

APPENDIX IX.4

CLIMATE AND HYDROLOGY DATA

TABLE OF CONTENTS

LIST OF TABLES

Table IX.4-1	Regional Flow Patterns in the South Central Northwest Territories	IX.4-1
Table IX.4-2	Mean Daily Discharges (m^3/s) for Station H1 (Snap Lake North Outlet) in 1999	IX.4-2
Table IX.4-3	Mean Daily Discharges (m^3/s) for Station H1 (Snap Lake North Outlet) in 2000	IX.4-4
Table IX.4-4	Mean Daily Discharges (m^3/s) for Station H2 (Snap Lake South Outlet) in 1999	IX.4-6
Table IX.4-5	Mean Daily Discharges (m^3/s) for Station H2 (Snap Lake South Outlet) in 2000	IX.4-8
Table IX.4-6	Mean Daily Discharges (m^3/s) for Station H4 (Snap Lake Representative Inlet) in 1999	IX.4-10
Table IX.4-7	Mean Daily Discharges (m^3/s) for Station H4 (Snap Lake Representative Inlet) in 2000	IX.4-12
Table IX.4-8	Mean Daily Water Levels (m) for Station H3 (Snap Lake) in 1999.....	IX.4-14
Table IX.4-9	Mean Daily Water Levels (m) for Station H3 (Snap Lake) in 2000.....	IX.4-16
Table IX.4-10	Annual, Mean Monthly, and Mean Daily Discharges (m^3/s) for Snap Lake Outlets (H1 and H2)	IX.4-18
Table IX.4-11	Summary of Snap Lake Water Elevations (masl).....	IX.4-20
Table IX.4-12	Water Balance and Lake Elevations for Snap Lake in Year 1.....	IX.4-23
Table IX.4-13	Water Balance and Lake Elevations for Snap Lake in Year 6.....	IX.4-25
Table IX.4-14	Water Balance and Lake Elevations for Snap Lake in Years 17 to 22.....	IX.4-27
Table IX.4-15	Annual Water Balance (m^3/year) for North Lake and Northeast Lake before Mining and in the Last Year of Mining	IX.4-29

LIST OF FIGURES

Figure IX.4-1	Record of Stream Discharge and Water Level at Station H1 (Snap Lake North Outlet) in 1999.....	IX.4-3
Figure IX.4-2	Record of Stream Discharge and Water Level at Station H1 (Snap Lake North Outlet) in 2000.....	IX.4-4
Figure IX.4-3	Record of Stream Discharge and Water Level at Station H2 (Snap Lake South Outlet) in 1999	IX.4-6
Figure IX.4-4	Record of Stream Discharge and Water Level at Station H2 (Snap Lake South Outlet) in 2000	IX.4-9
Figure IX.4-5	Record of Stream Discharge and Water Level at Station H4 (Snap Lake Representative Inlet) in 1999.....	IX.4-10
Figure IX.4-6	Record of Stream Discharge and Water Level at Station H4 (Snap Lake Representative Inlet) in 2000.....	IX.4-12
Figure IX.4-7	Record of Water Level at Station H3 (Snap Lake) in 1999.....	IX.4-14
Figure IX.4-8	Record of Water Level at Station H3 (Snap Lake near Exploration Camp) in 2000	IX.4-17
Figure IX.4-9	Daily Hydrographs for the Indin and Waldron Rivers over the Period 1979 to 1994	IX.4-19
Figure IX.4-10	Regression Analysis for Indin River and Snap Lake Outlets.....	IX.4-21
Figure IX.4-11	Regression Analysis for Snap Lake Outlets Discharge and Snap Lake Water Elevation.....	IX.4-22
Figure IX.4-12	Comparison of Baseline and Year 1 of Operations Streamflow at the Outlet of Snap Lake.....	IX.4-23
Figure IX.4-13	Comparison of Baseline and Year 6 of Operations Streamflow at the Outlet of Snap Lake.....	IX.4-25
Figure IX.4-14	Comparison of Baseline and Year 17 and 22 of Operations Streamflow at the Outlet of Snap Lake	IX.4-27

Table IX.4-1
Regional Flow Patterns in the South Central Northwest Territories

Stream Name	WSC Station	Period of	Drainage	Mean Monthly	Mean Unit Area	Mean Monthly	Mean Peak	Ratio of Mean Monthly Peak
	No.	Record	Area	Discharge	Runoff	Peak Flow	Flow Month	Flow to Mean Annual Flow
		(year)	(km ²)	(m ³ /s)	(m ³ /s/km ²)	(m ³ /s)		
Hanbury River	06JB001	71-98	5770	29.5	0.00511	107	June	3.6
Kazan River	06LA001	62-98	21400	135	0.00631	215	June	1.6
Thelon River	06JC002	70-98	65600	286	0.00436	1490	June	5.2
Hay River	07OB001	63-98	47900	114	0.00238	430	May	3.8
Little Buffalo River	07PB002	65-94	3330	3.4	0.00102	9.45	May	2.8
Snare River	07SA002	84-98	13300	57.3	0.00431	136	July	2.4
Indin River	07SA004	77-98	1520	7.86	0.00517	32.6	June	4.1
Baker Creek	07SB013	83-98	121	0.222	0.00183	1.19	May	5.4
Waldron River	07SC002	79-94	1830	6.42	0.00351	22.2	June	3.5
Wecho River	07SA005	83-95	3400	9.41	0.00277	24.7	June	2.6
Emile River	07TB001	78-97	4850	15.9	0.00328	21.9	August	1.4
Lockhart River	07RD001	44-49/62-98	26600	120	0.00451	156	September	1.3
Camsell River	10JA002	33-98	31100	97	0.00312	122	July	1.3
Burnside River	10QC001	76-98	16800	126	0.00750	582	June	4.6
Ellice River	10QD001	71-98	16900	83.3	0.00493	504	June	6.1
Back River	10RA001	78-98	19600	109	0.00556	485	June	4.4
Baillie River	10RA002	78-98	14500	76.3	0.00526	467	June	6.1
Thonokied River	07RC001	80-90	1780	14.6	0.00820	49	June	3.4
Trail Valley Creek	10ND002	77-98	68.3	0.228	0.00334	1.36	June	6.0
				Mean	0.00434			

Note: WSC = Water Survey of Canada; km² = square kilometres; m³/s = cubic metres per second; m³/s/ km² = cubic metres per second per square kilometre.

Table IX.4-2
Mean Daily Discharges (m³/s) for Station H1 (Snap Lake North Outlet) in 1999

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	0.144	0.237	0.118	0.110	0.107	-	-
2	-	-	-	-	-	0.152	0.229	0.117	0.111	0.106	-	-
3	-	-	-	-	-	0.161	0.216	0.115	0.109	0.106	-	-
4	-	-	-	-	-	0.176	0.212	0.114	0.110	0.105	-	-
5	-	-	-	-	-	0.222	0.211	0.111	0.111	0.105	-	-
6	-	-	-	-	-	0.295	0.208	0.110	0.111	0.105 P	-	-
7	-	-	-	-	-	0.342	0.205	0.108	0.112	-	-	-
8	-	-	-	-	-	0.379	0.202	0.106	0.113	-	-	-
9	-	-	-	-	-	0.416	0.204	0.105	0.113	-	-	-
10	-	-	-	-	-	0.424	0.196	0.105	0.114	-	-	-
11	-	-	-	-	-	0.421	0.192	0.105	0.115	-	-	-
12	-	-	-	-	-	0.421	0.187	0.104	0.115	-	-	-
13	-	-	-	-	-	0.416	0.174	0.102	0.115	-	-	-
14	-	-	-	-	-	0.409	0.162	0.099	0.114	-	-	-
15	-	-	-	-	-	0.404	0.161	0.100	0.113	-	-	-
16	-	-	-	-	-	0.403	0.154	0.099	0.111	-	-	-
17	-	-	-	-	-	0.406	0.150	0.097	0.109	-	-	-
18	-	-	-	-	-	0.389	0.150	0.100	0.112	-	-	-
19	-	-	-	-	-	0.383	0.154	0.100	0.112	-	-	-
20	-	-	-	-	-	0.363	0.141	0.097	0.114	-	-	-
21	-	-	-	-	-	0.355	0.142	0.091	0.112	-	-	-
22	-	-	-	-	-	0.291	0.140	0.086	0.111	-	-	-
23	-	-	-	-	-	0.279	0.139	0.090	0.110	-	-	-
24	-	-	-	-	-	0.288	0.132	0.093	0.111	-	-	-
25	-	-	-	-	-	0.286	0.130	0.082	0.111	-	-	-
26	-	-	-	-	-	0.282	0.126	0.092	0.111	-	-	-
27	-	-	-	-	-	0.272	0.123	0.109	0.110	-	-	-
28	-	-	-	-	0.123 P	0.261	0.120	0.109	0.109	-	-	-
29	-	-	-	-	0.126	0.248	0.118	0.110	0.109	-	-	-
30	-	-	-	-	0.130	0.234	0.117	0.105	0.107	-	-	-
31	-	-	-	-	0.137	-	0.117	0.109	-	-	-	-
Min	-	-	-	-	0.123	0.144	0.117	0.082	0.107	0.105	-	-
Mean	-	-	-	-	0.129	0.317	0.166	0.103	0.111	0.106	-	-
Max	-	-	-	-	0.137	0.424	0.237	0.118	0.115	0.107	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-1
Record of Stream Discharge and Water Level at Station H1 (Snap Lake North Outlet) in 1999

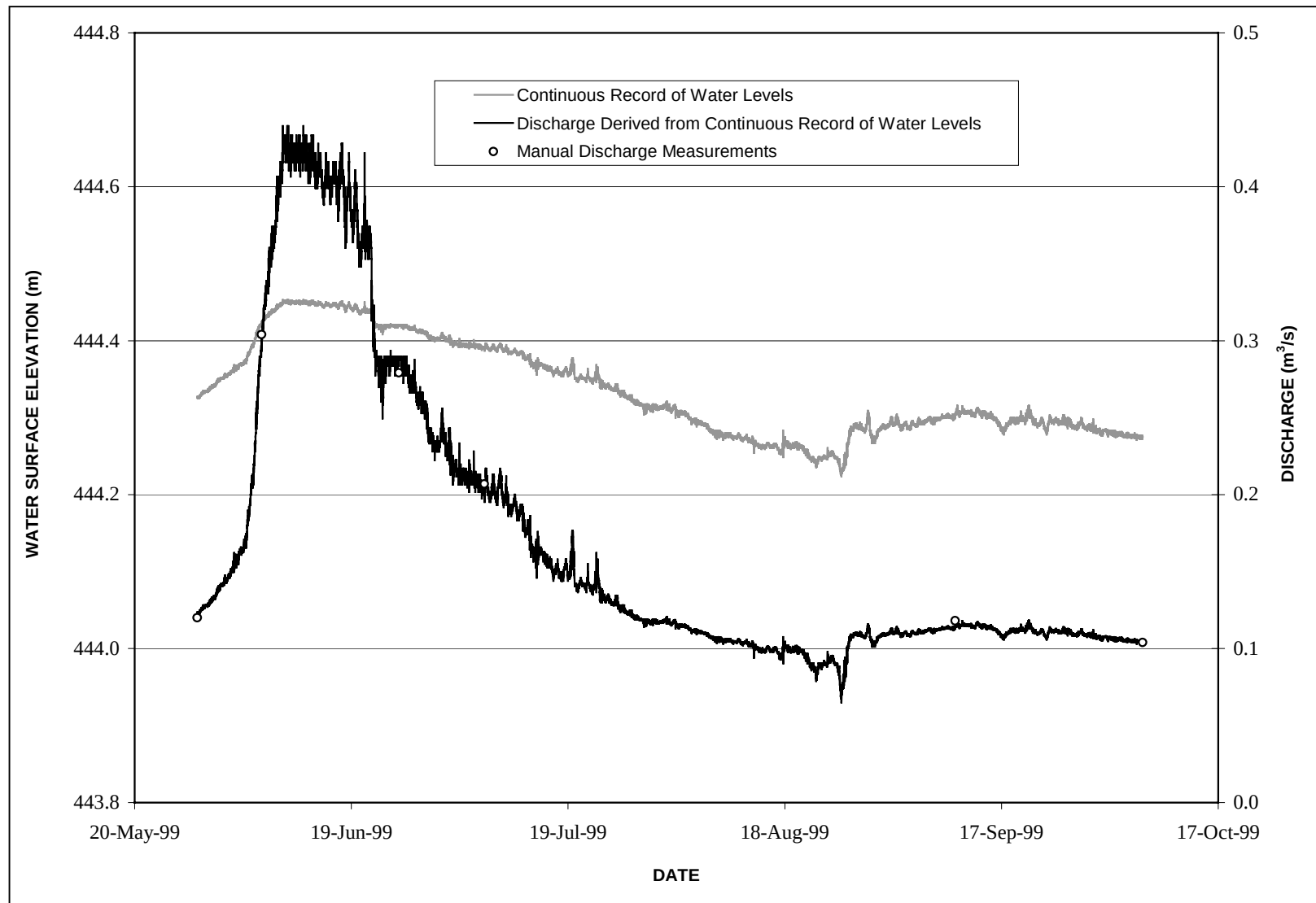


Table IX.4-3
Mean Daily Discharges (m³/s) for Station H1 (Snap Lake North Outlet) in 2000

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	-	0.080	0.042	0.028	0.026	-	-
2	-	-	-	-	-	-	0.075	0.036	0.027	0.037	-	-
3	-	-	-	-	-	-	0.085	0.041	0.025	0.027	-	-
4	-	-	-	-	-	-	0.083	0.042	0.020	0.029	-	-
5	-	-	-	-	-	-	0.071	0.033	0.021	0.024	-	-
6	-	-	-	-	-	-	0.075	0.051	0.027	0.014	-	-
7	-	-	-	-	-	-	0.082	0.074	0.017	0.024	-	-
8	-	-	-	-	-	-	0.094	0.040	0.022	0.019	-	-
9	-	-	-	-	-	0.041 P	0.068	0.030	0.031	0.033	-	-
10	-	-	-	-	-	-	0.070	0.025	0.032	0.036 P	-	-
11	-	-	-	-	-	-	0.071	0.021	0.030	-	-	-
12	-	-	-	-	-	-	0.133	0.021	0.030	-	-	-
13	-	-	-	-	-	-	0.092	0.028	0.034	-	-	-
14	-	-	-	-	-	-	0.058	0.025	0.018	-	-	-
15	-	-	-	-	-	-	0.072	0.033	0.041	-	-	-
16	-	-	-	-	-	-	0.060	0.024	0.039	-	-	-
17	-	-	-	-	-	-	0.060	0.019	0.023	-	-	-
18	-	-	-	-	-	-	0.059	0.015	0.025	-	-	-
19	-	-	-	-	-	-	0.056	0.018	0.036	-	-	-
20	-	-	-	-	-	-	0.048	0.025	0.034	-	-	-
21	-	-	-	-	-	-	0.048	0.025	0.026	-	-	-
22	-	-	-	-	-	-	0.064	0.023	0.017	-	-	-
23	-	-	-	-	-	0.080 P	0.051	0.025	0.034	-	-	-
24	-	-	-	-	-	0.095	0.047	0.038	0.034	-	-	-
25	-	-	-	-	-	0.076	0.044	0.022	0.027	-	-	-
26	-	-	-	-	-	0.074	0.053	0.015	0.021	-	-	-
27	-	-	-	-	-	0.079	0.049	0.017	0.020	-	-	-
28	-	-	-	-	-	0.083	0.038	0.027	0.021	-	-	-
29	-	-	-	-	-	0.087	0.048	0.025	0.015	-	-	-
30	-	-	-	-	-	0.091	0.077	0.021	0.014	-	-	-
31	-	-	-	-	-	-	0.053	0.034	-	-	-	-
Min	-	-	-	-	-	0.074	0.038	0.015	0.014	0.014	-	-
Mean	-	-	-	-	-	0.083	0.067	0.030	0.026	0.027	-	-
Max	-	-	-	-	-	0.095	0.133	0.074	0.041	0.037	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-2
Record of Stream Discharge and Water Level at Station H1 (Snap Lake North Outlet) in 2000

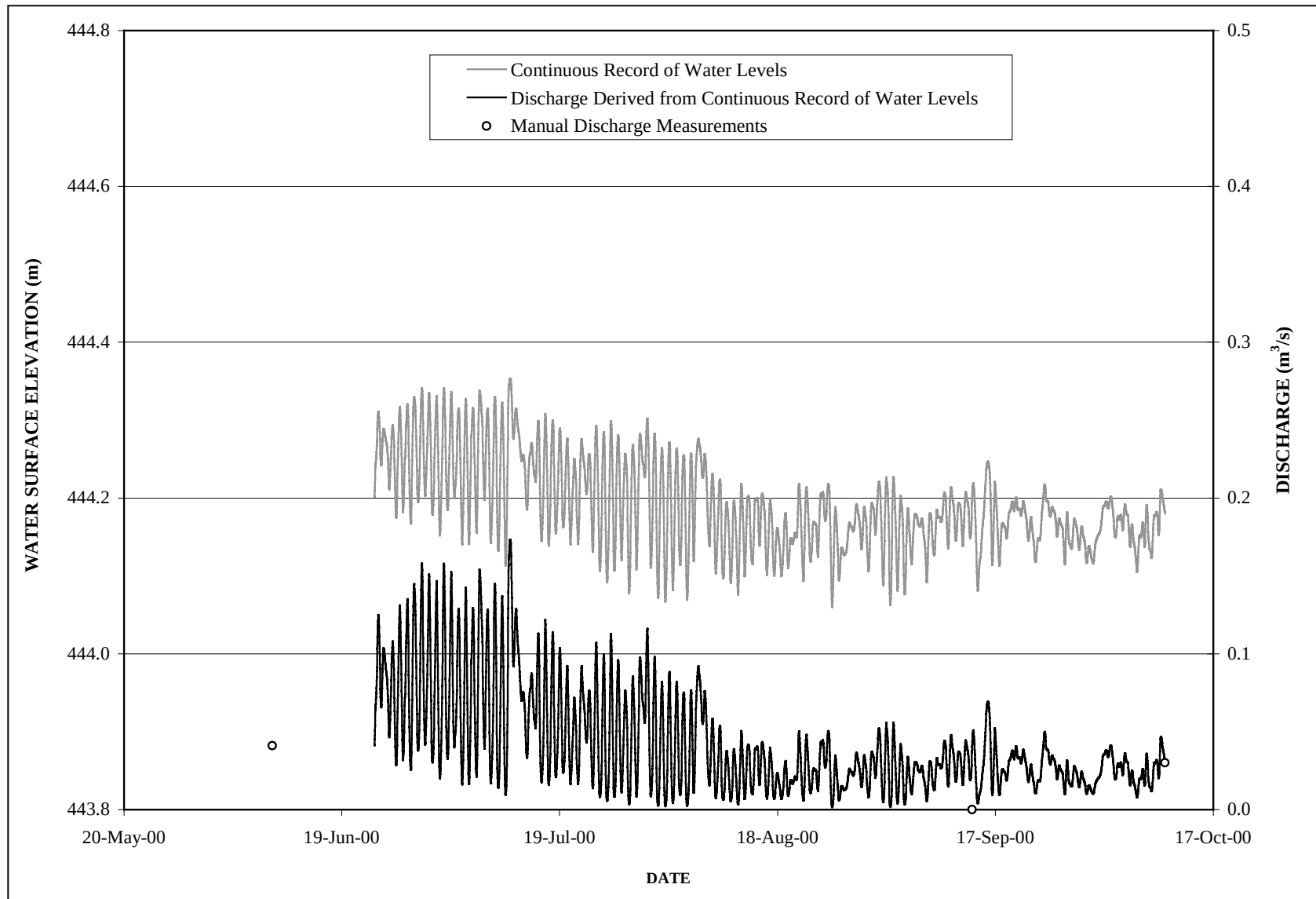


Table IX.4-4
Mean Daily Discharges (m³/s) for Station H2 (Snap Lake South Outlet) in 1999

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	0.338	0.762	0.232	0.204	0.190	-	-
2	-	-	-	-	-	0.368	0.715	0.226	0.207	0.185	-	-
3	-	-	-	-	-	0.404	0.658	0.216	0.201	0.182	-	-
4	-	-	-	-	-	0.462	0.637	0.214	0.203	0.179	-	-
5	-	-	-	-	-	0.666	0.627	0.201	0.209	0.176	-	-
6	-	-	-	-	-	1.067	0.608	0.197	0.211	0.177 P	-	-
7	-	-	-	-	-	1.325	0.590	0.187	0.212	-	-	-
8	-	-	-	-	-	1.585	0.573	0.178	0.217	-	-	-
9	-	-	-	-	-	1.827	0.574	0.177	0.223	-	-	-
10	-	-	-	-	-	1.882	0.536	0.175	0.225	-	-	-
11	-	-	-	-	-	1.897	0.510	0.176	0.232	-	-	-
12	-	-	-	-	-	1.890	0.491	0.174	0.231	-	-	-
13	-	-	-	-	-	1.865	0.451	0.169	0.233	-	-	-
14	-	-	-	-	-	1.832	0.406	0.162	0.229	-	-	-
15	-	-	-	-	-	1.811	0.398	0.163	0.223	-	-	-
16	-	-	-	-	-	1.745	0.370	0.164	0.209	-	-	-
17	-	-	-	-	-	1.708	0.354	0.157	0.199	-	-	-
18	-	-	-	-	-	1.651	0.358	0.164	0.212	-	-	-
19	-	-	-	-	-	1.552	0.375	0.163	0.216	-	-	-
20	-	-	-	-	-	1.452	0.313	0.158	0.228	-	-	-
21	-	-	-	-	-	1.407	0.317	0.140	0.215	-	-	-
22	-	-	-	-	-	1.050	0.312	0.133	0.209	-	-	-
23	-	-	-	-	-	0.992	0.307	0.140	0.206	-	-	-
24	-	-	-	-	-	1.079	0.279	0.148	0.211	-	-	-
25	-	-	-	-	-	1.077	0.272	0.129	0.212	-	-	-
26	-	-	-	-	-	1.016	0.257	0.147	0.207	-	-	-
27	-	-	-	-	-	0.944	0.250	0.196	0.203	-	-	-
28	-	-	-	-	0.257 P	0.882	0.236	0.199	0.202	-	-	-
29	-	-	-	-	0.264	0.803	0.225	0.202	0.199	-	-	-
30	-	-	-	-	0.283	0.747	0.224	0.177	0.192	-	-	-
31	-	-	-	-	0.307	-	0.225	0.197	-	-	-	-
Min	-	-	-	-	0.257	0.338	0.224	0.129	0.192	0.176	-	-
Mean	-	-	-	-	0.278	1.244	0.426	0.176	0.213	0.181	-	-
Max	-	-	-	-	0.307	1.897	0.762	0.232	0.233	0.190	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-3
Record of Stream Discharge and Water Level at Station H2 (Snap Lake South Outlet) in 1999

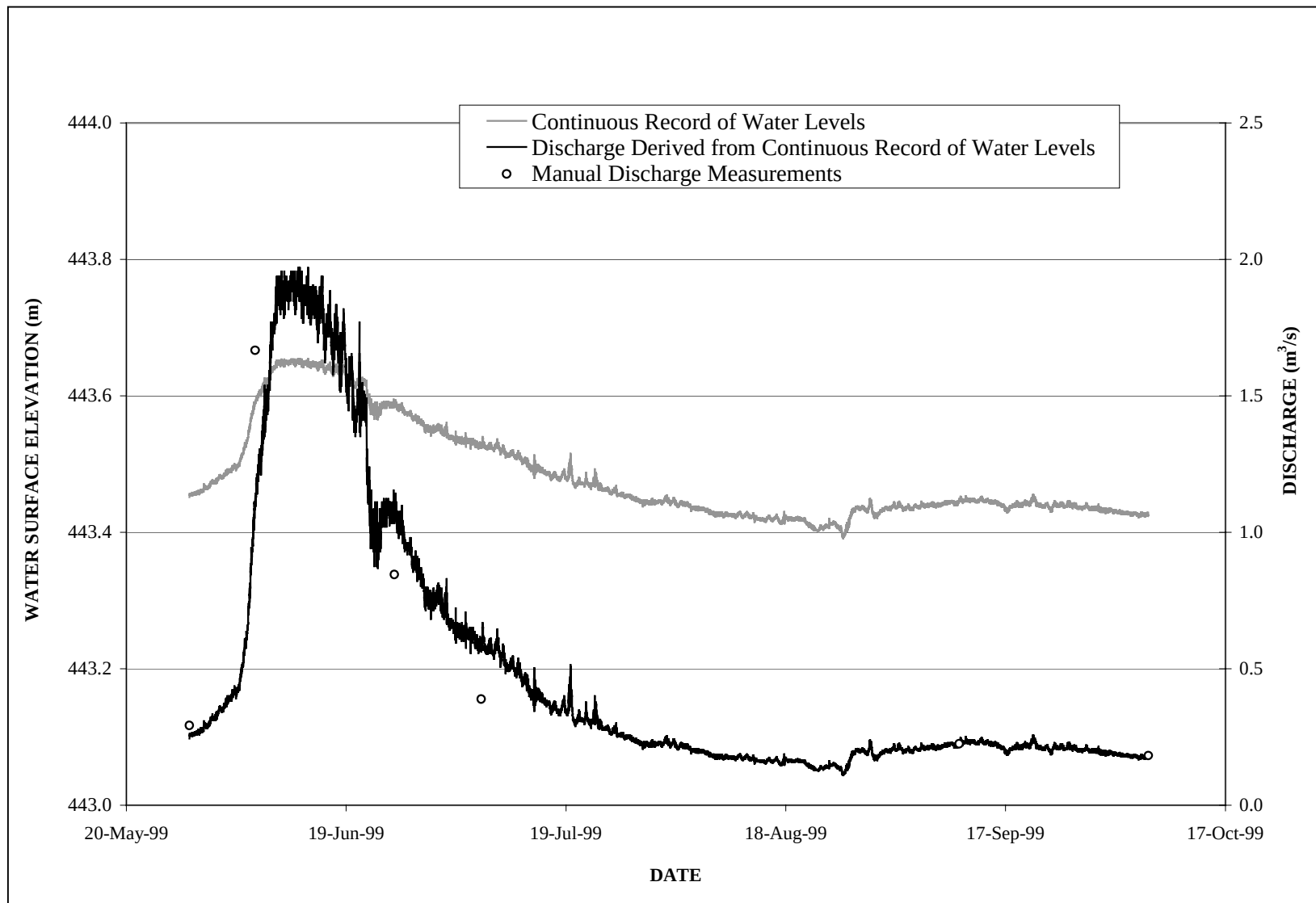


Table IX.4-5
Mean Daily Discharges (m³/s) for Station H2 (Snap Lake South Outlet) in 2000

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	-	0.234	0.099	0.074	0.065	-	-
2	-	-	-	-	-	-	0.236	0.099	0.073	0.069	-	-
3	-	-	-	-	-	-	0.233	0.098	0.074	0.072	-	-
4	-	-	-	-	-	-	0.222	0.094	0.074	0.071	-	-
5	-	-	-	-	-	-	0.213	0.093	0.073	0.071	-	-
6	-	-	-	-	-	-	0.207	0.094	0.074	0.075	-	-
7	-	-	-	-	-	-	0.201	0.092	0.072	0.071	-	-
8	-	-	-	-	-	-	0.201	0.077	0.077	0.071	-	-
9	-	-	-	-	-	0.197 P	0.207	0.072	0.081	0.072	-	-
10	-	-	-	-	-	-	0.202	0.068	0.079	0.072 P	-	-
11	-	-	-	-	-	-	0.195	0.067	0.079	-	-	-
12	-	-	-	-	-	-	0.172	0.066	0.077	-	-	-
13	-	-	-	-	-	-	0.151	0.064	0.078	-	-	-
14	-	-	-	-	-	-	0.144	0.063	0.075	-	-	-
15	-	-	-	-	-	-	0.128	0.069	0.097	-	-	-
16	-	-	-	-	-	-	0.134	0.064	0.079	-	-	-
17	-	-	-	-	-	-	0.131	0.064	0.078	-	-	-
18	-	-	-	-	-	-	0.128	0.061	0.078	-	-	-
19	-	-	-	-	-	-	0.125	0.060	0.081	-	-	-
20	-	-	-	-	-	-	0.120	0.068	0.074	-	-	-
21	-	-	-	-	-	-	0.117	0.072	0.077	-	-	-
22	-	-	-	-	-	0.241 P	0.115	0.070	0.081	-	-	-
23	-	-	-	-	-	0.243	0.108	0.071	0.078	-	-	-
24	-	-	-	-	-	0.232	0.106	0.066	0.074	-	-	-
25	-	-	-	-	-	0.252	0.106	0.061	0.074	-	-	-
26	-	-	-	-	-	0.264	0.105	0.047	0.068	-	-	-
27	-	-	-	-	-	0.265	0.101	0.043	0.066	-	-	-
28	-	-	-	-	-	0.264	0.104	0.061	0.063	-	-	-
29	-	-	-	-	-	0.242	0.101	0.070	0.062	-	-	-
30	-	-	-	-	-	0.232	0.100	0.073	0.060	-	-	-
31	-	-	-	-	-	-	0.099	0.071	-	-	-	-
Min	-	-	-	-	-	0.232	0.099	0.043	0.060	0.065	-	-
Mean	-	-	-	-	-	0.248	0.153	0.072	0.075	0.071	-	-
Max	-	-	-	-	-	0.265	0.236	0.099	0.097	0.075	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-4
Record of Stream Discharge and Water Level at Station H2 (Snap Lake South Outlet) in 2000

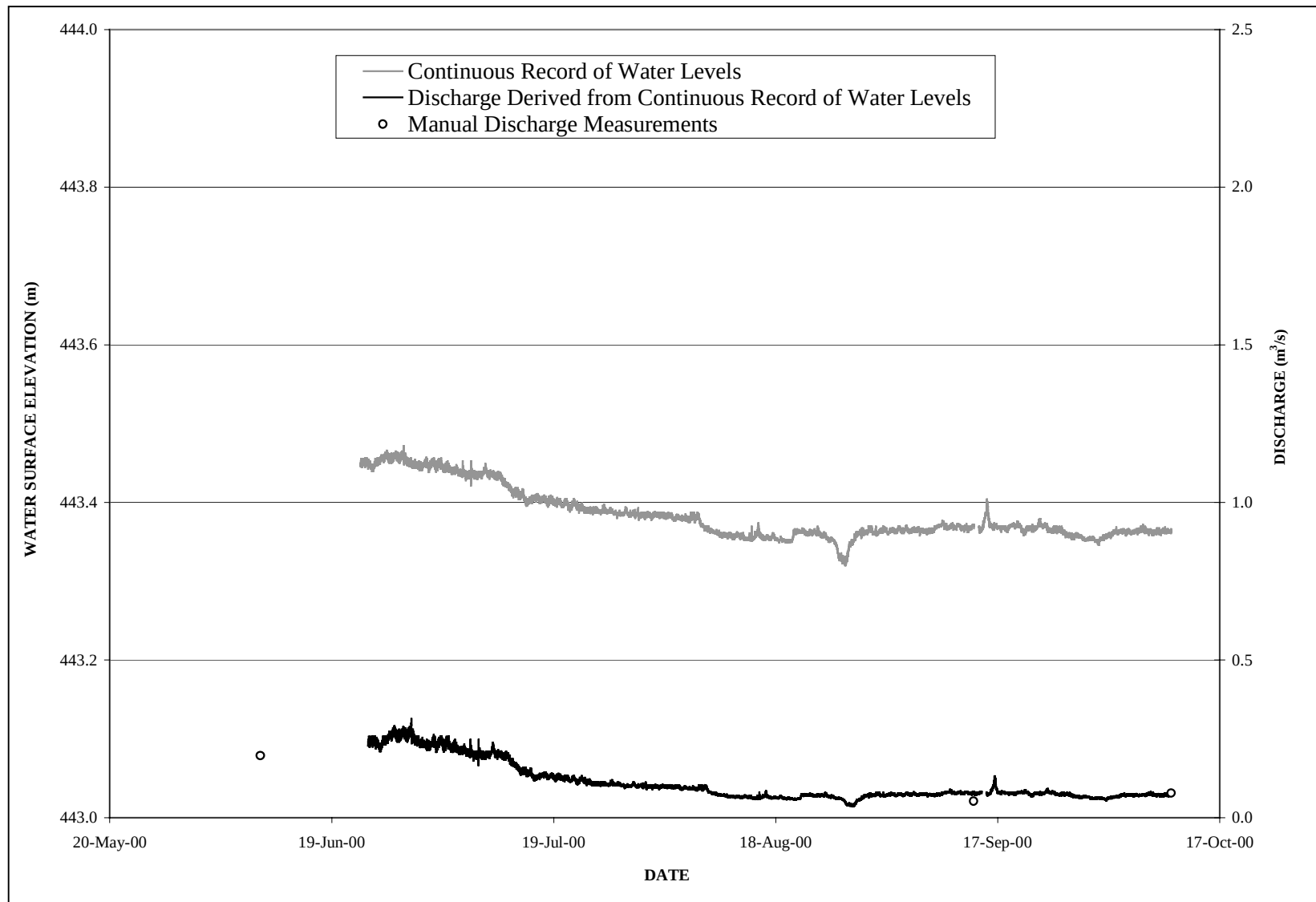


Table IX.4-6
Mean Daily Discharges (m³/s) for Station H4 (Snap Lake Representative Inlet) in 1999

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	0.132	0.051	0.078	0.080	0.154	-	-
2	-	-	-	-	-	0.134	0.034	0.081	0.087	0.158	-	-
3	-	-	-	-	-	0.129	0.038	0.064	0.081	0.150	-	-
4	-	-	-	-	-	0.137	0.050	0.049	0.073	0.135	-	-
5	-	-	-	-	-	0.220	0.073	0.049	0.061	0.128	-	-
6	-	-	-	-	-	0.399	0.071	0.059	0.060	0.130 P	-	-
7	-	-	-	-	-	0.346	0.046	0.059	0.076	-	-	-
8	-	-	-	-	-	0.400	0.030	0.052	0.066	-	-	-
9	-	-	-	-	-	0.493	0.023	0.049	0.071	-	-	-
10	-	-	-	-	-	0.581	0.032	0.048	0.069	-	-	-
11	-	-	-	-	-	0.576	0.050	0.043	0.071	-	-	-
12	-	-	-	-	-	0.568	0.045	0.044	0.081	-	-	-
13	-	-	-	-	-	0.545	0.054	0.034	0.080	-	-	-
14	-	-	-	-	-	0.487	0.040	0.033	0.080	-	-	-
15	-	-	-	-	-	0.439	0.039	0.029	0.080	-	-	-
16	-	-	-	-	-	0.415	0.043	0.027	0.085	-	-	-
17	-	-	-	-	-	0.385	0.037	0.033	0.105	-	-	-
18	-	-	-	-	-	0.338	0.060	0.031	0.127	-	-	-
19	-	-	-	-	-	0.294	0.035	0.030	0.113	-	-	-
20	-	-	-	-	-	0.265	0.071	0.033	0.090	-	-	-
21	-	-	-	-	-	0.240	0.062	0.023	0.096	-	-	-
22	-	-	-	-	-	0.175	0.064	0.013	0.096	-	-	-
23	-	-	-	-	-	0.167	0.053	0.019	0.096	-	-	-
24	-	-	-	-	-	0.114	0.044	0.026	0.098	-	-	-
25	-	-	-	-	-	0.116	0.055	0.015	0.106	-	-	-
26	-	-	-	-	-	0.081	0.055	0.075	0.117	-	-	-
27	-	-	-	-	-	0.055	0.063	0.054	0.126	-	-	-
28	-	-	-	-	0.160 P	0.055	0.063	0.061	0.129	-	-	-
29	-	-	-	-	0.161	0.060	0.069	0.058	0.155	-	-	-
30	-	-	-	-	0.156	0.065	0.072	0.062	0.158	-	-	-
31	-	-	-	-	0.143	-	0.069	0.082	-	-	-	-
Min	-	-	-	-	0.143	0.055	0.023	0.013	0.060	0.128	-	-
Mean	-	-	-	-	0.155	0.280	0.051	0.046	0.094	0.143	-	-
Max	-	-	-	-	0.161	0.581	0.073	0.082	0.158	0.158	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-5
Record of Stream Discharge and Water Level at Station H4 (Snap Lake Representative Inlet) in 1999

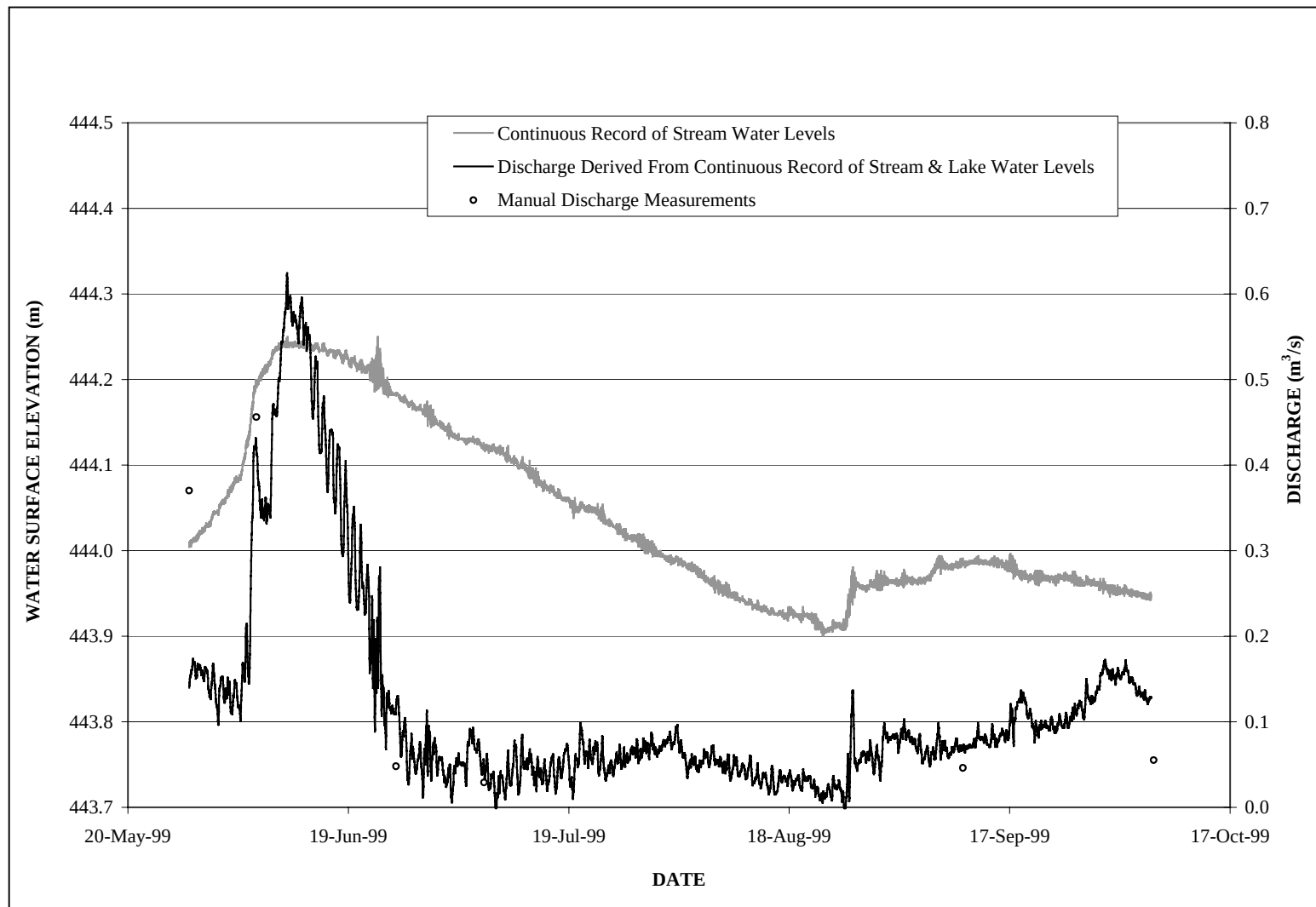


Table IX.4-7
Mean Daily Discharges (m³/s) for Station H4 (Snap Lake Representative Inlet) in 2000

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	-	0.036	0.007	0.025	0.026	-	-
2	-	-	-	-	-	-	0.034	0.007	0.025	0.031	-	-
3	-	-	-	-	-	-	0.032	0.007	0.024	0.030	-	-
4	-	-	-	-	-	-	0.030	0.006	0.024	0.028	-	-
5	-	-	-	-	-	-	0.029	0.006	0.023	0.027	-	-
6	-	-	-	-	-	-	0.028	0.006	0.023	0.025	-	-
7	-	-	-	-	-	-	0.029	0.006	0.023	0.024	-	-
8	-	-	-	-	-	0.093 P	0.029	0.005	0.024	0.024	-	-
9	-	-	-	-	-	0.090 P	0.027	0.005	0.026	0.024	-	-
10	-	-	-	-	-	-	0.025	0.005	0.027	0.023 P	-	-
11	-	-	-	-	-	-	0.024	0.004	0.028	-	-	-
12	-	-	-	-	-	-	0.023	0.004	0.027	-	-	-
13	-	-	-	-	-	-	0.021	0.004	0.027	-	-	-
14	-	-	-	-	-	-	0.020	0.004	0.026	-	-	-
15	-	-	-	-	-	-	0.018	0.005	0.028	-	-	-
16	-	-	-	-	-	-	0.016	0.005	0.029	-	-	-
17	-	-	-	-	-	-	0.015	0.005	0.030	-	-	-
18	-	-	-	-	-	-	0.014	0.005	0.030	-	-	-
19	-	-	-	-	-	-	0.013	0.005	0.030	-	-	-
20	-	-	-	-	-	-	0.012	0.006	0.029	-	-	-
21	-	-	-	-	-	-	0.012	0.007	0.028	-	-	-
22	-	-	-	-	-	0.052 P	0.011	0.007	0.027	-	-	-
23	-	-	-	-	-	0.050	0.011	0.007	0.028	-	-	-
24	-	-	-	-	-	0.048	0.010	0.007	0.028	-	-	-
25	-	-	-	-	-	0.053	0.009	0.007	0.026	-	-	-
26	-	-	-	-	-	0.050	0.009	0.006	0.025	-	-	-
27	-	-	-	-	-	0.048	0.008	0.008	0.023	-	-	-
28	-	-	-	-	-	0.047	0.008	0.011	0.023	-	-	-
29	-	-	-	-	-	0.043	0.007	0.016	0.023	-	-	-
30	-	-	-	-	-	0.039	0.007	0.021	0.023	-	-	-
31	-	-	-	-	-	-	0.007	0.024	-	-	-	-
Min	-	-	-	-	-	0.039	0.007	0.004	0.023	0.023	-	-
Mean	-	-	-	-	-	0.056	0.019	0.007	0.026	0.026	-	-
Max	-	-	-	-	-	0.093	0.036	0.024	0.030	0.031	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-6
Record of Stream Discharge and Water Level at Station H4 (Snap Lake Representative Inlet) in 2000

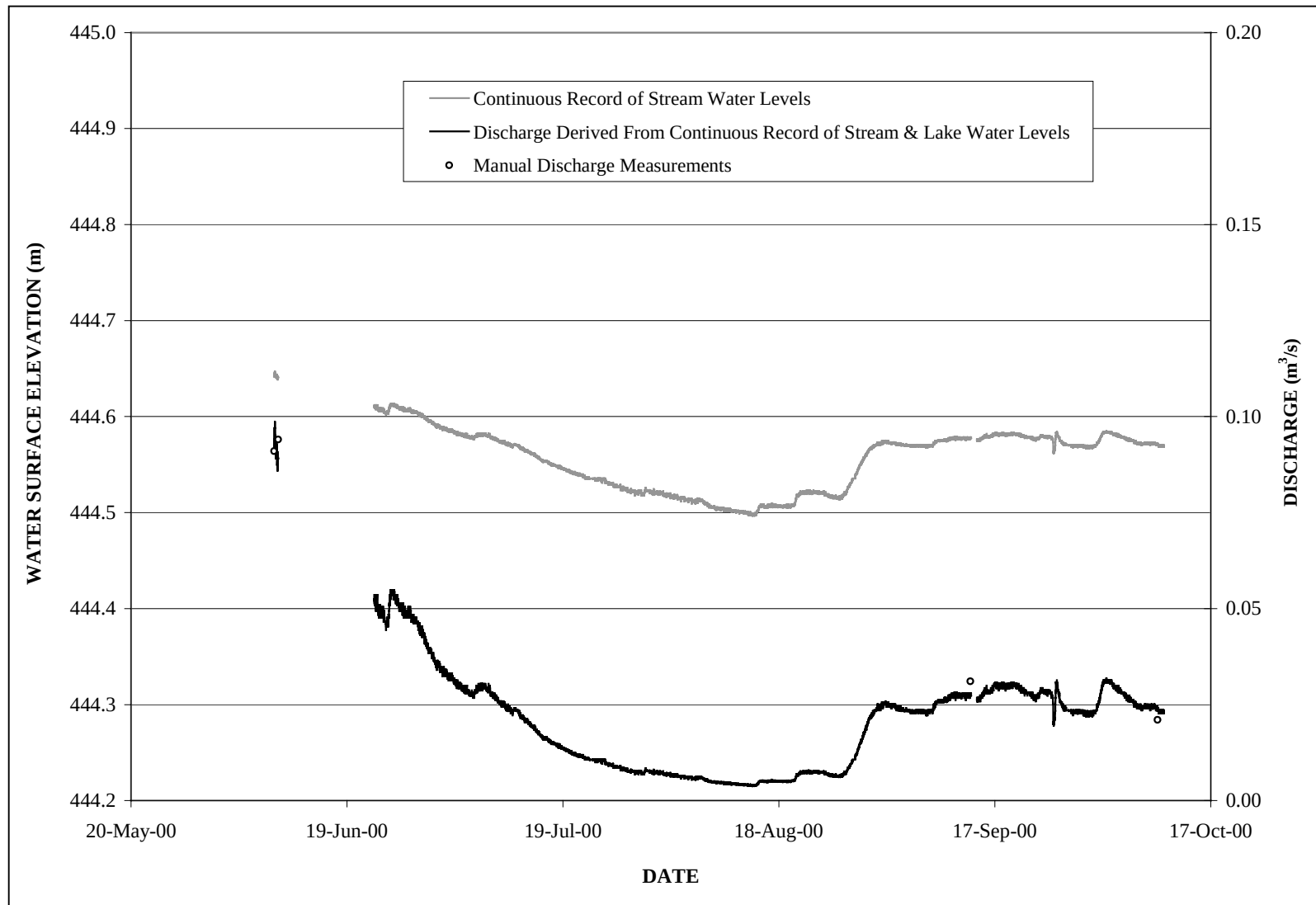


Table IX.4-8
Mean Daily Water Levels (m) for Station H3 (Snap Lake) in 1999

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	443.972	444.075	443.917	443.888	443.865	-	-
2	-	-	-	-	-	443.984	444.070	443.915	443.891	443.864	-	-
3	-	-	-	-	-	443.999	444.061	443.914	443.891	443.863	-	-
4	-	-	-	-	-	444.012	444.058	443.912	443.891	443.864	-	-
5	-	-	-	-	-	444.053	444.054	443.907	443.894	443.862	-	-
6	-	-	-	-	-	444.095	444.053	443.897	443.902	443.862 P	-	-
7	-	-	-	-	-	444.119	444.049	443.891	443.913	-	-	-
8	-	-	-	-	-	444.136	444.048	443.886	443.910	-	-	-
9	-	-	-	-	-	444.151	444.047	443.883	443.910	-	-	-
10	-	-	-	-	-	444.157	444.041	443.876	443.913	-	-	-
11	-	-	-	-	-	444.157	444.032	443.872	443.913	-	-	-
12	-	-	-	-	-	444.157	444.027	443.868	443.914	-	-	-
13	-	-	-	-	-	444.157	444.021	443.865	443.912	-	-	-
14	-	-	-	-	-	444.156	444.014	443.862	443.913	-	-	-
15	-	-	-	-	-	444.152	444.007	443.859	443.912	-	-	-
16	-	-	-	-	-	444.147	444.001	443.856	443.908	-	-	-
17	-	-	-	-	-	444.148	443.996	443.854	443.905	-	-	-
18	-	-	-	-	-	444.143	443.988	443.857	443.890	-	-	-
19	-	-	-	-	-	444.140	443.984	443.853	443.889	-	-	-
20	-	-	-	-	-	444.136	443.977	443.853	443.894	-	-	-
21	-	-	-	-	-	444.131	443.977	443.849	443.892	-	-	-
22	-	-	-	-	-	444.135	443.975	443.837	443.891	-	-	-
23	-	-	-	-	-	444.127	443.970	443.837	443.890	-	-	-
24	-	-	-	-	-	444.112	443.963	443.842	443.892	-	-	-
25	-	-	-	-	-	444.107	443.957	443.845	443.890	-	-	-
26	-	-	-	-	-	444.102	443.949	443.880	443.883	-	-	-
27	-	-	-	-	-	444.099	443.944	443.888	443.882	-	-	-
28	-	-	-	-	443.927 P	444.093	443.941	443.884	443.880	-	-	-
29	-	-	-	-	443.932	444.090	443.934	443.890	443.872	-	-	-
30	-	-	-	-	443.944	444.081	443.929	443.892	443.868	-	-	-
31	-	-	-	-	443.958	-	443.923	443.890	-	-	-	-
Min	-	-	-	-	443.927	443.972	443.923	443.837	443.868	443.862	-	-
Mean	-	-	-	-	443.940	444.108	444.002	443.875	443.897	443.863	-	-
Max	-	-	-	-	443.958	444.157	444.075	443.917	443.914	443.865	-	-

Note: P = partial daily average; m³/s = cubic metres per second.

Figure IX.4-7
Record of Water Level at Station H3 (Snap Lake) in 1999

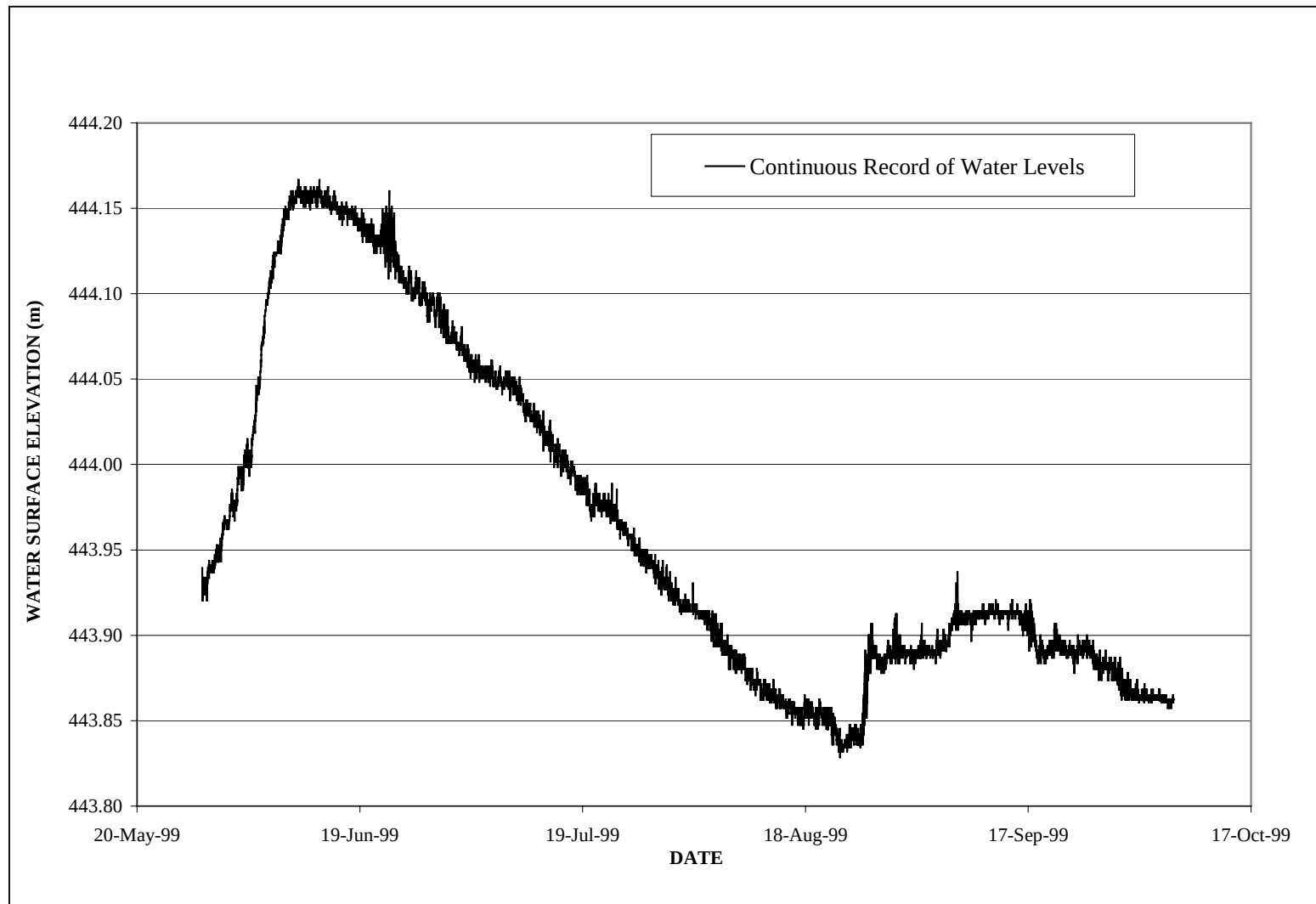


Table IX.4-9
Mean Daily Water Levels (m) for Station H3 (Snap Lake) in 2000

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	-	-	-	-	-	-	-	443.734	443.698	443.698	-	-
2	-	-	-	-	-	-	-	443.732	443.694	443.703	-	-
3	-	-	-	-	-	-	-	443.728	443.692	443.702	-	-
4	-	-	-	-	-	-	-	443.725	443.690	443.702	-	-
5	-	-	-	-	-	-	-	443.720	443.689	443.698	-	-
6	-	-	-	-	-	-	-	443.717	443.693	443.694	-	-
7	-	-	-	-	-	-	-	443.712	443.690	443.696	-	-
8	-	-	-	-	-	443.853 P	-	443.701	443.695	443.695	-	-
9	-	-	-	-	-	443.838 P	443.840 P	443.693	443.701	443.697 P	-	-
10	-	-	-	-	-	-	443.837	443.687	443.703	-	-	-
11	-	-	-	-	-	-	443.834	443.681	443.702	-	-	-
12	-	-	-	-	-	-	443.832	443.681	443.702	-	-	-
13	-	-	-	-	-	-	443.824	443.678	443.701	-	-	-
14	-	-	-	-	-	-	443.814	443.673	443.695	-	-	-
15	-	-	-	-	-	-	443.811	443.685	443.702	-	-	-
16	-	-	-	-	-	-	443.797	443.681	443.706	-	-	-
17	-	-	-	-	-	-	443.791	443.674	443.701	-	-	-
18	-	-	-	-	-	-	443.785	443.672	443.702	-	-	-
19	-	-	-	-	-	-	443.780	443.671	443.706	-	-	-
20	-	-	-	-	-	-	443.773	443.685	443.705	-	-	-
21	-	-	-	-	-	-	443.769	443.687	443.698	-	-	-
22	-	-	-	-	-	-	443.765	443.684	443.690	-	-	-
23	-	-	-	-	-	-	443.762	443.685	443.700	-	-	-
24	-	-	-	-	-	-	443.759	443.684	443.700	-	-	-
25	-	-	-	-	-	-	443.755	443.675	443.694	-	-	-
26	-	-	-	-	-	-	443.752	443.676	443.689	-	-	-
27	-	-	-	-	-	-	443.747	443.694	443.688	-	-	-
28	-	-	-	-	-	-	443.743	443.692	443.689	-	-	-
29	-	-	-	-	-	-	443.741	443.692	443.685	-	-	-
30	-	-	-	-	-	-	443.746	443.691	443.685	-	-	-
31	-	-	-	-	-	-	443.740	443.696	-	-	-	-
Min	-	-	-	-	-	443.838	443.740	443.671	443.685	443.694	-	-
Mean	-	-	-	-	-	443.845	443.783	443.693	443.696	443.698	-	-
Max	-	-	-	-	-	443.853	443.840	443.734	443.706	443.703	-	-

Note: P = partial daily average; m = metres.

Figure IX.4-8
Record of Water Level at Station H3 (Snap Lake) in 2000

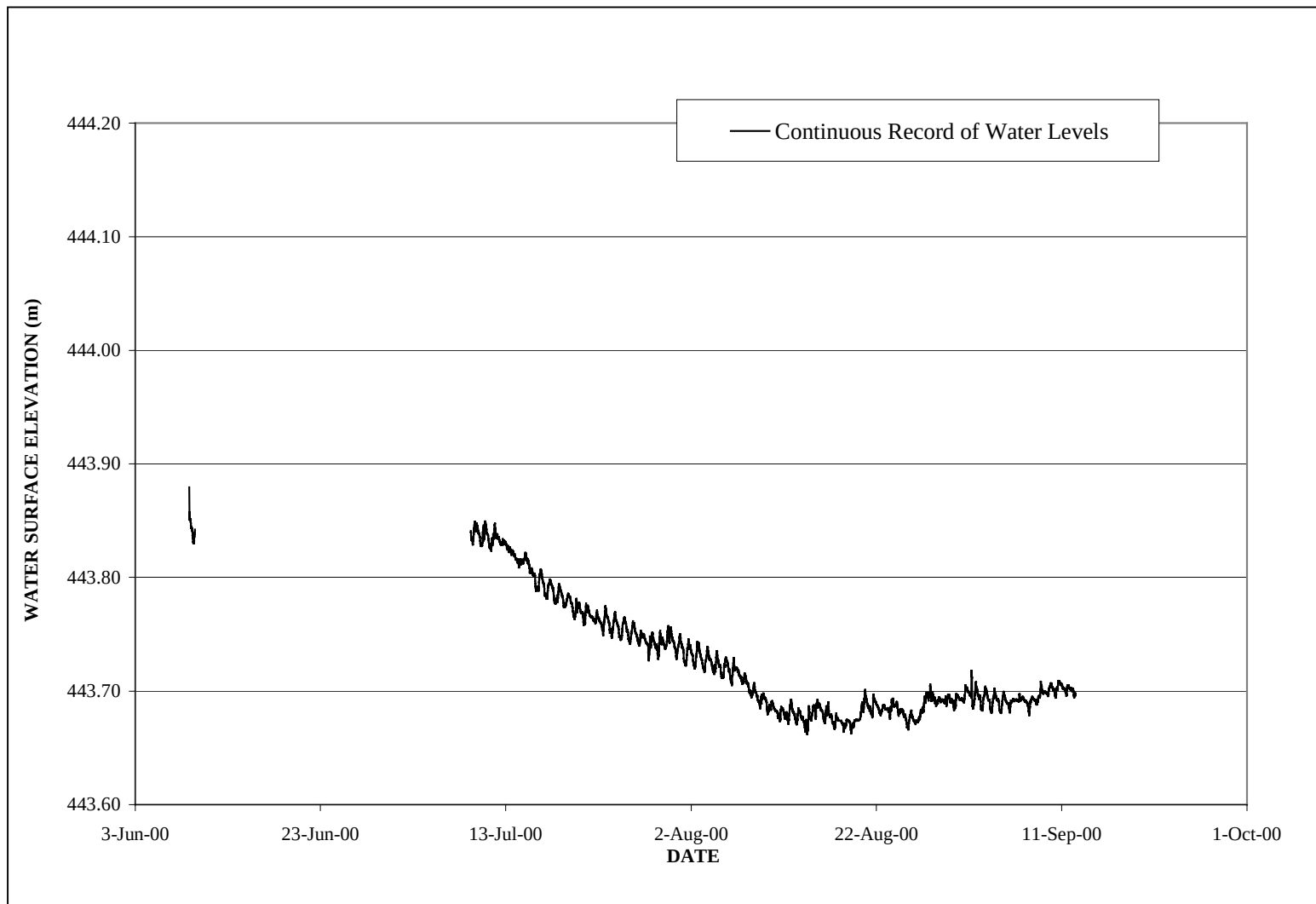


Table IX.4-10
Annual, Mean Monthly, and Mean Daily Discharges (m³/s) for Snap Lake Outlets (H1 and H2)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Mean
Jan	0.026	0.033	0.026	0.027	0.058	0.045	0.085	0.045	0.055	0.049	0.072	0.069	0.083	0.026	0.036	0.040	0.058	0.025	0.040	0.141	0.053	0.113	0.089	0.056
Feb	0.017	0.025	0.019	0.019	0.031	0.032	0.053	0.036	0.039	0.035	0.060	0.051	0.056	0.021	0.028	0.030	0.026	0.020	0.024	0.086	0.040	0.075	0.062	0.038
Mar	0.010	0.018	0.013	0.014	0.017	0.020	0.033	0.028	0.027	0.031	0.034	0.034	0.036	0.013	0.022	0.025	0.018	0.014	0.018	0.049	0.030	0.055	0.043	0.026
Apr	0.006	0.013	0.009	0.014	0.011	0.008	0.027	0.023	0.018	0.018	0.024	0.025	0.026	0.009	0.016	0.019	0.012	0.009	0.014	0.024	0.025	0.037	0.029	0.018
May	0.028	0.183	0.239	0.048	0.078	0.007	0.350	0.437	0.168	0.061	0.020	0.076	0.048	0.445	0.048	0.040	0.095	0.031	0.065	0.067	0.263	0.142	0.203	0.137
Jun	0.390	0.960	0.447	0.236	0.709	0.482	1.562	1.043	1.533	1.132	0.862	0.652	1.147	1.628	0.961	1.238	0.513	0.286	1.081	1.525	0.458	1.562	0.670	0.916
Jul	0.395	0.409	0.215	0.427	0.422	0.596	0.910	0.511	0.585	0.562	0.683	0.499	0.608	0.578	0.570	0.906	0.291	0.301	0.484	0.648	0.284	0.592	0.220	0.509
Aug	0.177	0.150	0.088	0.205	0.208	0.335	0.426	0.388	0.255	0.204	0.388	0.376	0.217	0.150	0.190	0.544	0.096	0.166	0.256	0.216	0.130	0.279	0.102	0.241
Sep	0.091	0.084	0.051	0.099	0.129	0.256	0.267	0.241	0.172	0.131	0.288	0.234	0.153	0.083	0.095	0.263	0.045	0.096	1.236	0.128	0.161	0.324	0.101	0.206
Oct	0.082	0.063	0.057	0.094	0.099	0.262	0.214	0.171	0.135	0.142	0.276	0.282	0.135	0.089	0.072	0.171	0.037	0.089	0.989	0.120	0.281	0.186	0.141	0.182
Nov	0.070	0.051	0.061	0.104	0.084	0.238	0.128	0.126	0.129	0.154	0.237	0.290	0.122	0.077	0.066	0.150	0.040	0.081	0.441	0.100	0.301	0.131	0.151	0.145
Dec	0.048	0.036	0.044	0.100	0.061	0.152	0.069	0.092	0.086	0.093	0.144	0.238	0.079	0.068	0.060	0.163	0.030	0.064	0.208	0.073	0.188	0.110	0.127	0.101
Mean	0.112	0.169	0.106	0.116	0.159	0.203	0.344	0.262	0.267	0.218	0.257	0.235	0.226	0.266	0.180	0.299	0.105	0.098	0.405	0.265	0.184	0.300	0.162	0.215
Max	0.395	0.960	0.447	0.427	0.709	0.596	1.562	1.043	1.533	1.132	0.862	0.652	1.147	1.628	0.961	1.238	0.513	0.301	1.236	1.525	0.458	1.562	0.670	0.937
Min	0.006	0.013	0.009	0.014	0.011	0.007	0.027	0.023	0.018	0.018	0.020	0.025	0.026	0.009	0.016	0.019	0.012	0.009	0.014	0.024	0.025	0.037	0.029	0.018
Vol (dam ³)	3526	5322	3333	3647	5004	6395	10839	8254	8416	6863	8113	7424	7117	8376	5688	9434	3311	3105	12763	8344	5818	9476	5095	6768

Daily Mean, Maximum, and Minimum Discharges for Snap Lake Outlets

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Mean
Mean	0.112	0.169	0.106	0.116	0.159	0.204	0.344	0.263	0.267	0.218	0.258	0.236	0.226	0.266	0.180	0.300	0.105	0.099	0.405	0.264	0.185	0.300	0.162	0.215
Max	0.554	1.205	0.482	0.515	0.910	0.996	2.039	1.357	1.873	1.410	1.379	0.902	1.564	2.058	1.324	1.964	0.615	0.435	1.550	2.196	0.513	2.318	0.863	1.262
Min	0.005	0.012	0.007	0.011	0.010	0.006	0.025	0.020	0.010	0.013	0.011	0.020	0.014	0.007	0.013	0.014	0.010	0.006	0.012	0.014	0.017	0.025	0.024	0.013

Note: m³/s = cubic metres per second; dam³ = cubic decametres.

Figure IX.4-9
Daily Hydrographs for the Indin and Waldron Rivers over the Period 1979 to 1994

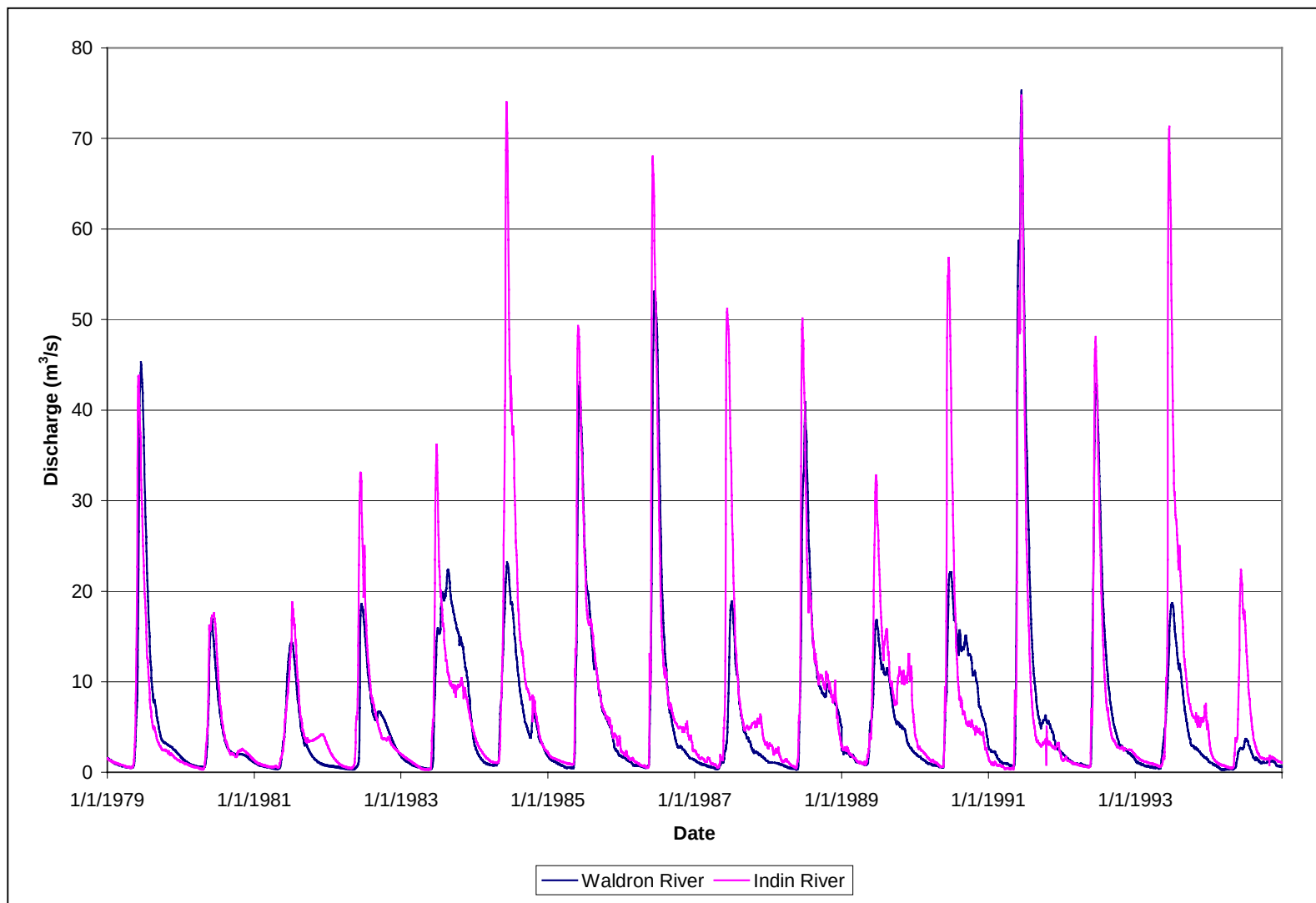


Table IX.4-11
Summary of Snap Lake Water Elevations (masl)

Month/Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Mean
Jan	443.563	443.600	443.561	443.566	443.686	443.649	443.749	443.650	443.681	443.660	443.723	443.718	443.743	443.560	443.613	443.632	443.681	443.555	443.628	443.829	443.674	443.795	443.757	443.664
Feb	443.498	443.556	443.511	443.515	443.588	443.596	443.675	443.613	443.627	443.609	443.695	443.670	443.683	443.527	443.577	443.586	443.561	443.521	443.551	443.750	443.630	443.730	443.701	443.607
Mar	443.407	443.508	443.448	443.471	443.494	443.515	443.602	443.576	443.570	443.588	443.603	443.601	443.613	443.442	443.534	443.554	443.501	443.465	443.504	443.660	443.587	443.680	443.642	443.546
Apr	443.330	443.458	443.395	443.463	443.427	443.378	443.567	443.546	443.500	443.499	443.549	443.557	443.561	443.396	443.489	443.512	443.434	443.394	443.470	443.544	443.553	443.616	443.582	443.488
May	443.485	443.716	443.864	443.629	443.639	443.344	443.901	443.853	443.654	443.654	443.497	443.706	443.556	443.835	443.562	443.586	443.714	443.525	443.587	443.607	443.892	443.758	443.825	443.669
Jun	443.898	444.061	443.942	443.836	444.010	443.893	444.137	444.073	444.135	444.079	444.002	443.990	444.068	444.145	444.043	444.064	443.963	443.847	444.071	444.121	443.947	444.126	443.996	444.019
Jul	443.919	443.922	443.821	443.935	443.928	443.985	444.052	443.962	443.974	443.970	444.005	443.956	443.980	443.970	443.972	444.051	443.868	443.877	443.948	443.994	443.865	443.978	443.824	443.946
Aug	443.792	443.768	443.682	443.812	443.820	443.896	443.933	443.919	443.852	443.816	443.919	443.914	443.827	443.763	443.804	443.971	443.693	443.783	443.854	443.823	443.746	443.867	443.704	443.824
Sep	443.690	443.677	443.599	443.704	443.744	443.855	443.861	443.843	443.791	443.749	443.873	443.839	443.773	443.677	443.697	443.857	443.579	443.699	444.093	443.743	443.777	443.892	443.707	443.770
Oct	443.714	443.671	443.655	443.734	443.742	443.897	443.864	443.829	443.792	443.799	443.905	443.907	443.791	443.721	443.692	443.829	443.588	443.726	444.102	443.773	443.907	443.838	443.794	443.794
Nov	443.718	443.670	443.697	443.783	443.748	443.913	443.811	443.811	443.816	443.844	443.912	443.944	443.807	443.734	443.711	443.840	443.630	443.743	444.006	443.775	443.949	443.819	443.841	443.805
Dec	443.660	443.613	443.643	443.776	443.697	443.840	443.717	443.760	443.749	443.763	443.824	443.904	443.731	443.711	443.694	443.852	443.584	443.705	443.889	443.725	443.874	443.791	443.813	443.753
Mean	443.640	443.685	443.652	443.685	443.710	443.730	443.822	443.786	443.762	443.753	443.792	443.809	443.761	443.707	443.699	443.778	443.650	443.653	443.809	443.779	443.783	443.824	443.766	443.741
Max	443.919	444.061	443.942	443.935	444.010	443.985	444.137	444.073	444.135	444.079	444.005	443.990	444.068	444.145	444.043	444.064	443.963	443.877	444.102	444.121	443.949	444.126	443.996	444.032
Min	443.330	443.458	443.395	443.463	443.427	443.344	443.567	443.546	443.500	443.499	443.497	443.557	443.556	443.396	443.489	443.512	443.434	443.394	443.470	443.544	443.553	443.616	443.582	443.484
Range	0.589	0.602	0.547	0.471	0.584	0.641	0.570	0.527	0.635	0.580	0.508	0.434	0.512	0.749	0.554	0.552	0.529	0.484	0.632	0.577	0.396	0.510	0.414	0.548

Note: masl = metres above sea level.

Figure IX.4-10
Regression Analysis for Indin River and Snap Lake Outlets

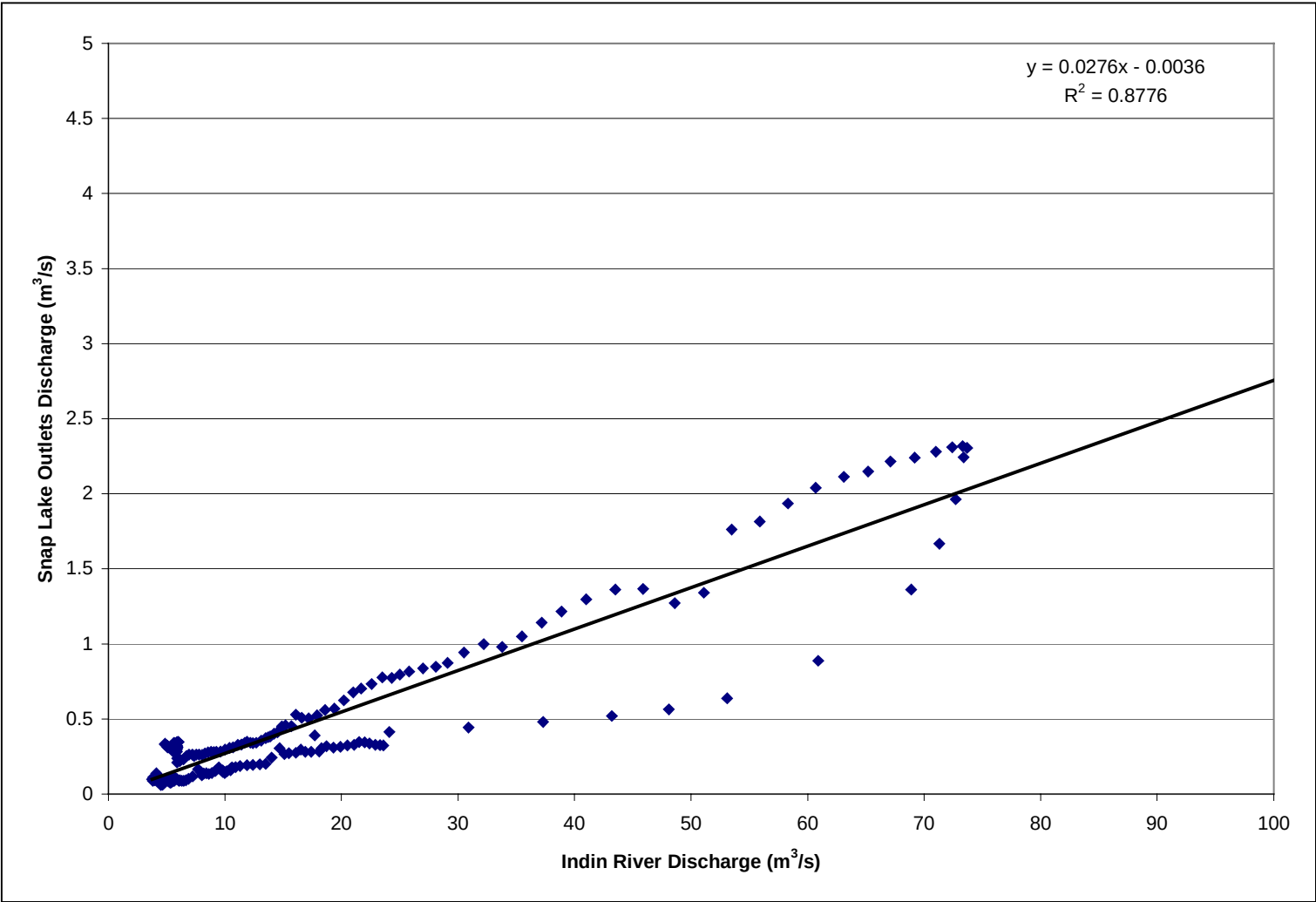
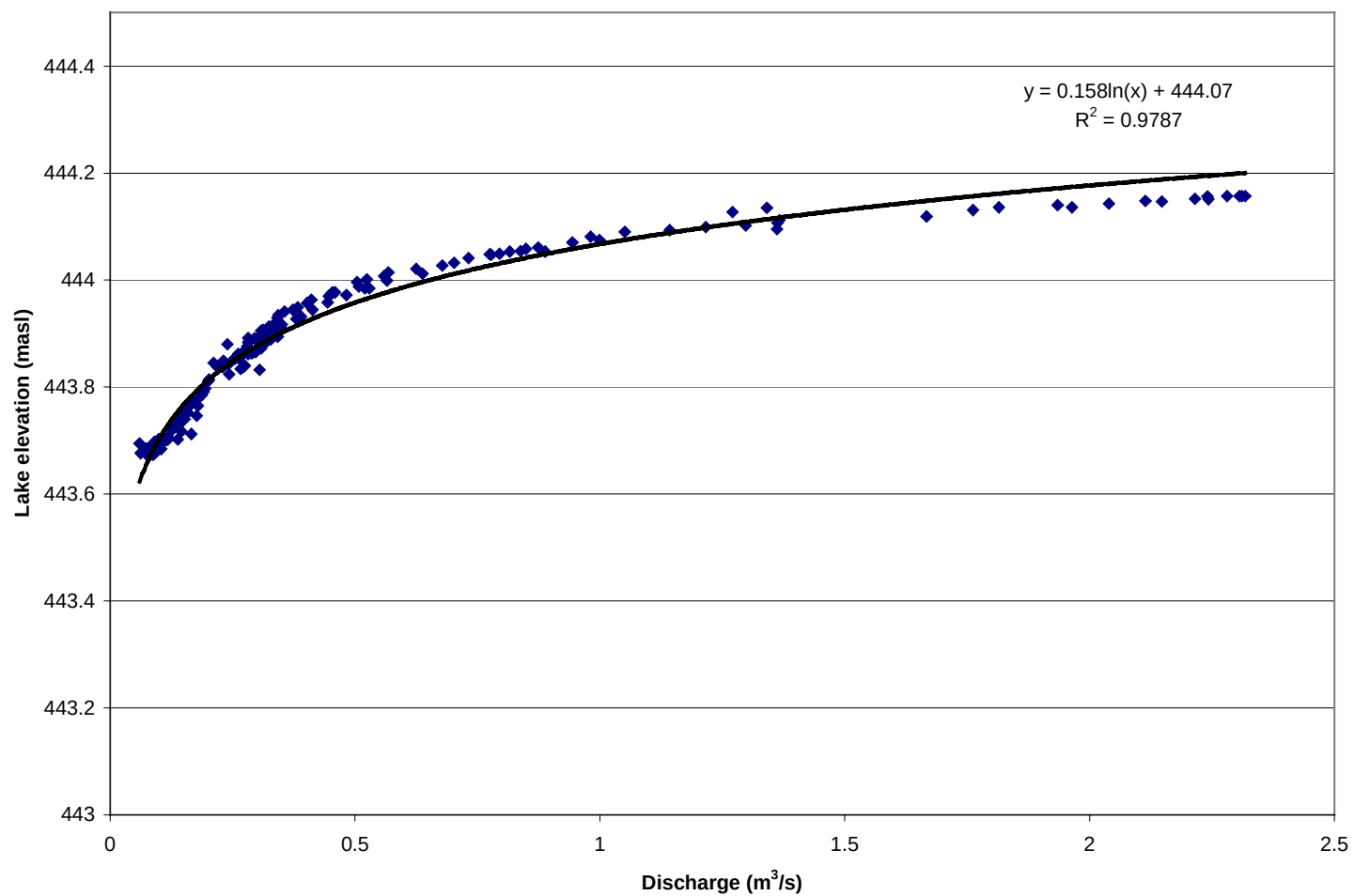


Figure IX.4-11
Regression Analysis for Snap Lake Outlets Discharge and Snap Lake Water Elevation



Note: masl = metres above sea level.

Table IX.4-12
Water Balance and Lake Elevations for Snap Lake in Year 1

Month	Total Project flow to Snap Lake (m ³ /s)	Minewater Release to Snap Lake (m ³ /s)	Site Runoff Collection Outflow (m ³ /s)	Snap Lake Natural Outflow (m ³ /s)	Snap Lake Operations Total Outflow (m ³ /s)	Loss to Snap Lake via GW Recharge (m ³ /s)	Change in Surface Runoff Rates (m ³ /s)	Total Loss at Snap Lake Outflow (m ³ /s)	Net Flow Snap Lake Outflow (m ³ /s)	Natural Lake Elevation (masl)	Year 1 Lake Elevation (masl)	Net Change in Lake Elevation (m)
		Increase Outflow				Decrease Outflow						
Jan	0.040	0.039	0.0005	0.056	0.096	0.033	0.0003	0.033	0.063	443.685	443.703	0.018
Feb	0.045	0.045	0.0005	0.038	0.084	0.035	0.0002	0.035	0.049	443.625	443.662	0.037
Mar	0.068	0.067	0.0005	0.026	0.094	0.042	0.0002	0.042	0.052	443.564	443.672	0.109
Apr	0.076	0.075	0.0004	0.018	0.094	0.049	0.0001	0.050	0.044	443.506	443.647	0.141
May	0.101	0.076	0.0255	0.137	0.238	0.055	0.0008	0.056	0.182	443.756	443.801	0.045
Jun	0.078	0.076	0.0021	0.916	0.995	0.058	0.0055	0.063	0.931	444.056	444.059	0.003
Jul	0.081	0.078	0.0030	0.509	0.589	0.060	0.0030	0.063	0.526	443.963	443.968	0.005
Aug	0.083	0.079	0.0045	0.241	0.324	0.062	0.0014	0.064	0.261	443.845	443.858	0.012
Sep	0.084	0.079	0.0049	0.206	0.290	0.064	0.0012	0.065	0.225	443.820	443.834	0.014
Oct	0.081	0.080	0.0016	0.182	0.263	0.065	0.0011	0.066	0.198	443.801	443.884	0.083
Nov	0.083	0.082	0.0009	0.145	0.227	0.066	0.0009	0.067	0.160	443.835	443.851	0.016
Dec	0.085	0.084	0.0007	0.101	0.186	0.068	0.0006	0.069	0.117	443.778	443.801	0.023
Mean	0.075	0.072	0.0038	0.215	0.290	0.055	0.0013	0.056	0.234	443.770	443.812	0.042

Note: GW = groundwater; masl = metres above sea level.; m³/s = cubic metres per second.

Figure IX.4-12
Comparison of Baseline and Year 1 of Operations Streamflow at the Outlet of Snap Lake

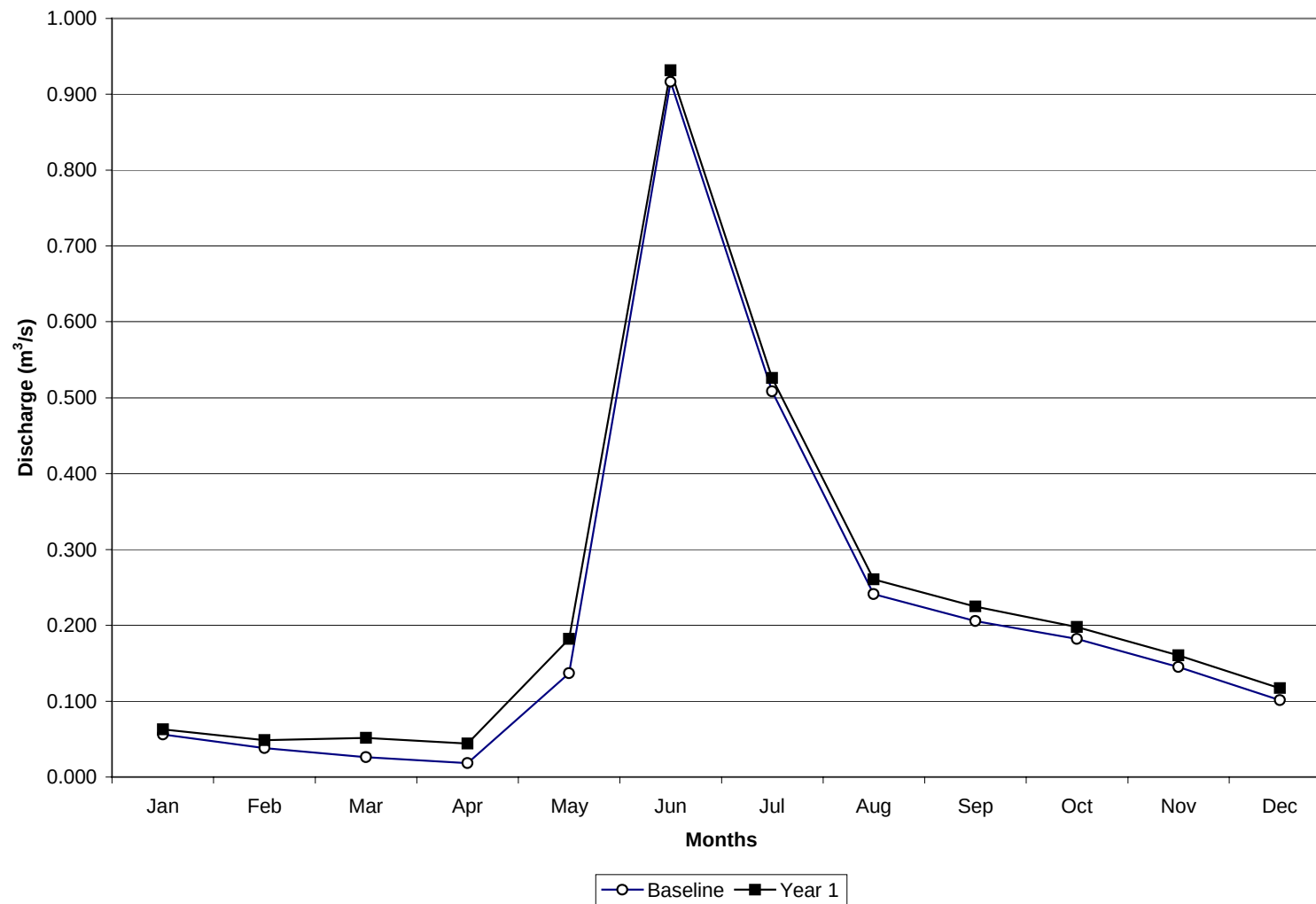


Table IX.4-13
Water Balance and Lake Elevations for Snap Lake in Year 6

Month	Total Treated Water to Snap Lake (m ³ /s)	Minewater Release to Snap Lake (m ³ /s)	Site Runoff Collection Outflow (m ³ /s)	Snap Lake Natural Outflow (m ³ /s)	Snap Lake Operations Total Outflow (m ³ /s)	Loss to Snap Lake via GW Recharge (m ³ /s)	Change in Surface Runoff Rates (m ³ /s)	Total Loss at Snap Lake Outflow (m ³ /s)	Net Flow Snap Lake Outflow (m ³ /s)	Natural Lake Elevation (masl)	Year 6 Lake Elevation (masl)	Net Change in Lake Elevation (m)
		Increase Outflow				Decrease Outflow						
Jan	0.232	0.232	0.0005	0.056	0.289	0.210	0.0003	0.211	0.078	443.685	443.737	0.051
Feb	0.230	0.229	0.0005	0.038	0.268	0.209	0.0002	0.209	0.059	443.625	443.694	0.069
Mar	0.231	0.230	0.0005	0.026	0.257	0.208	0.0002	0.208	0.049	443.564	443.662	0.098
Apr	0.231	0.231	0.0004	0.018	0.249	0.208	0.0001	0.208	0.041	443.506	443.634	0.128
May	0.270	0.232	0.0385	0.137	0.407	0.209	0.0008	0.210	0.197	443.756	443.813	0.058
Jun	0.233	0.231	0.0017	0.916	1.149	0.208	0.0055	0.214	0.935	444.056	444.059	0.003
Jul	0.241	0.238	0.0028	0.509	0.749	0.211	0.0030	0.214	0.535	443.963	443.971	0.008
Aug	0.253	0.248	0.0048	0.241	0.494	0.217	0.0014	0.218	0.276	443.845	443.867	0.022
Sep	0.267	0.260	0.0062	0.206	0.472	0.222	0.0012	0.224	0.249	443.820	443.850	0.030
Oct	0.266	0.265	0.0012	0.182	0.448	0.228	0.0011	0.229	0.219	443.801	443.900	0.099
Nov	0.265	0.264	0.0009	0.145	0.409	0.230	0.0009	0.231	0.178	443.835	443.867	0.033
Dec	0.261	0.260	0.0007	0.101	0.362	0.231	0.0006	0.232	0.131	443.778	443.818	0.040
Mean	0.248	0.243	0.0049	0.2146	0.4628	0.2160	0.0013	0.217	0.246	443.770	443.823	0.053

Note: GW = groundwater; masl = metres above sea level.; m³/s = cubic metres per second.

Figure IX.4-13
Comparison of Baseline and Year 6 of Operations Streamflow at the Outlet of Snap Lake

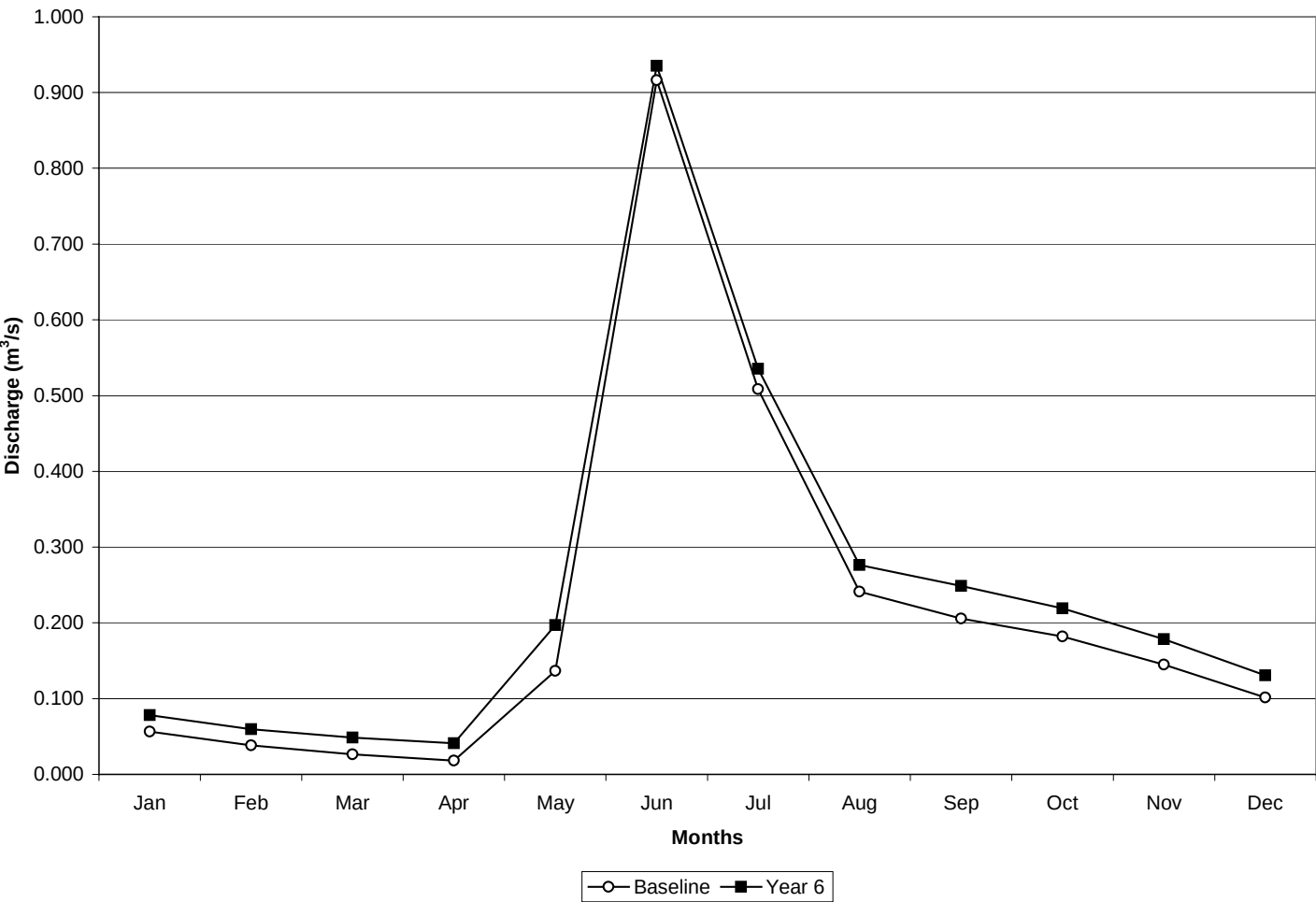


Table IX.4-14
Water Balance and Lake Elevations for Snap Lake in Years 17 to 22

Month	Total Project Flow to Snap Lake (m ³ /s)	Minewater Pumping Rate (m ³ /s)	Site Runoff Collection Outflow (m ³ /s)	Snap Lake Natural Outflow (m ³ /s)	Snap Lake Operations Total Outflow (m ³ /s)	Loss to Snap Lake via GW Recharge (m ³ /s)	Change in Surface Runoff Rates (m ³ /s)	Total Loss at Snap Lake Outflow (m ³ /s)	Net Snap Lake Outflow (m ³ /s)	Natural Lake Elevation (masl)	Year Lake 17-22 Elevation (masl)	Net Change in Lake Elevation (m)
		Increase Outflow				Decrease Outflow						
Jan	0.224	0.224	0.0005	0.056	0.280	0.214	0.0003	0.214	0.066	443.685	443.711	0.026
Feb	0.225	0.224	0.0005	0.038	0.263	0.214	0.0002	0.214	0.049	443.625	443.665	0.039
Mar	0.226	0.225	0.0005	0.026	0.252	0.214	0.0002	0.214	0.038	443.564	443.622	0.058
Apr	0.227	0.227	0.0004	0.018	0.245	0.215	0.0001	0.215	0.030	443.506	443.585	0.079
May	0.311	0.228	0.0830	0.137	0.448	0.216	0.0008	0.217	0.231	443.756	443.838	0.083
Jun	0.229	0.227	0.0023	0.916	1.145	0.216	0.0055	0.222	0.924	444.056	444.057	0.001
Jul	0.224	0.221	0.0033	0.509	0.733	0.214	0.0030	0.217	0.516	443.963	443.965	0.002
Aug	0.221	0.216	0.0054	0.241	0.463	0.211	0.0014	0.212	0.250	443.845	443.851	0.006
Sep	0.221	0.211	0.0105	0.206	0.427	0.207	0.0012	0.208	0.219	443.820	443.830	0.010
Oct	0.210	0.209	0.0012	0.182	0.392	0.203	0.0011	0.205	0.187	443.801	443.875	0.074
Nov	0.206	0.205	0.0009	0.145	0.350	0.199	0.0009	0.200	0.151	443.835	443.841	0.006
Dec	0.192	0.191	0.0007	0.101	0.293	0.184	0.0006	0.185	0.108	443.778	443.789	0.011
Mean	0.226	0.217	0.0091	0.215	0.441	0.209	0.0013	0.210	0.231	443.770	443.803	0.033

Note: GW = groundwater; masl = metres above sea level.; m³/s = cubic metres per second.

Figure IX.4-14
Comparison of Baseline and Year 17 and 22 of Operations Streamflow at the Outlet of Snap Lake

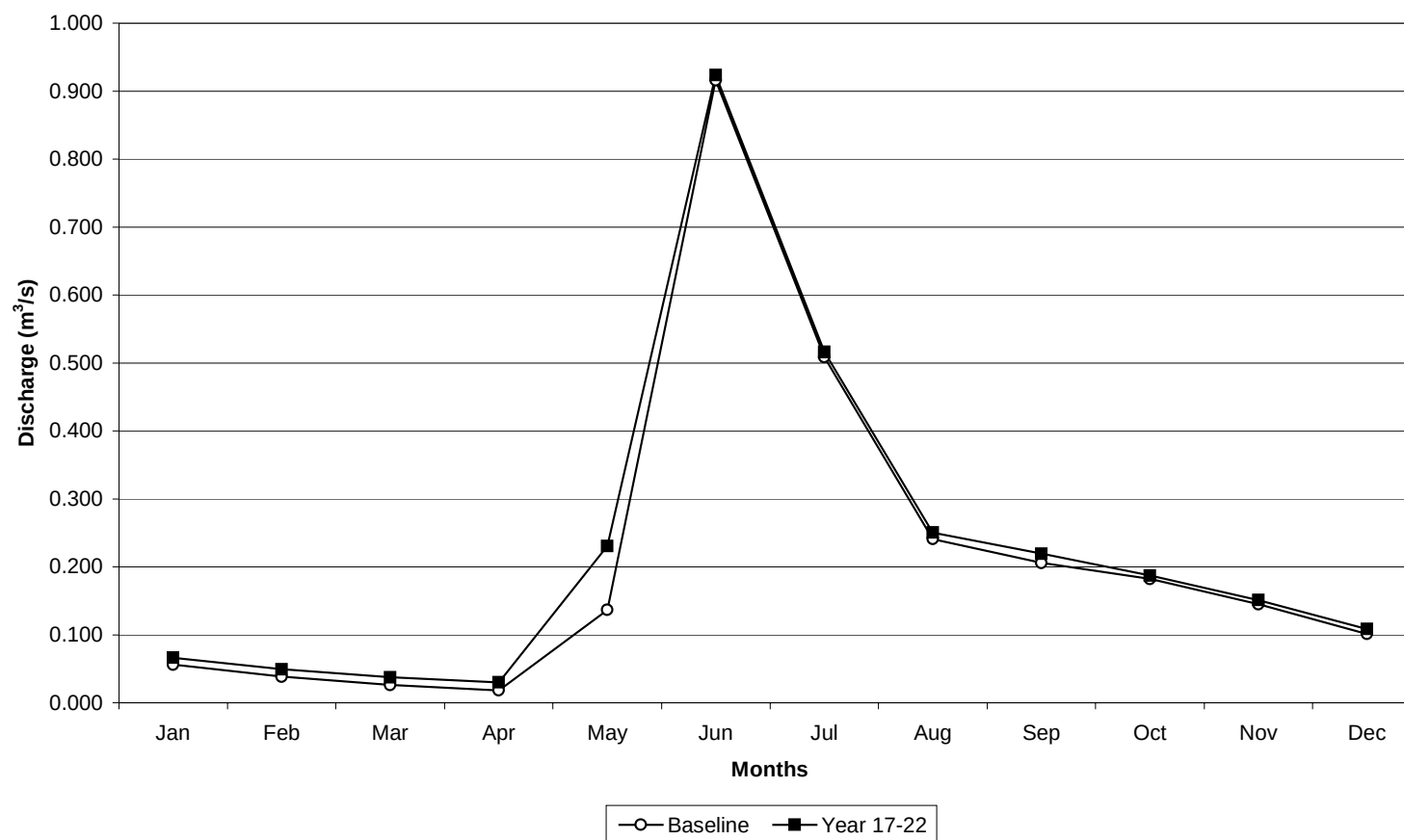


Table IX.4-15**Annual Water Balance (m³/year) for North Lake and Northeast Lake before Mining and in the Last Year of Mining**

	Inflow From Upstream Watershed (m³)	Precipitation to Lake (m³)	Lake Evaporation (m³)	Precipitation to Watershed (excluding lake) (m³)	Evapotranspiration from Watershed (excluding Lake) (m³)	Groundwater Inflow for Lake (m³)	Calculated Outflow (m³)
Pre-Development							
North Lake	0	3195900	2862000	4398550	2048280	985500	3669670
Northeast Lake	3669670	5993150	5367000	17842100	8308560	292000	1.4E+07
End of Mining							
North Lake	0	3195900	2862000	4398550	2048280	693500	3377670
Northeast Lake	3377670	5993150	5367000	17842100	8308560	292000	1.4E+07

Note: All climate values from Section 9.3-1.
Precipitation = 335 millimetres (mm).
Lake Evaporation = 300 mm.
Evapotranspiration (land surface) = 156 mm.
North Lake Drainage Area = 22.67 square kilometres (km²).
North Lake Surface Area = 9.54 km².
Northeast Lake Drainage Area = 71.15 km² (total = 93.82 km²).
Northeast Lake Surface Area = 17.89 km².
m³ = cubic metres.