	---
14	---	---	---	---	---	1.600	4.153	2.020	---	---	---	---
15	---	---	---	---	---	1.790	4.200	1.934	---	---	---	---
16	---	---	---	---	---	1.930	4.175	1.889	---	---	---	---
17	---	---	---	---	---	2.250	4.141	1.946	---	---	---	---
18	---	---	---	---	---	2.570	4.052	2.103	---	---	---	---
19	---	---	---	---	---	3.310	4.015	2.038	---	---	---	---
20	---	---	---	---	---	3.540	3.897	2.004	---	---	---	---
21	---	---	---	---	---	3.790	3.769	1.968	---	---	---	---
22	---	---	---	---	---	3.977	3.645	1.943	---	---	---	---
23	---	---	---	---	---	4.066	3.513	1.863	---	---	---	---
24	---	---	---	---	---	4.149	3.423	1.729	---	---	---	---
25	---	---	---	---	---	4.141	3.289	1.741	---	---	---	---
26	---	---	---	---	---	4.099	3.161	1.715	---	---	---	---
27	---	---	---	---	---	4.070	3.052	1.677	---	---	---	---
28	---	---	---	---	---	4.029	2.984	1.645	---	---	---	---
29	---	---	---	---	---	3.990	2.927	1.621	---	---	---	---
30	---	---	---	---	---	3.969	2.763	1.594	---	---	---	---
31	---	---	---	---	---	---	2.725	1.578	---	---	---	---
MIN	---	---	---	---	---	3.969	2.725	1.578	1.477	---	---	---
MEAN	---	---	---	---	---	4.054	3.577	2.020	1.520	---	---	---
MAX	---	---	---	---	---	4.149	4.200	2.601	1.557	---	---	---

Discharge in cubic meters per second
 Mean 2.824
 Maximum Daily 4.200 on July 15
 Maximum instantaneous 4.296 at 15:45 on July 14
 Total Volume 19194.270 Cubic Decameters

Note: italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 22 June to 8 September only

STATION NUMBER: SECOND PORTAGE LAKE OUTLET
 DATA LOGGER START UP DATE: 26 JUNE 2004
 DATA LOGGER ENDING DATE: 12 SEPTEMBER 2004

2004 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	8.092	7.918	7.830	---	---	---
2	---	---	---	---	---	---	8.094	7.911	7.828	---	---	---
3	---	---	---	---	---	---	8.093	7.906	7.825	---	---	---
4	---	---	---	---	---	---	8.088	7.902	7.819	---	---	---
5	---	---	---	---	---	---	8.084	7.902	7.826	---	---	---
6	---	---	---	---	---	---	8.077	7.892	7.830	---	---	---
7	---	---	---	---	---	---	8.071	7.885	7.832	---	---	---
8	---	---	---	---	---	---	8.068	7.879	7.825	---	---	---
9	---	---	---	---	---	---	8.062	7.875	7.813	---	---	---
10	---	---	---	---	---	---	8.057	7.875	7.809	---	---	---
11	---	---	---	---	---	---	8.052	7.868	7.806	---	---	---
12	---	---	---	---	---	---	8.047	7.863	7.805	---	---	---
13	---	---	---	---	---	---	8.041	7.865	---	---	---	---
14	---	---	---	---	---	---	8.037	7.859	---	---	---	---
15	---	---	---	---	---	---	8.031	7.861	---	---	---	---
16	---	---	---	---	---	---	8.022	7.858	---	---	---	---
17	---	---	---	---	---	---	8.015	7.855	---	---	---	---
18	---	---	---	---	---	---	8.008	7.852	---	---	---	---
19	---	---	---	---	---	---	7.999	7.850	---	---	---	---
20	---	---	---	---	---	---	7.995	7.846	---	---	---	---
21	---	---	---	---	---	---	7.986	7.842	---	---	---	---
22	---	---	---	---	---	---	7.979	7.838	---	---	---	---
23	---	---	---	---	---	---	7.972	7.834	---	---	---	---
24	---	---	---	---	---	---	7.964	7.834	---	---	---	---
25	---	---	---	---	---	---	7.956	7.834	---	---	---	---
26	---	---	---	---	---	8.056	7.952	7.833	---	---	---	---
27	---	---	---	---	---	8.069	7.943	7.831	---	---	---	---
28	---	---	---	---	---	8.084	7.938	7.834	---	---	---	---
29	---	---	---	---	---	8.092	7.933	7.837	---	---	---	---
30	---	---	---	---	---	8.092	7.927	7.835	---	---	---	---
31	---	---	---	---	---	---	7.923	7.830	---	---	---	---
MIN	---	---	---	---	---	8.056	7.923	7.830	7.805	---	---	---
MEAN	---	---	---	---	---	8.079	8.016	7.861	7.821	---	---	---
MAX	---	---	---	---	---	8.092	8.094	7.918	7.832	---	---	---

Note: B Indicates water level affected by ice conditions

STATION NUMBER: SECOND PORTAGE LAKE OUTLET
 DATA LOGGER START UP DATE: 26 JUNE 2004
 DATA LOGGER ENDING DATE: 12 SEPTEMBER 2004

2004 DAILY MEAN DISCHARGE IN CUBIC METERS PER SECOND

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	6.166	1.883	1.021	---	---	---
2	---	---	---	---	---	---	6.264	1.796	1.008	---	---	---
3	---	---	---	---	---	---	6.223	1.733	0.985	---	---	---
4	---	---	---	---	---	---	6.011	1.681	0.947	---	---	---
5	---	---	---	---	---	---	5.844	1.681	0.993	---	---	---
6	---	---	---	---	---	---	5.571	1.578	1.022	---	---	---
7	---	---	---	---	---	---	5.357	1.504	1.038	---	---	---
8	---	---	---	---	---	---	5.244	1.442	0.989	---	---	---
9	---	---	---	---	---	---	5.026	1.398	0.909	---	---	---
10	---	---	---	---	---	---	4.889	1.399	0.884	---	---	---
11	---	---	---	---	---	---	4.698	1.337	0.864	---	---	---
12	---	---	---	---	---	---	4.550	1.288	0.856	---	---	---
13	---	---	---	---	---	---	4.368	1.305	---	---	---	---
14	---	---	---	---	---	---	4.263	1.252	---	---	---	---
15	---	---	---	---	---	---	4.077	1.265	---	---	---	---
16	---	---	---	---	---	---	3.856	1.245	---	---	---	---
17	---	---	---	---	---	---	3.656	1.215	---	---	---	---
18	---	---	---	---	---	---	3.483	1.189	---	---	---	---
19	---	---	---	---	---	---	3.282	1.175	---	---	---	---
20	---	---	---	---	---	---	3.193	1.144	---	---	---	---
21	---	---	---	---	---	---	3.013	1.110	---	---	---	---
22	---	---	---	---	---	---	2.856	1.082	---	---	---	---
23	---	---	---	---	---	---	2.727	1.052	---	---	---	---
24	---	---	---	---	---	2.928	2.584	1.052	---	---	---	---
25	---	---	---	---	---	---	2.453	1.050	---	---	---	---
26	---	---	---	---	---	4.528	2.376	1.044	---	---	---	---
27	---	---	---	---	---	5.298	2.243	1.030	---	---	---	---
28	---	---	---	---	---	5.859	2.156	1.053	---	---	---	---
29	---	---	---	---	---	6.194	2.085	1.071	---	---	---	---
30	---	---	---	---	---	6.178	2.009	1.058	---	---	---	---
31	---	---	---	---	---	---	1.950	1.025	---	---	---	---
MIN	---	---	---	---	---	4.528	1.950	1.025	0.856	---	---	---
MEAN	---	---	---	---	---	5.611	3.951	1.295	0.960	---	---	---
MAX	---	---	---	---	---	6.194	6.264	1.883	1.038	---	---	---

Discharge in cubic meters per second
 Mean 2.559
 Maximum Daily 6.264 on July 2
 Maximum instantaneous 6.520 at 22:00 on July 2
 Total Volume 17468.678 Cubic Decameters

Notations indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 26 June to 11 September only