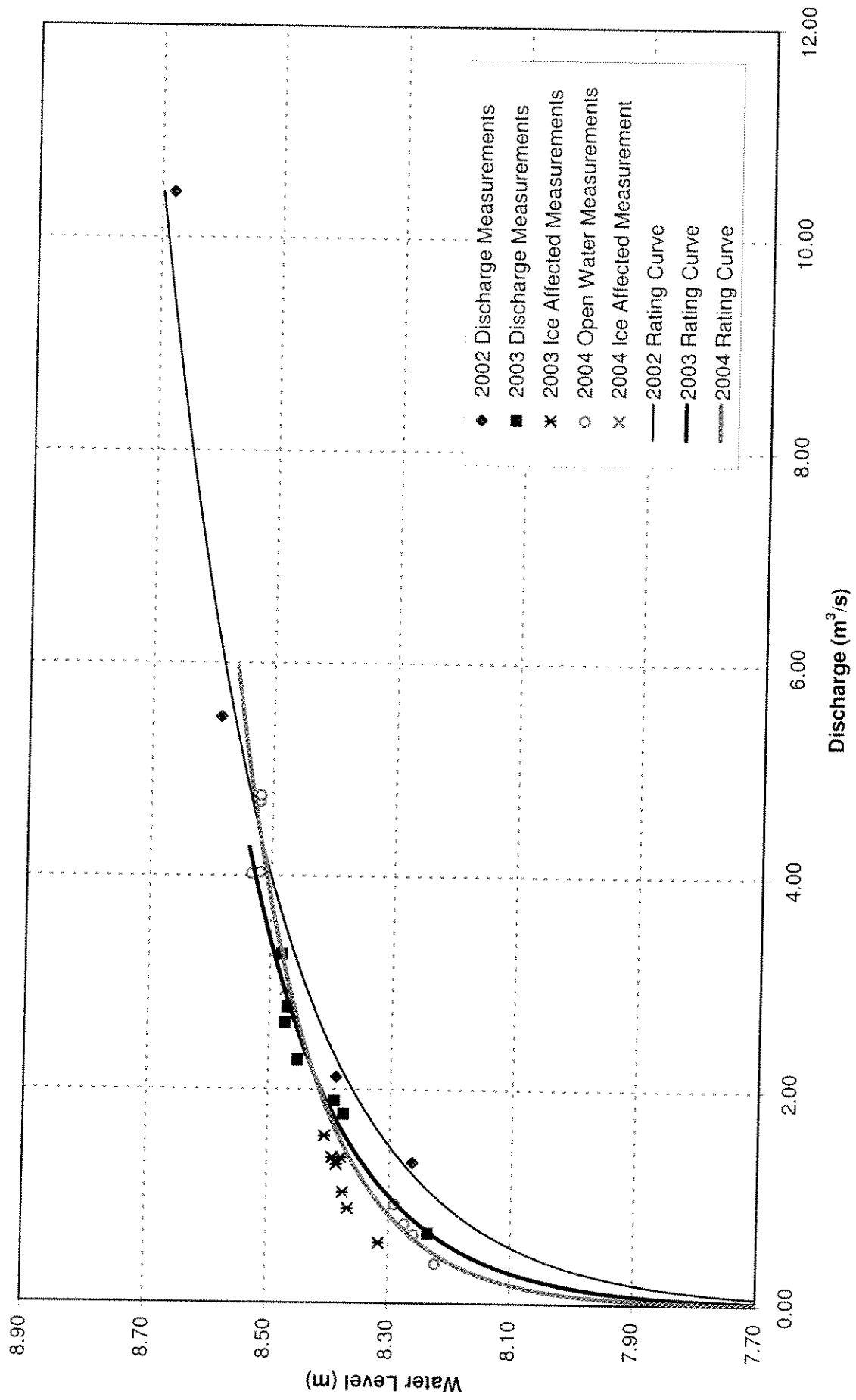


APPENDIX C.4

Drilltrail Lake Outlet

Drilltrail Lake Outlet Rating Curve



Site Inspection Summary
Outlet of Drilltrail Lake
Zero Flow Elevation: 7.790

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)
21-Jun-02	5.493	8.587	0.797			
22-Jun-02		8.602	0.812			
24-Jun-02		8.676	0.886			
26-Jun-02	10.428	8.679	0.889			
27-Jun-02		8.663	0.873			
09-Jul-02		8.542	0.752			
27-Jul-02	2.119	8.388	0.598	8.340	8:45	0.048
19-Sep-02	1.319	8.262	0.472	8.227	7:25	0.035
08-May-03	0.000 B	7.981	0.191	N.D.L.R.		
05-Jun-03	0.566 B	8.316	0.526	N.D.L.R.		
06-Jun-03	0.885 B	8.367	0.577	N.D.L.R.		
08-Jun-03	1.037 B	8.375	0.585	N.D.L.R.		
10-Jun-03		8.373	0.583	8.373	14:15	0.000
12-Jun-03	1.363 B	8.379	0.589	8.399	8:15	-0.020
14-Jun-03		8.386	0.596	8.477	8:00	-0.091
	1.297 B	8.390	0.600	8.470	9:00	-0.080
15-Jun-03		8.393	0.603	8.410	11:40	-0.017
	1.361 B	8.393	0.603	8.393	11:45	0.000
16-Jun-03	1.563 B	8.406	0.616	8.402	8:00	0.004
18-Jun-03	2.278	8.452	0.662	8.450	8:30	0.002
20-Jun-03	2.624	8.474	0.684	8.472	7:45	0.002
22-Jun-03		8.471	0.681	8.489	8:30	-0.018
	2.773	8.471	0.681	8.471	9:00	0.000
24-Jun-03	3.268	8.481	0.691	8.481	8:30	0.000
24-Jul-03	1.896	8.391	0.601	8.368	8:30	0.023
26-Jul-03	1.771	8.376	0.586	8.352	8:30	0.024
07-Sep-03	0.655	8.236	0.446	8.234	8:00	0.002
22-May-04	0.000 B	7.935	0.145	N.D.L.R.		
23-Jun-04	B	8.451	0.661	N.D.L.R.		
24-Jun-04	2.934 B	8.473	0.683	N.D.L.R.		
25-Jun-04	4.038	8.519	0.729	N.D.L.R.		
26-Jun-04	4.025	8.533	0.743	N.D.L.R.		
26-Jun-04		8.541	0.751	8.545	16:22	-0.004
27-Jun-04		8.534	0.744	8.521	15:29	0.013
28-Jun-04		8.527	0.737	8.530	10:00	-0.003
29-Jun-04		8.524	0.734	8.540	8:22	-0.016
29-Jun-04		8.533	0.743	8.538	19:15	-0.005
30-Jun-04	4.698	8.520	0.730	8.532	14:00	-0.012
03-Jul-04	4.760	8.519	0.729	8.520	15:00	-0.001
05-Aug-04	0.929	8.291	0.501	8.304	14:00	-0.013
07-Aug-04	0.743	8.274	0.484	8.265	14:00	0.009
09-Aug-04	0.645	8.259	0.469	8.254	10:00	0.005
11-Sep-04	0.373	8.223	0.433	8.219	11:00	0.004

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

DL = Data logger water level

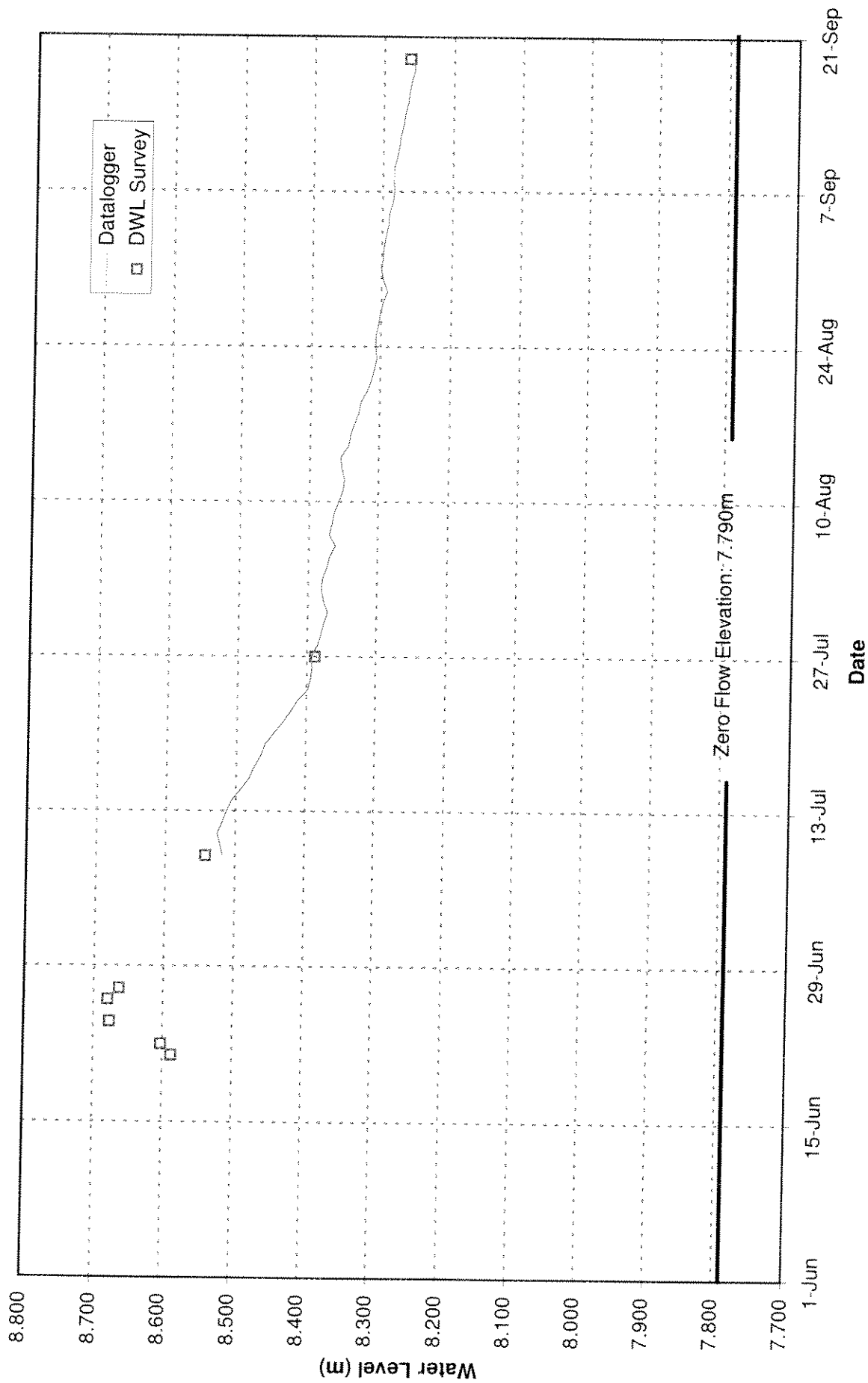
Difference = Difference between surveyed water level (DWL) and Data Logger water level reading
= Value by which to adjust the Data Logger reading

N.R. = Not Recorded in Field Notes

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

B = Ice conditions

Drilltrail Lake Outlet Water Level 2002



Drilltrail Lake Outlet Discharge and Precipitation 2002

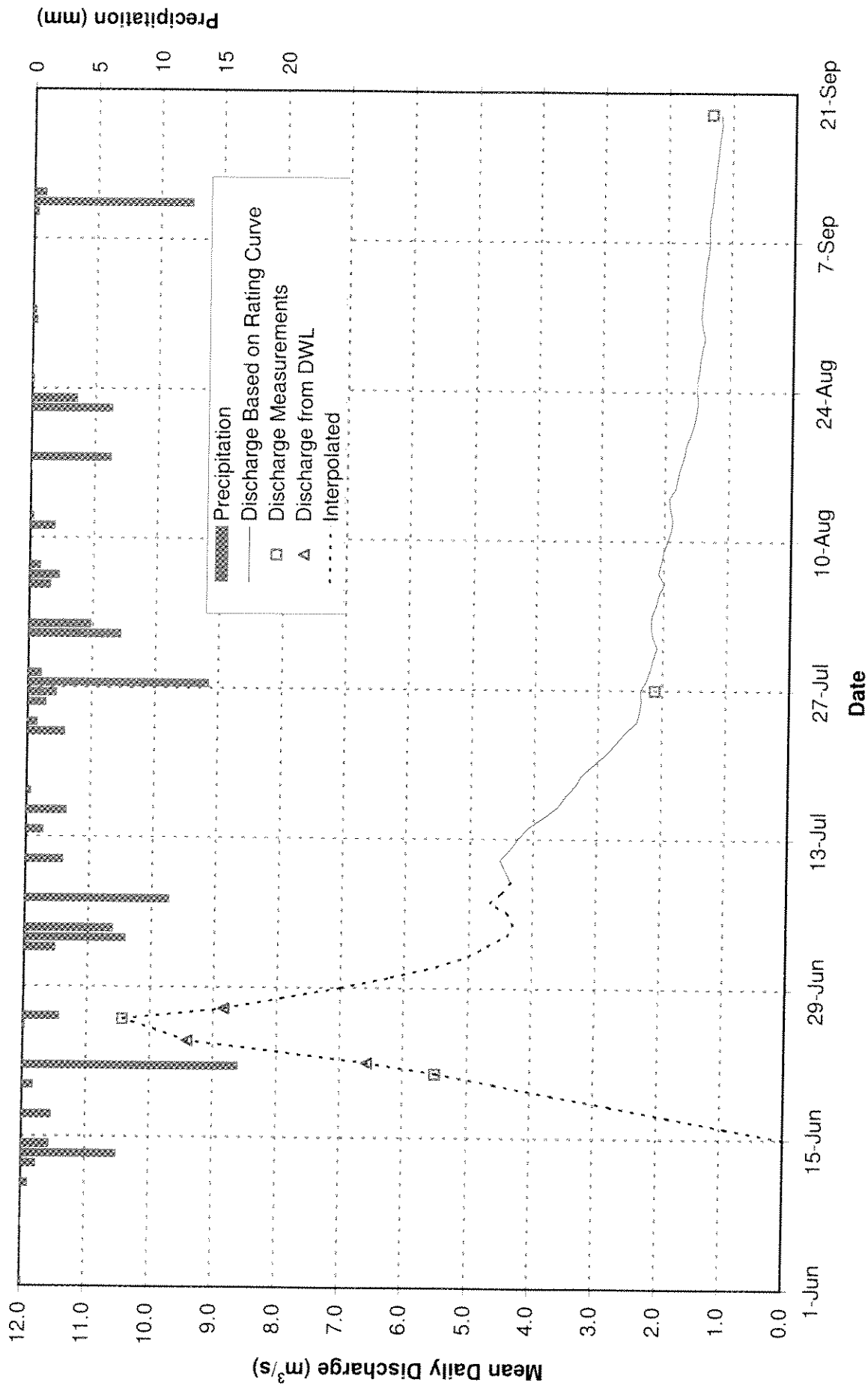
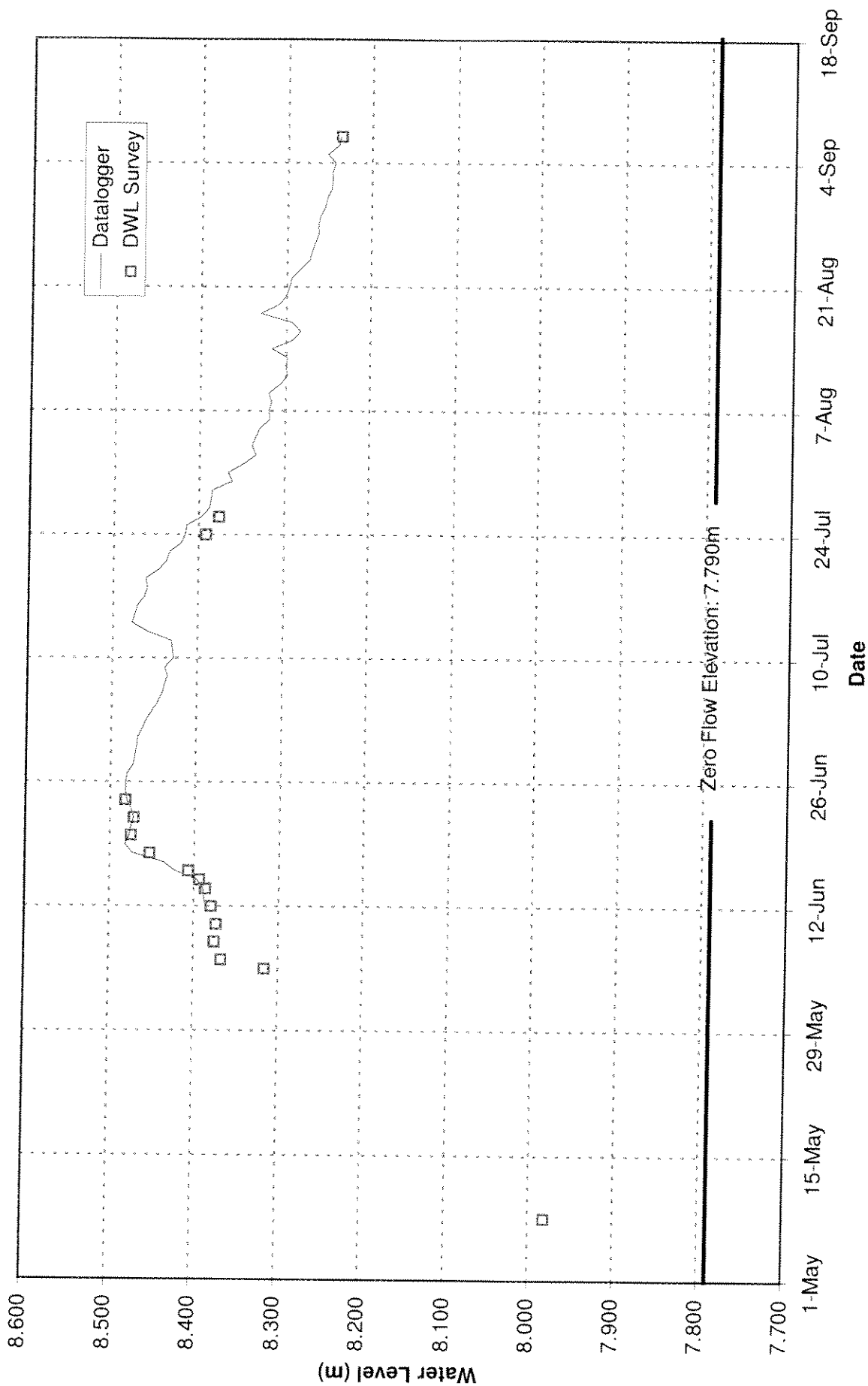


Figure C.4.3

Drilltrail Lake Outlet Water Level 2003



Drilltrail Lake Outlet Discharge and Precipitation 2003

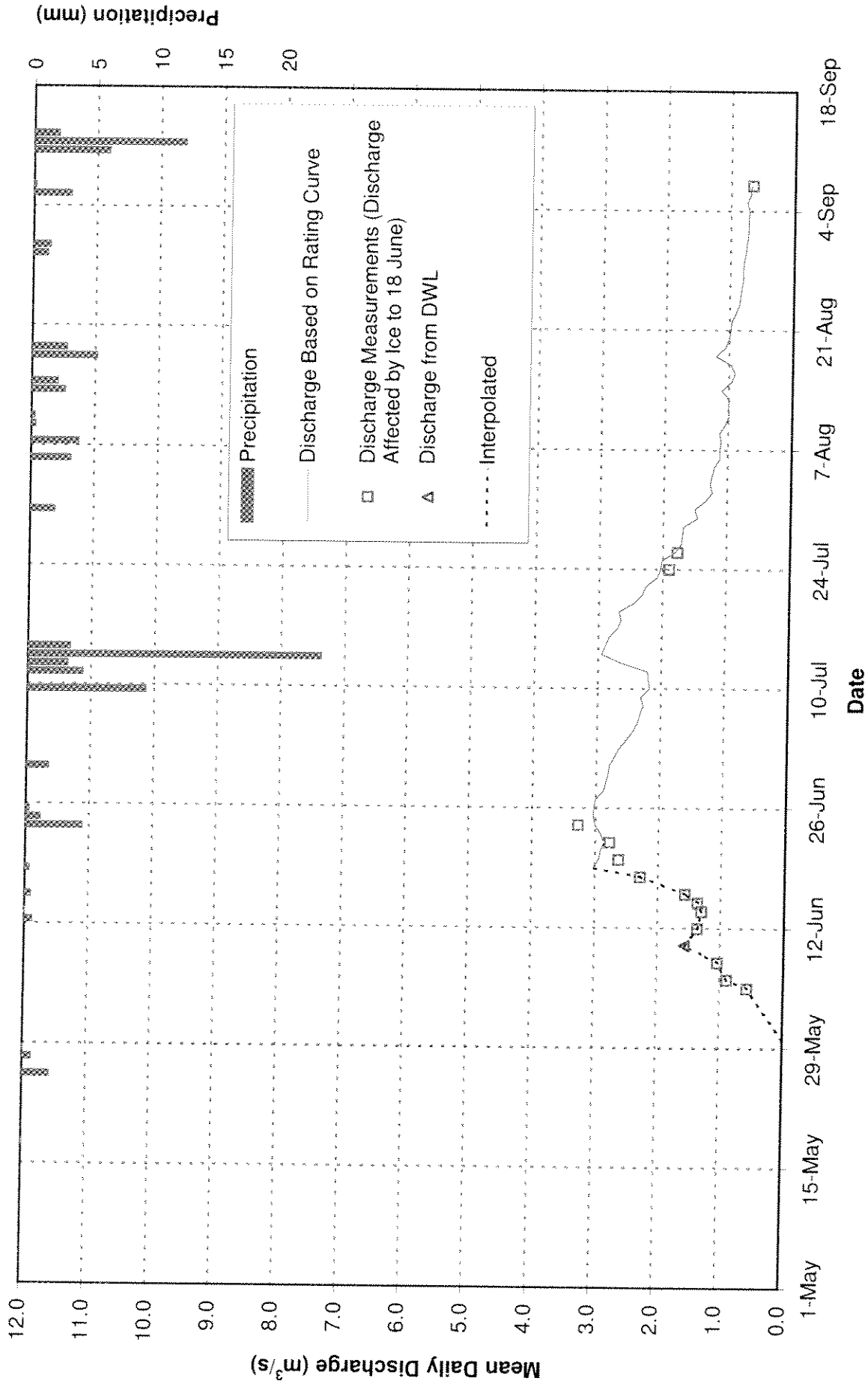
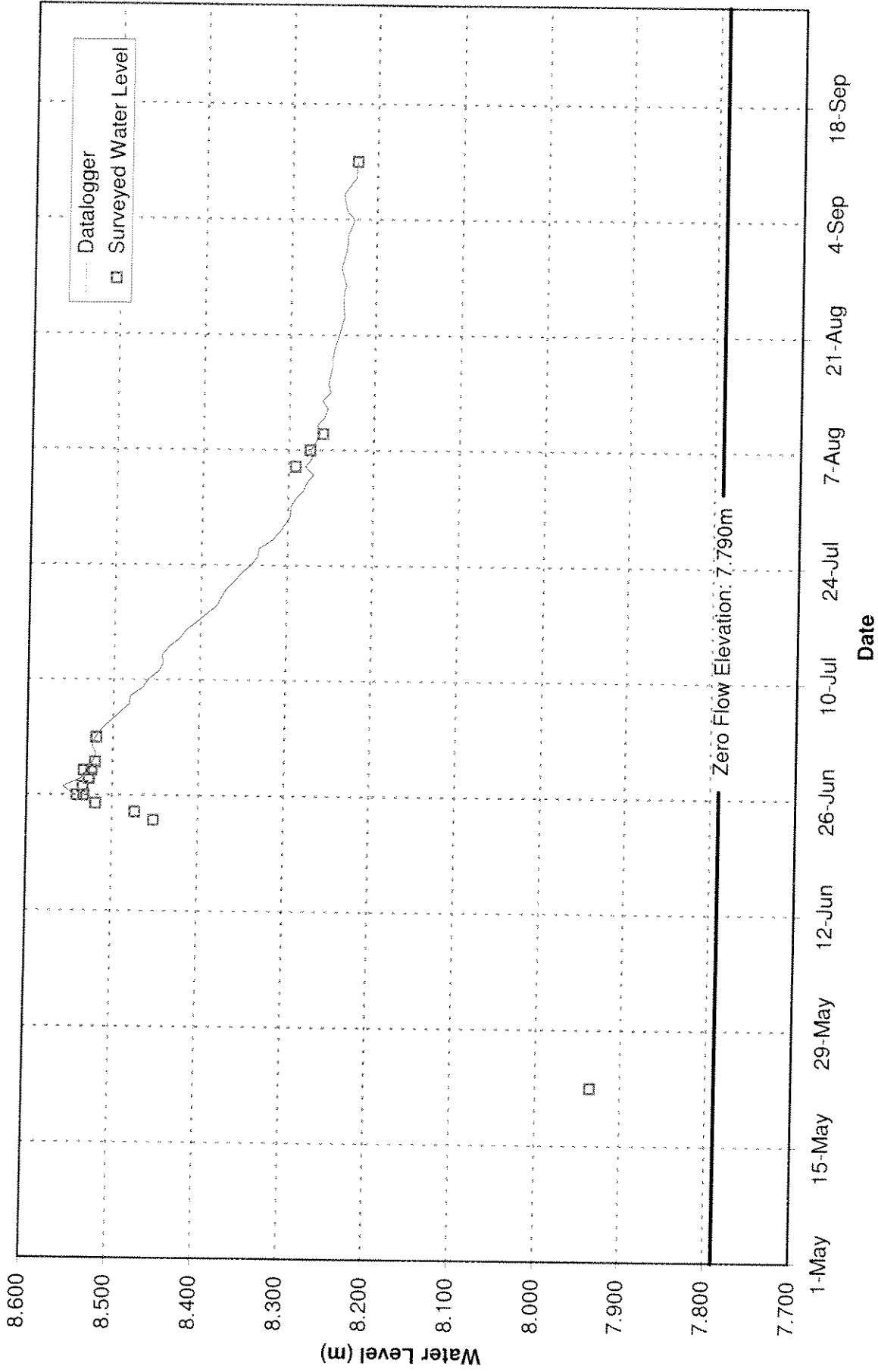
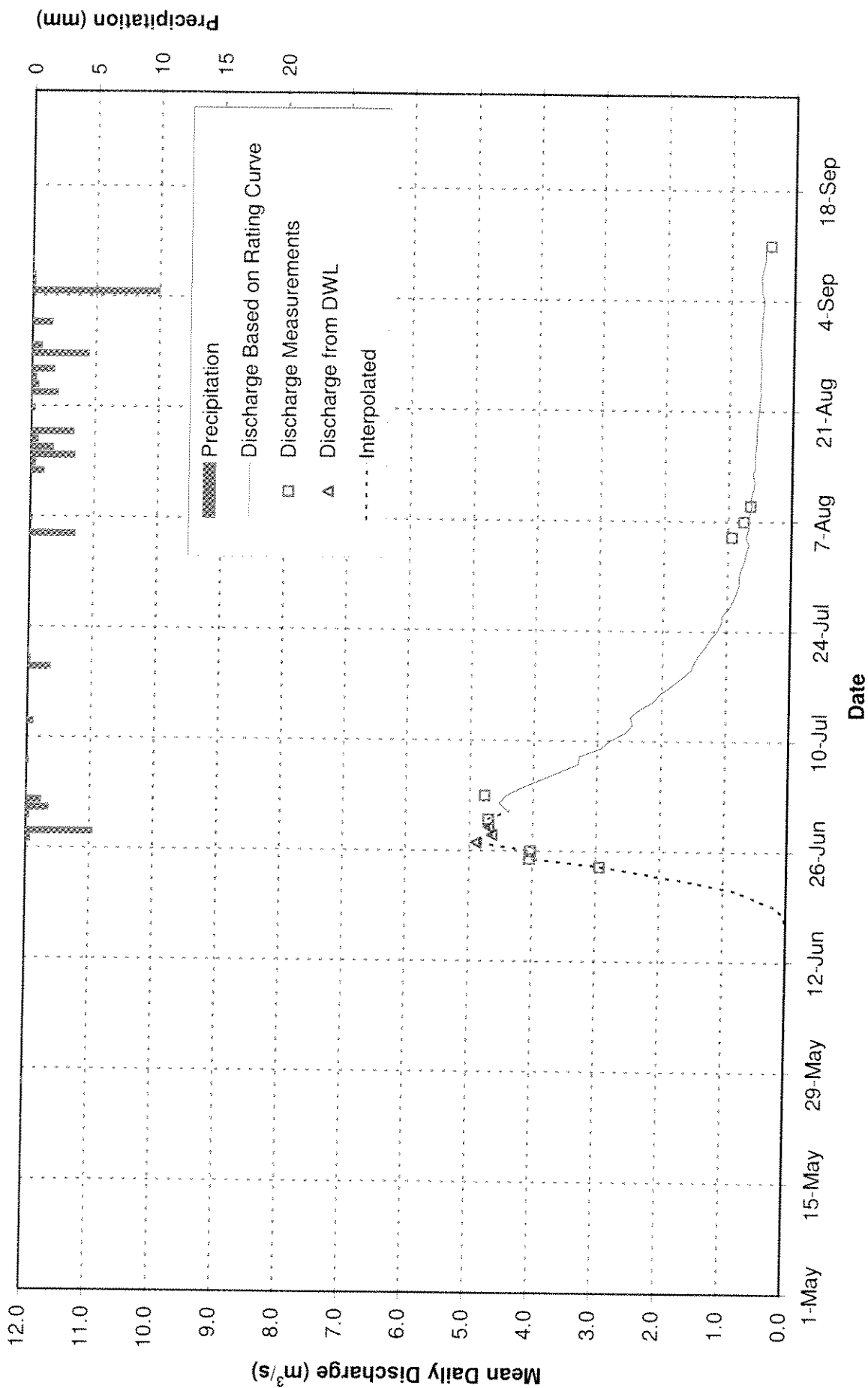


Figure C.4.5

Drilltrail Lake Outlet Water Level 2004



Drilltrail Lake Outlet Discharge and Precipitation 2004



STATION NUMBER: DRILLTRAIL LAKE OUTLET
 DATA LOGGER START UP DATE: 09 JULY 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	---	---	---	---	---	---	---	8.377	8.298	---	---	---
2	---	---	---	---	---	---	---	8.380	8.297	---	---	---
3	---	---	---	---	---	---	---	8.379	8.294	---	---	---
4	---	---	---	---	---	---	---	8.373	8.291	---	---	---
5	---	---	---	---	---	---	---	8.369	8.290	---	---	---
6	---	---	---	---	---	---	---	8.361	8.285	---	---	---
7	---	---	---	---	---	---	---	8.370	8.283	---	---	---
8	---	---	---	---	---	---	---	8.366	8.284	---	---	---
9	---	---	---	---	---	---	8.518	8.363	8.284	---	---	---
10	---	---	---	---	---	---	8.522	8.357	8.280	---	---	---
11	---	---	---	---	---	---	8.526	8.351	8.277	---	---	---
12	---	---	---	---	---	---	8.519	8.349	8.275	---	---	---
13	---	---	---	---	---	---	8.513	8.353	8.271	---	---	---
14	---	---	---	---	---	---	8.506	8.355	8.269	---	---	---
15	---	---	---	---	---	---	8.493	8.344	8.265	---	---	---
16	---	---	---	---	---	---	8.481	8.341	8.263	---	---	---
17	---	---	---	---	---	---	8.474	8.336	8.260	---	---	---
18	---	---	---	---	---	---	8.465	8.330	8.256	---	---	---
19	---	---	---	---	---	---	8.459	8.327	8.257	---	---	---
20	---	---	---	---	---	---	8.447	8.318	---	---	---	---
21	---	---	---	---	---	---	8.434	8.312	---	---	---	---
22	---	---	---	---	---	---	8.423	8.308	---	---	---	---
23	---	---	---	---	---	---	8.413	8.305	---	---	---	---
24	---	---	---	---	---	---	8.398	8.307	---	---	---	---
25	---	---	---	---	---	---	8.394	8.307	---	---	---	---
26	---	---	---	---	---	---	8.392	8.303	---	---	---	---
27	---	---	---	---	---	---	8.393	8.301	---	---	---	---
28	---	---	---	---	---	---	8.385	8.297	---	---	---	---
29	---	---	---	---	---	---	8.380	8.291	---	---	---	---
30	---	---	---	---	---	---	8.376	8.297	---	---	---	---
31	---	---	---	---	---	---	8.371	8.300	---	---	---	---
MIN	---	---	---	---	---	---	8.371	8.291	8.256	---	---	---
MEAN	---	---	---	---	---	---	8.447	8.336	8.278	---	---	---
MAX	---	---	---	---	---	---	8.526	8.380	8.298	---	---	---

Note: B indicates water level affected by ice conditions

STATION NUMBER: DRILLTRAIL LAKE OUTLET
 DATA LOGGER START UP DATE: 09 JULY 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	---	---	---	---	---	---	---	2.157	1.449	---	---	---
2	---	---	---	---	---	---	---	2.189	1.442	---	---	---
3	---	---	---	---	---	---	---	2.178	1.420	---	---	---
4	---	---	---	---	---	---	---	2.114	1.398	---	---	---
5	---	---	---	---	---	---	---	2.072	1.391	---	---	---
6	---	---	---	---	---	---	---	1.990	1.357	---	---	---
7	---	---	---	---	---	---	---	2.082	1.343	---	---	---
8	---	---	---	---	---	---	---	2.041	1.350	---	---	---
9	---	---	---	---	---	---	4.346	2.010	1.350	---	---	---
10	---	---	---	---	---	---	4.433	1.951	1.323	---	---	---
11	---	---	---	---	---	---	4.521	1.893	1.303	---	---	---
12	---	---	---	---	---	---	4.368	1.874	1.290	---	---	---
13	---	---	---	---	---	---	4.241	1.912	1.264	---	---	---
14	---	---	---	---	---	---	4.097	1.931	1.251	---	---	---
15	---	---	---	---	---	---	3.842	1.827	1.226	---	---	---
16	---	---	---	---	---	---	3.620	1.800	1.213	---	---	---
17	---	---	---	---	---	---	3.497	1.755	1.195	---	---	---
18	---	---	---	---	---	---	3.344	1.703	1.171	---	---	---
19	---	---	---	---	---	---	3.246	1.677	1.177	---	---	---
20	---	---	---	---	---	---	3.059	1.603	---	---	---	---
21	---	---	---	---	---	5.493	2.867	1.555	---	---	---	---
22	---	---	---	---	---	6.562	2.714	1.524	---	---	---	---
23	---	---	---	---	---	---	2.582	1.501	---	---	---	---
24	---	---	---	---	---	---	2.396	1.516	---	---	---	---
25	---	---	---	---	---	9.402	2.348	1.516	---	---	---	---
26	---	---	---	---	---	---	2.325	1.486	---	---	---	---
27	---	---	---	---	---	10.428	2.337	1.471	---	---	---	---
28	---	---	---	---	---	8.828	2.245	1.442	---	---	---	---
29	---	---	---	---	---	---	2.189	1.398	---	---	---	---
30	---	---	---	---	---	---	2.146	1.442	---	---	---	---
31	---	---	---	---	---	---	2.093	1.464	---	---	---	---
MIN	---	---	---	---	---	---	2.093	1.398	1.171	---	---	---
MEAN	---	---	---	---	---	---	3.168	1.777	1.311	---	---	---
MAX	---	---	---	---	---	---	4.521	2.189	1.449	---	---	---

Discharge in cubic meters per second
 Mean 2.094
 Maximum Daily 4.521 on July 11
 Maximum instantaneous 5.239 at 19:00 on July 09
 Total Volume 13205.670 Cubic Decameters

Note: italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 09 July to 19 September only

STATION NUMBER: DRILLTRAIL LAKE OUTLET
 DATA LOGGER START UP DATE: 10 JUNE 2003
 DATA LOGGER ENDING DATE: 07 SEPTEMBER 2003

2003 DAILY MEAN WATER LEVEL IN METERS

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	---	---	---	---	---	---	8.468	8.347	8.248	---	---	---
2	---	---	---	---	---	---	8.463	8.334	8.247	---	---	---
3	---	---	---	---	---	---	8.459	8.339	8.247	---	---	---
4	---	---	---	---	---	---	8.452	8.335	8.244	---	---	---
5	---	---	---	---	---	---	8.445	8.330	8.253	---	---	---
6	---	---	---	---	---	---	8.440	8.318	8.240	---	---	---
7	---	---	---	---	---	---	8.438	8.319	8.238	---	---	---
8	---	---	---	---	---	---	8.434	8.316	---	---	---	---
9	---	---	---	---	---	---	8.437	8.320	---	---	---	---
10	---	---	---	---	---	---	8.427	8.306	---	---	---	---
11	---	---	---	---	---	---	8.429	8.298	---	---	---	---
12	---	---	---	---	---	8.385 B	8.430	8.300	---	---	---	---
13	---	---	---	---	---	8.388 B	8.458	8.298	---	---	---	---
14	---	---	---	---	---	8.389 B	8.476	8.317	---	---	---	---
15	---	---	---	---	---	8.396 B	8.473	8.292	---	---	---	---
16	---	---	---	---	---	8.422 B	8.470	8.283	---	---	---	---
17	---	---	---	---	---	8.436	8.462	8.294	---	---	---	---
18	---	---	---	---	---	8.472	8.459	8.330	---	---	---	---
19	---	---	---	---	---	8.481	8.461	8.309	---	---	---	---
20	---	---	---	---	---	8.476	8.446	8.301	---	---	---	---
21	---	---	---	---	---	8.475	8.437	8.297	---	---	---	---
22	---	---	---	---	---	8.472	8.433	8.294	---	---	---	---
23	---	---	---	---	---	8.475	8.420	8.284	---	---	---	---
24	---	---	---	---	---	8.480	8.415	8.273	---	---	---	---
25	---	---	---	---	---	8.481	8.414	8.271	---	---	---	---
26	---	---	---	---	---	8.481	8.396	8.267	---	---	---	---
27	---	---	---	---	---	8.480	8.387	8.263	---	---	---	---
28	---	---	---	---	---	8.473	8.386	8.263	---	---	---	---
29	---	---	---	---	---	8.471	8.384	8.261	---	---	---	---
30	---	---	---	---	---	8.469	8.361	8.256	---	---	---	---
31	---	---	---	---	---	---	8.366	8.253	---	---	---	---
MIN	---	---	---	---	---	8.385 B	8.361	8.253	8.238	---	---	---
MEAN	---	---	---	---	---	8.453 B	8.433	8.299	8.245	---	---	---
MAX	---	---	---	---	---	8.481	8.476	8.347	8.253	---	---	---

Note: B indicates water level affected by ice conditions

STATION NUMBER: DRILLTRAIL LAKE OUTLET
 DATA LOGGER START UP DATE: 10 JUNE 2003
 DATA LOGGER ENDING DATE: 07 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	---	---	---	---	---	---	2.793	1.340	0.726	---	---	---
2	---	---	---	---	---	---	2.716	1.232	0.719	---	---	---
3	---	---	---	---	---	---	2.643	1.269	0.720	---	---	---
4	---	---	---	---	---	---	2.536	1.239	0.705	---	---	---
5	---	---	---	---	---	0.566	2.437	1.203	0.746	---	---	---
6	---	---	---	---	---	0.885	2.361	1.119	0.688	---	---	---
7	---	---	---	---	---	---	2.325	1.127	0.679	---	---	---
8	---	---	---	---	---	1.037	2.273	1.107	---	---	---	---
9	---	---	---	---	---	---	2.320	1.130	---	---	---	---
10	---	---	---	---	---	1.567	2.180	1.040	---	---	---	---
11	---	---	---	---	---	---	2.200	0.988	---	---	---	---
12	---	---	---	---	---	1.363	2.216	1.000	---	---	---	---
13	---	---	---	---	---	1.719	2.640	0.988	---	---	---	---
14	---	---	---	---	---	1.724	2.944	1.108	---	---	---	---
15	---	---	---	---	---	1.805	2.888	0.951	---	---	---	---
16	---	---	---	---	---	2.113	2.831	0.900	---	---	---	---
17	---	---	---	---	---	2.306	2.702	0.962	---	---	---	---
18	---	---	---	---	---	2.870	2.645	1.203	---	---	---	---
19	---	---	---	---	---	3.031	2.679	1.057	---	---	---	---
20	---	---	---	---	---	2.941	2.446	1.004	---	---	---	---
21	---	---	---	---	---	2.911	2.314	0.981	---	---	---	---
22	---	---	---	---	---	2.858	2.262	0.965	---	---	---	---
23	---	---	---	---	---	2.912	2.088	0.907	---	---	---	---
24	---	---	---	---	---	3.002	2.030	0.848	---	---	---	---
25	---	---	---	---	---	3.035	2.013	0.834	---	---	---	---
26	---	---	---	---	---	3.031	1.808	0.814	---	---	---	---
27	---	---	---	---	---	3.004	1.711	0.795	---	---	---	---
28	---	---	---	---	---	2.881	1.695	0.797	---	---	---	---
29	---	---	---	---	---	2.848	1.679	0.786	---	---	---	---
30	---	---	---	---	---	2.812	1.460	0.759	---	---	---	---
31	---	---	---	---	---	---	1.502	0.749	---	---	---	---
MIN	---	---	---	---	---	1.363	1.460	0.749	0.679	---	---	---
MEAN	---	---	---	---	---	2.588	2.301	1.007	0.712	---	---	---
MAX	---	---	---	---	---	3.035	2.944	1.340	0.746	---	---	---

Discharge in cubic meters per second
 Mean 1.873
 Maximum Daily 3.035 on June 25
 Maximum Instantaneous 4.267 at 21:45 on July 16

Total Volume
 12337.720 Cubic Decameters

Note: italics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 12 June to 7 September only

STATION NUMBER: DRILLTRAIL LAKE OUTLET
 DATA LOGGER START UP DATE: 26 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	---	---	---	---	---	---	8.519	8.291	8.234	---	---	---
2	---	---	---	---	---	---	8.524	8.282	8.234	---	---	---
3	---	---	---	---	---	---	8.520	8.278	8.229	---	---	---
4	---	---	---	---	---	---	8.513	8.270	8.226	---	---	---
5	---	---	---	---	---	---	8.503	8.280	8.235	---	---	---
6	---	---	---	---	---	---	8.492	8.272	8.237	---	---	---
7	---	---	---	---	---	---	8.481	8.273	8.239	---	---	---
8	---	---	---	---	---	---	8.480	8.268	8.232	---	---	---
9	---	---	---	---	---	---	8.466	8.263	8.225	---	---	---
10	---	---	---	---	---	---	8.460	8.266	8.224	---	---	---
11	---	---	---	---	---	---	8.448	8.258	8.223	---	---	---
12	---	---	---	---	---	---	8.442	8.254	---	---	---	---
13	---	---	---	---	---	---	8.444	8.261	---	---	---	---
14	---	---	---	---	---	---	8.436	8.251	---	---	---	---
15	---	---	---	---	---	---	8.424	8.254	---	---	---	---
16	---	---	---	---	---	---	8.416	8.252	---	---	---	---
17	---	---	---	---	---	---	8.404	8.249	---	---	---	---
18	---	---	---	---	---	---	8.393	8.250	---	---	---	---
19	---	---	---	---	---	---	8.381	8.248	---	---	---	---
20	---	---	---	---	---	---	8.376	8.245	---	---	---	---
21	---	---	---	---	---	---	8.370	8.242	---	---	---	---
22	---	---	---	---	---	---	8.361	8.239	---	---	---	---
23	---	---	---	---	---	---	8.353	8.236	---	---	---	---
24	---	---	---	---	---	---	8.342	8.237	---	---	---	---
25	---	---	---	---	---	---	8.334	8.238	---	---	---	---
26	---	---	---	---	---	8.543	8.333	8.237	---	---	---	---
27	---	---	---	---	---	8.558	8.318	8.235	---	---	---	---
28	---	---	---	---	---	8.536	8.309	8.237	---	---	---	---
29	---	---	---	---	---	8.529	8.302	8.240	---	---	---	---
30	---	---	---	---	---	8.523	8.296	8.238	---	---	---	---
31	---	---	---	---	---	---	8.297	8.235	---	---	---	---
MIN	---	---	---	---	---	8.523	8.296	8.235	8.223	---	---	---
MEAN	---	---	---	---	---	8.538	8.411	8.254	8.231	---	---	---
MAX	---	---	---	---	---	8.558	8.524	8.291	8.239	---	---	---

Note: B Indicates water level affected by ice conditions

STATION NUMBER: DRILLTRAIL LAKE OUTLET
 DATA LOGGER START UP DATE: 26 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	---	---	---	---	---	---	4.389	0.779	0.500	---	---	---
2	---	---	---	---	---	---	4.535	0.725	0.499	---	---	---
3	---	---	---	---	---	---	4.419	0.702	0.483	---	---	---
4	---	---	---	---	---	---	4.171	0.661	0.471	---	---	---
5	---	---	---	---	---	---	3.871	0.713	0.505	---	---	---
6	---	---	---	---	---	---	3.584	0.669	0.512	---	---	---
7	---	---	---	---	---	---	3.288	0.678	0.519	---	---	---
8	---	---	---	---	---	---	3.276	0.650	0.493	---	---	---
9	---	---	---	---	---	---	2.937	0.625	0.466	---	---	---
10	---	---	---	---	---	---	2.803	0.641	0.463	---	---	---
11	---	---	---	---	---	---	2.565	0.602	0.461	---	---	---
12	---	---	---	---	---	---	2.451	0.584	---	---	---	---
13	---	---	---	---	---	---	2.484	0.615	---	---	---	---
14	---	---	---	---	---	---	2.337	0.571	---	---	---	---
15	---	---	---	---	---	---	2.133	0.584	---	---	---	---
16	---	---	---	---	---	---	2.017	0.574	---	---	---	---
17	---	---	---	---	---	---	1.845	0.564	---	---	---	---
18	---	---	---	---	---	---	1.690	0.565	---	---	---	---
19	---	---	---	---	---	---	1.548	0.557	---	---	---	---
20	---	---	---	---	---	---	1.491	0.545	---	---	---	---
21	---	---	---	---	---	---	1.426	0.533	---	---	---	---
22	---	---	---	---	---	---	1.325	0.522	---	---	---	---
23	---	---	---	---	---	---	1.251	0.510	---	---	---	---
24	---	---	---	---	---	---	1.147	0.512	---	---	---	---
25	---	---	---	---	---	---	1.083	0.515	---	---	---	---
26	---	---	---	---	---	---	1.068	0.514	---	---	---	---
27	---	---	---	---	---	---	0.954	0.503	---	---	---	---
28	---	---	---	---	---	4.891	0.893	0.514	---	---	---	---
29	---	---	---	---	---	4.642	0.846	0.525	---	---	---	---
30	---	---	---	---	---	4.694	0.810	0.516	---	---	---	---
31	---	---	---	---	---	4.698	0.812	0.504	---	---	---	---
MIN	---	---	---	---	---	---	0.810	0.503	0.461	---	---	---
MEAN	---	---	---	---	---	---	2.240	0.589	0.488	---	---	---
MAX	---	---	---	---	---	---	4.535	0.779	0.519	---	---	---

Discharge in cubic meters per second
 Mean 1.275
 Maximum Daily 4.535 on July 2
 Maximum instantaneous 7.872 at 19:00 on June 27
 Total Volume 8043.325 Cubic Decameters

NotItalics indicates discharge measurement or estimate
 All MIN, MEAN, and MAX values are computed for data from 1 July to 11 September only