

APPENDIX C.3

Tern Lake Outlet

Tern Lake Outlet Rating Curve

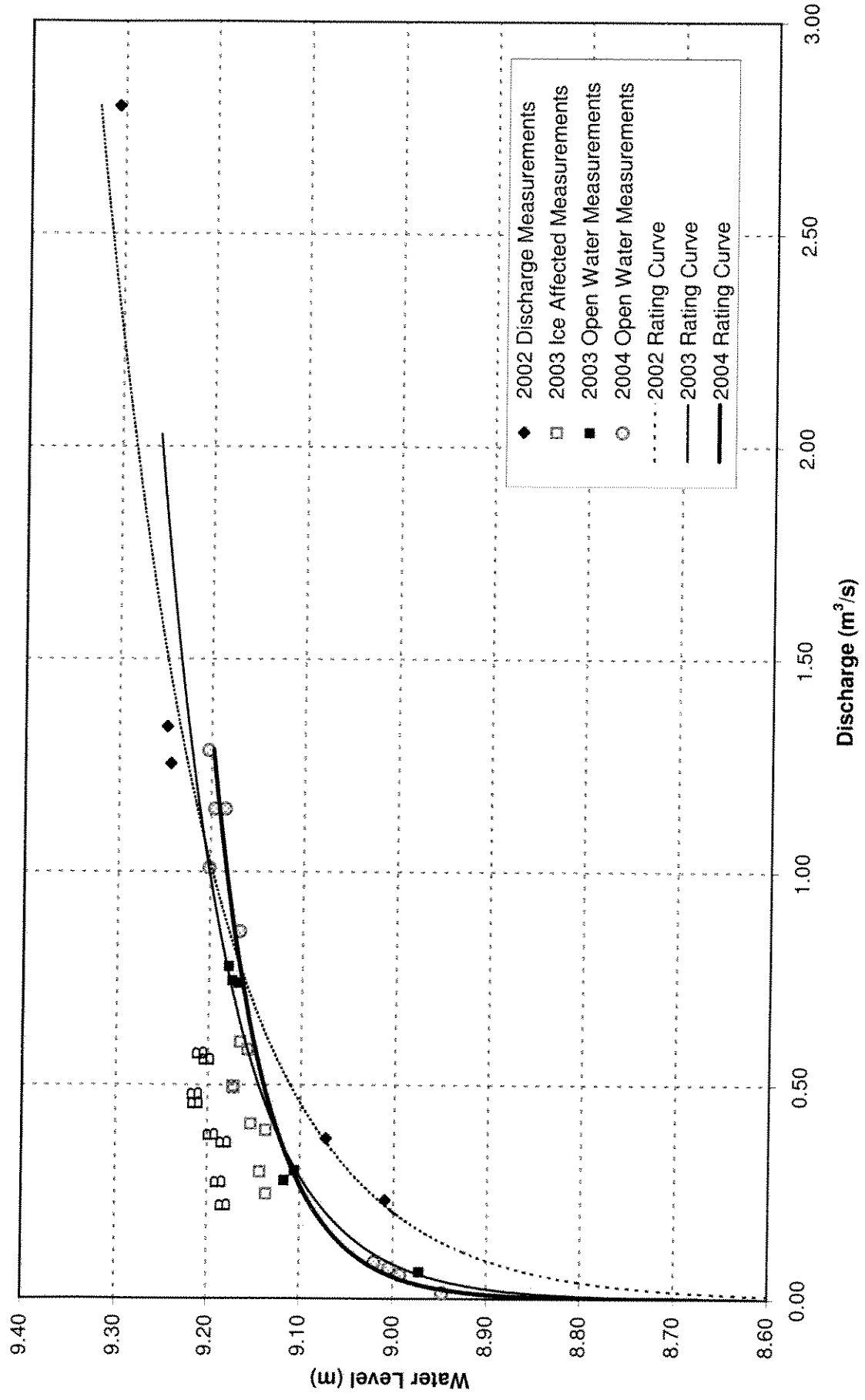


Figure C.3.1

Site Inspection Summary
Outlet of Tern Lake
Zero Flow Elevation: 8.617

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	1.255	9.244	0.627			
21-Jun-02		9.249	0.632			
22-Jun-02	1.341	9.248	0.631			
22-Jun-02		9.253	0.636			
24-Jun-02	2.801	9.306	0.689			
26-Jun-02		9.262	0.645	9.272	8:45	-0.010
26-Jul-02	0.375	9.073	0.456	9.076	12:15	-0.003
19-Sep-02	0.231	9.009	0.392	9.007	11:30	0.002
08-May-03	0.000 B	8.994	0.377	N.D.L.R.		
03-Jun-03	0.498 B	9.173	0.556	N.D.L.R.		
04-Jun-03	0.601 B	9.165	0.548	N.D.L.R.		
09-Jun-03	0.410 B	9.153	0.536	N.D.L.R.		
10-Jun-03	0.394 B	9.137	0.520	9.140	8:15	-0.003
12-Jun-03	0.246 B	9.136	0.519	9.135	6:30	0.001
14-Jun-03	0.297 B	9.143	0.526	9.142	7:00	0.001
16-Jun-03	0.584 B	9.157	0.540	9.160	6:30	-0.003
18-Jun-03	0.494 B	9.172	0.555	9.180	7:00	-0.008
20-Jun-03	0.745	9.175	0.558	9.182	7:00	-0.007
22-Jun-03		9.166	0.549	9.177	6:20	-0.011
22-Jun-03	0.739	9.168	0.551	9.166	6:30	0.002
24-Jun-03	0.778	9.179	0.562	9.176	7:00	0.003
24-Jul-03	0.277	9.117	0.500	9.121	7:00	-0.004
26-Jul-03	0.300	9.106	0.489	9.109	7:00	-0.003
06-Sep-03	0.063	8.972	0.355	8.991	13:00	-0.019
24-May-04	0.000 B	8.929	0.312	N.D.L.R.		
23-Jun-04		9.196	0.579	N.D.L.R.		
24-Jun-04	1.010	9.201	0.584	N.D.L.R.		
25-Jun-04	1.286	9.203	0.586	N.D.L.R.		
27-Jun-04	1.148	9.196	0.579	9.192	14:00	0.004
01-Jul-04	1.148	9.184	0.567	9.184	9:00	0.000
04-Jul-04	0.861	9.167	0.550	9.173	10:30	-0.006
05-Aug-04	0.086	9.020	0.403	9.040	9:00	-0.020
07-Aug-04	0.072	9.004	0.387	9.023	8:30	-0.019
09-Aug-04	0.056	8.992	0.375	8.990	8:00	0.002
11-Sep-04	0.014	8.947	0.330	8.946	8:45	0.001

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

DL = Data logger water level

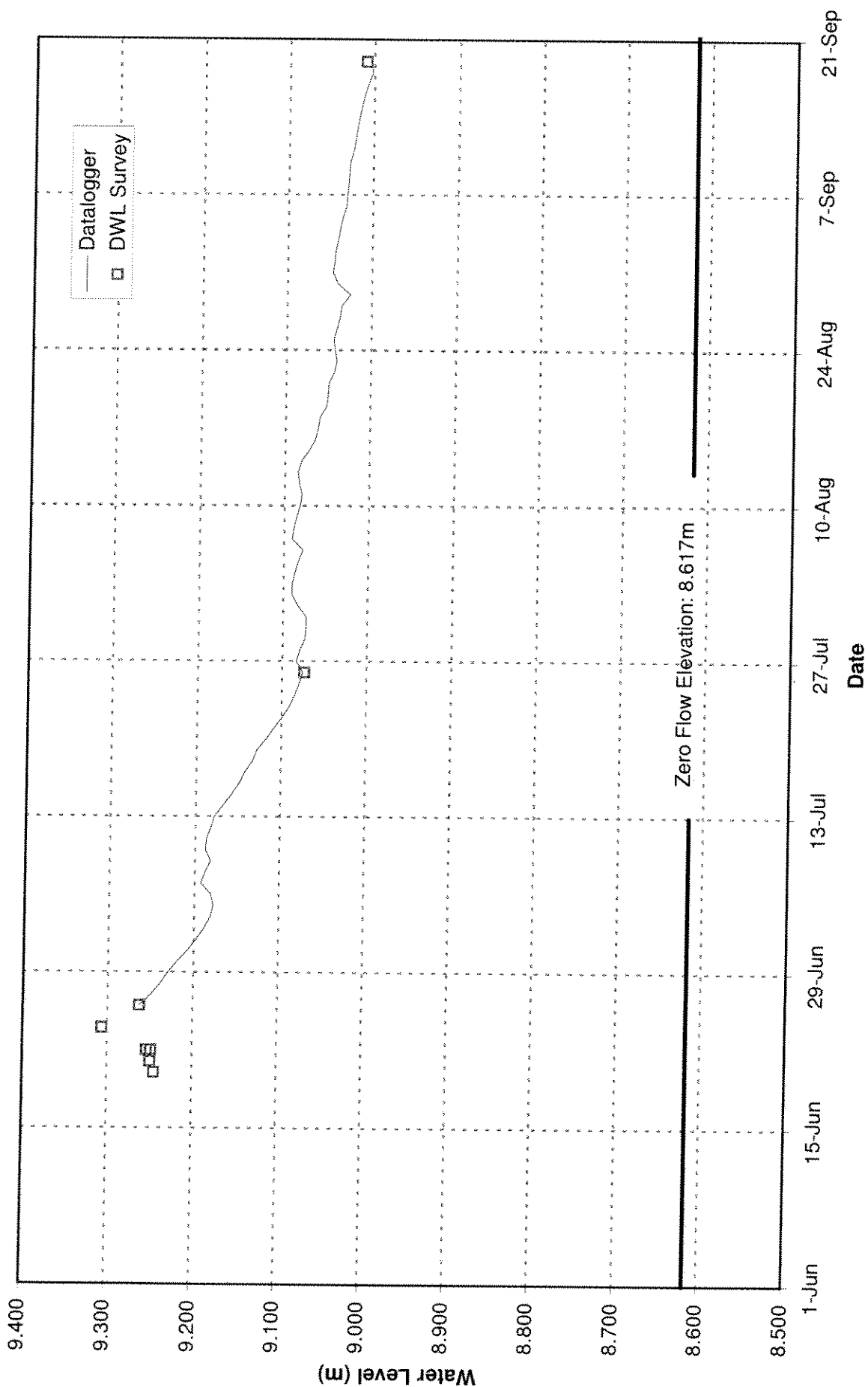
Difference = Difference between surveyed water level (DWL) and Data Logger water level reading
= Value by which to adjust the Data Logger reading

N.R. = Not Recorded in Field Notes

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

B = Ice conditions

Tern Lake Outlet Water Level 2002



Tern Lake Outlet Discharge and Precipitation 2002

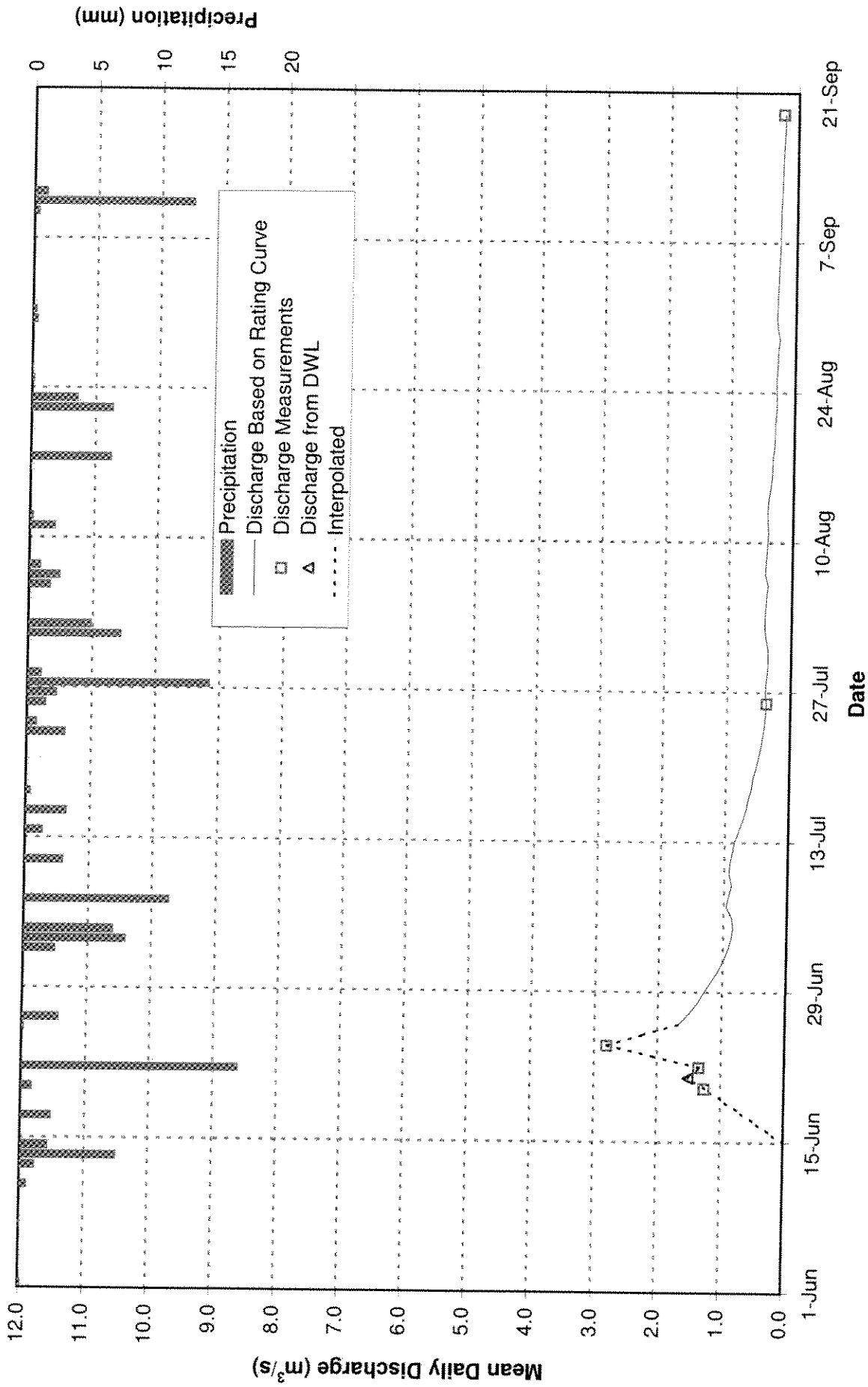
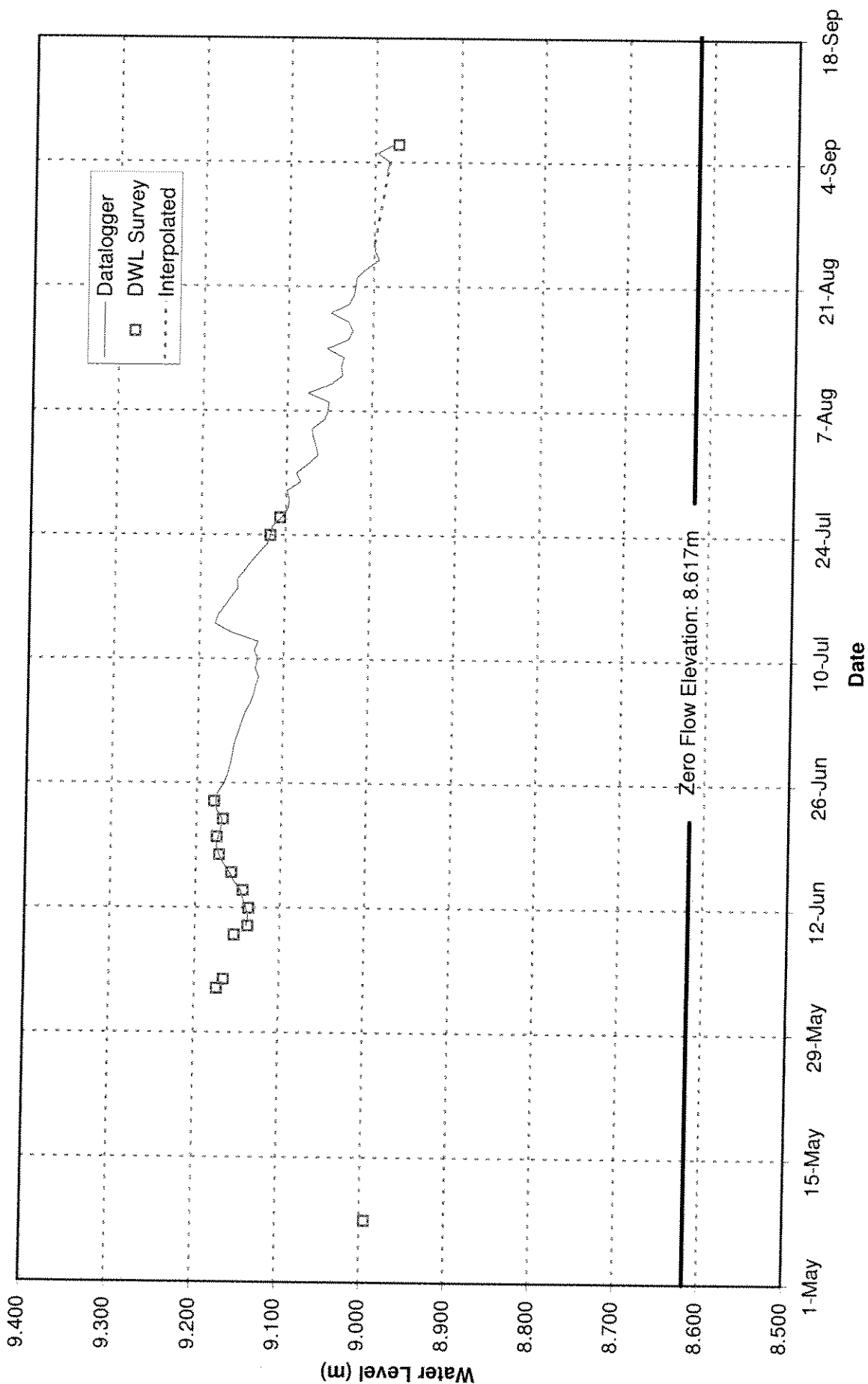
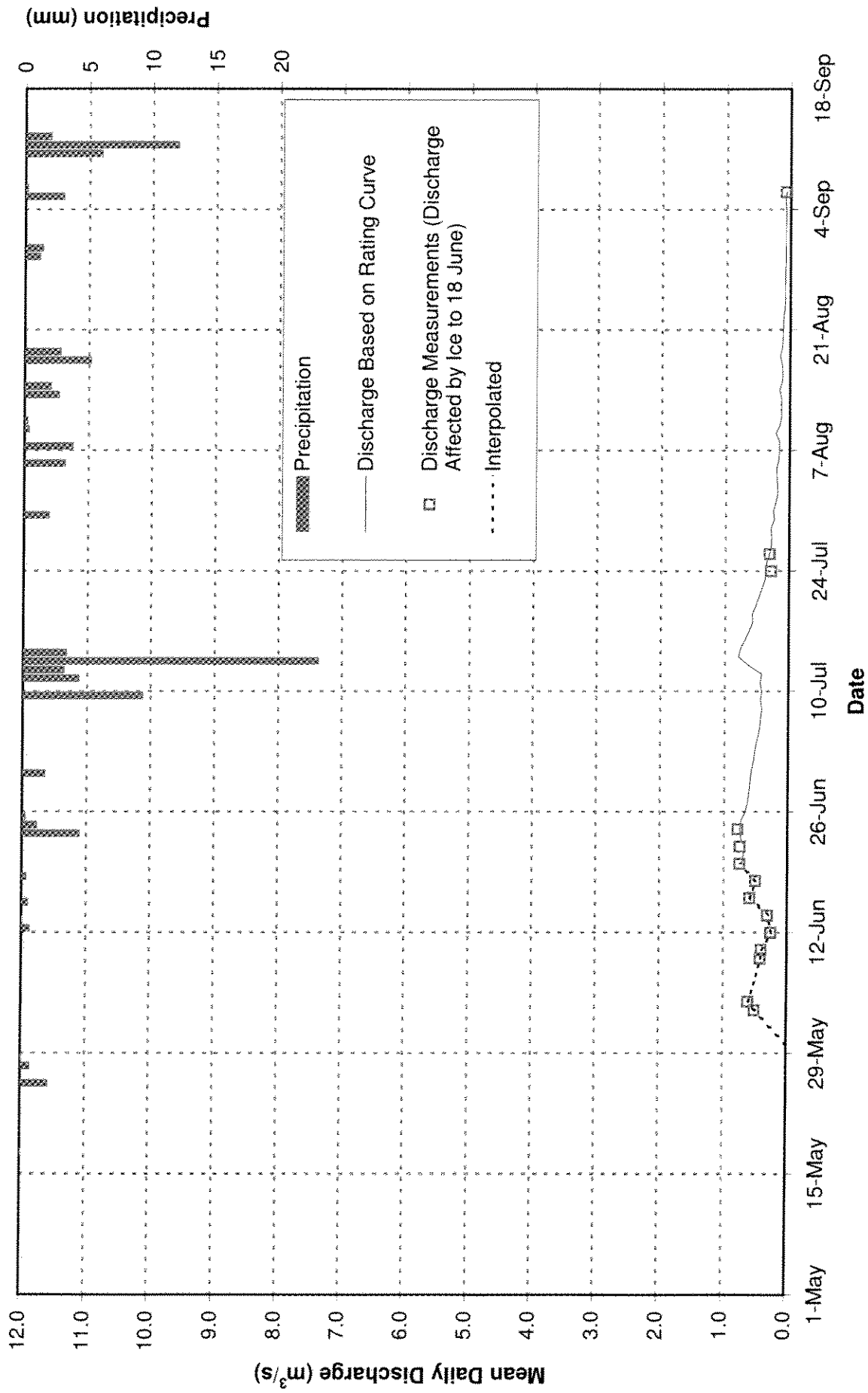


Figure C.3.3

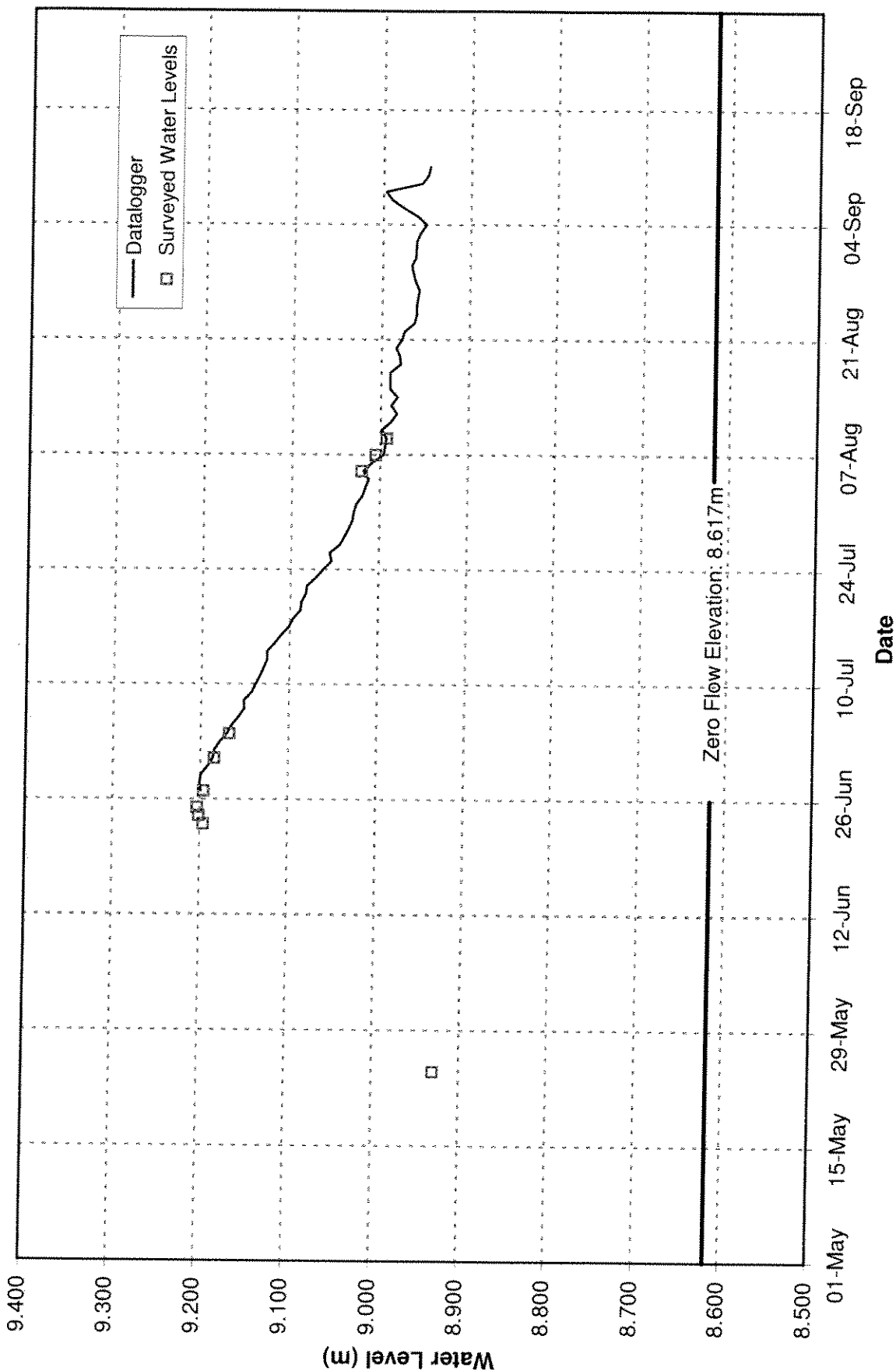
Tern Lake Outlet Water Level 2003



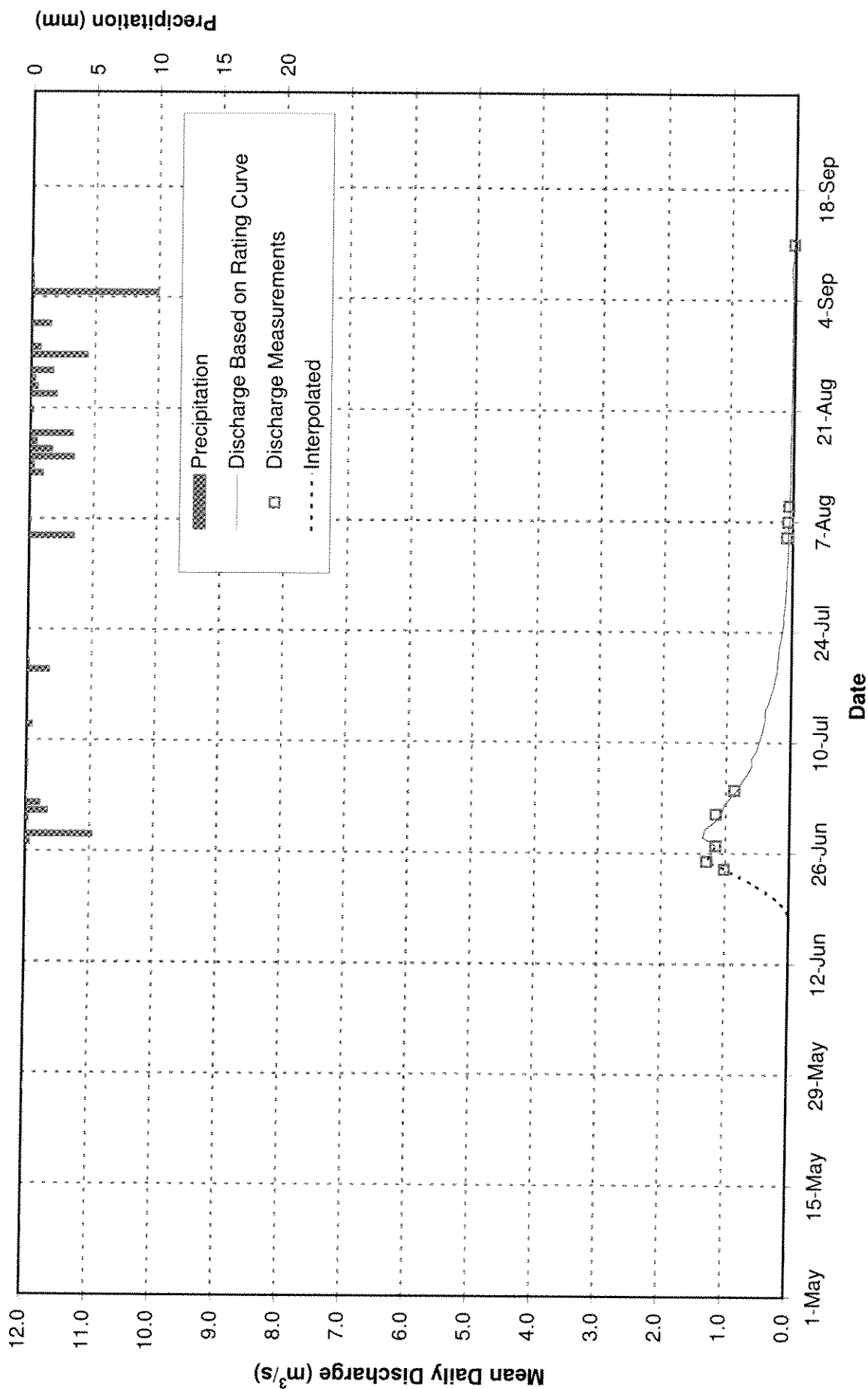
Tern Lake Outlet Discharge and Precipitation 2003



Tern Lake Outlet Water Level 2004



Tern Lake Outlet **Discharge and Precipitation 2004**



STATION NUMBER: TERN LAKE OUTLET
 DATA LOGGER START UP DATE: 26 JUNE 2002
 DATA LOGGER ENDING DATE: 19 SEPTEMBER 2002

2002 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	9.206	9.082	9.044	---	---	---
2	---	---	---	---	---	---	9.196	9.089	9.043	---	---	---
3	---	---	---	---	---	---	9.187	9.089	9.040	---	---	---
4	---	---	---	---	---	---	9.180	9.087	9.038	---	---	---
5	---	---	---	---	---	---	9.177	9.082	9.035	---	---	---
6	---	---	---	---	---	---	9.180	9.077	9.031	---	---	---
7	---	---	---	---	---	---	9.192	9.090	9.030	---	---	---
8	---	---	---	---	---	---	9.187	9.088	9.029	---	---	---
9	---	---	---	---	---	---	9.181	9.085	9.028	---	---	---
10	---	---	---	---	---	---	9.187	9.081	9.027	---	---	---
11	---	---	---	---	---	---	9.186	9.079	9.023	---	---	---
12	---	---	---	---	---	---	9.181	9.082	9.021	---	---	---
13	---	---	---	---	---	---	9.177	9.084	9.019	---	---	---
14	---	---	---	---	---	---	9.167	9.081	9.017	---	---	---
15	---	---	---	---	---	---	9.157	9.071	9.014	---	---	---
16	---	---	---	---	---	---	9.148	9.064	9.011	---	---	---
17	---	---	---	---	---	---	9.142	9.061	9.007	---	---	---
18	---	---	---	---	---	---	9.133	9.059	9.002	---	---	---
19	---	---	---	---	---	---	9.128	9.051	9.003	---	---	---
20	---	---	---	---	---	---	9.117	9.050	---	---	---	---
21	---	---	---	---	---	---	9.108	9.049	---	---	---	---
22	---	---	---	---	---	---	9.098	9.043	---	---	---	---
23	---	---	---	---	---	---	9.090	9.040	---	---	---	---
24	---	---	---	---	---	---	9.084	9.042	---	---	---	---
25	---	---	---	---	---	---	9.079	9.044	---	---	---	---
26	---	---	---	---	---	---	9.076	9.040	---	---	---	---
27	---	---	---	---	---	9.262	9.083	9.037	---	---	---	---
28	---	---	---	---	---	9.249	9.079	9.035	---	---	---	---
29	---	---	---	---	---	9.238	9.073	9.025	---	---	---	---
30	---	---	---	---	---	9.229	9.072	9.040	---	---	---	---
31	---	---	---	---	---	9.218	9.072	9.046	---	---	---	---
MIN	---	---	---	---	---	9.218	9.072	9.025	9.002	---	---	---
MEAN	---	---	---	---	---	9.239	9.139	9.064	9.024	---	---	---
MAX	---	---	---	---	---	9.262	9.206	9.090	9.044	---	---	---

Note: B indicates water level affected by ice conditions

STATION NUMBER: TERN LAKE OUTLET
 DATA LOGGER START UP DATE: 26 JUNE 2002
 DATA LOGGER ENDING DATE: 19 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	---	---	---	---	---	---	1.069	0.394	0.289	---	---	---
2	---	---	---	---	---	---	0.987	0.417	0.287	---	---	---
3	---	---	---	---	---	---	0.918	0.417	0.280	---	---	---
4	---	---	---	---	---	---	0.868	0.407	0.276	---	---	---
5	---	---	---	---	---	---	0.847	0.394	0.269	---	---	---
6	---	---	---	---	---	---	0.868	0.378	0.260	---	---	---
7	---	---	---	---	---	---	0.956	0.420	0.258	---	---	---
8	---	---	---	---	---	---	0.918	0.414	0.256	---	---	---
9	---	---	---	---	---	---	0.875	0.404	0.254	---	---	---
10	---	---	---	---	---	---	0.918	0.391	0.252	---	---	---
11	---	---	---	---	---	---	0.911	0.385	0.244	---	---	---
12	---	---	---	---	---	---	0.875	0.394	0.240	---	---	---
13	---	---	---	---	---	---	0.847	0.400	0.236	---	---	---
14	---	---	---	---	---	---	0.782	0.388	0.232	---	---	---
15	---	---	---	---	---	---	0.722	0.360	0.227	---	---	---
16	---	---	---	---	---	---	0.671	0.341	0.221	---	---	---
17	---	---	---	---	---	---	0.640	0.332	0.214	---	---	---
18	---	---	---	---	---	---	0.595	0.327	0.206	---	---	---
19	---	---	---	---	---	---	0.571	0.306	0.207	---	---	---
20	---	---	---	---	---	---	<i>1.255</i>	0.304	---	---	---	---
21	---	---	---	---	---	---	<i>1.506</i>	0.301	---	---	---	---
22	---	---	---	---	---	---	<i>1.341</i>	0.287	---	---	---	---
23	---	---	---	---	---	---	---	0.280	---	---	---	---
24	---	---	---	---	---	---	<i>2.801</i>	0.285	---	---	---	---
25	---	---	---	---	---	---	---	0.289	---	---	---	---
26	---	---	---	---	---	---	0.385	0.280	---	---	---	---
27	---	---	---	---	---	---	0.372	0.280	---	---	---	---
28	---	---	---	---	---	---	0.397	0.273	---	---	---	---
29	---	---	---	---	---	---	0.385	0.269	---	---	---	---
30	---	---	---	---	---	---	0.366	0.248	---	---	---	---
31	---	---	---	---	---	---	0.363	0.280	---	---	---	---
31	---	---	---	---	---	---	0.363	0.294	---	---	---	---
MIN	---	---	---	---	---	1.176	0.363	0.248	0.206	---	---	---
MEAN	---	---	---	---	---	1.403	0.669	0.344	0.248	---	---	---
MAX	---	---	---	---	---	1.670	1.069	0.420	0.289	---	---	---

Discharge in cubic meters per second
 Mean 0.502
 Maximum Daily 1.670 on June 26
 Maximum instantaneous 1.766 at 09:15 on June 26
 Total Volume 3727.056 Cubic Decameters

Note: italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 26 June to 19 September only

STATION NUMBER: TERN LAKE OUTLET
 DATA LOGGER START UP DATE: 10 JUNE 2003
 DATA LOGGER ENDING DATE: 6 SEPTEMBER 2003

2003 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	9.155	9.074	8.986	---	---	---
2	---	---	---	---	---	---	9.151	9.062	8.984	---	---	---
3	---	---	---	---	---	---	9.148	9.064	8.982	---	---	---
4	---	---	---	---	---	---	9.144	9.068	8.982	---	---	---
5	---	---	---	---	---	---	9.138	9.070	8.997	---	---	---
6	---	---	---	---	---	---	9.134	9.055	8.978	---	---	---
7	---	---	---	---	---	---	9.132	9.051	---	---	---	---
8	---	---	---	---	---	---	9.129	9.051	---	---	---	---
9	---	---	---	---	---	---	9.133	9.075	---	---	---	---
10	---	---	---	---	---	9.139 B	9.130	9.047	---	---	---	---
11	---	---	---	---	---	9.137 B	9.134	9.035	---	---	---	---
12	---	---	---	---	---	9.139 B	9.130	9.036	---	---	---	---
13	---	---	---	---	---	9.143 B	9.162	9.033	---	---	---	---
14	---	---	---	---	---	9.146 B	9.181	9.053	---	---	---	---
15	---	---	---	---	---	9.154 B	9.178	9.029	---	---	---	---
16	---	---	---	---	---	9.159 B	9.170	9.023	---	---	---	---
17	---	---	---	---	---	9.167 B	9.163	9.028	---	---	---	---
18	---	---	---	---	---	9.173 B	9.155	9.049	---	---	---	---
19	---	---	---	---	---	9.175 B	9.156	9.028	---	---	---	---
20	---	---	---	---	---	9.173	9.147	9.023	---	---	---	---
21	---	---	---	---	---	9.170	9.139	9.021	---	---	---	---
22	---	---	---	---	---	9.169	9.130	9.019	---	---	---	---
23	---	---	---	---	---	9.176	9.121	9.008	---	---	---	---
24	---	---	---	---	---	9.177	9.117	8.994	---	---	---	---
25	---	---	---	---	---	9.175	9.115	8.998	---	---	---	---
26	---	---	---	---	---	9.168	9.104	8.999	---	---	---	---
27	---	---	---	---	---	9.164	9.097	8.994	---	---	---	---
28	---	---	---	---	---	9.161	9.096	8.992	---	---	---	---
29	---	---	---	---	---	9.159	9.098	8.991	---	---	---	---
30	---	---	---	---	---	9.157	9.083	8.989	---	---	---	---
31	---	---	---	---	---	---	9.087	8.987	---	---	---	---
MIN	---	---	---	---	---	9.137	9.083	8.987	8.978	---	---	---
MEAN	---	---	---	---	---	9.161	9.134	9.031	8.985	---	---	---
MAX	---	---	---	---	---	9.177	9.181	9.075	8.997	---	---	---

Note: B indicates water level affected by ice conditions

STATION NUMBER: TERN LAKE OUTLET
 DATA LOGGER START UP DATE: 10 JUNE 2003
 DATA LOGGER ENDING DATE: 6 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	---	---	---	---	---	---	0.564	0.205	0.067	---	---	---
2	---	---	---	---	---	---	0.536	0.177	0.066	---	---	---
3	---	---	---	---	---	<i>0.498</i>	0.517	0.182	0.064	---	---	---
4	---	---	---	---	---	<i>0.601</i>	0.492	0.191	0.064	---	---	---
5	---	---	---	---	---	---	0.459	0.194	0.078	---	---	---
6	---	---	---	---	---	---	0.437	0.162	0.061	---	---	---
7	---	---	---	---	---	---	0.426	0.154	---	---	---	---
8	---	---	---	---	---	---	0.407	0.153	---	---	---	---
9	---	---	---	---	---	<i>0.410</i>	0.430	0.208	---	---	---	---
10	---	---	---	---	---	<i>0.394</i>	0.413	0.147	---	---	---	---
11	---	---	---	---	---	---	0.437	0.125	---	---	---	---
12	---	---	---	---	---	<i>0.246</i>	0.413	0.127	---	---	---	---
13	---	---	---	---	---	---	0.616	0.123	---	---	---	---
14	---	---	---	---	---	<i>0.297</i>	0.781	0.158	---	---	---	---
15	---	---	---	---	---	---	0.751	0.116	---	---	---	---
16	---	---	---	---	---	<i>0.584</i>	0.681	0.108	---	---	---	---
17	---	---	---	---	---	---	0.622	0.115	---	---	---	---
18	---	---	---	---	---	<i>0.494</i>	0.564	0.151	---	---	---	---
19	---	---	---	---	---	---	0.569	0.115	---	---	---	---
20	---	---	---	---	---	---	0.514	0.108	---	---	---	---
21	---	---	---	---	---	<i>0.745</i>	0.684	0.105	---	---	---	---
22	---	---	---	---	---	0.672	0.416	0.103	---	---	---	---
23	---	---	---	---	---	0.731	0.37	0.09	---	---	---	---
24	---	---	---	---	---	0.743	0.352	0.075	---	---	---	---
25	---	---	---	---	---	0.723	0.343	0.079	---	---	---	---
26	---	---	---	---	---	0.662	0.299	0.08	---	---	---	---
27	---	---	---	---	---	0.629	0.274	0.075	---	---	---	---
28	---	---	---	---	---	0.608	0.269	0.073	---	---	---	---
29	---	---	---	---	---	0.594	0.279	0.072	---	---	---	---
30	---	---	---	---	---	0.582	0.228	0.07	---	---	---	---
31	---	---	---	---	---	---	0.243	0.069	---	---	---	---
MIN	---	---	---	---	---	0.582	0.228	0.069	0.061	---	---	---
MEAN	---	---	---	---	---	0.663	0.457	0.126	0.067	---	---	---
MAX	---	---	---	---	---	0.743	0.781	0.208	0.078	---	---	---

Discharge in cubic meters per second
 Mean 0.322
 Maximum Daily 0.781 on June 10
 Maximum instantaneous 1.000 at 13:45 on July 14
 Total Volume 2169.010 Cubic Decameters

Note: italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 21 June to 6 September only

STATION NUMBER: TERN LAKE OUTLET
 DATA LOGGER START UP DATE: 27 JUNE 2004
 DATA LOGGER ENDING DATE: 11 SEPTEMBER 2004

2004 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	9.186	9.026	8.962	---	---	---
2	---	---	---	---	---	---	9.184	9.019	8.961	---	---	---
3	---	---	---	---	---	---	9.178	9.016	8.957	---	---	---
4	---	---	---	---	---	---	9.170	9.012	8.950	---	---	---
5	---	---	---	---	---	---	9.165	9.018	8.960	---	---	---
6	---	---	---	---	---	---	9.157	9.009	8.976	---	---	---
7	---	---	---	---	---	---	9.150	8.995	8.989	---	---	---
8	---	---	---	---	---	---	9.151	8.994	8.996	---	---	---
9	---	---	---	---	---	---	9.142	8.992	8.956	---	---	---
10	---	---	---	---	---	---	9.138	8.998	8.949	---	---	---
11	---	---	---	---	---	---	9.133	8.988	8.947	---	---	---
12	---	---	---	---	---	---	9.129	8.981	---	---	---	---
13	---	---	---	---	---	---	9.125	8.988	---	---	---	---
14	---	---	---	---	---	---	9.125	8.980	---	---	---	---
15	---	---	---	---	---	---	9.116	8.989	---	---	---	---
16	---	---	---	---	---	---	9.109	8.989	---	---	---	---
17	---	---	---	---	---	---	9.100	8.989	---	---	---	---
18	---	---	---	---	---	---	9.096	8.977	---	---	---	---
19	---	---	---	---	---	---	9.087	8.979	---	---	---	---
20	---	---	---	---	---	---	9.087	8.983	---	---	---	---
21	---	---	---	---	---	---	9.082	8.976	---	---	---	---
22	---	---	---	---	---	---	9.081	8.974	---	---	---	---
23	---	---	---	---	---	---	9.070	8.963	---	---	---	---
24	---	---	---	---	---	---	9.062	8.960	---	---	---	---
25	---	---	---	---	---	---	9.053	8.960	---	---	---	---
26	---	---	---	---	---	---	9.055	8.959	---	---	---	---
27	---	---	---	---	---	---	9.044	8.957	---	---	---	---
28	---	---	---	---	---	9.199	9.038	8.962	---	---	---	---
29	---	---	---	---	---	9.199	9.034	8.964	---	---	---	---
30	---	---	---	---	---	9.191	9.030	8.966	---	---	---	---
31	---	---	---	---	---	---	9.028	8.962	---	---	---	---
MIN	---	---	---	---	---	9.191	9.028	8.957	8.947	---	---	---
MEAN	---	---	---	---	---	9.198	9.107	8.985	8.964	---	---	---
MAX	---	---	---	---	---	9.201	9.186	9.026	8.996	---	---	---

Note: B Indicates water level affected by ice conditions

STATION NUMBER: TERN LAKE OUTLET
 DATA LOGGER START UP DATE: 27 JUNE 2004
 DATA LOGGER ENDING DATE: 11 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	---	---	---	---	---	---	1.061	0.077	0.027	---	---	---
2	---	---	---	---	---	---	1.031	0.069	0.026	---	---	---
3	---	---	---	---	---	---	0.930	0.065	0.024	---	---	---
4	---	---	---	---	---	---	0.815	0.061	0.022	---	---	---
5	---	---	---	---	---	---	0.750	0.067	0.026	---	---	---
6	---	---	---	---	---	---	0.663	0.058	0.034	---	---	---
7	---	---	---	---	---	---	0.596	0.047	0.042	---	---	---
8	---	---	---	---	---	---	0.602	0.045	0.047	---	---	---
9	---	---	---	---	---	---	0.523	0.044	0.024	---	---	---
10	---	---	---	---	---	---	0.485	0.048	0.021	---	---	---
11	---	---	---	---	---	---	0.448	0.041	0.021	---	---	---
12	---	---	---	---	---	---	0.419	0.037	---	---	---	---
13	---	---	---	---	---	---	0.392	0.041	---	---	---	---
14	---	---	---	---	---	---	0.394	0.036	---	---	---	---
15	---	---	---	---	---	---	0.342	0.042	---	---	---	---
16	---	---	---	---	---	---	0.304	0.042	---	---	---	---
17	---	---	---	---	---	---	0.263	0.042	---	---	---	---
18	---	---	---	---	---	---	0.244	0.034	---	---	---	---
19	---	---	---	---	---	---	0.213	0.035	---	---	---	---
20	---	---	---	---	---	---	0.210	0.038	---	---	---	---
21	---	---	---	---	---	---	0.193	0.034	---	---	---	---
22	---	---	---	---	---	---	0.190	0.032	---	---	---	---
23	---	---	---	---	---	---	0.160	0.027	---	---	---	---
24	---	---	---	---	---	---	0.140	0.026	---	---	---	---
25	---	---	---	---	---	1.010	0.120	0.026	---	---	---	---
26	---	---	---	---	---	1.286	0.125	0.025	---	---	---	---
27	---	---	---	---	---	---	0.125	0.025	---	---	---	---
28	---	---	---	---	---	1.148	0.104	0.025	---	---	---	---
29	---	---	---	---	---	1.351	0.095	0.026	---	---	---	---
30	---	---	---	---	---	1.316	0.088	0.028	---	---	---	---
31	---	---	---	---	---	1.163	0.082	0.029	---	---	---	---
31	---	---	---	---	---	---	0.080	0.027	---	---	---	---
MIN	---	---	---	---	---	1.148	0.080	0.025	0.021	---	---	---
MEAN	---	---	---	---	---	1.244	0.389	0.041	0.029	---	---	---
MAX	---	---	---	---	---	1.351	1.061	0.077	0.047	---	---	---

Discharge in cubic meters per second
 Mean 0.242
 Maximum Daily 1.351 on June 28
 Maximum instantaneous 1.496 at 15:15 on June 29
 Total Volume
 1609.568 Cubic Decameters

Not: Italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 27 June to 11 September only