Hydrometeorological Data for the Experimental Lakes Area, Northwestern Ontario, 1969 through 1978 Part II

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Canadian Data Report of
Fisheries and Aquatic Sciences 285

November 1981

HYDROMETEOROLOGICAL DATA FOR THE EXPERIMENTAL LAKES AREA, NORTHWESTERN ONTARIO, 1969 THROUGH 1978

PART II

by

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In 1969, hydrologic studies began at the Experimental Lakes Area in support of biological and limnological studies. This report, in three parts, presents hydrometeorological data collected during the 1969 to 1978 period of study, dealing with: precipitation, snow surveys, air temperature, wind, evaporation, relative humidity, bright sunshine, surface temperature, (Part I); streamflows, lake levels, (Part II); groundwater, and stream sediment transport, (Part III).

Key words: watershed hydrology; groundwater studies; climatological data; sediment transport; bedload.

RESUME

Beaty, K.G. 1981. Hydrometeorological data for the Experimental Lakes Area, Northwestern Ontario, 1969 through 1978 (In three parts). Can. Data Rep. Fish. Aquat. Sci. 285: vi + 1-97 (Part I); v + 98-316 (Part II); iv + 317-367 (Part III).

En 1969, des études hydrologiques devant servir de base à des études biologiques et limnologiques furent entreprises dans la Région des Lacs Expérimentaux. Le présent rapport, divisé en trois sections, contient des données hydrométéorologiques recueillies lors des études effectuées de 1969 à 1978 sur les précipitations, les relevés nivométriques, la température de l'air, le vent, l'évaporation, l'humidité relative, l'insolation, la température en surface, (premiére section); les débits d'eau, le niveau d'eau des lacs, (deuxième section); les eaux souterraines et le transport des sédiments dans les cours d'eau (troisième section).

Mots-clés: hydrologie des bassins hydrographiques; études des eaux souterraines; données climatologiques; transport des sédiments; charriages de fond.

APPENDIX 9

HYDROMETRIC DATA

The Hydrometric Program

Many of the experiments and research projects at ELA have relied on streamflow and lake level data. This section of the report provides a summary of all existing hydrometric data for the years 1969 to 1978.

During the period of study, 22 hydrometric stations were constructed and operated in 15 ELA lake basins. Table 86 provides a complete listing of these stations, and Figure 3 shows their locations. Where possible, the following information has been included for each station or lake basin:

- station description and history
- location
- latitude, longitude
- basin topographical map
- bathymetric map
- drainage basin and lake surface areas
- lake volume and mean depth
- annual summary of mean daily discharge or lake level
- annual discharge hydrograph based on mean daily discharge.

The hydrometric program has been operated in cooperation with the Water Survey of Canada (WSC). The WSC contribution was in the form of advice, construction, service, and data analysis. Much of the discharge and lake level data reported here has been published in the WSC Surface Water (Ontario) data summaries. All available data has been reported here in order to provide a comprehensive summary for ELA researchers. It should be noted that WSC withdrew from the operation of all stations for the 1974 season and does not operate the NE inflow station. The east lower inflow and the east upper weir were not operated by WSC in the years 1971-74 and 1973-74 respectively.

Hydrometric data

The hydrometric data tables in this report provide discharge in cubic feet per second (cfs) for lake outflow and stream gauging stations and water level in feet for lake stations. Minimum reported discharges for ELA stations are 0.01 cfs (0.0003 metres^3/sec). Lake level data is reported to 0.01 feet (0.003 metres).

In winter most of the ELA lakes freeze up and have 0 flow. Because they are difficult to service and impractical to operate in winter, most stations were operated only from April to the end of October. There were four exceptions, Lake 239 outflow and lake level, Lake 240 outflow, and Lake 470 outflow. They are the largest of the drainage basins monitored at ELA and flow all year. Table 86 provides a summary of period of record for each station.

In the tables, symbols used opposite the daily stage or discharge to which they apply are as follows:

A-manual gauge observation - indicates that one or more manual gauge readings were obtained and used in determining the value reported.

B-ice conditions - indicates the presence of ice at the station which has or may have affected the stage - discharge relationship.

E-estimated value - indicates a value which was determined by some indirect method such as interpolation, extrapolation, graph of observed readings, comparison with other stations or by considering meteorological data.

Basin topographical maps

The drainage basin topographical maps included in this report were based on mapping by either Western Photogrammetry (1970) at a scale of 1 in. = 400 ft., or Lockwood Survey (1972) at a scale of 1 in. = 660 ft. The mapping used for each is given in the following discussion for each individual lake. Discrepancies exist between values reported here and those previously reported by Brunskill and Schindler (1971). Basin areas reported here should be considered more accurate, as they were based on more recent and better scaled mapping and aerial photography. Contour mapping of lake basins 230 and 265 does not exist, and areas were based on stereoscopic interpretation of 1976 aerial photographs at a scale of approximately 1:15,500 (1 cm = 156 metres).

The two sets of contour mapping were based on two different datum references. The Lockwood survey maps were related to approximate elevation above mean sea level (MSL) in feet. The Western Photogrammetry maps were related to an assumed datum. The assumed datum was referenced to a survey benchmark in bedrock at the outflow of Lake 240 which was assigned an elevation of 100.00 feet. As true elevation above MSL is not know for ELA, all vertical control surveys in Lake 240 and Lake 239 watersheds were relative to that benchmark.

In some cases a water level is shown on the drainage basin figures. The water levels indicated are approximate within the natural range of lake fluctuation. Natural water level fluctuation in ELA lakes is about one foot (0.3 metres).

Bathymetric maps

The bathymetric charts included in this report are the same as those produced and used over the years at ELA. The basic method by which most of these maps were made has been described by Brunskill and Schindler (1971). Contours were interpreted from sonar transects between shore stations located from aerial photographs. Shore outlines were prepared by projecting aerial photograph transparencies, and horizontal control was achieved by measuring distances between the shore stations.

Discrepancies in lake surface areas

Lake surface areas and volumes were calculated based on these bathymetric maps. The surface areas included in the morphometric data tables for each lake are consistent with the bathymetric map surface areas with the exception of Lakes 239, 240, 303, 304 and 470. The surface areas for those five lakes, reported in tables 108, 118, 125, 129 and 131, were based on the 1 in. = 400 ft. scale Western Photogrammetry topographical map. The area differences

from the two sources do not vary by more than 6.8% for Lakes 239, 240, 303, and 304 (differences of 3.3%, 0.2%, 4.8%, and 6.8% respectively). However, for Lake 470, the areas differ by 25.4%. On close examination of good aerial photographs with horizontal control, it appears that the Lake 470 bathymetric map is in error and the surface area in Table 131 is more accurate.

REFERENCES

BRUNSKILL, G.J., and D.W. SCHINDLER. 1971. Geography and bathymetry of selected lake basins, Experimental Lakes Area, northwestern Ontario. J. Fish Res. Board Can. 28:139-155.

CAMPBELL, P. 1976. Descriptive limnology of Lake 120, a meromictic lake on the Precambrian Shield in northwestern Ontario. M.Sc. Thesis. University of Manitoba, Winnipeg, Man. 118 p.

WSC. 1969-1978. Surface water data, Ontario. Department of the Environment, Inland Waters Directorate, Water Resources Branch, Water Survey of Canada, Ottawa, Ontario.

Useful conversion factors

All hydrometric data reported to the end of 1978 was summarized in English units. Data from 1978 on will subsequently be published in metric units. The following conversion factors will be helpful in working with the data:

feet x 0.3048 = metres
miles x 1.60934 = kilometres
acres x 0.4047 = hectares
cubic feet per second x 0.028316 = cubic metres per second
acre feet x 1233.5 = cubic metres
1 cubic foot per second flowing 1 day = 1.9835 acre feet.

Table 86 Hydrometric stations operated at ELA from 1969 to 1978 including type of station and period of record.

Station	Instrumentation	Period of record	
L. 114	Wr	1971-78	OW
	Ls	1978	OW, weekly
L. 120	Wr	1972-74	OW, m
L. 223	Wr	1975-78	OW, m
	Ls	1978	OW, weekly
L. 224	Wr	1975-78	OW, m
	Ls	1978	OW, weekly
L. 225	Wr	1975-78	OW, m
L. 226	Wr	1972-78	OW
	Ls	1978	OW, weekly
L. 227	Wr	1970-78	OW
	Lr	1969-70, 1977-78	OW, m
L. 230	Wr	1971-78	OW, m
L. 239	Wr	1970-78	YR
	Lr	1969-78	YR, m
East lower inflow	Wn, Wr	1971-72, 1973-78	OW, m
East upper weir	Wr	1973-78	OW, m
Northwest inflow	Wr	1970-78	OW
Northeast inflow	Wn, Wr	1971-73, 1974-78	OW
L. 240	Wr	1969-78	YR, m
	Ls	1978	OW, weekly
L. 261	Wr	1971-78	OW, m
L. 265	Wr	1971-78	OW, m
L. 303	Wr	1970-78	OW
	Lr	1969-78	OW, m
L. 304	Lr	1969-78	OW, m
L. 470	Wr	1969-78	YR, m

Symbols:
Wn - non-recording weir or flume
Wr - recording weir or flume
Lr - recording lake gauge
Ls - non-recording lake staff gauge
OW - open water season usually April to November
YR - all year record
m - periods of missing data in record, estimates have been made where possible.

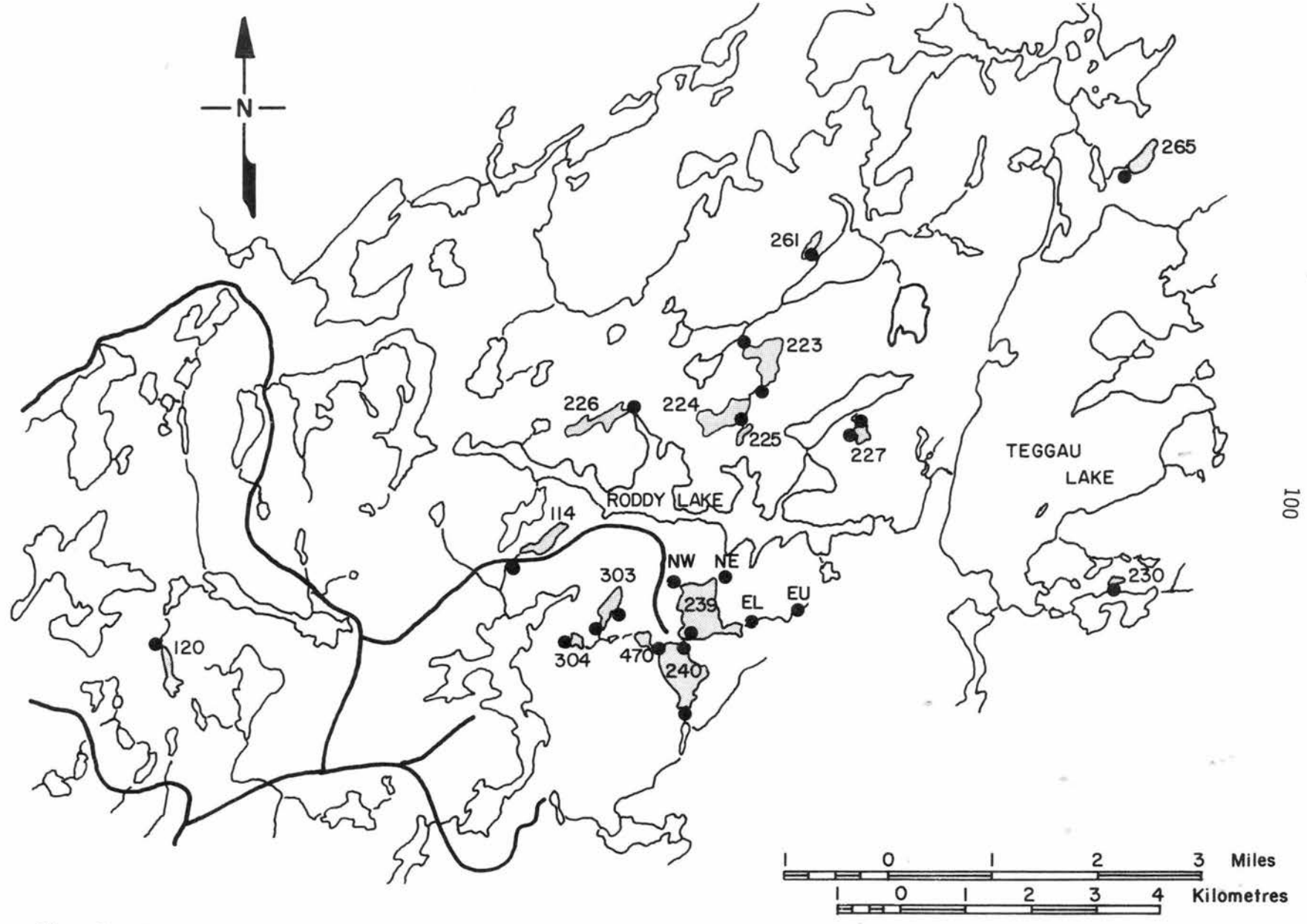


Fig. 3 Map of ELA hydrometric stations during the 1969 to 1978 period. The black dots represent either a recording weir or a recording lake level station The field station is located at the road end near the SW corner of Lake 239.

Lake 114 Hydrologic Data for 1971 to 1978

Lake 114 is located 1.6 miles (2.5 kilometres) west of the ELA field station. A basin topographical map (Fig. 4) with 10 foot contours, and a lake bathymetric map (Fig. 5) with 1 metre contours are included. Figure 4 is based on the contour maps of the ELA produced by Lockwood Survey in 1972. The datum is approximate elevation above mean sea level in feet.

In late 1970, a hydrometric control on the outflow stream was established by Water Survey of Canada (WSC). The structure was a steel H flume set in concrete with a 2 foot deep design, 2 inch outlet, equipped with a Leupold Stevens A-35 water level recorder and staff gauge. The station was operated from mid-April to the end of October. Winter flows were normally 0, due to ice and snow conditions. The station was serviced by Water Survey of Canada (Keewatin) staff in all years except 1974. In 1974, service and computation of flows were by Fisheries staff. All original recorder charts are on file with WSC. The streamflow data presented in the following tables (except 1974) are based on WSC interpretation.

Other instrumentation included a standard rain gauge (Station 11), and a staff gauge on the lake. Both gauges were read weekly and monthly in 1978. Records of precipitation, lake level, and surface temperatures are included in Table 88.

By 1977, approximately 60% of the terrestrial basin had been logged by the Minnesota and Ontario Pulp and Paper Company (Kenora). The cutting took place in two stages, with the south and southeast portions being cut in the winter of 1973/74, and the east and northeast portions being cut in 1976.

Table 87. Location and morphometric data for Lake 114.

Location:			
Latitude	49 40 14 N		
Longitude	93 45 30 W		
Morphometric data			
Total drainage basin (including lake)	57.7 hectares	(142.6 acres)	
Lake surface area	12.1 "	(29.9 ")	
Terrestrial area (direct drainage)	45.6 "	(112.7 ")	
Lake volume	$2.07 \times 10^5 m^3$		
Lake mean depth	1.71 m		

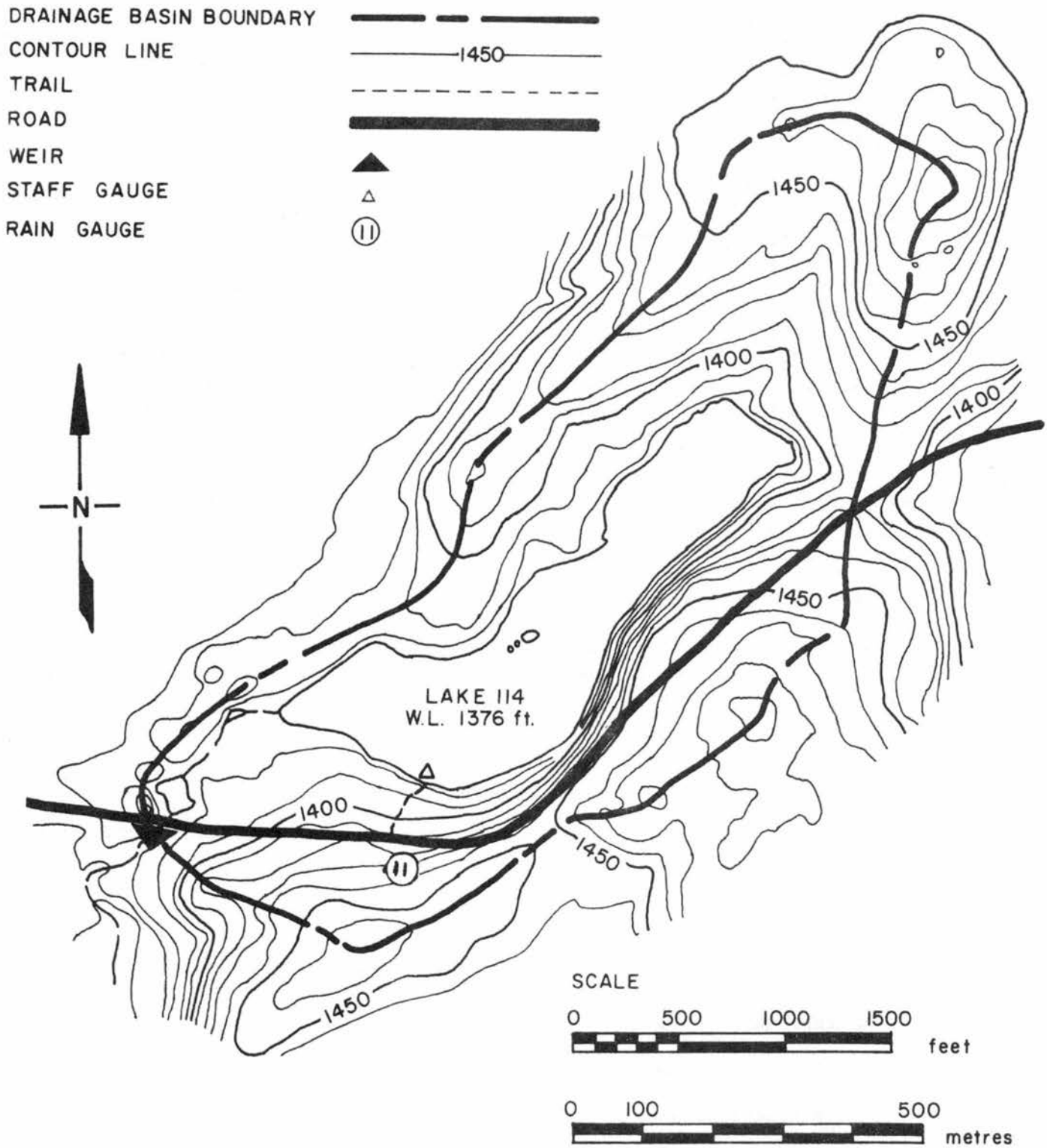


Fig. 4 Topographical map of the Lake 114 drainage basin. Contours are in feet.

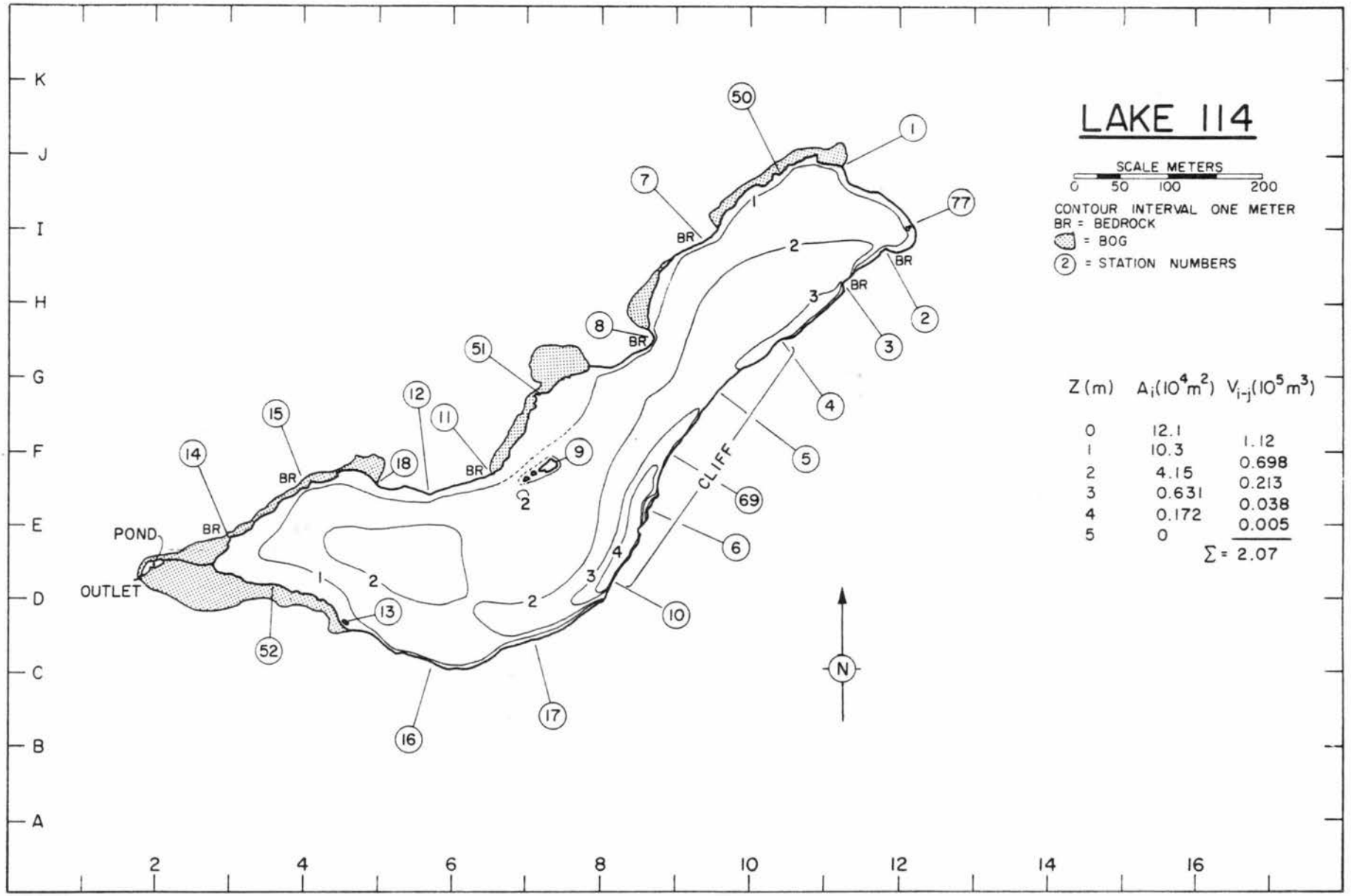


Fig. 5 Bathymetric chart of Lake 114.

Table 88 Measurements of lake surface temperature, lake level and precipitation for Lake 114 for 1978.

Date	Time (cst)	Lake Temp. (^{o}C)	Lake Level (ft.)	Rain Gauge #11 (inches)
May 2	-	Ice Off	-	-
May 4	14:00	-	91.17	-
May 15	07:30	13.3	-	-
May 16	16:00	-	91.01	Installed
May 22	14:00	18.9	90.93	0.14
May 23	14:30	22.5	91.03	0.86
May 29	07:00	21.3	-	-
May 30	08:50	17.8	91.22	1.78
June 1	13:00	13.2	91.25	-
June 5	15:45	18.0	91.18	0.85
June 12	07:20	15.3	-	-
June 12	09:00	-	91.04	-
June 13	11:00	-	-	0.42
June 15	14:00	18.0	90.98	-
June 20	10:55	18.0	90.91	0.13
June 26	07:20	20.8	-	-
June 27	10:00	22.1	90.92	0.96
June 30	16:50	26.5	90.88	0.15
July 3	09:25	23.0	-	-
July 4	11:30	25.2	90.83	0.16
July 10	07:20	21.0	-	-
July 11	08:30	21.2	90.82	1.02
July 17	07:30	22.5	-	-
July 18	15:10	24.2	90.86	1.26
July 24	08:00	21.4	-	-
July 25	11:30	24.0	90.86	0.83
July 31	07:15	19.6	-	-
July 31	17:00	20.7	90.82	-
Aug. 1	09:35	20.9	90.82	0.72
Aug. 8	08:17	-	-	0.89
Aug. 15	10:07	22.3	90.75	0.21
Aug. 22	07:50	18.0	90.86	1.52
Aug. 28	07:30	19.0	90.92	0.85
Aug. 31	10:13	18.8	90.89	0.06
Sept. 4	a.m.	19.8	-	0.34
Sept. 12	13:00	15.5	90.80	0.02
Sept. 19	11:00	14.0	91.00	1.78
Sept. 27	10:00	12.0	90.90	0.05
Oct. 2	a.m.	12.5	90.94	-
Oct. 3	a.m.	-	90.93	0.61
Oct. 9	15:00	12.0	90.90	0.18
Oct. 16	07:25	6.3	90.89	-
Oct. 17	10:30	7.0	90.89	0.50
Oct. 23	16:00	-	90.85	0.12
Oct. 24	16:00	7.1	90.85	-
Oct. 31	13:30	4.1	90.83	0.12

Note: - indicates no reading taken

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1971.

DAY	JAN	FEB	MAR	APR		MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	E	0.38	0.07	0.94	0.15	0	1.0	---	---	1
2	---	---	---	0	E	0.39	0.05	0.93	0.13	0	1.2	---	---	2
3	---	---	---	0	E	0.37	0.03	0.76	0.11	0.02	1.2	---	---	3
4	---	---	---	0	E	0.34	0.03	0.56	0.08	0.05	1.3	---	---	4
5	---	---	---	0	E	0.31	0.11	0.38	0.07	0.09	1.2	---	---	5
6	---	---	---	0	E	0.28	0.17	0.28	0.06	0.08	1.1	---	---	6
7	---	---	---	0	E	0.26	0.16	0.22	0.05	0.08	0.92	---	---	7
8	---	---	---	0	E	0.21	0.14	0.16	0.05	0.06	0.84	---	---	8
9	---	---	---	0	E	0.17	0.12	0.12	0.04	0.05	0.68	---	---	9
10	---	---	---	0	E	0.15	0.09	0.11	0.03	0.04	0.57	---	---	10
11	---	---	---	0	E	0.13	0.08	0.09	0.02	0.03	0.46	---	---	11
12	---	---	---	0	E	0.12	0.08	0.24	0.01	0.03	0.39	---	---	12
13	---	---	---	0.88		0.09	0.07	0.27	0.01	0.03	0.33	---	---	13
14	---	---	---	1.1		0.07	0.07	0.21	0.01	0.03	0.29	---	---	14
15	---	---	---	1.0		0.05	0.06	0.18	0.01	0.03	0.26	---	---	15
16	---	---	---	1.4		0.04	0.07	0.18	0	0.02	0.24	---	---	16
17	---	---	---	2.5		0.06	0.07	0.16	0.08	0.02	0.40	---	---	17
18	---	---	---	2.4		0.06	0.05	0.12	0.06	0.03	0.67	---	---	18
19	---	---	---	2.5		0.05	0.05	0.10	0.05	0.03	0.76	---	---	19
20	---	---	---	2.1		0.05	0.05	0.09	0.04	0.03	0.67	---	---	20
21	---	---	---	1.7		0.05	0.03	0.07	0.03	0.03	0.56	---	---	21
22	---	---	---	1.3		0.05	0.02	0.06	0.02	0.03	0.46	---	---	22
23	---	---	---	1.0		0.09	0.02	0.05	0.02	0.02	0.39	---	---	23
24	---	---	---	0.79		0.15	0.02	0.06	0.02	0.02	0.32	---	---	24
25	---	---	---	0.60		0.34	0.01	0.09	0.02	0.02	0.29	---	---	25
26	---	---	---	0.49		0.43	0.02	0.11	0.02	0.01	0.26	---	---	26
27	---	---	---	0.39		0.33	0.07	0.14	0.01	0.01	0.25	---	---	27
28	---	---	---	0.33		0.25	0.03	0.30	0.01	0.01	0.21	---	---	28
29	---		---	0.29		0.17	0.02	0.26	0.01	0.02	0.18	---	---	29
30	---		---	0.33		0.13	0.43	0.21	0	0.22	0.18	---	---	30
31	---		---			0.09		0.17	0		0.11		---	31
TOTAL	---	---	---	21.10		5.66	2.29	7.62	1.22	1.14	17.69	---	---	TOTAL
MEAN	---	---	---	0.70		0.18	0.08	0.25	0.04	0.04	0.57	---	---	MEAN
AC-FT	---	---	---	41.9		11.2	4.5	15.1	2.4	2.3	35.1	---	---	AC-FT
MAX	---	---	---	2.5		0.43	0.43	0.94	0.15	0.22	1.3	---	---	MAX
MIN	---	---	---	0		0.04	0.01	0.05	0	0	0.11	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.27 CFS
TOTAL DISCHARGE, 113 AC-FT
MAXIMUM DAILY DISCHARGE, 2.5 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

E-ESTIMATED

MAXIMUM INSTANTANEOUS DISCHARGE
3.0 CFS AT 1426 CST ON APR 19

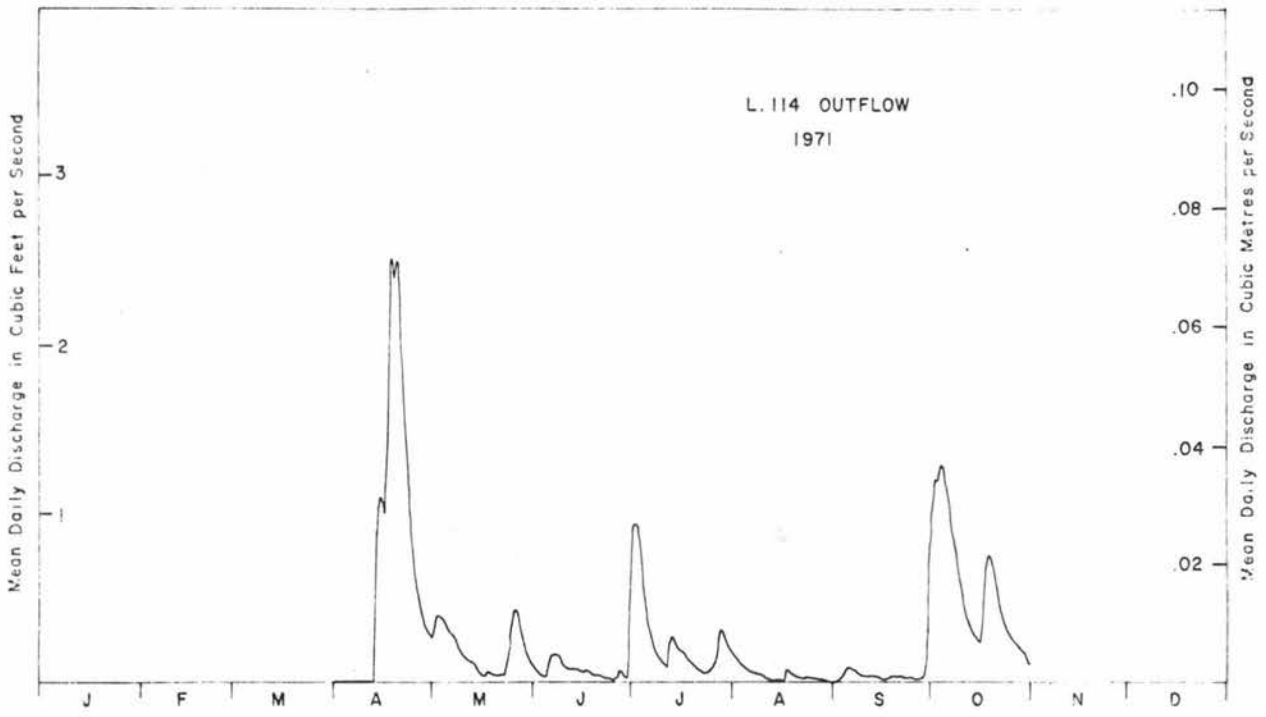


Fig. 6 Annual hydrograpn based on mean daily discharges for the Lake 114 outflow for 1971.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.76	0.14	0.02	0.08	0.17	0.28	---	---	1
2	---	---	---	0 E	0.66	0.14	0.02	0.09	0.15	0.29	---	---	2
3	---	---	---	0 E	0.56	0.13	0.02	0.08	0.13	0.31	---	---	3
4	---	---	---	0 E	0.48	0.13	0.02	0.06	0.16	0.27	---	---	4
5	---	---	---	0 E	0.40	0.13	0.02	0.05	0.13	0.25	---	---	5
6	---	---	---	0 E	0.35	0.12	0.02	0.02	0.30	0.23	---	---	6
7	---	---	---	0 E	0.30	0.09	0.02	0.02	0.51	0.20	---	---	7
8	---	---	---	0 E	0.25	0.07	0.02	0.02	0.46	0.17	---	---	8
9	---	---	---	0 E	0.18	0.05	0.02	0.02	0.40	0.16	---	---	9
10	---	---	---	0 E	0.15	0.02	0.02	0.01	0.33	0.16	---	---	10
11	---	---	---	0 E	0.12	0.02	0.31	0.01	0.29	0.23	---	---	11
12	---	---	---	0 E	0.10	0.03	0.31	0.01	0.25	0.22	---	---	12
13	---	---	---	0 E	0.13	0.03	0.28	0.02	0.22	0.20	---	---	13
14	---	---	---	0 E	0.15	0.03	0.63	0.01	0.18	0.18	---	---	14
15	---	---	---	0 E	0.13	0.02	0.66	0.17	0.16	0.17	---	---	15
16	---	---	---	0 E	0.11	0.02	0.59	0.20	0.15	0.16	---	---	16
17	---	---	---	0 E	0.09	0.01	0.67	0.20	0.15	0.15	---	---	17
18	---	---	---	0 E	0.08	0.08	0.55	0.18	0.13	0.15	---	---	18
19	---	---	---	0 E	0.07	0.41	0.47	0.16	0.12	0.15	---	---	19
20	---	---	---	0 E	0.17	0.41	0.44	0.19	0.11	0.14	---	---	20
21	---	---	---	0.24 E	0.15	0.34	0.34	1.7	0.09	0.13	---	---	21
22	---	---	---	0.48 E	0.14	0.29	0.29	2.0	0.08	0.12	---	---	22
23	---	---	---	0.72 E	0.18	0.23	0.23	1.4	0.08	0.10	---	---	23
24	---	---	---	0.96 E	0.17	0.18	0.18	1.1	0.18	0.09 E	---	---	24
25	---	---	---	1.2	0.17	0.14	0.14	0.91	0.18	0.09	---	---	25
26	---	---	---	1.1	0.17	0.11	0.11	0.70	0.19	0.09	---	---	26
27	---	---	---	1.2	0.17	0.09	0.09	0.55	0.19	0.13 E	---	---	27
28	---	---	---	1.1	0.18	0.08	0.08	0.45	0.26	0.13 E	---	---	28
29	---	---	---	0.99	0.18	0.07	0.07	0.36	0.30	0.13 E	---	---	29
30	---		---	0.88	0.17	0.04	0.13	0.30	0.29	0.12 E	---	---	30
31	---		---		0.15		0.10	0.23		0.13 E		---	31
TOTAL	---	---	---	8.87	7.07	3.65	6.87	11.30	6.34	5.33	---	---	TOTAL
MEAN	---	---	---	0.30	0.23	0.12	0.22	0.36	0.21	0.17	---	---	MEAN
AC-FT	---	---	---	17.6	14.0	7.2	13.6	22.4	12.6	10.6	---	---	AC-FT
MAX	---	---	---	1.2	0.76	0.41	0.67	2.0	0.51	0.31	---	---	MAX
MIN	---	---	---	0	0.07	0.01	0.02	0.01	0.08	0.09	---	---	MIN

SUMMARY FOR THE YEAR 1972

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

MAXIMUM DAILY DISCHARGE, 2.0 CFS ON AUG 22
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
3.1 CFS AT 1050 CST ON AUG 21

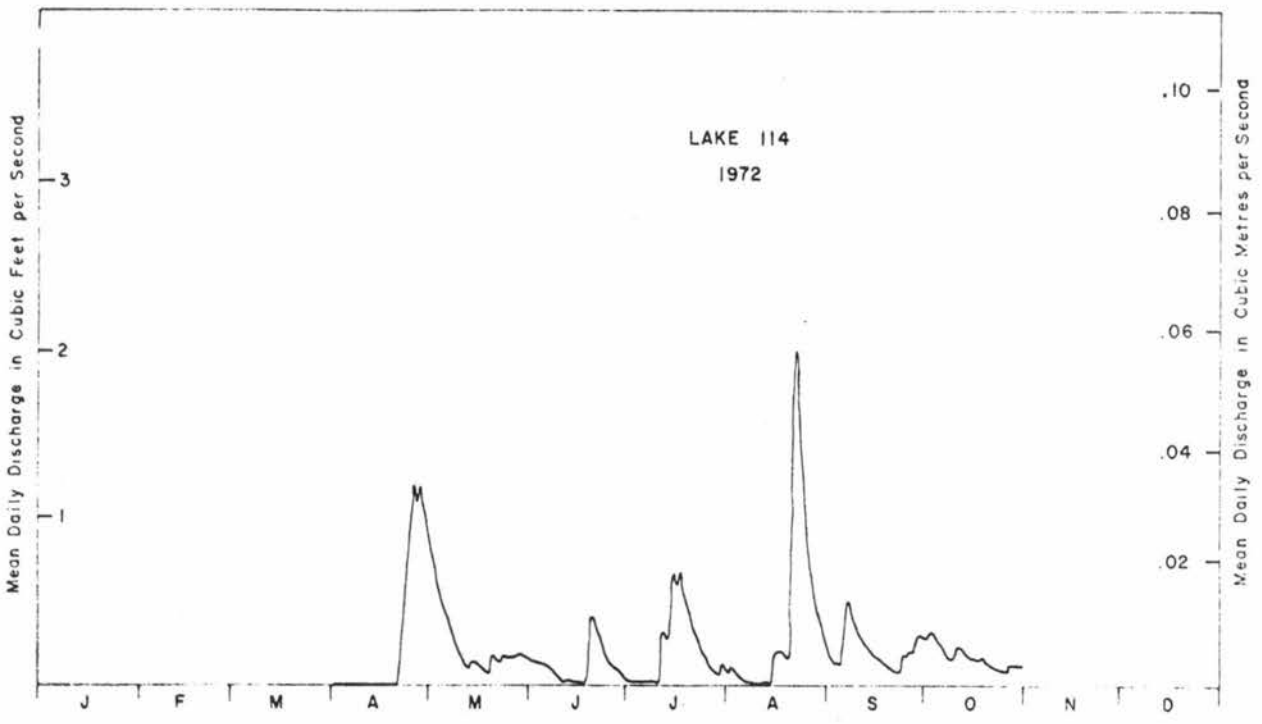


Fig. 6 Annual hydrograpn based on mean daily discharges for the Lake 114 outflow for 1972.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.27	0.02	0.11	0.32	0.12	0.34	0.15	---	1
2	---	---	---	0 E	0.23	0.01	0.09	0.26	0.32	0.31	0.15	---	2
3	---	---	---	0 E	0.20	0.01	0.07	0.20	0.45	0.36	0.15	---	3
4	---	---	---	0 E	0.18	0.02	0.06	0.18	0.80	0.41	0.14	---	4
5	---	---	---	0.04 E	0.19	0.01	0.05	0.15	0.94	0.37	0.13	---	5
6	---	---	---	0.09 E	0.26	0.01	0.05	0.23	0.81	0.32	0.12	---	6
7	---	---	---	0.14 E	0.25	0.01	0.36	0.18	0.66	0.29	0.11 A	---	7
8	---	---	---	0.19 E	0.22	0.01	0.41	0.20	0.54	0.26	---	---	8
9	---	---	---	0.24 E	0.19	0.01	0.34	0.40	0.45	0.28 A	---	---	9
10	---	---	---	0.28 A	0.23	0.01	0.27	0.50	0.36	0.32 E	---	---	10
11	---	---	---	0.27	0.23	0.01	0.23	0.48	0.28	0.43 E	---	---	11
12	---	---	---	0.25	0.19	0.01	0.19	0.42	0.22	0.85 E	---	---	12
13	---	---	---	0.24	0.16	0.01	0.15	0.36	0.20	0.88 E	---	---	13
14	---	---	---	0.22	0.14	0	0.12	0.30	0.19	0.78 E	---	---	14
15	---	---	---	0.26	0.12	0	0.11	0.25	0.18	0.58 E	---	---	15
16	---	---	---	0.30	0.10	0.01	0.09	0.20	0.16	0.45 E	---	---	16
17	---	---	---	0.30	0.08	0.08	0.09	0.18	0.14 A	0.40 A	---	---	17
18	---	---	---	0.28	0.07	0.15	0.09	0.15	0.14 E	0.40 A	---	---	18
19	---	---	---	0.27	0.06	0.17	0.07	0.16	0.13 E	0.35	---	---	19
20	---	---	---	0.60	0.05	0.20	0.06	0.12	0.12 A	0.32	---	---	20
21	---	---	---	1.3	0.03	0.21	0.04	0.10	0.19	0.30	---	---	21
22	---	---	---	1.3	0.02	0.20	0.02	0.09	0.48	0.28	---	---	22
23	---	---	---	1.1	0.04	0.18	0.01	0.08	0.56	0.26	---	---	23
24	---	---	---	0.89	0.04	0.16	0.04	0.07	0.51	0.24	---	---	24
25	---	---	---	0.74	0.07	0.18	0.05	0.06	0.57	0.23	---	---	25
26	---	---	---	0.61	0.08	0.17	0.14	0.05	0.59	0.21	---	---	26
27	---	---	---	0.50	0.07	0.18	0.49	0.04	0.56	0.20	---	---	27
28	---	---	---	0.43	0.05	0.16	0.50	0.03	0.50	0.18	---	---	28
29	---		---	0.36	0.04	0.15	0.46	0.02	0.45	0.18	---	---	29
30	---		---	0.31	0.03	0.13	0.42	0.01	0.39	0.16	---	---	30
31	---		---		0.02		0.36	0.01		0.16		---	31
TOTAL	---	---	---	11.51	3.91	2.48	5.54	5.80	12.01	11.10	---	---	TOTAL
MEAN	---	---	---	0.38	0.13	0.08	0.18	0.19	0.40	0.36	---	---	MEAN
AC-FT	---	---	---	22.8	7.8	4.9	11.0	11.5	23.8	22.0	---	---	AC-FT
MAX	---	---	---	1.3	0.27	0.21	0.50	0.50	0.94	0.88	---	---	MAX
MIN	---	---	---	0	0.02	0	0.01	0.01	0.12	0.16	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.24 CFS
TOTAL DISCHARGE, 104 AC-FT
MAXIMUM DAILY DISCHARGE, 1.3 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.4 CFS AT 2232 CST ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

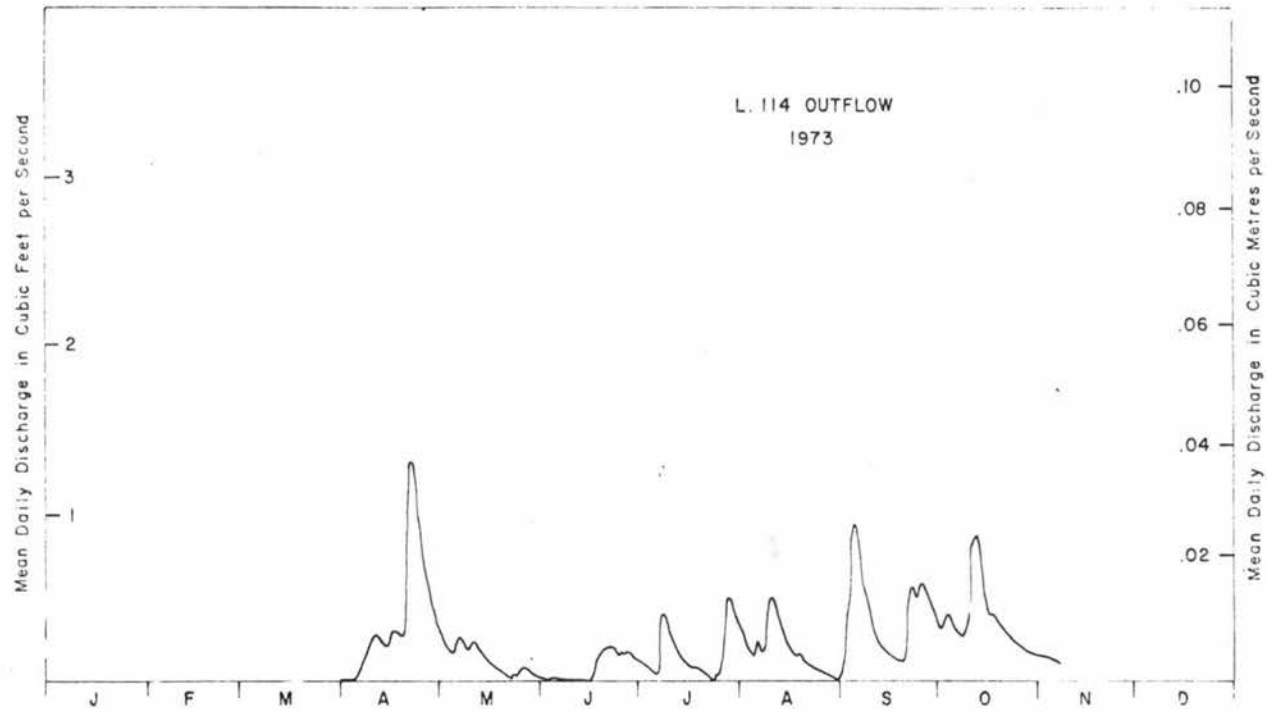


Fig. 6 Annual hydrograph based on mean daily discharges for the Lake 114 outflow for 1973.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.88	0.14	0.01	0	0.31	0.15	0.06	---	1
2	---	---	---	0 E	0.80	0.12	0.01	0	0.28	0.14	0.06	---	2
3	---	---	---	0 E	0.68	0.11	0.01	0	0.22	0.12	0.07	---	3
4	---	---	---	0 E	0.58	0.08	0.01	0	0.18	0.11	0.07	---	4
5	---	---	---	0 E	0.49	0.16	0.01	0	0.15	0.17	0.06	---	5
6	---	---	---	0 E	0.42	0.88	0.01	0	0.14	0.24	0.06	---	6
7	---	---	---	0 E	0.38	1.20	0.01	0	0.12	0.24	0.06	---	7
8	---	---	---	0 E	0.36	0.95	0	0	0.10	0.18	0.06	---	8
9	---	---	---	0 E	0.31	0.75	0	0	0.08	0.17	0.06	---	9
10	---	---	---	0 E	0.28	0.56	0	0	0.08	0.15	0.06	---	10
11	---	---	---	0 E	0.65	0.42	0	0	0.04	0.14	0.06	---	11
12	---	---	---	0 E	1.20	0.31	0	0	0.05	0.14	0.05	---	12
13	---	---	---	0 E	1.00	0.25	0	0	0.13	0.12	0.05	---	13
14	---	---	---	0 E	0.93	0.24	0	0	0.07	0.12	0.05 A	---	14
15	---	---	---	0 E	0.78	0.22	0	0	0.05	0.13	---	---	15
16	---	---	---	0 E	0.70	0.18	0	0	0.09	0.16	---	---	16
17	---	---	---	0 E	0.68	0.16	0	0	0.12	0.17	---	---	17
18	---	---	---	0 E	0.56	0.14	0	0.02	0.15	0.16	---	---	18
19	---	---	---	0.22 E	0.49	0.12	0	0.03	0.17	0.15	---	---	19
20	---	---	---	0.45	0.63	0.11	0	0.09	0.14	0.22	---	---	20
21	---	---	---	3.50	0.73	0.10	0	0.24	0.13	0.24	---	---	21
22	---	---	---	4.30	0.65	0.09	0	0.28	0.13	0.24	---	---	22
23	---	---	---	3.00	0.53	0.08	0	0.28	0.12	0.21	---	---	23
24	---	---	---	2.10	0.45	0.08	0	0.22	0.11	0.10	---	---	24
25	---	---	---	1.80	0.40	0.08	0	0.19	0.12	0.06	---	---	25
26	---	---	---	1.70	0.32	0.06	0	0.17	0.15	0.05	---	---	26
27	---	---	---	1.60	0.29	0.04	0	0.14	0.11	0.06	---	---	27
28	---	---	---	1.50	0.25	0.03	0	0.14	0.10	0.06	---	---	28
29	---		---	1.20	0.21	0.02	0	0.21	0.11	0.05	---	---	29
30	---		---	1.00	0.18	0.01	0	0.28	0.16	0.08	---	---	30
31	---		---		0.16		0	0.34		0.10		---	31
TOTAL	---	---	---	22.37	16.97	7.69	0.07	2.63	3.91	4.43	---	---	TOTAL
MEAN	---	---	---	0.74	0.55	0.26	0.002	0.08	0.13	0.14	---	---	MEAN
AC-FT	---	---	---	44.37	33.66	15.25	0.14	5.21	7.76	8.79	---	---	AC-FT
MAX	---	---	---	4.30	1.20	1.20	0.01	0.34	0.31	0.24	---	---	MAX
MIN	---	---	---	0	0.16	0.01	0	0	0	0.05	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.26 CFS
TOTAL DISCHARGE, 116.83 AC-FT (APR 16 to NOV 14)
MAXIMUM DAILY DISCHARGE, 4.30 CFS ON APR 22
MINIMUM DAILY DISCHARGE, 0 CFS ON APRIL 16

MAXIMUM INSTANTANEOUS DISCHARGE
4.3 CFS ON APR 22

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED

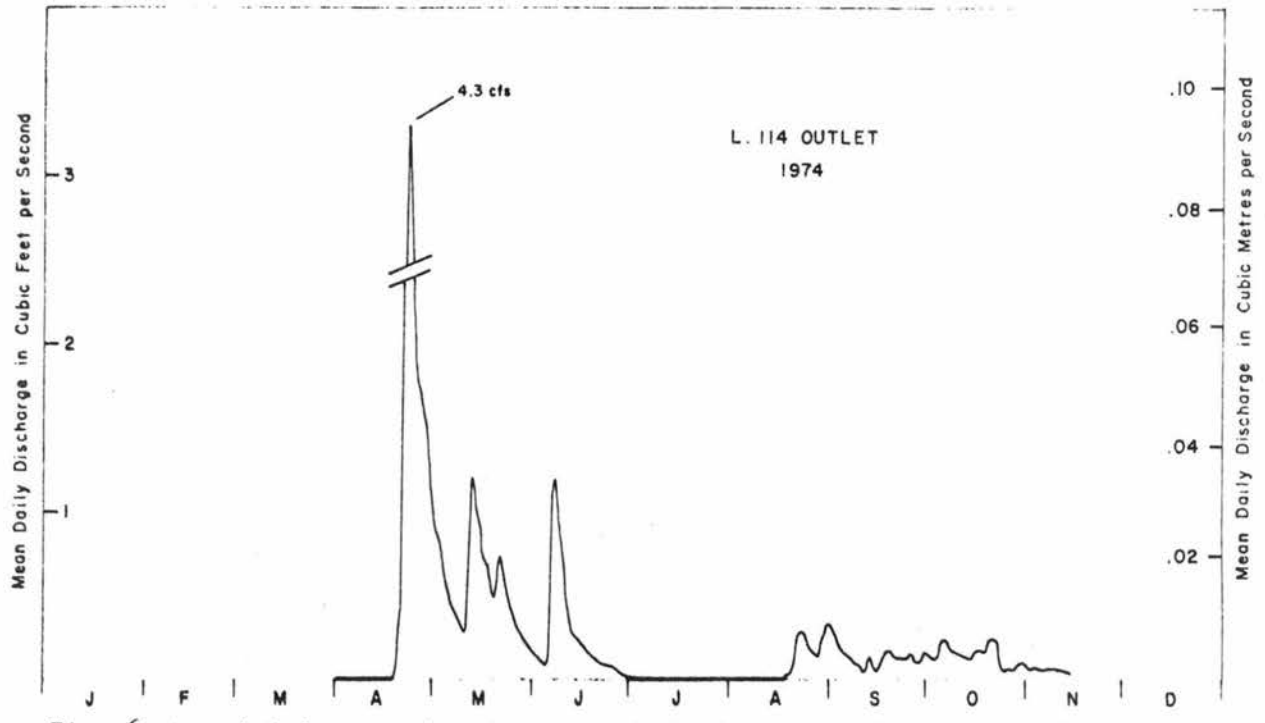


Fig. 6 Annual hydrograpn based on mean daily discharges for the Lake 114 outflow for 1974.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.87	0.11	0.58	0.01	0	0	---	---	1
2	---	---	---	0 E	0.78	0.10	0.56	0.01	0	0	---	---	2
3	---	---	---	0 E	0.71	0.09	0.45	0.01	0	0	---	---	3
4	---	---	---	0 E	0.62	0.09	0.37	0.01	0	0.01	---	---	4
5	---	---	---	0.01 E	0.54	0.12	0.30	0.01	0	0	---	---	5
6	---	---	---	0.01 E	0.47	0.12	0.26	0.01	0	0.21	---	---	6
7	---	---	---	0.02 E	0.41	0.11	0.21	0.01	0	0.26	---	---	7
8	---	---	---	0.03 E	0.36	0.09	0.15	0.01	0	0.04	---	---	8
9	---	---	---	0.04 A	0.34	0.09	0.13	0.01	0	0.01	---	---	9
10	---	---	---	0.04	0.30	0.10	0.10	0.01	0	0.01	---	---	10
11	---	---	---	0.04	0.26	0.09	0.08	0	0.01	0.01	---	---	11
12	---	---	---	0.06	0.21	0.08	0.07	0	0.03	0.01	---	---	12
13	---	---	---	0.07	0.18	0.08	0.06	0	0.05	0.01	---	---	13
14	---	---	---	0.08	0.18	0.07	0.04	0	0.05	0.01	---	---	14
15	---	---	---	0.09	0.16	0.06	0.03	0	0.03	0.02	---	---	15
16	---	---	---	0.09	0.14	0.05	0.02	0	0.02	0	---	---	16
17	---	---	---	0.14	0.13	0.03	0.01	0	0.02	0	---	---	17
18	---	---	---	0.26	0.10	0.02	0.01	0	0.04	0	---	---	18
19	---	---	---	1.1	0.09	0.02	0.01	0	0.13	0	---	---	19
20	---	---	---	1.4	0.08	0.18	0.01	0	0.27	0.01	---	---	20
21	---	---	---	1.4	0.09	0.57	0.01	0	0.30	0.05	---	---	21
22	---	---	---	1.4	0.07	1.6	0.01	0	0.27	0	---	---	22
23	---	---	---	1.6	0.35	2.0	0.01	0	0.22	0	---	---	23
24	---	---	---	1.8	0.45	1.5	0.01	0	0.12	0	---	---	24
25	---	---	---	1.9	0.36	1.0	0.01	0	0.01	0.02	---	---	25
26	---	---	---	1.6	0.31	0.78	0.01	0	0	0.02	---	---	26
27	---	---	---	1.4	0.25	0.59	0.01	0	0.01	0.01	---	---	27
28	---	---	---	1.3	0.20	0.44	0.01	0	0	0.01	---	---	28
29	---		---	1.1	0.16	0.36	0.01	0	0	0.01	---	---	29
30	---		---	0.96	0.14	0.56	0.01	0	0	0.01	---	---	30
31	---		---		0.13		0.01	0		0.01		---	31
TOTAL	---	---	---	17.94	9.44	11.10	3.56	0.10	1.58	0.75	---	---	TOTAL
MEAN	---	---	---	0.60	0.30	0.37	0.11	0	0.05	0.02	---	---	MEAN
AC-FT	---	---	---	35.6	18.7	22.0	7.1	0.20	3.1	1.5	---	---	AC-FT
MAX	---	---	---	1.9	0.87	2.0	0.58	0.01	0.30	0.26	---	---	MAX
MIN	---	---	---	0	0.07	0.02	0.01	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.21 CFS
TOTAL DISCHARGE, 88.2 AC-FT
MAXIMUM DAILY DISCHARGE, 2.0 CFS ON JUN 23
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.2 CFS AT 0313 CST ON JUN 23

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

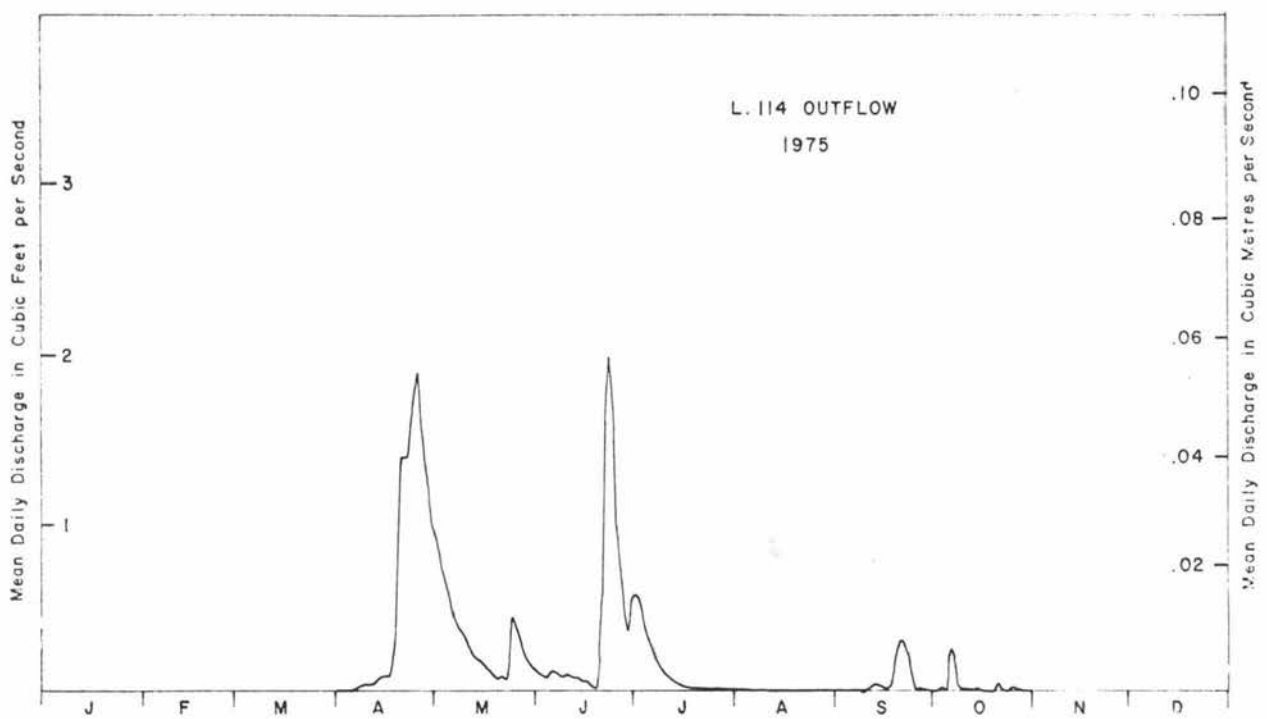


Fig. 6 Annual hydrograph based on mean daily discharges for the Lake 114 outflow for 1975.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.09	0.16	0	0	0	0	0	---	---	1
2	---	---	---	0.09	0.15	0	0	0	0	0	---	---	2
3	---	---	---	0.11	0.14	0 A	0	0	0	0	---	---	3
4	---	---	---	0.14	0.11	0	0	0	0	0	---	---	4
5	---	---	---	0.21	0.09	0	0	0	0	0	---	---	5
6	---	---	---	0.45	0.07	0	0	0	0	0	---	---	6
7	---	---	---	0.64	0.06	0	0	0	0	0	---	---	7
8	---	---	---	0.77	0.04	0	0	0	0	0	---	---	8
9	---	---	---	0.77	0.03	0	0	0	0	0	---	---	9
10	---	---	---	0.84	0.02	0	0	0	0	0	---	---	10
11	---	---	---	0.89	0.01	0	0	0	0	0	---	---	11
12	---	---	---	0.76	0.01	0	0	0	0	0	---	---	12
13	---	---	---	1.0	0.01	0	0	0	0	0	---	---	13
14	---	---	---	0.74	0.02	0	0	0	0	0	---	---	14
15	---	---	---	0.78	0.03	0	0	0	0	0	---	---	15
16	---	---	---	1.5	0.04	0	0	0	0	0	---	---	16
17	---	---	---	1.6	0.02	0	0	0	0	0	---	---	17
18	---	---	---	1.3	0.01	0	0	0	0	0	---	---	18
19	---	---	---	0.95	0.01	0	0	0	0	0	---	---	19
20	---	---	---	0.80	0.01	0	0	0	0	0	---	---	20
21	---	---	---	0.68	0.01	0	0	0	0	0	---	---	21
22	---	---	---	0.54	0.01	0	0	0	0	0	---	---	22
23	---	---	---	0.44	0.01	0	0	0	0	0	---	---	23
24	---	---	---	0.77	0	0	0	0	0	0	---	---	24
25	---	---	---	0.35	0	0	0	0	0	0	---	---	25
26	---	---	---	0.27	0	0	0	0	0	0	---	---	26
27	---	---	---	0.22	0	0	0	0	0	0	---	---	27
28	---	---	---	0.20	0	0	0	0	0	0	---	---	28
29	---	---	---	0.17	0	0	0	0	0	0	---	---	29
30	---		0.13	0.16	0	0	0	0	0	0	---	---	30
31	---		0.08		0		0	0		0		---	31
TOTAL	---	---	---	18.23	1.07	0	0	0	0	0	---	---	TOTAL
MEAN	---	---	---	0.61	0.03	0	0	0	0	0	---	---	MEAN
AC-FT	---	---	---	36.2	2.1	0	0	0	0	0	---	---	AC-FT
MAX	---	---	---	1.6	0.16	0	0	0	0	0	---	---	MAX
MIN	---	---	---	0.09	0	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.09 CFS
TOTAL DISCHARGE, 38.3 AC-FT
MAXIMUM DAILY DISCHARGE, 1.6 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 24

MAXIMUM INSTANTANEOUS DISCHARGE
4.8 CFS AT 1834 CST ON APR 16

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

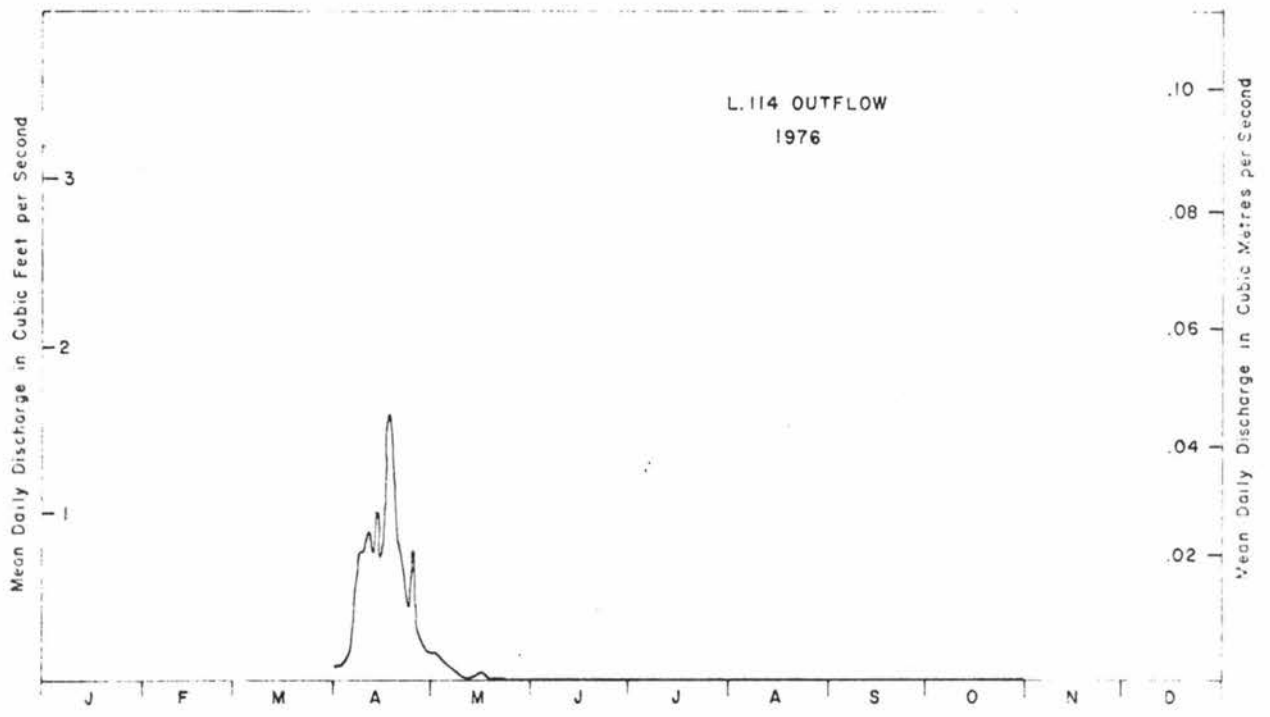


Fig. 6 Annual hydrograph based on mean daily discharges for the Lake 114 outflow for 1976.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0 E	0.31 E	0.02 E	0	0.02 E	0.21	0.06	---	1
2	---	---	---	0 E	0 E	0.28 A	0.02 E	0	0.02 E	0.18	0.05	---	2
3	---	---	---	0 E	0 E	0.25 E	0.02 E	0	0.05 E	0.17	---	---	3
4	---	---	---	0 E	0 E	0.22 E	0.01 E	0	0.08 E	0.16	---	---	4
5	---	---	---	0 E	0.14 E	0.19 E	0.01 E	0	0.10 E	0.16	---	---	5
6	---	---	---	0 E	0.14 E	0.38 E	0	0	0.09 A	0.15	---	---	6
7	---	---	---	0 E	0.14 E	0.34 E	0	0	0.08 A	0.14	---	---	7
8	---	---	---	0 E	0.14 E	0.31 E	0	0	0.08 A	0.13	---	---	8
9	---	---	---	0 E	0.14 E	0.26 E	0	0	0.61 E	0.12	---	---	9
10	---	---	---	0 E	0.14 E	0.24 E	0	0.01 A	0.61 E	0.12	---	---	10
11	---	---	---	0 E	0.32 E	0.28 E	0	0.01	0.58 E	0.11	---	---	11
12	---	---	---	0 E	0.32 A	0.25 E	0	0	0.58 E	0.10	---	---	12
13	---	---	---	0.02 E	0.31 E	0.21 E	0	0	0.58 A	0.09	---	---	13
14	---	---	---	0.05 E	0.36 E	0.45 E	0	0	0.51	0.08	---	---	14
15	---	---	---	0.08 A	0.34 E	0.42 E	0	0	0.43	0.08	---	---	15
16	---	---	---	0 E	0.32 E	0.61 E	0	0	0.35	0.07	---	---	16
17	---	---	---	0 E	0.31 E	1.0 A	0	0.06	0.29	0.07	---	---	17
18	---	---	---	0.01 E	0.29 E	1.2 E	0	0.02	0.25	0.07	---	---	18
19	---	---	---	0.01 E	0.36 E	1.4 E	0	0.01 A	0.21	0.06	---	---	19
20	---	---	---	0 E	0.34 E	1.3 E	0	0.08 E	0.17	0.06	---	---	20
21	---	---	---	0 E	0.32 E	1.2 E	0	0.06 E	0.15	0.05	---	---	21
22	---	---	---	0 E	0.31 E	1.2 E	0	0.05 E	0.14	0.05	---	---	22
23	---	---	---	0 E	0.29 E	0.53 E	0	0.03 E	0.13	0.04	---	---	23
24	---	---	---	0 E	0.28 E	0.12 E	0	0.02 E	0.19	0.04	---	---	24
25	---	---	---	0 E	0.26 A	0.10 E	0	0.12 E	0.27	0.04	---	---	25
26	---	---	---	0 E	0.25 E	0.08 E	0	0.10 E	0.30	0.04	---	---	26
27	---	---	---	0 E	0.24 E	0.07 E	0	0.08 E	0.31	0.03	---	---	27
28	---	---	---	0 E	0.45 E	0.06 A	0	0.07 E	0.30	0.02	---	---	28
29	---		---	0 E	0.42 E	0.04 E	0	0.06 E	0.27	0.02	---	---	29
30	---		---	0 E	0.38 E	0.03 E	0	0.04 E	0.24	0.02	---	---	30
31	---		---		0.34 E		0	0.03 E		0.04		---	31
TOTAL	---	---	---	0.17	7.65	13.33	0.08	0.85	7.99	2.72	---	---	TOTAL
MEAN	---	---	---	0.01	0.25	0.44	0	0.03	0.27	0.09	---	---	MEAN
AC-FT	---	---	---	0.34	15.2	26.4	0.16	1.7	15.8	5.4	---	---	AC-FT
MAX	---	---	---	0.08	0.45	1.4	0.02	0.12	0.61	0.21	---	---	MAX
MIN	---	---	---	0	0	0.03	0	0	0.02	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.15 CFS
TOTAL DISCHARGE, 65.0 AC-FT
MAXIMUM DAILY DISCHARGE, 1.4 CFS ON JUN 19
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

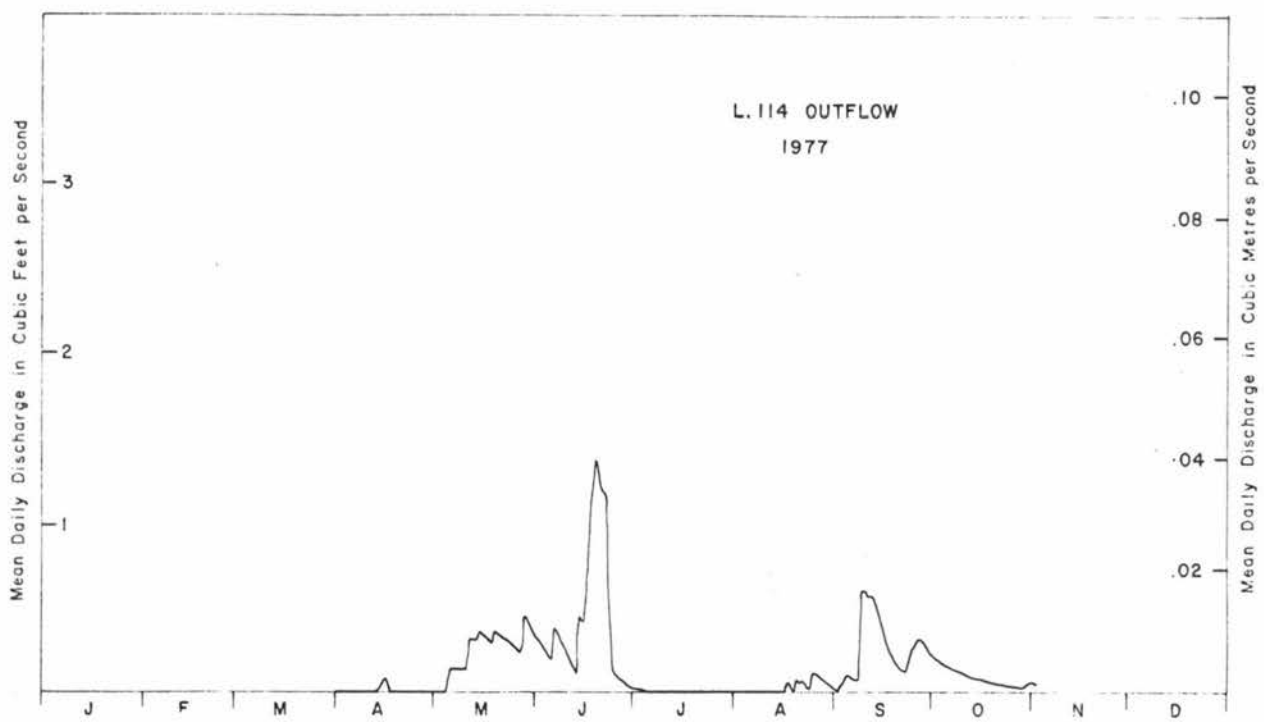


Fig. 6 Annual hydrograph based on mean daily discharges for the Lake 114 outflow for 1977.

Table 89 Mean daily discharges in cubic feet per second for the Lake 114 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.07 E	1.1	0.82	0.05 E	0.05	0.11	0.13	---	---	1
2	---	---	---	0.07 E	0.87	0.85 A	0.03 E	0.09	0.10	0.11	---	---	2
3	---	---	---	0.08 E	0.76	0.70 E	0.02 E	0.09	0.10	0.11	---	---	3
4	---	---	---	0.09 E	0.67	0.58 E	0.02 A	0.08	0.09	0.11	---	---	4
5	---	---	---	0.09 E	0.58	0.47 A	0.07 E	0.07	0.08	0.11	---	---	5
6	---	---	---	0.09 A	0.50	0.45	0.06 E	0.06	0.08	0.10	---	---	6
7	---	---	---	0.09	0.43	0.36 A	0.03 E	0.05	0.06	0.09 A	---	---	7
8	---	---	---	0.09	0.45	0.32 E	0.05 E	0.04	0.05	0.08 E	---	---	8
9	---	---	---	0.10	0.43	0.28 E	0.04 E	0.02	0.03	0.07 A	---	---	9
10	---	---	---	0.09	0.42	0.25 E	0.03 E	0.02	0.02 E	0.08	---	---	10
11	---	---	---	0.09	0.42	0.22 E	0.02 A	0.02	0.01 E	0.08	---	---	11
12	---	---	---	0.10	0.38	0.19 E	0.03	0.01	0.03 E	0.07 A	---	---	12
13	---	---	---	0.09	0.34	0.18 E	0.03	0.01	0.21 E	0.06 E	---	---	13
14	---	---	---	0.09	0.29	0.15 E	0.06	0.01	0.34 E	0.06 E	---	---	14
15	---	---	---	0.09	0.24	0.15 A	0.05	0.02	0.32 E	0.06 E	---	---	15
16	---	---	---	0.10	0.20	0.15	0.05	0.04	0.32 E	0.06 E	---	---	16
17	---	---	---	0.11	0.18	0.14	0.04	0.04	0.28	0.04 A	---	---	17
18	---	---	---	0.08 A	0.16	0.10	0.07	0.11	0.25 E	0.03 E	---	---	18
19	---	---	---	1.1	0.14	0.09	0.07	0.10	0.22 A	0.02 E	---	---	19
20	---	---	---	1.1	0.13	0.07	0.09	0.09	0.21 A	0.02 E	---	---	20
21	---	---	---	1.0	0.11	0.07	0.07	0.08	0.18 A	0.03 E	---	---	21
22	---	---	---	1.2	0.13	0.07	0.05	0.07	0.16 E	0.03 E	---	---	22
23	---	---	---	1.6	0.22	0.04	0.08	0.06	0.14 E	0.03 A	---	---	23
24	---	---	---	1.9	0.19	0.08 A	0.07	0.05	0.14 E	0.04 A	---	---	24
25	---	---	---	2.2	0.18	0.08 E	0.06	0.05	0.12 E	0.05 E	---	---	25
26	---	---	---	2.2	0.76	0.08 E	0.04	0.05	0.10 A	0.06 E	---	---	26
27	---	---	---	2.3	1.1	0.07 E	0.03	0.07	0.09	0.05 E	---	---	27
28	---	---	---	2.1	0.82	0.06 E	0.02	0.13	0.09	0.05 E	---	---	28
29	---		---	1.8	0.69	0.06 E	0.02	0.12	0.14	0.04 E	---	---	29
30	---		---	1.3	0.73	0.06 A	0.02	0.10	0.13	0.03 E	---	---	30
31	---		---		0.63		0.04	0.09		0.03 A		---	31
TOTAL	---	---	---	21.41	14.25	7.19	1.41	1.89	4.20	1.93	---	---	TOTAL
MEAN	---	---	---	0.71	0.46	0.24	0.05	0.06	0.14	0.06	---	---	MEAN
AC-FT	---	---	---	42.5	28.3	14.3	2.8	3.7	8.3	3.8	---	---	AC-FT
MAX	---	---	---	2.3	1.1	0.85	0.09	0.13	0.34	0.13	---	---	MAX
MIN	---	---	---	0.07	0.11	0.04	0.02	0.01	0.01	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.24 CFS
TOTAL DISCHARGE, 104 AC-FT
MAXIMUM DAILY DISCHARGE, 2.3 CFS ON APR 27
MINIMUM DAILY DISCHARGE, 0.01 CFS ON AUG 12

MAXIMUM INSTANTANEOUS DISCHARGE
2.4 CFS AT 0133 CST ON APR 27

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

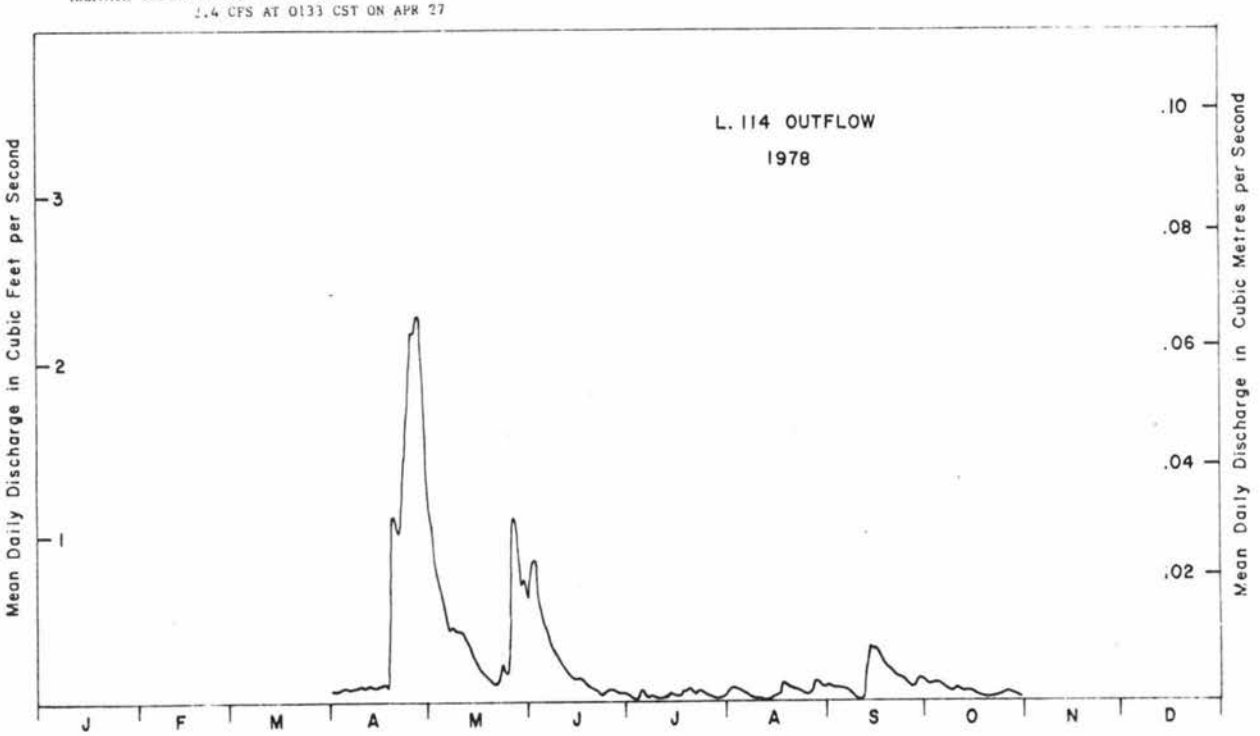


Fig. 6 Annual hydrograph based on mean daily discharges for the Lake 114 outflow for 1978.

Lake 120 Hydrological Data 1970-1974

Lake 120 is located 5 miles (8 kilometres) west of the ELA field station (Fig. 3). A basin topographical map (Fig. 7) with 10 foot contour interval, and a lake bathymetric map (Fig. 8) with 1 metre contour interval are included. The basin topographical map is based on mapping by Lockwood Survey in 1972. The datum is approximate elevation above sea level in feet.

Hydrological work on Lake 120 has consisted of estimates of annual flow for 1970, 1971 and 1972 by P. Campbell (1976), and monitored flows by Water Survey and ELA staff for 1973 and 1974.

The estimates of lake outflow by Campbell (Table 90) were calculated by subtracting surface evaporation from the total input. Values of precipitation, runoff, and evaporation from the L. 239 watershed were used, and storage was assumed to be zero. The operation of a 60° V-notch weir and water level recorder was commenced by WSC on April 4, 1972. This station was operated from mid-April to the end of October in 1972, 1973 and 1974. Generally, the small ELA lake outflows were zero during the winter and early spring. Service of the station and calculation of the flows were carried out by WSC (Keewatin) staff in 1972 and 1973 and by ELA staff in 1974. All original water level recorder charts are on file with WSC. This station was discontinued following the 1974 field season.

Table 90. Location and morphometric data for Lake 120.

Estimate of total annual outflow*

1970	223,500 metres^3
1971	233,600
1972	147,500

Location:

Latitude	49 39 20 N
Longitude	93 50 20 W

Morphometric data

Basin terrestrial area	60.4	hectares
Lake surface area	9.31	"
Total basin area	69.7	"

Lake volume 704,000 metre^3

Lake mean depth 7.56 metre

* estimates by P. Campbell (1976).

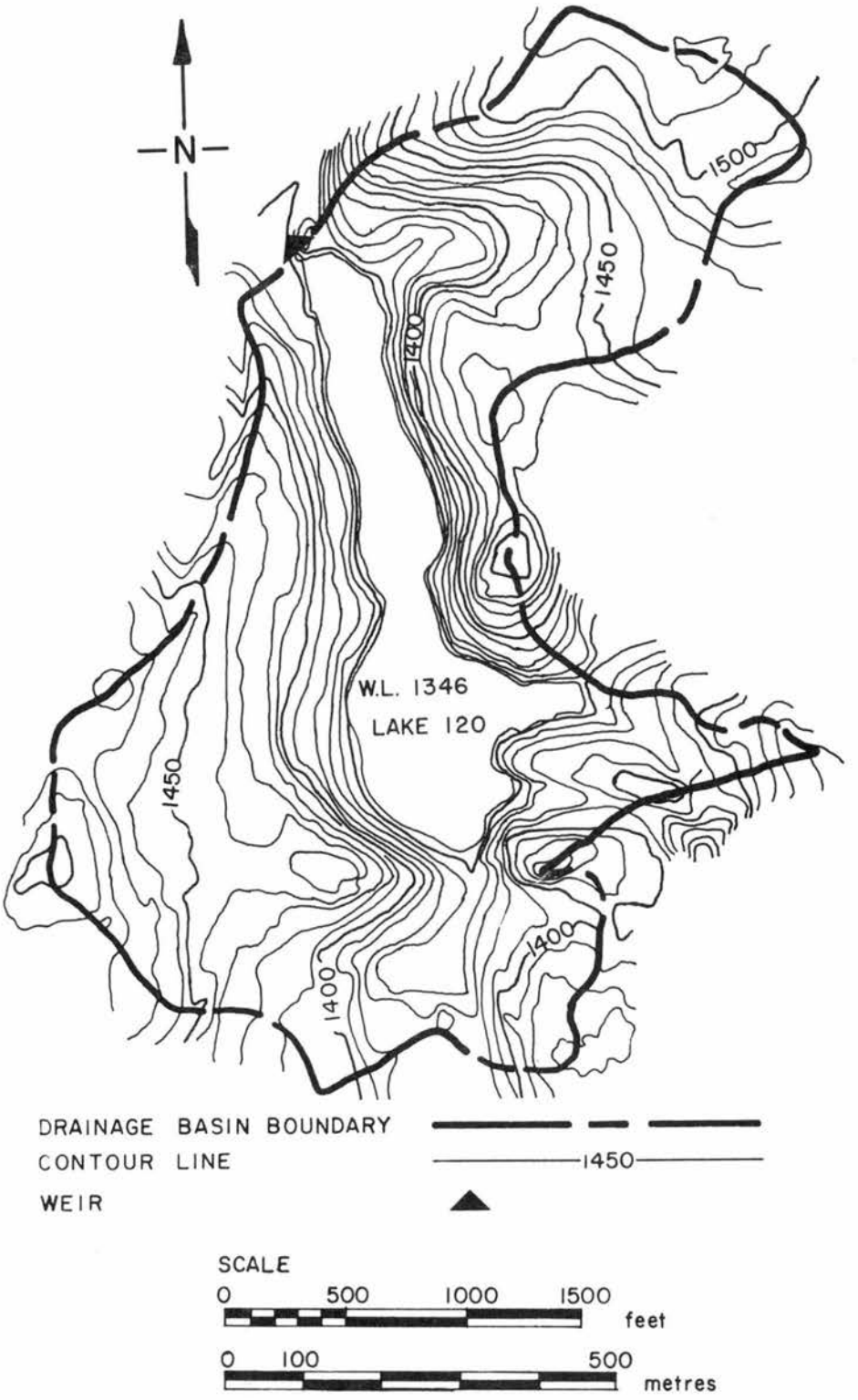


Fig. 7 Topographical map of the Lake 120 drainage basin. Contours are in feet.

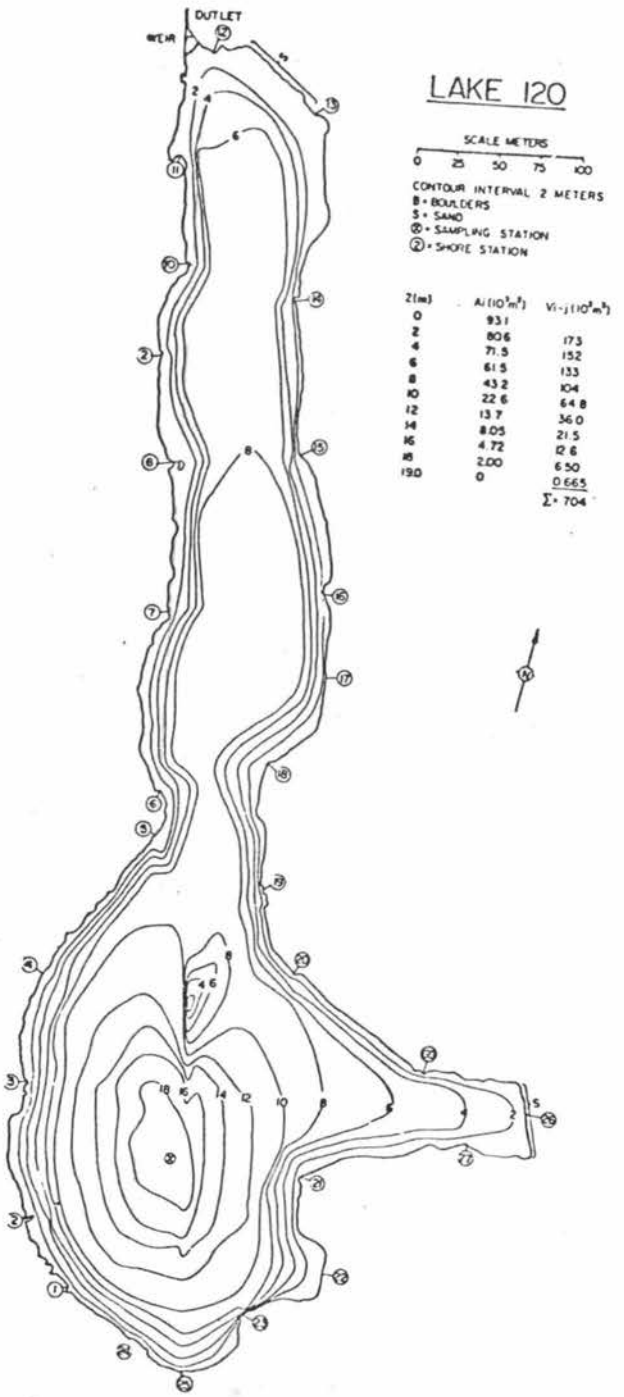


Fig. 8 Bathymetric chart of Lake 120.

Table 91 Mean daily discharges in cubic feet per second for the Lake 120 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	---	---	---	---	1
2	---	---	---	---	---	---	---	---	---	---	---	---	2
3	---	---	---	---	---	---	---	---	---	---	---	---	3
4	---	---	---	0.02	---	---	---	---	---	---	---	---	4
5	---	---	---	---	---	0.19	---	---	---	---	---	---	5
6	---	---	---	---	---	---	---	---	---	---	---	---	6
7	---	---	---	---	---	---	---	---	---	---	---	---	7
8	---	---	---	---	0.28	---	---	---	---	---	---	---	8
9	---	---	---	---	---	---	---	---	---	---	---	---	9
10	---	---	---	---	---	---	---	---	---	---	---	---	10
11	---	---	---	---	---	---	---	---	---	---	---	---	11
12	---	---	---	---	---	---	---	---	---	---	---	---	12
13	---	---	---	---	---	---	---	---	---	---	---	---	13
14	---	---	---	---	---	---	---	---	---	---	---	---	14
15	---	---	---	---	---	---	---	---	---	---	---	---	15
16	---	---	---	---	---	---	---	---	---	---	---	---	16
17	---	---	---	---	---	---	---	---	---	---	---	---	17
18	---	---	---	---	---	---	---	---	---	---	---	---	18
19	---	---	---	0.27	---	---	---	---	---	---	---	---	19
20	---	---	---	---	---	---	---	---	---	---	---	---	20
21	---	---	---	---	---	---	---	---	---	---	---	---	21
22	---	---	---	---	---	---	---	---	---	---	---	---	22
23	---	---	---	---	---	---	---	---	---	0.05	---	---	23
24	---	---	---	---	---	---	0.07	---	---	---	---	---	24
25	---	---	---	---	---	---	---	---	0.08	---	---	---	25
26	---	---	---	1.3	---	---	---	---	---	---	---	---	26
27	---	---	---	---	---	---	---	---	---	---	---	---	27
28	---	---	---	---	---	---	---	0.25	---	---	---	---	28
29	---	---	---	---	---	---	---	---	---	---	---	---	29
30	---		---	---	---	---	---	---	---	---	---	---	30
31	---		---		---		---	---		---		---	31
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	---	---	---	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---	AC-FT
MAX	---	---	---	---	---	---	---	---	---	---	---	---	MAX
MIN	---	---	---	---	---	---	---	---	---	---	---	---	MIN

TYPE OF GAUGE - RECORDING

NATURAL FLOW

Table 91 Mean daily discharges in cubic feet per second for the Lake 120 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.06 E	0.26	0.06	0.24	0.18	0.06	0.28	---	---	1
2	---	---	---	0.06 E	0.28	0.02	0.25	0.19	0.24	0.23	---	---	2
3	---	---	---	0.06 E	0.27	0.01	0.22	0.21	0.32	0.36	---	---	3
4	---	---	---	0.06 E	0.28	0.01	0.19	0.10	1.4	0.55	---	---	4
5	---	---	---	0.11 E	0.33	0	0.15	0.06	1.8	0.52	---	---	5
6	---	---	---	0.11 E	0.39	0.02	0.18	0.22	1.2	0.44	---	---	6
7	---	---	---	0.16 E	0.39	0.03	0.57	0.29	0.75	0.37	---	---	7
8	---	---	---	0.16 E	0.37	0.03	0.89	0.34	0.52	0.32	---	---	8
9	---	---	---	0.16 E	0.34	0.03	0.76	1.0	0.39	0.34	---	---	9
10	---	---	---	0.21 E	0.32	0.03	0.58	1.2	0.30	0.40	---	---	10
11	---	---	---	0.20 E	0.32	0.03	0.44	0.75	0.21	0.53	---	---	11
12	---	---	---	0.19 E	0.32	0.03	0.35	0.58	0.15	1.7	---	---	12
13	---	---	---	0.20 E	0.28	0.02	0.25	0.46	0.12	1.7	---	---	13
14	---	---	---	0.19 E	0.25	0.02	0.18	0.31	0.12	1.2	---	---	14
15	---	---	---	0.24 E	0.22	0.05	0.13	0.16	0.10	0.81	---	---	15
16	---	---	0.03	0.26 E	0.20	0.05	0.11	0.30	0.08	0.56	---	---	16
17	---	---	---	0.26 E	0.17	0.12	0.09	0.38	0.06	0.43	---	---	17
18	---	---	---	0.24 E	0.14	0.19	0.08	0.25	0.06	0.37	---	---	18
19	---	---	---	0.24 E	0.13	0.25	0.04	0.20	0.05	0.30	---	---	19
20	---	---	---	0.55 E	0.12	0.27	0.02	0.15	0.04	0.28	---	---	20
21	---	---	---	1.4 E	0.11	0.27	0.01	0.11	0.07	0.23	---	---	21
22	---	---	---	1.3 E	0.09	0.26	0.01	0.08	0.62	0.21	---	---	22
23	---	---	---	0.98 E	0.09	0.23	0.01	0.06	0.90	0.18	---	---	23
24	---	---	---	0.78 E	0.09	0.22	0.01	0.05	0.73	0.16	---	---	24
25	---	---	---	0.65 E	0.11	0.27	0.01	0.03	0.89	0.16	---	---	25
26	---	---	---	0.54 E	0.11	0.29	0.03	0.03	0.89	0.14	---	---	26
27	---	---	---	0.46 E	0.11	0.35	0.17	0.03	0.74	0.14	---	---	27
28	---	---	---	0.40 E	0.10	0.31	0.19	0.02	0.56	0.13	---	---	28
29	---		---	0.35 E	0.08	0.27	0.13	0.02	0.44	0.12	---	---	29
30	---		---	0.28 A	0.06	0.25	0.21	0.01	0.35	0.11	---	---	30
31	---		---		0.06		0.23	0.01		0.10		---	31
TOTAL	---	---	---	10.86	6.39	3.99	6.73	7.78	14.16	13.37	---	---	TOTAL
MEAN	---	---	---	0.36	0.21	0.13	0.22	0.25	0.47	0.43	---	---	MEAN
AC-FT	---	---	---	21.5	12.7	7.9	13.3	15.4	28.1	26.5	---	---	AC-FT
MAX	---	---	---	1.4	0.39	0.35	0.89	1.2	1.8	1.7	---	---	MAX
MIN	---	---	---	0.06	0.06	0	0.01	0.01	0.04	0.10	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.30 CFS
TOTAL DISCHARGE, 125 AC-FT
MAXIMUM DAILY DISCHARGE, 1.8 CFS ON SEP 5
MINIMUM DAILY DISCHARGE, 0 CFS ON JUN 5

MAXIMUM INSTANTANEOUS DISCHARGE
2.0 CFS AT 1935 CST ON OCT 12

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

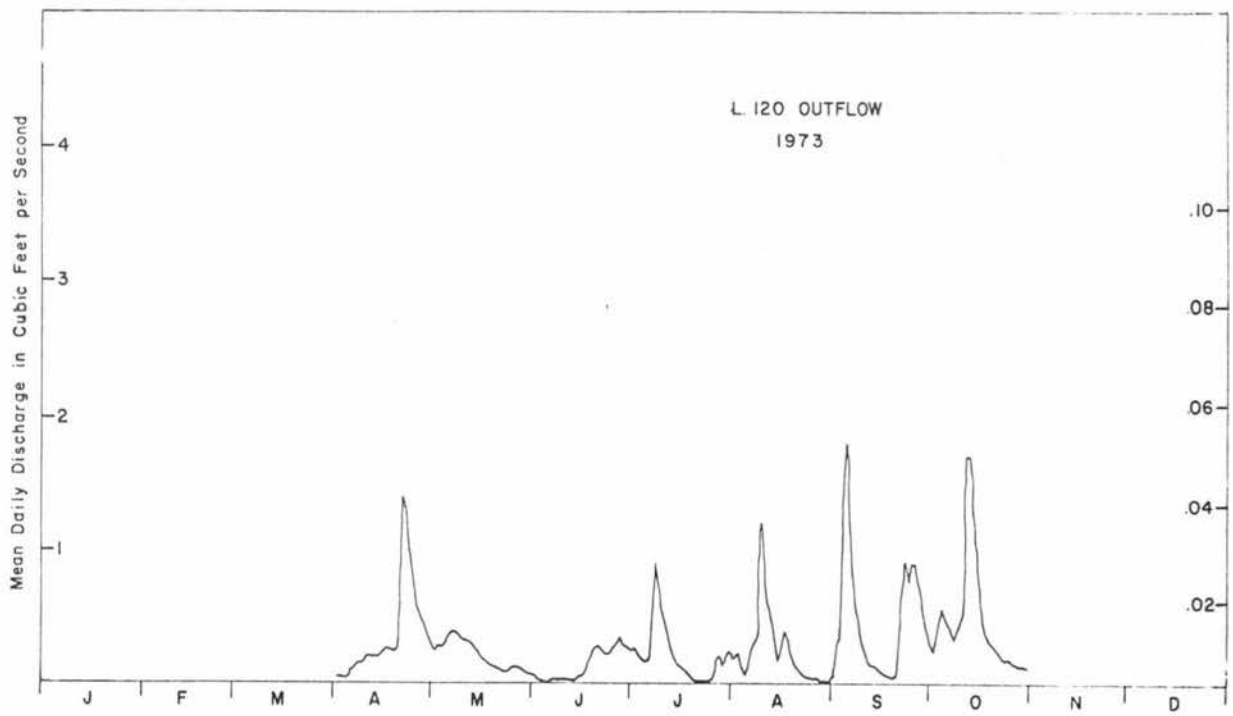


Fig. 9 Annual hydrograph based on mean daily discharges for the Lake 120 outflow for 1973.

Table 91 Mean daily discharges in cubic feet per second for the Lake 120 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.05	0.84	0.15	0	0	M	0.22	0.17	---	1
2	---	---	---	0.05	0.74	0.13	0	0	M	0.22	0.19	---	2
3	---	---	---	0.05	0.62	0.11	0	0	M	0.26	0.21	---	3
4	---	---	---	0.05	0.54	0.09	0	0	M	0.25	0.19	---	4
5	---	---	---	0.05	0.47	0.16	0	0	M	0.28	0.18	---	5
6	---	---	---	0.05	0.38	0.77	0	0	M	0.31	0.17	---	6
7	---	---	---	0.05	0.32	1.20	0	0	M	0.35	0.16	---	7
8	---	---	---	0.05	0.28	1.00	0	0	M	0.35	0.17	---	8
9	---	---	---	0.05	0.24	0.84	0	0	M	0.35	0.18	---	9
10	---	---	---	0.09	0.23	0.65	0	0	M	0.35	0.18	---	10
11	---	---	---	0.06	0.82	0.47	0	0	M	0.34	0.18	---	11
12	---	---	---	0.05	2.00	0.35	0	0	0.34 E	0.32	0.17	---	12
13	---	---	---	0.05	1.80	0.29	0	0	0.32	0.31	0.17	---	13
14	---	---	---	0.05	1.30	0.26	0	0	0.29	0.31	0.17	---	14
15	---	---	---	0.06	1.00	0.25	0	0.07 E	0.26	0.34	0.16	---	15
16	---	---	---	0.12	0.89	0.19	0	M	0.28	0.38	0.15	---	16
17	---	---	---	0.38	0.84	0.15	0	M	0.31	0.40	0.14	---	17
18	---	---	---	0.70	0.72	0.13	0	M	0.40	0.40	0.13	---	18
19	---	---	---	0.94	0.62	0.11	0	M	0.40	0.40	0.13	---	19
20	---	---	---	1.70	0.77	0.09	0	M	0.37	0.40	0.13	---	20
21	---	---	---	3.80	0.89	0.07	0	M	0.31	0.38	0.13 E	---	21
22	---	---	---	2.80	0.82	0.06	0	M	0.29	0.37	---	---	22
23	---	---	---	1.90	0.70	0.05	0	M	0.25	0.35	---	---	23
24	---	---	---	1.50	0.58	0.04	0	M	0.25	0.34	---	---	24
25	---	---	---	1.50	0.49	0.03	0	M	0.24	0.31	---	---	25
26	---	---	---	1.60	0.40	0.03	0	M	0.24	0.29	---	---	26
27	---	---	---	1.70	0.34	0.03	0	M	0.23	0.29	---	---	27
28	---	---	0.05 E	1.50	0.29	0.03	0	M	0.19	0.28	---	---	28
29	---		0.05	1.20	0.24	0.02	0	M	0.22	0.28	---	---	29
30	---		0.05	1.00	0.19	0.01	0	M	0.23	0.26	---	---	30
31	---		0.05		0.17		0	M		0.26		---	31
TOTAL	---	---	---	23.15	20.53	7.76	0	---	---	9.95	---	---	TOTAL
MEAN	---	---	---	0.77	0.66	0.26	0	---	---	0.32	---	---	MEAN
AC-FT	---	---	---	45.9	40.7	15.4	0	---	---	19.7	---	---	AC-FT
MAX	---	---	---	3.8	2.0	1.2	0	---	---	0.40	---	---	MAX
MIN	---	---	---	0.05	0.17	0.01	0	0	---	0.22	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.34 CFS
TOTAL DISCHARGE, 140.8 AC-FT(MAR 28-AUG 14, SEP 14-NOV 21)
MAXIMUM DAILY DISCHARGE, 3.80 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 1

MAXIMUM INSTANTANEOUS DISCHARGE
4.3 CFS AT 1200 CST ON APR 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED
M-MISSING

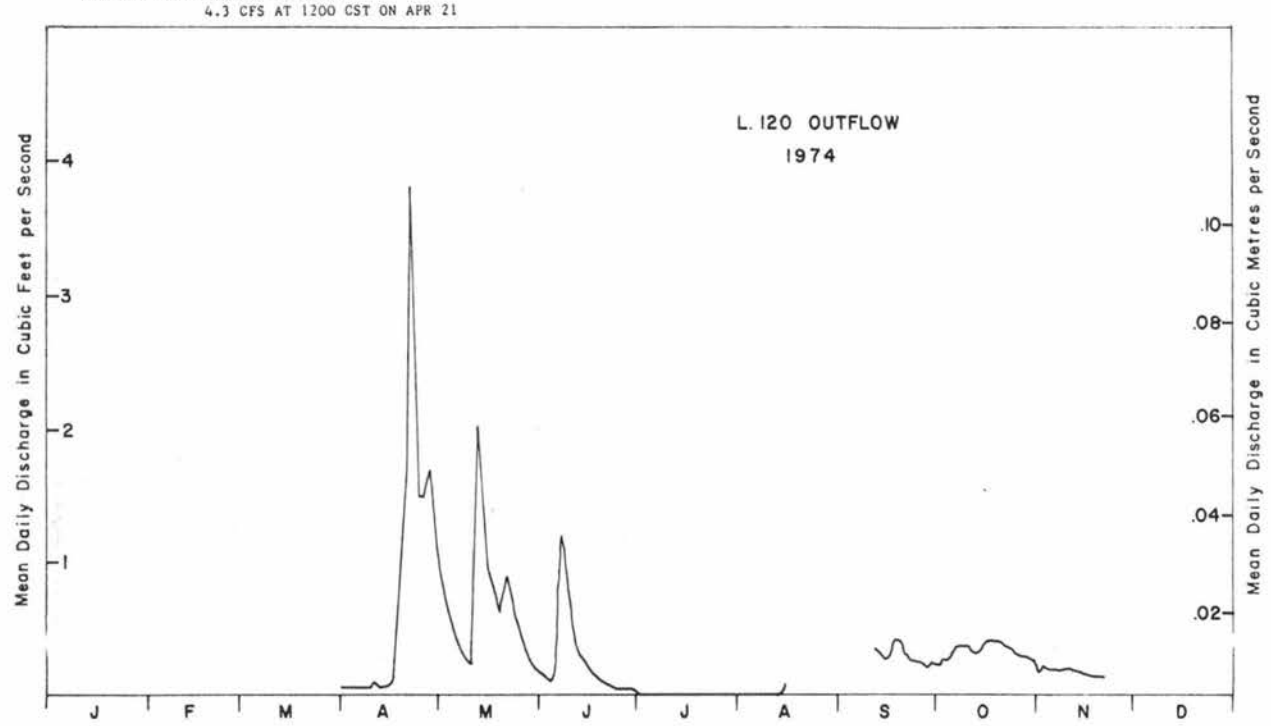


Fig. 9 Annual hydrograph based on mean daily discharges for the Lake 120 outflow for 1974.

Lake 223 Hydrological Data for 1975 to 1978

Lake 223, is located 2.5 miles (4 kilometres) north of the ELA field camp (Fig. 3). A basin topographical map (Fig. 10) with 10 foot contour interval, and a bathymetric map (Fig. 11) with 1 metre contour interval are included. The topographical map is based on mapping by Lockwood Survey (1972). The datum is approximate elevation above sea level in feet.

Lake 223 flows north into Lake 262 and receives water from Lake 224 and Lake 225. Table 92 provides morphometric basin data for the Lake 223 watershed, including its tributary areas. Hydrological work on Lake 223 began in August 1975, when Water Survey of Canada constructed a 90° V-notch weir in concrete, complete with Stevens water level recorder and staff gauge. The recorder was activated in early April and shut down in early November. No data for the November to April winter period exists, but flows were probably 0 to very low. Service of the weir, and computation of the flows for 1975 to 1978 were carried out by WSC. All original water level recorder charts are on file with that office.

Additional hydrological data collected in 1978 included lake surface temperature, lake level and precipitation from May to October (Table 93).

Table 92. Location and morphometric data for Lake 223

Location:		
Latitude	49 42 N	
Longitude	90 42 W	
Morphometric data		
Basin terrestrial area for L.223 (excluding L.224 and L.225 basins)		135.21 ha
Basin terrestrial area for L.224 (excluding L.225 basin)		41.09
Basin terrestrial area for L.225		26.48
Total terrestrial area for L.223		202.78
Lake 223 surface area		27.27
Lake 224 surface area		25.92
Lake 225 surface area		3.99
Total water surface in L.223 watershed		57.18
Total basin area for L.223 (including lake surfaces, excluding L.224 and 225 drainage)		162.48
Total basin area for L.223 (including lake surfaces, and L.224 and L.225 drainage)		259.96
Lake volume	195.1×10^4 metre^3	
Lake mean depth	7.2 metres	

Lakes 224 and 225 are tributary to Lake 223.

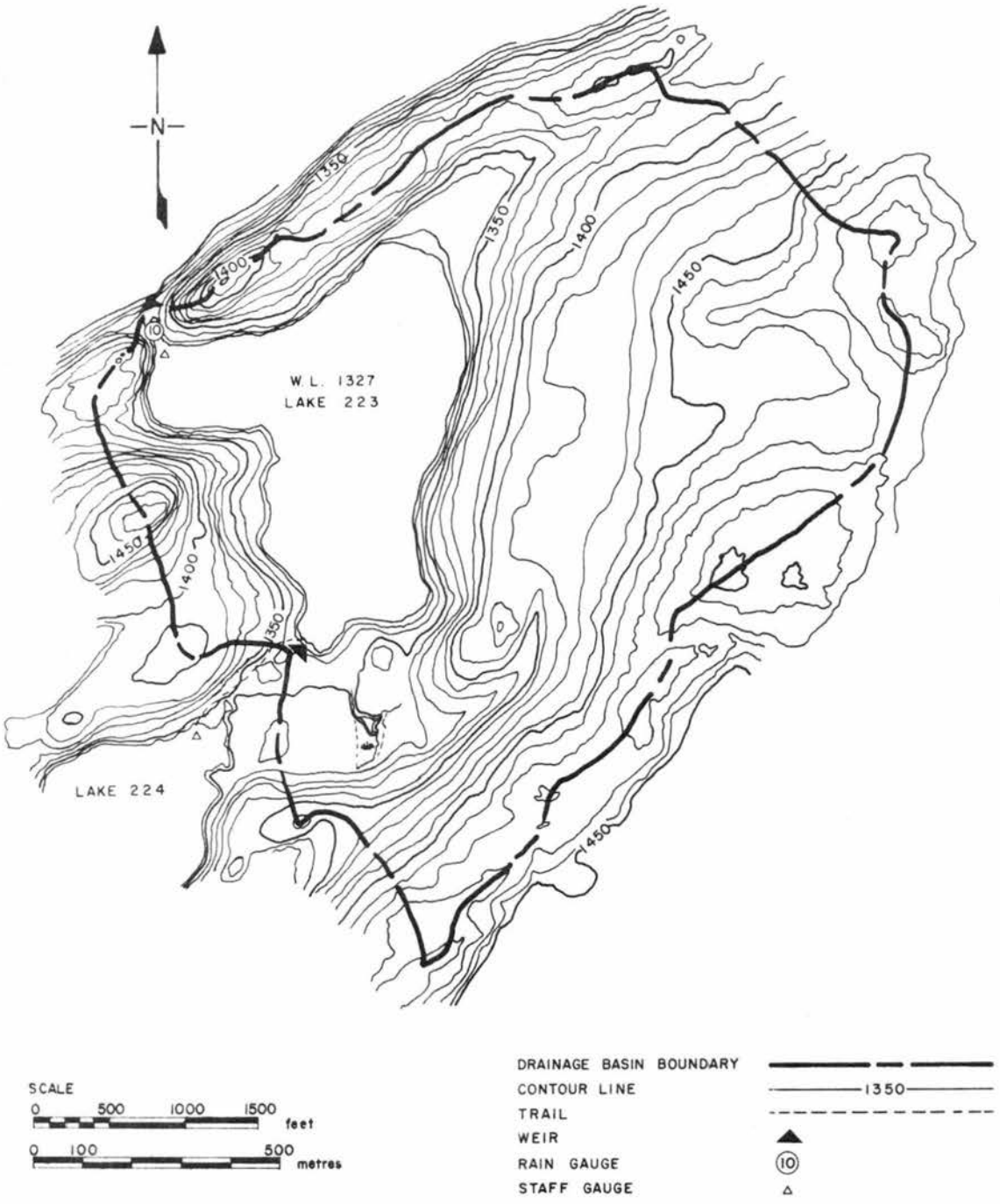


Fig. 10 Topographical map of the Lake 223 drainage basin. Contours are in feet.

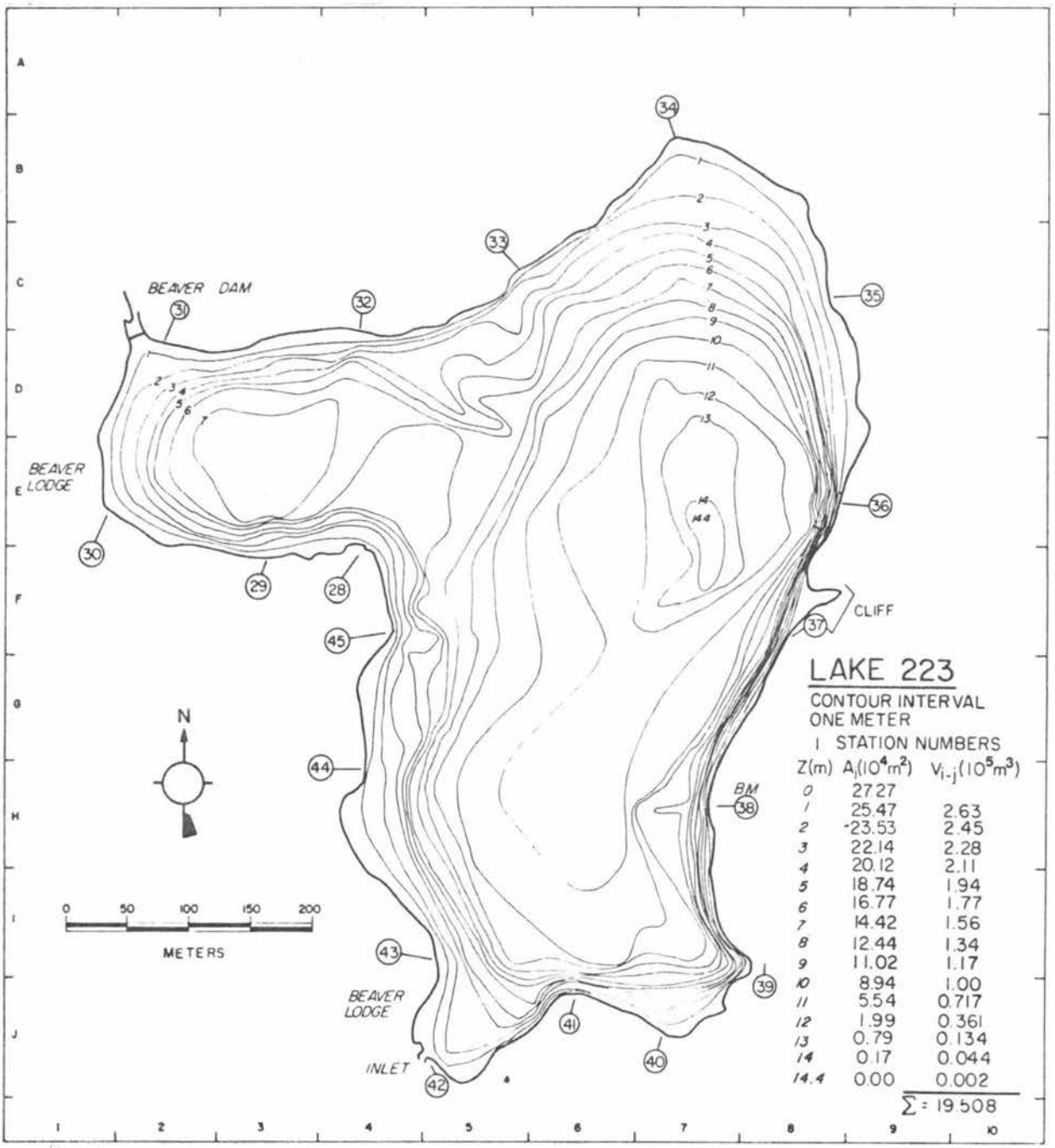


Fig. 11 Bathymetric chart of Lake 223.

Table 93 Measurements of lake surface temperature, lake level, and precipitation for Lake 223 for 1978.

Date	Time (cst)	Lake Temp. (°C)	Lake Level (ft.)	Rain Gauge #10 (inches)
May 8	14:00	6.0	1.87	Set up
May 9	08:45	-	1.87	0.02
May 10	10:10	-	1.87	0.06
May 12	09:12	-	1.85	0.21
May 15	07:50	13.0	1.81	0
May 16	08:25	-	1.77	0
May 17	10:15	-	1.77	0
May 21	09:25	14.2	1.76	0.12
May 23	08:55	-	1.76	0.18
May 29	09:05	19.4	1.86	1.60
May 30	16:00	16.5	1.89	0.79
May 31	08:35	-	1.86	0.13
June 1	14:00	14.0	1.91	0.64
June 2	07:25	-	1.90	0
June 5	08:35	14.2	1.78	0
June 7	07:15	-	1.80	0.32
June 9	07:45	-	1.81	0.11
June 12	07:30	-	1.69	-
June 14	07:35	16.8	1.63	-
June 14	15:30	15.9	1.64	0.01
June 15	07:05	-	1.62	0
June 19	09:10	16.9	1.58	0
June 21	07:20	-	1.53	0.12
June 23	07:29	-	1.49	-
June 26	08:00	19.0	1.53	0.66
June 27	08:07	-	1.54	0.32
June 30	17:20	23.0	1.54	0.46
July 3	07:35	21.4	1.49	0
July 10	07:55	21.0	1.45	0.93
July 17	09:15	21.3	1.37	0.86
July 18	13:50	-	1.41	0.50
July 19	13:30	21.0	1.41	0.40
July 20	07:10	-	1.39	-
July 24	08:00	21.0	1.31	0.31
July 25	07:40	-	1.29	-
July 27	08:00	-	1.23	0.10
July 31	08:30	19.8	1.17	0.32
July 31	16:00	20.5	1.15	0.03
Aug. 8	10:00	-	1.08	0.39
Aug. 14	15:40	20.8	1.00	0.14
Aug. 18	09:55	-	1.09	1.67
Aug. 21	07:50	19.8	1.08	0
Aug. 28	14:15	18.5	1.07	0.63
Aug. 29	10:36	19.5	1.06	0.03
Aug. 31	10:45	18.9	1.04	0.02
Sept. 4	13:25	-	1.04	0.32
Sept. 8	a.m.	19.3	-	-
Sept. 11	07:45	18.5	1.01	0
Sept. 15	07:55	-	1.07	1.69
Sept. 18	08:12	15.5	1.10	0.27
Sept. 21	p.m.	15.0	1.08	-
Sept. 25	08:45	13.6	1.05	0.04
Sept. 27	15:30	13.5	1.03	0.04
Oct. 2	07:50	12.8	1.08	0.62
Oct. 4	15:00	12.5	1.07	0.09
Oct. 9	08:00	11.5	1.02	0.09
Oct. 16	09:50	10.5	1.02	0.54
Oct. 17	16:00	9.8	1.01	0.01
Oct. 24	09:00	-	0.95	0.04
Oct. 31	14:50	7.0	0.96	0.11

Table 94 Mean daily discharges in cubic feet per second for Lake 223 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	0.11	0.09	---	---	1
2	---	---	---	---	---	---	---	---	0.11	0.09	---	---	2
3	---	---	---	---	---	---	---	---	0.08	0.07	---	---	3
4	---	---	---	---	---	---	---	---	0.06	0.05	---	---	4
5	---	---	---	---	---	---	---	---	0.07	0.03	---	---	5
6	---	---	---	---	---	---	---	0.31	0.07	0.03	---	---	6
7	---	---	---	---	---	---	---	0.33	0.14	0.03	---	---	7
8	---	---	---	---	---	---	---	0.29	0.13	0.03	---	---	8
9	---	---	---	---	---	---	---	0.24	0.12	0.03	---	---	9
10	---	---	---	---	---	---	---	0.23	0.13	0.03	---	---	10
11	---	---	---	---	---	---	---	0.23	0.13	0.03	---	---	11
12	---	---	---	---	---	---	---	0.21	0.11	0.04	---	---	12
13	---	---	---	---	---	---	---	0.19	0.11	0.04	---	---	13
14	---	---	---	---	---	---	---	0.18	0.10	0.04	---	---	14
15	---	---	---	---	---	---	---	0.19	0.09	0.04	---	---	15
16	---	---	---	---	---	---	---	0.18	0.07	0.04	---	---	16
17	---	---	---	---	---	---	---	0.15	0.08	0.03	---	---	17
18	---	---	---	---	---	---	---	0.13	0.10	0.04	---	---	18
19	---	---	---	---	---	---	---	0.11	0.11	0.04	---	---	19
20	---	---	---	---	---	---	---	0.09	0.17	0.04	---	---	20
21	---	---	---	---	---	---	---	0.09	0.17	0.04	---	---	21
22	---	---	---	---	---	---	---	0.07	0.16	0.03	---	---	22
23	---	---	---	---	---	---	---	0.15	0.16	0.03	---	---	23
24	---	---	---	---	---	---	---	0.16	0.15	0.05	---	---	24
25	---	---	---	---	---	---	---	0.14	0.14	0.10	---	---	25
26	---	---	---	---	---	---	---	0.12	0.12	0.08	---	---	26
27	---	---	---	---	---	---	---	0.10	0.10	0.08	---	---	27
28	---	---	---	---	---	---	---	0.09	0.09	0.09	---	---	28
29	---		---	---	---	---	---	0.08	0.09	0.08	---	---	29
30	---		---	---	---	---	---	0.07	0.09	0.09	---	---	30
31	---		---		---		---	0.09		0.08		---	31
TOTAL	---	---	---	---	---	---	---	---	3.36	1.61	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	---	0.11	0.05	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	---	6.7	3.2	---	---	AC-FT
MAX	---	---	---	---	---	---	---	---	0.17	0.10	---	---	MAX
MIN	---	---	---	---	---	---	---	---	0.06	0.03	---	---	MIN

TYPE OF GAUGE - RECORDING

NATURAL FLOW

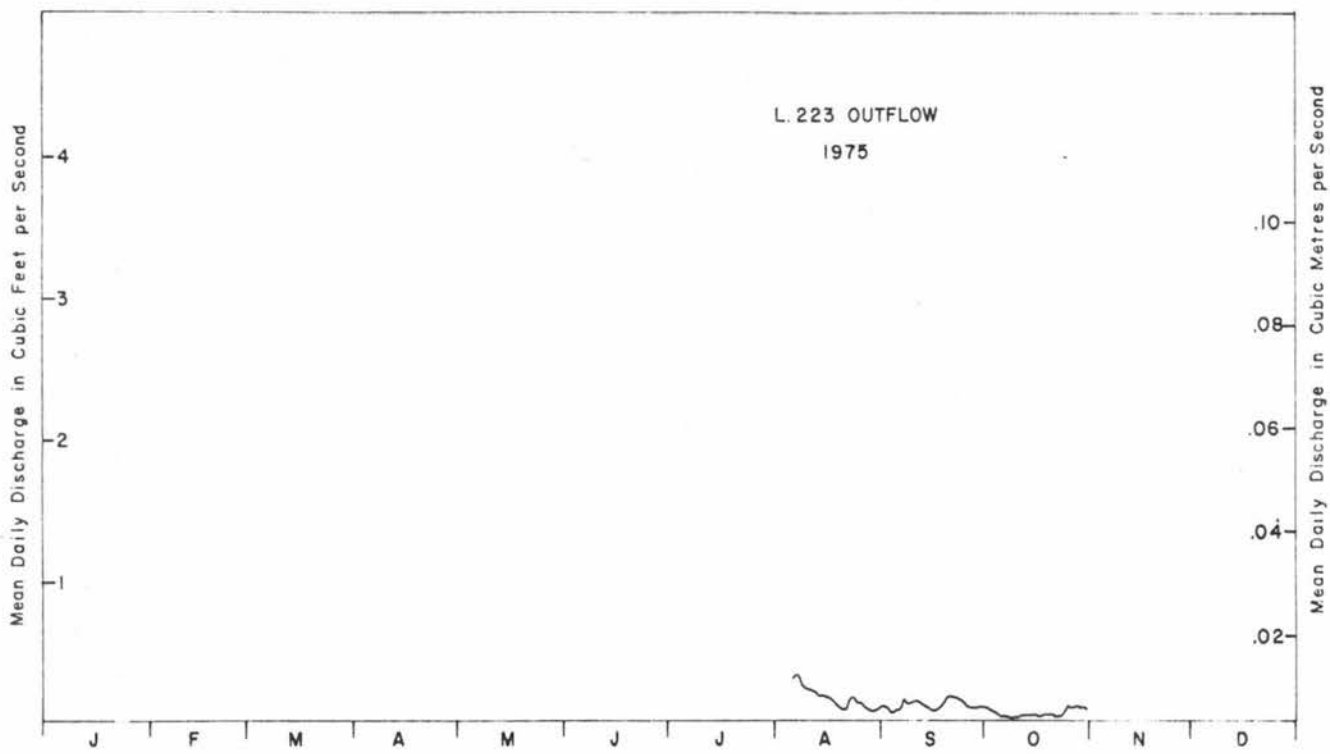


Fig. 12 Annual hydrograph based on mean daily discharges for Lake 223 outflow for 1975.

Table 94 Mean daily discharges in cubic feet per second for Lake 223 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.16	1.5	0.13	0.38	0.25	0.04	0.01	---	---	1
2	---	---	---	0.16	1.5	0.13	0.38	0.26	0.05	0.01	---	---	2
3	---	---	---	0.13	1.4	0.12	0.37	0.26	0.05	0.01	---	---	3
4	---	---	---	0.13	1.3	0.12	0.38	0.24	0.05	0.02	---	---	4
5	---	---	---	0.14	1.1	0.11	0.37	0.24	0.05	0.02	---	---	5
6	---	---	---	0.17	1.1	0.11	0.38	0.20	0.04	0.01	---	---	6
7	---	---	---	0.22	0.97	0.12	0.38	0.21	0.04	0.01	---	---	7
8	---	---	---	0.30	0.91	0.11	0.38	0.20	0.04	0.01	---	---	8
9	---	---	---	0.48	0.78	0.09	0.39	0.15	0.04	0.02	---	---	9
10	---	---	---	0.90	0.67	0.10	0.38	0.11	0.04	0.02	---	---	10
11	---	---	---	1.2	0.62	0.10	0.39	0.13	0.04	0.01	---	---	11
12	---	---	---	1.4	0.50	0.11	0.39	0.11	0.03	0.01	---	---	12
13	---	---	---	1.3	0.36	0.11	0.39	0.13	0.03	0.01	---	---	13
14	---	---	---	1.5	0.36	0.12	0.39	0.12	0.03	0.01	---	---	14
15	---	---	---	1.9	0.36	0.13	0.40	0.11	0.03	0.02	---	---	15
16	---	---	---	3.2	0.35	0.12	0.39	0.11	0.03	0.02	---	---	16
17	---	---	---	4.2	0.36	0.11	0.40	0.11	0.03	0.02	---	---	17
18	---	---	---	4.2	0.36	0.14	0.40	0.09	0.03	0.02	---	---	18
19	---	---	---	4.0	0.35	0.15	0.39	0.09	0.03	0.02	---	---	19
20	---	---	---	3.7	0.32	0.13	0.44	0.07	0.03	0.01	---	---	20
21	---	---	---	3.4	0.26	0.14	0.44	0.06	0.03	0.01	---	---	21
22	---	---	---	3.1	0.26	0.17	0.41	0.06	0.03	0.02	---	---	22
23	---	---	---	2.7	0.26	0.13	0.40	0.06	0.03	0.01	---	---	23
24	---	---	---	2.4	0.26	0.12	0.41	0.05	0.03	0.01	---	---	24
25	---	---	---	2.2	0.24	0.21	0.31	0.05	0.03	0.01	---	---	25
26	---	---	---	1.9	0.20	0.37	0.28	0.06	0.03	0.01	---	---	26
27	---	---	---	1.8	0.20	0.37	0.28	0.07	0.03	0.01	---	---	27
28	---	---	---	1.7	0.17	0.37	0.26	0.07	0.02	0.01	---	---	28
29	---	---	---	1.6	0.14	0.38	0.25	0.05	0.02	0.01	---	---	29
30	---		---	1.5	0.14	0.38	0.25	0.05	0.02	0.01	---	---	30
31	---		0.17		0.14		0.26	0.05		0.02		---	31
TOTAL	---	---	---	51.69	17.44	5.00	11.32	3.82	1.02	0.42	---	---	TOTAL
MEAN	---	---	---	1.7	0.56	0.17	0.37	0.12	0.03	0.01	---	---	MEAN
AC-FT	---	---	---	103	34.6	9.9	22.5	7.6	2.0	0.83	---	---	AC-FT
MAX	---	---	---	4.2	1.5	0.38	0.44	0.26	0.05	0.02	---	---	MAX
MIN	---	---	---	0.13	0.14	0.09	0.25	0.05	0.02	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.42 CFS
TOTAL DISCHARGE, 180 AC-FT
MAXIMUM DAILY DISCHARGE, 4.2 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0.01 CFS ON OCT 1

MAXIMUM INSTANTANEOUS DISCHARGE
4.3 CFS AT 2005 CST ON APR 17

TYPE OF GAUGE - RECORDING

NATURAL FLOW

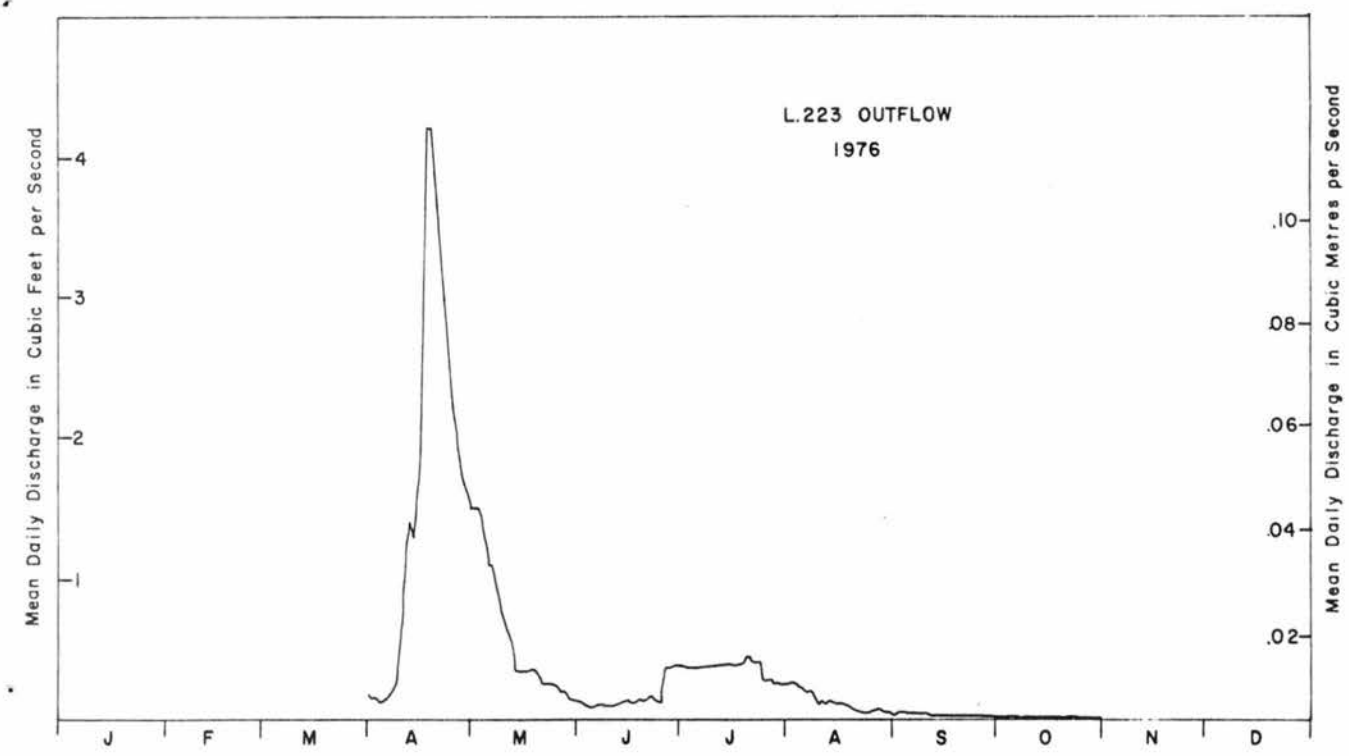


Fig. 12 Annual hydrograph based on mean daily discharges for Lake 223 outflow for 1976.

Table 94 Mean daily discharges in cubic feet per second for Lake 223 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.09	1.1	1.4	0.45	0.14	0.25	0.09	---	1
2	---	---	---	0	0.08	0.97	1.4	0.41	0.13	0.24	---	---	2
3	---	---	---	0	0.07	0.91	1.3	0.42	0.13	0.23	---	---	3
4	---	---	---	0.01	0.05	0.84	1.3	0.39	0.15	0.21	---	---	4
5	---	---	---	0.01	0.08	0.88	1.3	0.37	0.14	0.21	---	---	5
6	---	---	---	0.01	0.10	0.97	1.3	0.36	0.12	0.20	---	---	6
7	---	---	---	0.03	0.10	0.97	1.2	0.34	0.12	0.18	---	---	7
8	---	---	---	0.03	0.09	0.95	1.3	0.31	0.13	0.17	---	---	8
9	---	---	---	0.01	0.08	0.92	1.2	0.27	0.19	0.16	---	---	9
10	---	---	---	0.11	0.09	0.80	1.2	0.27	0.23	0.15	---	---	10
11	---	---	---	0.17	0.09	0.74	1.2	0.26	0.25	0.14	---	---	11
12	---	---	---	0.15	0.10	0.76	1.3	0.25	0.26	0.13	---	---	12
13	---	---	---	0.14	0.10	0.69	1.2	0.25	0.27	0.12	---	---	13
14	---	---	---	0.26	0.12	0.70	1.1	0.24	0.30	0.12	---	---	14
15	---	---	---	0.14	0.13	0.80	1.1	0.23	0.33	0.12	---	---	15
16	---	---	---	0.14	0.19	1.6	1.1	0.23	0.30	0.12	---	---	16
17	---	---	---	0.16	0.18	2.2	1.0	0.22	0.27	0.12	---	---	17
18	---	---	---	0.18	0.17	3.4	0.92	0.21	0.28	0.11	---	---	18
19	---	---	---	0.19	0.23	5.1	0.83	0.21	0.29	0.11	---	---	19
20	---	---	---	0.19	0.45	4.6	0.82	0.19	0.26	0.11	---	---	20
21	---	---	---	0.20	0.50	3.9	0.82	0.20	0.24	0.11	---	---	21
22	---	---	---	0.18	0.53	3.0	0.76	0.19	0.23	0.11	---	---	22
23	---	---	---	0.17	0.98	2.3	0.70	0.17	0.23	0.11	---	---	23
24	---	---	---	0.16	1.0	1.9	0.73	0.16	0.20	0.11	---	---	24
25	---	---	---	0.15	1.0	1.7	0.68	0.11	0.20	0.10	---	---	25
26	---	---	---	0.15	1.0	1.6	0.62	0.11	0.22	0.10	---	---	26
27	---	---	---	0.15	1.2	1.6	0.54	0.14	0.22	0.10	---	---	27
28	---	---	---	0.12	1.1	1.5	0.53	0.17	0.22	0.10	---	---	28
29	---		0	0.11	1.0	1.5	0.57	0.15	0.24	0.08	---	---	29
30	---		0	0.11	0.93	1.4	0.53	0.12	0.26	0.08	---	---	30
31	---		0		0.98		0.50	0.13		0.09		---	31
TOTAL	---	---	---	3.43	12.81	50.30	30.45	7.53	6.55	4.29	---	---	TOTAL
MEAN	---	---	---	0.11	0.41	1.7	0.98	0.24	0.22	0.14	---	---	MEAN
AC-FT	---	---	---	6.8	25.4	99.8	60.4	14.9	13.0	8.5	---	---	AC-FT
MAX	---	---	---	0.26	1.2	5.1	1.4	0.45	0.33	0.25	---	---	MAX
MIN	---	---	---	0	0.05	0.69	0.50	0.11	0.12	0.08	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.54 CFS
TOTAL DISCHARGE, 229 AC-FT
MAXIMUM DAILY DISCHARGE, 5.1 CFS ON JUN 19
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
5.3 CFS AT 0402 CST ON JUN 19

TYPE OF GAUGE - RECORDING

NATURAL FLOW

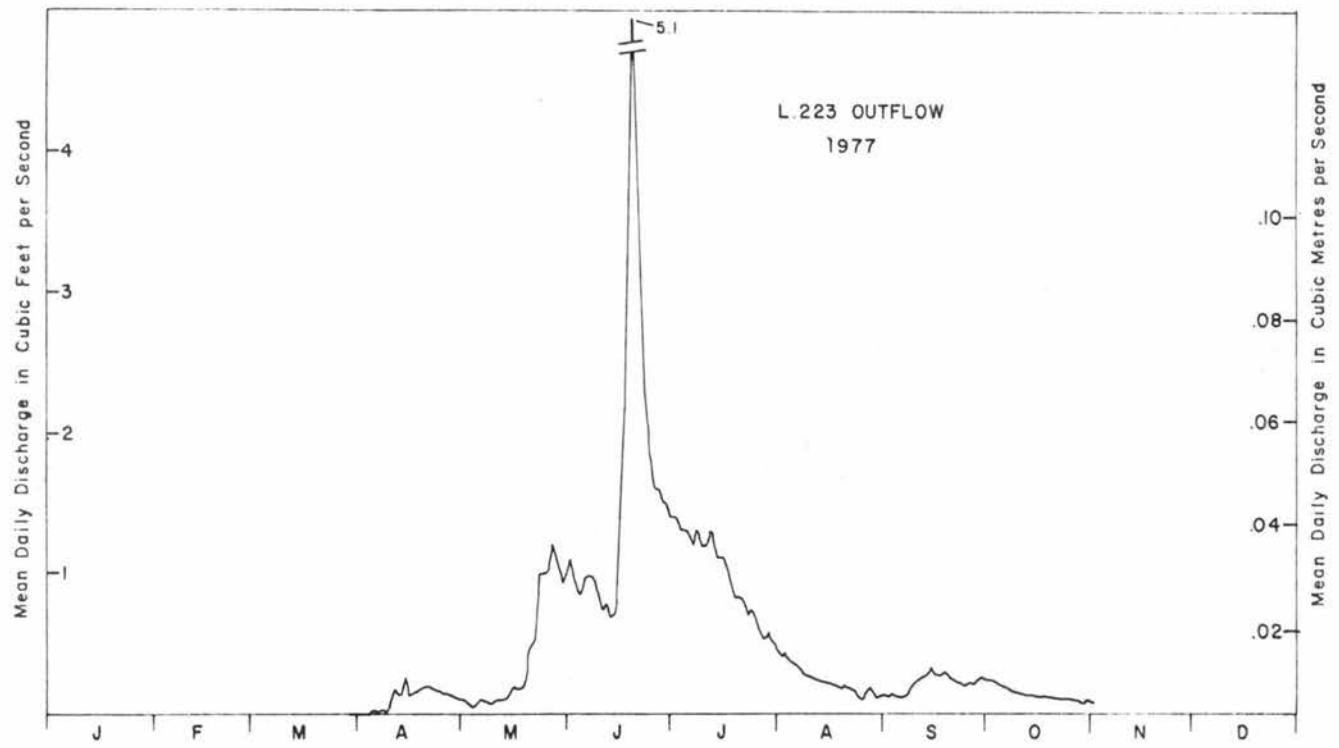


Fig. 12 Annual hydrograph based on mean daily discharges for Lake 223 outflow for 1977.

Table 94 Mean daily discharges in cubic feet per second for Lake 223 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.36 E	5.4	3.0	0.84	0.68	0.23	0.18	---	---	1
2	---	---	---	0.36 E	4.8 A	3.0	0.78	0.69	0.25	0.17	---	---	2
3	---	---	---	0.38 E	4.6 E	2.7	0.78	0.67	0.23	0.18	---	---	3
4	---	---	---	0.38 E	4.5 E	2.3	0.75	0.64	0.22	0.18	---	---	4
5	---	---	---	0.38 E	4.3 E	2.1	0.73	0.58	0.22	0.19	---	---	5
6	---	---	---	0.36 E	4.1 E	2.0	0.71	0.50	0.21	0.19	---	---	6
7	---	---	---	0.38 E	4.0 E	1.9	0.77	0.47	0.23	0.19	---	---	7
8	---	---	---	0.40 E	3.9 E	1.7	0.78	0.44	0.23	0.17	---	---	8
9	---	---	---	0.42 E	3.7 E	1.7	0.78	0.43	0.21	0.17	---	---	9
10	---	---	---	0.44 E	3.4 E	1.5	0.77	0.38	0.21	0.13	---	---	10
11	---	---	---	0.46 A	3.2 A	1.4	0.77	0.34	0.16	0.13	---	---	11
12	---	---	---	0.48 E	3.2	1.3	0.79	0.34	0.10	0.12	---	---	12
13	---	---	---	0.53 E	3.1	1.1	0.81	0.29	0.16	0.12	---	---	13
14	---	---	---	0.56 E	2.9	1.0	0.84	0.27	0.23	0.14 E	---	---	14
15	---	---	---	0.51	2.7	0.96	0.86	0.35	0.24	0.16 E	---	---	15
16	---	---	---	0.48 E	2.5	0.95	0.87	0.42	0.23	0.14 A	---	---	16
17	---	---	---	0.51 E	2.3	0.92	0.87	0.34 A	0.23	0.13 E	---	---	17
18	---	---	---	0.53 A	1.9	0.88	0.85	0.42 E	0.20	0.13 E	---	---	18
19	---	---	---	0.63	1.6	0.79	0.92	0.38 E	0.21	0.12	---	---	19
20	---	---	---	0.68	1.6	0.66	0.93	0.34 E	0.21	0.11	---	---	20
21	---	---	---	0.76	1.6	0.76	0.93	0.30 A	0.20	0.11	---	---	21
22	---	---	---	0.85	1.5	0.75	0.93	0.28	0.18	0.11	---	---	22
23	---	---	---	0.98	1.0	0.72	0.92	0.29	0.19	0.11 A	---	---	23
24	---	---	---	1.3	0.92	0.84	0.92	0.27	0.18	0.11 A	---	---	24
25	---	---	---	1.8	0.93	0.86	0.87	0.26	0.17	0.10 E	---	---	25
26	---	---	---	3.0	1.8	0.89	0.85	0.26	0.17	0.10 E	---	---	26
27	---	---	---	5.1	2.7	0.93	0.85	0.24	0.18	0.09 E	---	---	27
28	---	---	---	6.6	2.3	0.96	0.76	0.24	0.18	0.09 E	---	---	28
29	---		---	6.7	2.4	0.93	0.76	0.24	0.20	0.08 E	---	---	29
30	---		---	6.1	2.9	0.90	0.75	0.23	0.21	0.08 E	---	---	30
31	---		---		2.6		0.71	0.23		0.07 E	---	---	31
TOTAL	---	---	---	42.42	88.35	40.40	25.45	11.81	6.07	4.10	---	---	TOTAL
MEAN	---	---	---	1.4	2.9	1.3	0.82	0.38	0.20	0.13	---	---	MEAN
AC-FT	---	---	---	84.1	175	80.1	50.5	23.4	12.0	8.1	---	---	AC-FT
MAX	---	---	---	6.7	5.4	3.0	0.93	0.69	0.25	0.19	---	---	MAX
MIN	---	---	---	0.36	0.92	0.66	0.71	0.23	0.10	0.07	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 1.0 CFS
TOTAL DISCHARGE, 433 AC-FT
MAXIMUM DAILY DISCHARGE, 6.7 CFS ON APR 29
MINIMUM DAILY DISCHARGE, 0.07 CFS ON OCT 31

MAXIMUM INSTANTANEOUS DISCHARGE
7.0 CFS AT 2332 CST ON APR 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

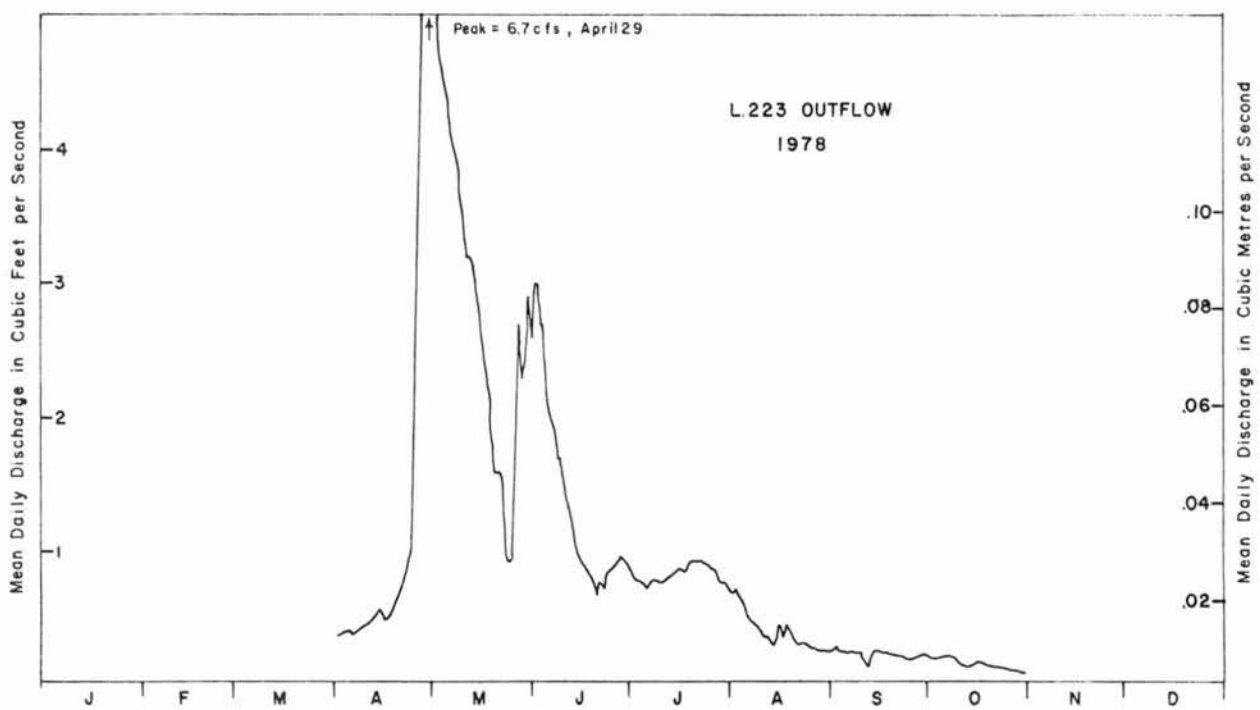


Fig. 12 Annual hydrograph based on mean daily discharges for Lake 223 outflow for 1978.

Lake 224 Hydrological Data for 1975 to 1978

Lake 224 is located 2.0 miles (3 kilometres) north of the ELA field camp (Fig. 3). A basin topographical map (Fig. 13) with 10 foot contour interval, and a bathymetric map (Fig. 14) with 1 metre contour interval are included. The topographical map is based on mapping by Lockwood Survey (1972). The datum is approximate elevation above sea level in feet.

Lake 224 drains into Lake 223 and has one headwater lake, Lake 225. Table 95 provides morphometric data for the Lake 224 watershed, including Lake 225 drainage. Hydrological work on Lake 224 began in August 1975 when Water Survey of Canada constructed a 90° V-notch weir complete with Stevens water level recorder and staff gauge. The recorder was activated in early April and shut down in early November. No data for the November to April winter period exists but flows were probably 0 to very low. Service of the weir and computation of the flows from 1975 to 1978 were carried out by WSC. All original water level recorder charts are on file with that office.

Additional hydrological data collected in the 1978 open water season included manual readings of lake surface temperature and staff gauge readings of lake level (Table 96).

Table 95. Location and morphometric data for Lake 224.

Location:		
Latitude	49 41 30 N	
Longitude	93 43 00 W	
Morphometric data		
Basin terrestrial area for L.224 (excluding L.225 basin)		41.09 ha
Basin terrestrial area for L.225		26.48
Total terrestrial area for L.224 (including L.225)		67.57
Lake 224 surface area		25.92
Lake 225 surface area		3.99
Total water surface area in L.224 watershed		29.91
Total basin area for L.224 (including lake surface, excluding L.225 drainage)		67.01
Total basin area for L.223 (including lake surface and L.225 drainage)		97.48
Lake volume	300.5×10^4 metres^3	
Lake mean depth	11.6 metres	

Lake 225 is tributary to Lake 224.

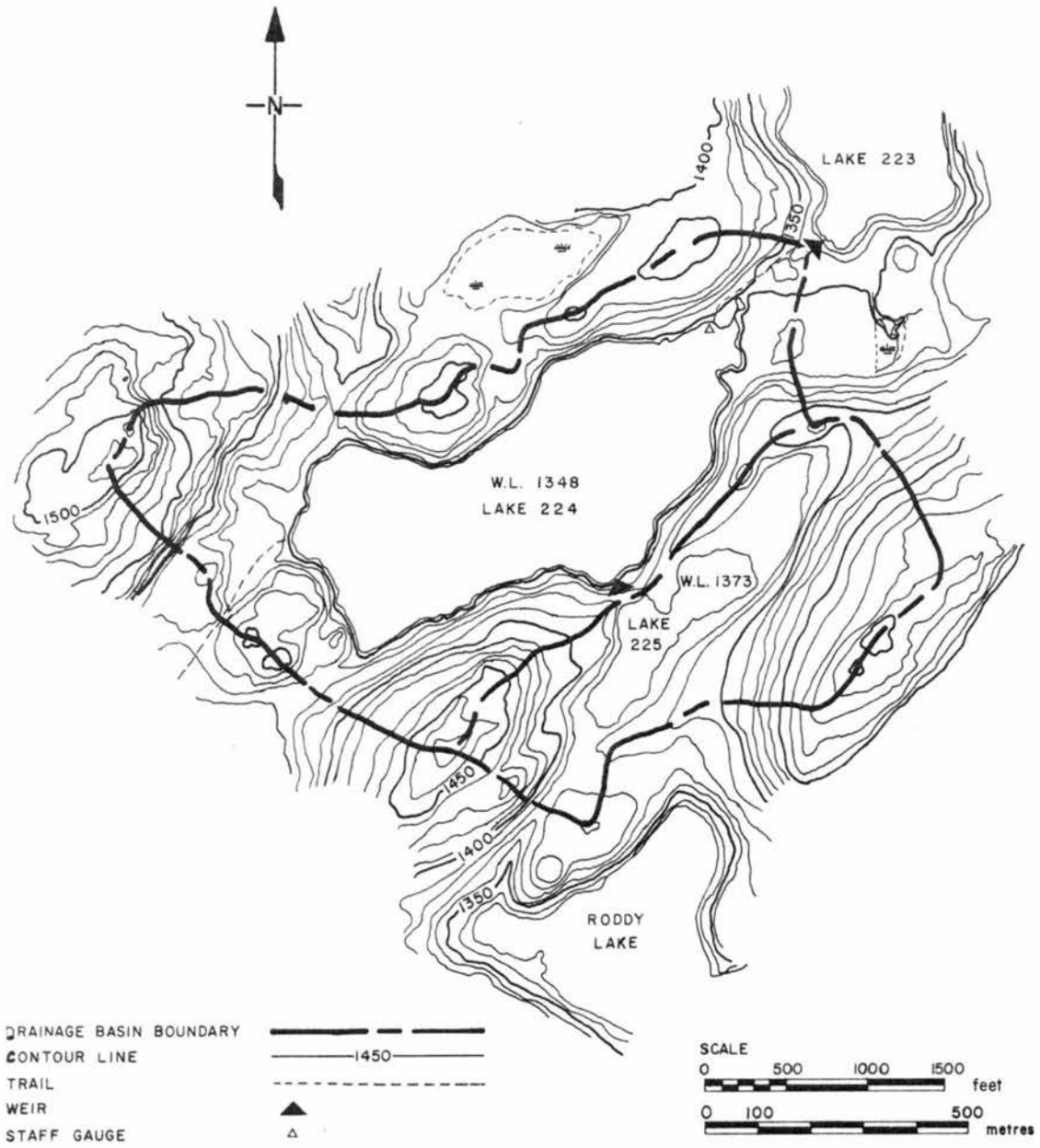
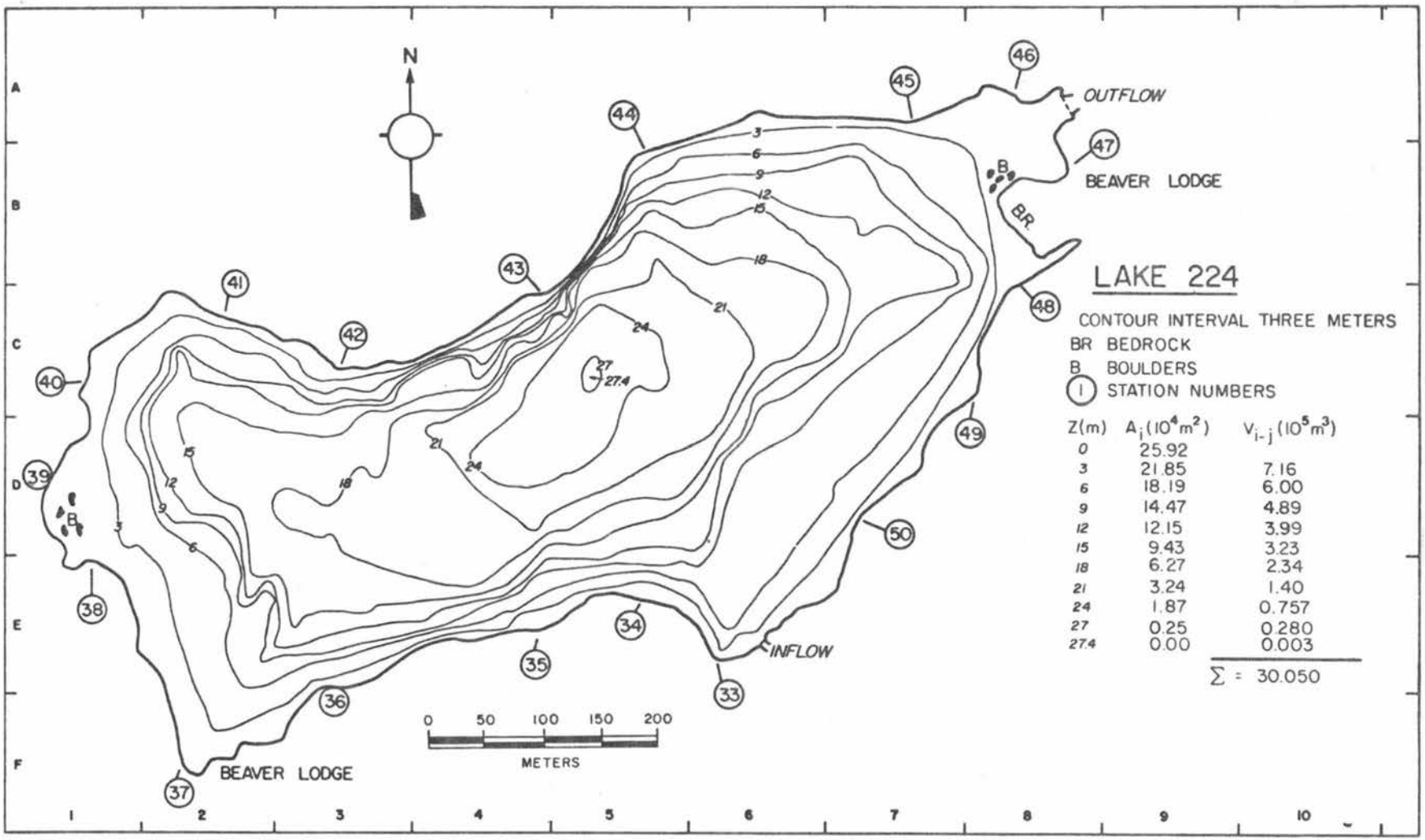


Fig. 13 Topographical map of the Lake 224 and 225 drainage basin. Contours are in feet.



Z(m)	A_i ($10^4 m^2$)	V_{i-j} ($10^5 m^3$)
0	25.92	
3	21.85	7.16
6	18.19	6.00
9	14.47	4.89
12	12.15	3.99
15	9.43	3.23
18	6.27	2.34
21	3.24	1.40
24	1.87	0.757
27	0.25	0.280
27.4	0.00	0.003
		Σ = 30.050

Fig. 14 Bathymetric chart of Lake 224.

Table 96 Measurements of lake surface temperature and lake level for Lake 224 for 1978.

Date	Time (cst)	Lake Temp. (^{o}C)	Lake Level (ft.)
May 8	15:00	-	2.03
May 15	08:00	8.7	-
May 29	a.m.	-	2.02
May 30	15:30	16.1	2.08
June 1	15:00	14.0	2.15
June 12	a.m.	14.2	2.16
June 14	17:00	16.0	2.11
June 19	09:15	-	2.05
June 19	a.m.	18.5	2.06
June 26	a.m.	17.7	2.01
June 30	17:40	22.5	2.00
July 3	a.m.	-	1.95
July 10	08:00	20.6	-
July 19	14:00	21.0	1.90
July 31	16:00	20.5	1.84
Aug. 14	12:30	-	1.59
Aug. 28	12:00	-	1.58
Aug. 29	10:21	19.4	1.55
Aug. 31	10:40	18.9	1.54
Sept. 4	12:30	19.0	1.52
Sept. 8	a.m.	19.1	-
Sept. 21	p.m.	15.0	1.45
Sept. 27	15:30	13.5	1.35
Oct. 4	15:00	12.8	1.37
Oct. 9	a.m.	-	1.33
Oct. 17	16:30	10.0	1.29
Oct. 31	14:30	7.5	1.17

Note: - indicates no reading taken

Table 97 Mean daily discharges in cubic feet per second for the Lake 224 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	0.07	0.06	---	---	1
2	---	---	---	---	---	---	---	---	0.07	0.06	---	---	2
3	---	---	---	---	---	---	---	---	0.07	0.06	---	---	3
4	---	---	---	---	---	---	---	---	0.06	0.06	---	---	4
5	---	---	---	---	---	---	---	---	0.06	0.06	---	---	5
6	---	---	---	---	---	---	---	---	0.05	0.06	---	---	6
7	---	---	---	---	---	---	---	---	0.10	0.05	---	---	7
8	---	---	---	---	---	---	---	---	0.06	0.05	---	---	8
9	---	---	---	---	---	---	---	---	0.05	0.06	---	---	9
10	---	---	---	---	---	---	---	---	0.08	0.07	---	---	10
11	---	---	---	---	---	---	---	---	0.05	0.08	---	---	11
12	---	---	---	---	---	---	---	---	0.05	0.08	---	---	12
13	---	---	---	---	---	---	---	---	0.05	0.10	---	---	13
14	---	---	---	---	---	---	---	---	0.12	0.16	---	---	14
15	---	---	---	---	---	---	---	---	0.05	0.13	---	---	15
16	---	---	---	---	---	---	---	---	0.04	0.12	---	---	16
17	---	---	---	---	---	---	---	---	0.03	0.10	---	---	17
18	---	---	---	---	---	---	---	---	0.05	0.09	---	---	18
19	---	---	---	---	---	---	---	---	0.07	0.08	---	---	19
20	---	---	---	---	---	---	---	---	0.09	0.07	---	---	20
21	---	---	---	---	---	---	---	---	0.08	0.06	---	---	21
22	---	---	---	---	---	---	---	---	0.07	0.05	---	---	22
23	---	---	---	---	---	---	---	---	0.07	0.05	---	---	23
24	---	---	---	---	---	---	---	---	0.07	0.05	---	---	24
25	---	---	---	---	---	---	---	---	0.06	0.06	---	---	25
26	---	---	---	---	---	---	---	0.07	0.06	0.06	---	---	26
27	---	---	---	---	---	---	---	0.08	0.06	0.06	---	---	27
28	---	---	---	---	---	---	---	0.08	0.06	0.05	---	---	28
29	---		---	---	---	---	---	0.10	0.06	0.05	---	---	29
30	---		---	---	---	---	---	0.08	0.06	0.03	---	---	30
31	---		---		---		---	0.09		0.03		---	31
TOTAL	---	---	---	---	---	---	---	---	1.92	2.15	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	---	0.06	0.07	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	---	3.8	4.3	---	---	AC-FT
MAX	---	---	---	---	---	---	---	---	0.12	0.16	---	---	MAX
MIN	---	---	---	---	---	---	---	---	0.03	0.03	---	---	MIN

TYPE OF GAUGE - RECORDING

NATURAL FLOW

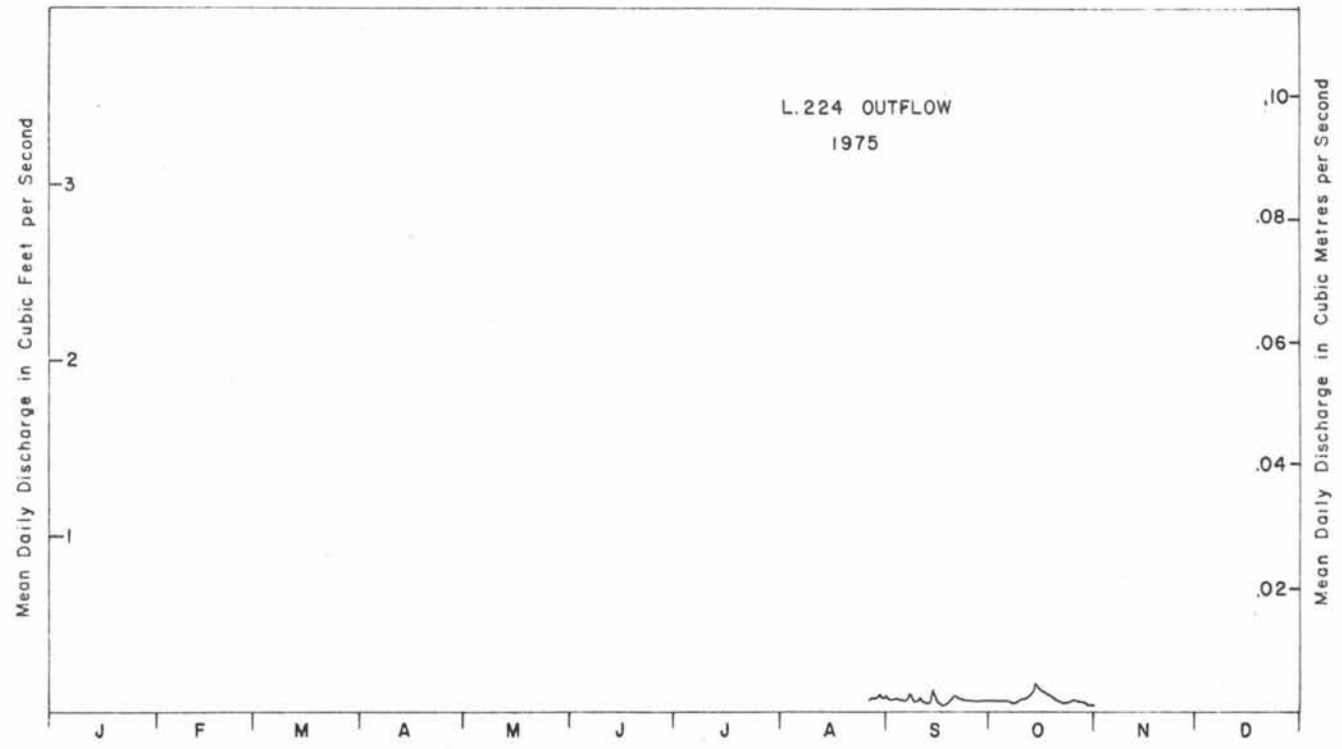


Fig. 15 Annual hydrograph based on mean daily discharges for Lake 224 outflow for 1975.

Table 97 Mean daily discharges in cubic feet per second for the Lake 224 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.09	0.28	0	0.03	0	0	0	---	---	1
2	---	---	---	0.07	0.27	0	0.03	0	0	0	---	---	2
3	---	---	---	0.03	0.25	0	0.02	0	0	0	---	---	3
4	---	---	---	0.04	0.22	0	0.02	0	0	0	---	---	4
5	---	---	---	0.06	0.18	0	0.02	0	0	0	---	---	5
6	---	---	---	0.06	0.15	0	0.01	0	0	0	---	---	6
7	---	---	---	0.06	0.14	0	0.01	0	0	0	---	---	7
8	---	---	---	0.07	0.12	0	0.01	0	0	0	---	---	8
9	---	---	---	0.08	0.10	0	0.01	0	0	0	---	---	9
10	---	---	---	0.08	0.09	0	0	0	0	0	---	---	10
11	---	---	---	0.08	0.07	0	0	0	0	0	---	---	11
12	---	---	---	0.10	0.06	0	0	0	0	0	---	---	12
13	---	---	---	0.10	0.06	0	0	0	0	0	---	---	13
14	---	---	---	0.15	0.06	0	0	0	0	0	---	---	14
15	---	---	---	0.24	0.05	0	0	0	0	0	---	---	15
16	---	---	---	0.47	0.05	0	0	0	0	0	---	---	16
17	---	---	---	0.51	0.04	0	0	0	0	0	---	---	17
18	---	---	---	0.51	0.03	0	0	0	0	0	---	---	18
19	---	---	---	0.50	0.02	0	0	0	0	0	---	---	19
20	---	---	---	0.52	0.01	0	0	0	0	0	---	---	20
21	---	---	---	0.52	0	0	0	0	0	0	---	---	21
22	---	---	---	0.50	0	0	0	0	0	0	---	---	22
23	---	---	---	0.47	0	0	0	0	0	0	---	---	23
24	---	---	---	0.43	0	0	0	0	0	0	---	---	24
25	---	---	---	0.42	0	0.02	0	0	0	0	---	---	25
26	---	---	---	0.40	0	0.04	0	0	0	0	---	---	26
27	---	---	---	0.37	0	0.06	0	0	0	0	---	---	27
28	---	---	---	0.34	0	0.05	0	0	0	0	---	---	28
29	---	---	---	0.31	0	0.05	0	0	0	0	---	---	29
30	---		---	0.29	0	0.04	0	0	0	0	---	---	30
31	---		0.10		0		0	0		0		---	31
TOTAL	---	---	---	7.87	2.25	0.26	0.16	0	0	0	---	---	TOTAL
MEAN	---	---	---	0.26	0.07	0.01	0.01	0	0	0	---	---	MEAN
AC-FT	---	---	---	15.6	4.5	0.52	0.32	0	0	0	---	---	AC-FT
MAX	---	---	---	0.52	0.28	0.06	0.03	0	0	0	---	---	MAX
MIN	---	---	---	0.03	0	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.05 CFS
TOTAL DISCHARGE, 20.9 AC-FT
MAXIMUM DAILY DISCHARGE, 0.52 CFS ON APR 20
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 21

MAXIMUM INSTANTANEOUS DISCHARGE
0.53 CFS AT 1414 CST ON APR 16

TYPE OF GAUGE - RECORDING

NATURAL FLOW

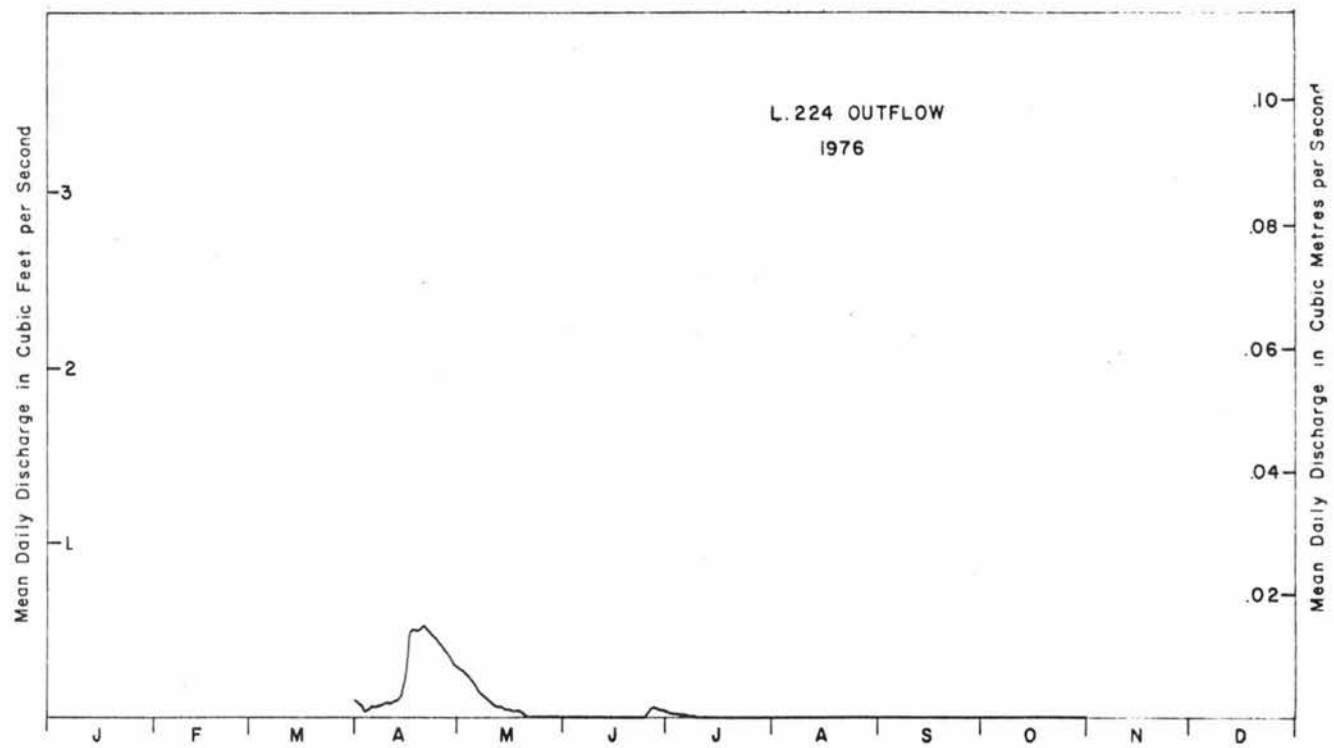


Fig. 15 Annual hydrograph based on mean daily discharges for Lake 224 outflow for 1976.

Table 97 Mean daily discharges in cubic feet per second for the Lake 224 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.01	0.02	0.23	0.32	0.12	0.06	0.13	0.03	---	1
2	---	---	---	0.01	0.02	0.21	0.28	0.11	0.06	0.12	---	---	2
3	---	---	---	0.02	0.02	0.19	0.28	0.13	0.06	0.12	---	---	3
4	---	---	---	0.02	0.02	0.20	0.27	0.12	0.09	0.12	---	---	4
5	---	---	---	0.02	0.12	0.32	0.40	0.12	0.06	0.12	---	---	5
6	---	---	---	0.02	0.10	0.23	0.42	0.12	0.06	0.11	---	---	6
7	---	---	---	0.02	0.05	0.23	0.40	0.11	0.05	0.09	---	---	7
8	---	---	---	0.03	0.04	0.23	0.35	0.10	0.07	0.08	---	---	8
9	---	---	---	0.04	0.06	0.20	0.31	0.10	0.22	0.07	---	---	9
10	---	---	---	0.05	0.10	0.23	0.26	0.09	0.22	0.07	---	---	10
11	---	---	---	0.10	0.07	0.21	0.28	0.09	0.22	0.07	---	---	11
12	---	---	---	0.07	0.07	0.19	0.35	0.08	0.22	0.06	---	---	12
13	---	---	---	0.07	0.08	0.18	0.30	0.07	0.22	0.05	---	---	13
14	---	---	---	0.07	0.13	0.14	0.32	0.06	0.23	0.05	---	---	14
15	---	---	---	0.06	0.12	0.14	0.38	0.05	0.22	0.04	---	---	15
16	---	---	---	0.06	0.12	0.17	0.19	0.05	0.21	0.04	---	---	16
17	---	---	---	0.07	0.15	0.21	0.17	0.05	0.19	0.04	---	---	17
18	---	---	---	0.05	0.19	0.11	0.13	0.04	0.16	0.04	---	---	18
19	---	---	---	0.04	0.50	0.15	0.11	0.04	0.14	0.03	---	---	19
20	---	---	---	0.05	0.43	0.13	0.11	0.04	0.12	0.02	---	---	20
21	---	---	---	0.04	0.24	0.17	0.09	0.04	0.11	0.02	---	---	21
22	---	---	---	0.03	0.61	0.14	0.16	0.04	0.11	0.02	---	---	22
23	---	---	---	0.02	0.28	0.13	0.14	0.04	0.10	0.02	---	---	23
24	---	---	---	0.02	0.22	0.13	0.13	0.03	0.15	0.02	---	---	24
25	---	---	---	0.02	0.21	0.14	0.16	0.05	0.17	0.02	---	---	25
26	---	---	---	0.01	0.27	0.11	0.14	0.07	0.17	0.02	---	---	26
27	---	---	---	0.01	0.25	0.10	0.13	0.06	0.17	0.02	---	---	27
28	---	---	---	0.01	0.22	0.11	0.14	0.09	0.17	0.02	---	---	28
29	---		0.01	0.01	0.23	0.18	0.15	0.06	0.16	0.02	---	---	29
30	---		0.01	0.02	0.22	0.31	0.18	0.07	0.15	0.02	---	---	30
31	---		0.01		0.33		0.17	0.06		0.03		---	31
TOTAL	---	---	---	1.07	5.49	5.42	7.22	2.30	4.34	1.70	---	---	TOTAL
MEAN	---	---	---	0.04	0.18	0.18	0.23	0.07	0.14	0.05	---	---	MEAN
AC-FT	---	---	---	2.1	10.9	10.8	14.3	4.6	8.6	3.4	---	---	AC-FT
MAX	---	---	---	0.10	0.61	0.32	0.42	0.13	0.23	0.13	---	---	MAX
MIN	---	---	---	0.01	0.02	0.10	0.09	0.03	0.05	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.13 CFS
TOTAL DISCHARGE, 54.7 AC-FT
MAXIMUM DAILY DISCHARGE, 0.61 CFS ON MAY 22
MINIMUM DAILY DISCHARGE, 0.01 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.3 CFS AT 2120 CST ON MAY 19

TYPE OF GAUGE - RECORDING

NATURAL FLOW

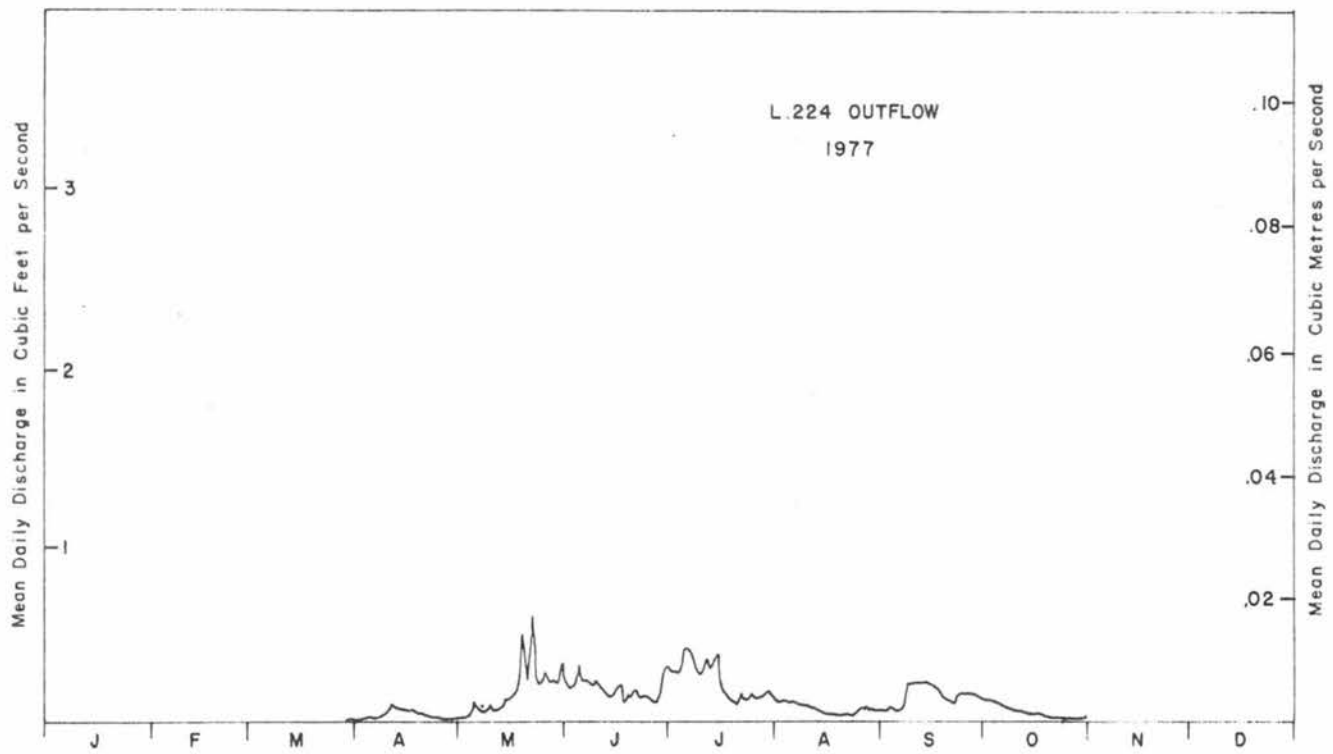


Fig. 15 Annual hydrograph based on mean daily discharges for Lake 224 outflow for 1977.

Table 97 Mean daily discharges in cubic feet per second for the Lake 224 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.01 E	1.6 E	0.46	0.34	0.28	0.21	0.13	---	---	1
2	---	---	---	0.01 E	1.3 A	0.44	0.35	0.30	0.20	0.12	---	---	2
3	---	---	---	0.01 E	1.2 E	0.44	0.37	0.29	0.19	0.12	---	---	3
4	---	---	---	0.01 E	1.2 E	0.47	0.38	0.28	0.18	0.12	---	---	4
5	---	---	---	0.01 E	1.3 E	0.61	0.40	0.28	0.18	0.12	---	---	5
6	---	---	---	0.01 E	1.3 E	0.52	0.38	0.26	0.17	0.11	---	---	6
7	---	---	---	0.01 E	1.3 E	0.51	0.36	0.25	0.17	0.11	---	---	7
8	---	---	---	0.01 E	1.2 E	0.51	0.35	0.24	0.16	0.10	---	---	8
9	---	---	---	0.01 E	1.2 E	0.50	0.37	0.23	0.15	0.10	---	---	9
10	---	---	---	0.01 E	1.2 E	0.48	0.35	0.22	0.14	0.09	---	---	10
11	---	---	---	0.01 A	1.3 A	0.46	0.34	0.22	0.14	0.09	---	---	11
12	---	---	---	0.01 E	1.3	0.47	0.34	0.22	0.12	0.07	---	---	12
13	---	---	---	0.01 E	1.3	0.49	0.32	0.21	0.16	0.07	---	---	13
14	---	---	---	0.01 E	1.2	0.51	0.34	0.20	0.22	0.07	---	---	14
15	---	---	---	0.02 E	1.1	0.52	0.31	0.24	0.21	0.08	---	---	15
16	---	---	---	0.03 E	1.0	0.49	0.30	0.25	0.20	0.07	---	---	16
17	---	---	---	0.04 E	0.98	0.45	0.30	0.24	0.20	0.07	---	---	17
18	---	---	---	0.06 A	0.93	0.44	0.30	0.26	0.18	0.06	---	---	18
19	---	---	---	0.06 A	0.86	0.42	0.30	0.23	0.17	0.05	---	---	19
20	---	---	---	0.05 A	0.83	0.41	0.30	0.21	0.16	0.05	---	---	20
21	---	---	---	0.18 E	0.70	0.40	0.29	0.20	0.15	0.05	---	---	21
22	---	---	---	0.42 E	0.64	0.40	0.27	0.19	0.14	0.04	---	---	22
23	---	---	---	0.74 E	0.56	0.40	0.28	0.20	0.14	0.04	---	---	23
24	---	---	---	1.1 E	0.44	0.43	0.28	0.19	0.13	0.04	---	---	24
25	---	---	---	1.7 E	0.28	0.43	0.27	0.20	0.13	0.03	---	---	25
26	---	---	---	2.4 E	0.38	0.43	0.27	0.20	0.12	0.03	---	---	26
27	---	---	---	2.5 E	0.27	0.41	0.26	0.21	0.12	0.03	---	---	27
28	---	---	---	2.6 E	0.24	0.43	0.25	0.21	0.12	0.03	---	---	28
29	---		---	2.4 E	0.29	0.39	0.25	0.21	0.15	0.03	---	---	29
30	---		---	2.0 E	0.39	0.39	0.25	0.21	0.13	0.03	---	---	30
31	---		---		0.40		0.28	0.20		0.03		---	31
TOTAL	---	---	---	16.44	28.19	13.71	9.75	7.13	4.84	2.18	---	---	TOTAL
MEAN	---	---	---	0.55	0.91	0.46	0.31	0.23	0.16	0.07	---	---	MEAN
AC-FT	---	---	---	32.6	55.9	27.2	19.3	14.1	9.6	4.3	---	---	AC-FT
MAX	---	---	---	2.6	1.6	0.61	0.40	0.30	0.22	0.13	---	---	MAX
MIN	---	---	---	0.01	0.24	0.39	0.25	0.19	0.12	0.03	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.38 CFS
TOTAL DISCHARGE, 163 AC-FT
MAXIMUM DAILY DISCHARGE, 2.6 CFS ON APR 28
MINIMUM DAILY DISCHARGE, 0.01 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

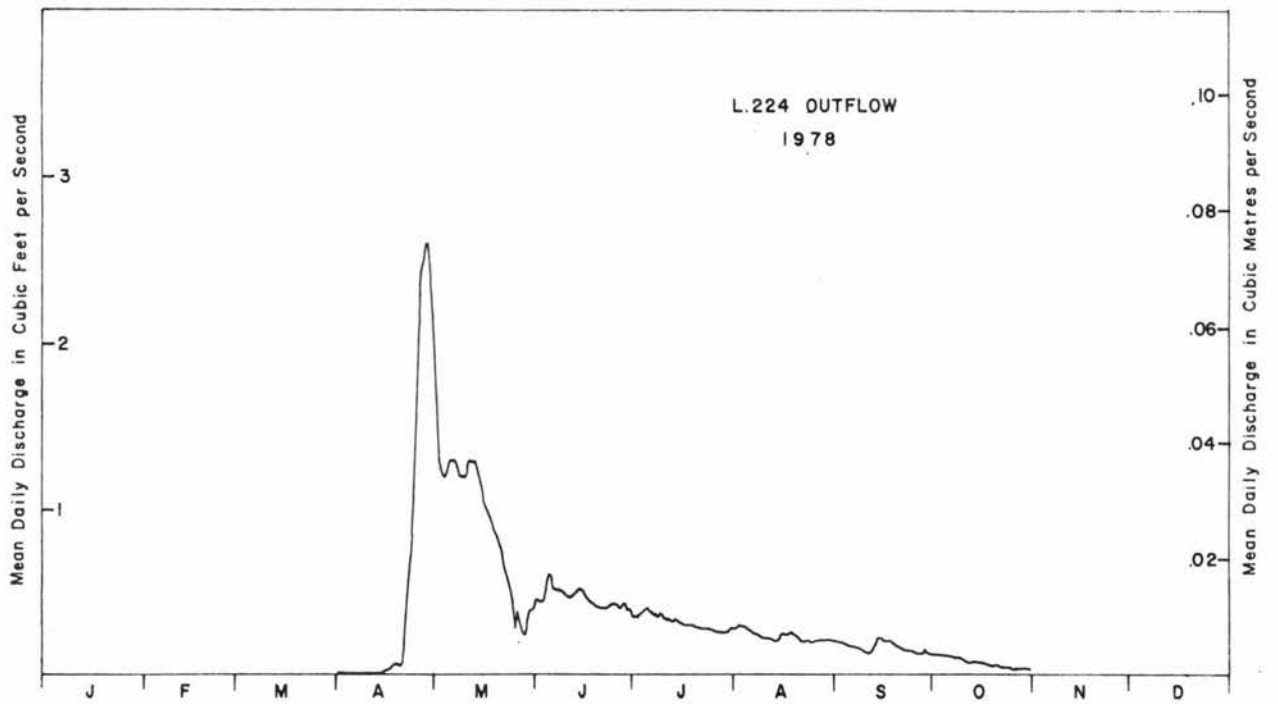


Fig. 15 Annual hydrograph based on mean daily discharges for Lake 224 outflow for 1978.

Lake 225 Hydrological Data for 1975 to 1978

Lake 225 is located 2.0 miles (3 kilometres) north of the ELA field camp (Fig. 3). A basin topographical map (Fig. 13) with 10 foot contour interval, and a bathymetric map (Fig. 16) with 1 metre contour interval are included. The topographical map is based on mapping by Lockwood Survey (1972). The datum is approximate elevation above sea level in feet.

Lake 225 flows into Lake 224 and is a headwater lake with no streams entering it. Table 98 provides morphometric data for the Lake 225 watershed. Hydrological work on the lake began in August 1975 when Water Survey of Canada constructed a 60° V-notch weir in concrete complete with Stevens water level recorder and staff gauge. The recorder was activated in early April and shut down in early November. No data for the November to April winter period exists but flows were probably 0 to very low. Service of the weir and computation of flows from 1975 to 1978 were carried out by WSC, and all original water level recorder charts are on file with that office.

Table 98. Location and morphometric data for Lake 225.

Location:		
Latitude	49 41 20 N	
Longitude	93 43 00 W	
Morphometric data		
Basin terrestrial area		26.48 ha
Lake surface area		3.99
Total basin area		30.47
Lake volume	6.3×10^4 metre^3	
Lake mean depth	1.6 metres	

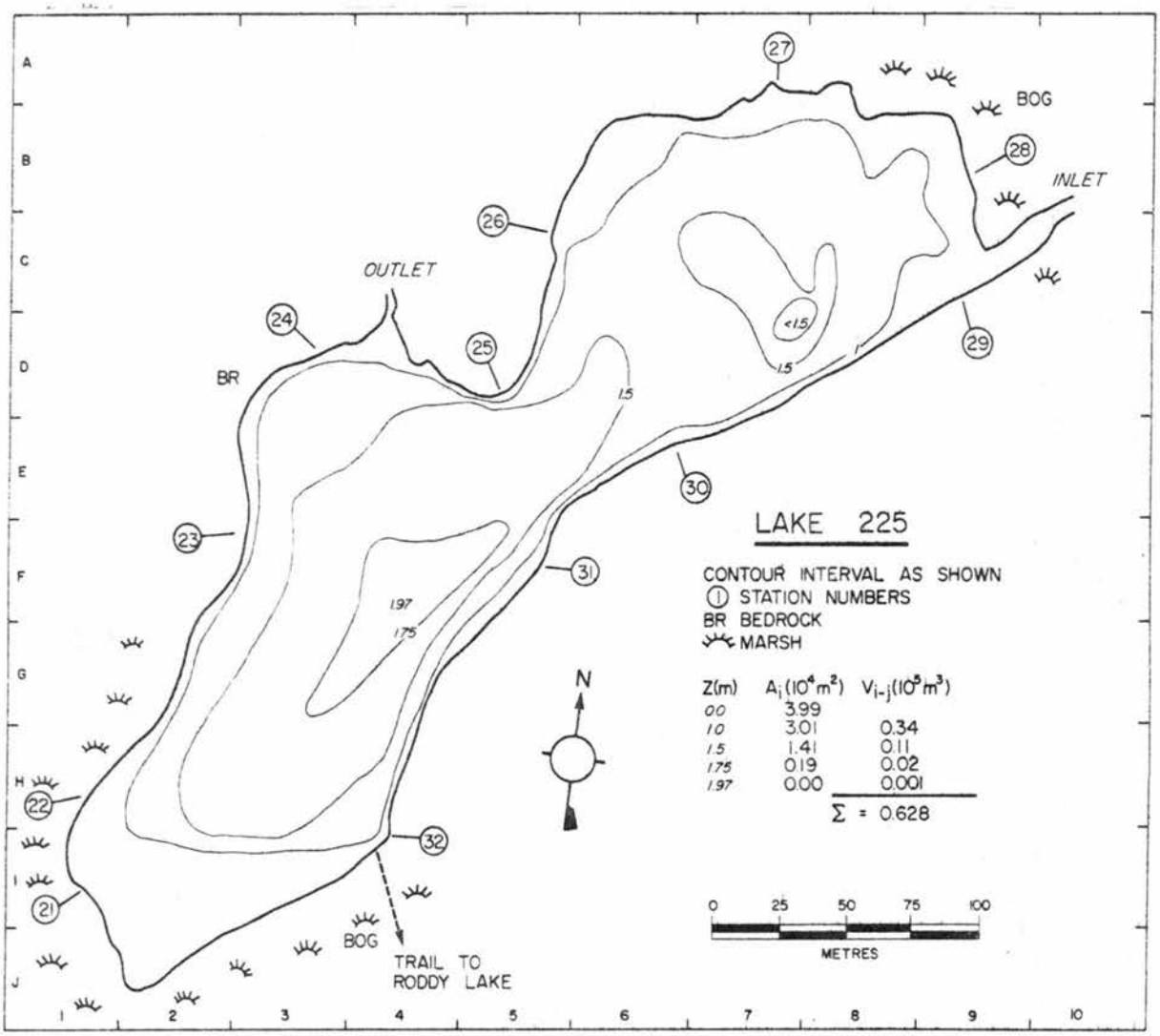


Fig. 16 Bathymetric chart of Lake 225.

Table 99 Mean daily discharges in cubic feet per second for the Lake 225 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	0.01	0.01	---	---	1
2	---	---	---	---	---	---	---	---	0.01	0.01	---	---	2
3	---	---	---	---	---	---	---	---	0	0.01	---	---	3
4	---	---	---	---	---	---	---	---	0	0.01	---	---	4
5	---	---	---	---	---	---	---	---	0	0.01	---	---	5
6	---	---	---	---	---	---	---	---	0.01	0.01	---	---	6
7	---	---	---	---	---	---	---	---	0.01	0.01	---	---	7
8	---	---	---	---	---	---	---	0	0	0.01	---	---	8
9	---	---	---	---	---	---	---	0	0	0.01	---	---	9
10	---	---	---	---	---	---	---	0.01	0.01	0.01	---	---	10
11	---	---	---	---	---	---	---	0.01	0	0.01	---	---	11
12	---	---	---	---	---	---	---	0.01	0.01	0.02	---	---	12
13	---	---	---	---	---	---	---	0.01	0.01	0.01	---	---	13
14	---	---	---	---	---	---	---	0.01	0	0.01	---	---	14
15	---	---	---	---	---	---	---	0.01	0	0.02	---	---	15
16	---	---	---	---	---	---	---	0.01	0	0.02	---	---	16
17	---	---	---	---	---	---	---	0.01	0	0.02	---	---	17
18	---	---	---	---	---	---	---	0.01	0.01	0.02	---	---	18
19	---	---	---	---	---	---	---	0.01 E	0.01	0.02	---	---	19
20	---	---	---	---	---	---	---	0.01 E	0.01	0.03	---	---	20
21	---	---	---	---	---	---	---	0.01 E	0.01	0.03	---	---	21
22	---	---	---	---	---	---	---	0.01 E	0.01	0.03	---	---	22
23	---	---	---	---	---	---	---	0.01 E	0.01	0.04	---	---	23
24	---	---	---	---	---	---	---	0.01 E	0.01	0.04	---	---	24
25	---	---	---	---	---	---	---	0 E	0.01	0.04	---	---	25
26	---	---	---	---	---	---	---	0	0.01	0.05	---	---	26
27	---	---	---	---	---	---	---	0.01	0.01	0.05	---	---	27
28	---	---	---	---	---	---	---	0	0.01	0.05	---	---	28
29	---		---	---	---	---	---	0	0.01	0.04	---	---	29
30	---		---	---	---	---	---	0	0.01	0.05	---	---	30
31	---		---		---		---	0.01		0.05		---	31
TOTAL	---	---	---	---	---	---	---	---	0.20	0.75	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	---	0.01	0.02	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	---	0.40	1.5	---	---	AC-FT
MAX	---	---	---	---	---	---	---	---	0.01	0.05	---	---	MAX
MIN	---	---	---	---	---	---	---	---	0	0.01	---	---	MIN

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

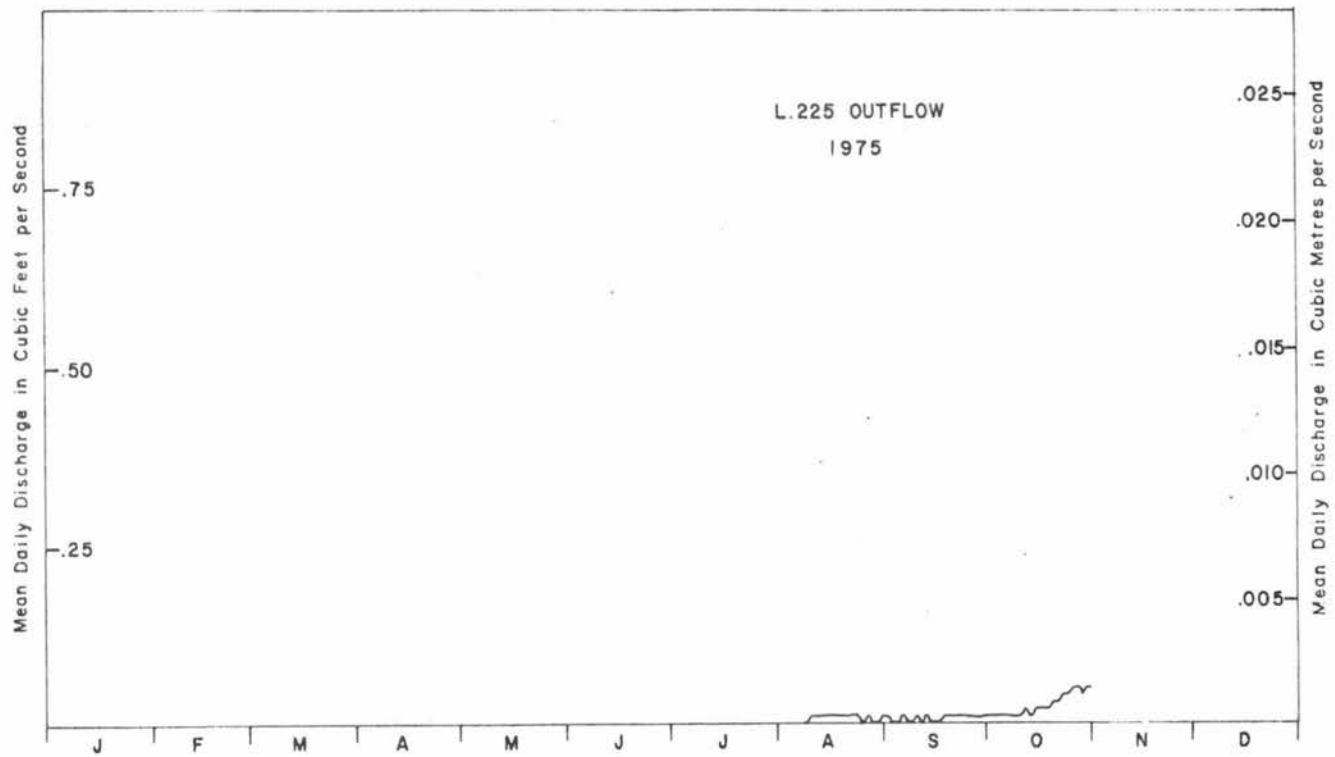


Fig. 17 Annual hydrograph based on mean daily discharges for the Lake 225 outflow for 1975.

Table 99 Mean daily discharges in cubic feet per second for the Lake 225 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.01 E	0.13	0	0	0	0	0	---	---	1
2	---	---	---	0.01 E	0.13	0	0	0	0	0	---	---	2
3	---	---	---	0.02 E	0.12	0	0	0	0	0	---	---	3
4	---	---	---	0.03 E	0.08	0.01	0	0	0	0	---	---	4
5	---	---	---	0.03 E	0.17	0.01	0	0	0	0	---	---	5
6	---	---	---	0.05 E	0.27	0	0	0	0	0	---	---	6
7	---	---	---	0.06 E	0.28	0	0	0	0	0	---	---	7
8	---	---	---	0.07 E	0.24	0	0	0	0	0	---	---	8
9	---	---	---	0.09 E	0.18	0	0	0	0	0	---	---	9
10	---	---	---	0.12 E	0.12	0.01	0	0.01	0	0	---	---	10
11	---	---	---	0.14 E	0.11	0	0	0.01	0	0	---	---	11
12	---	---	---	0.17 E	0.10	0.01	0	0.01	0	0	---	---	12
13	---	---	---	0.20 E	0.09	0.01	0	0.01	0	0	---	---	13
14	---	---	---	0.24 E	0.07	0.01	0	0.01	0	0	---	---	14
15	---	---	---	0.28 A	0.07	0	0	0.01	0	0	---	---	15
16	---	---	---	0.34	0.06	0	0	0	0	0	---	---	16
17	---	---	---	0.36	0.06	0	0	0	0	0	---	---	17
18	---	---	---	0.36	0.05	0	0	0	0	0	---	---	18
19	---	---	---	0.36	0.03	0.01	0	0	0	0	---	---	19
20	---	---	---	0.35	0.03	0	0	0	0	0	---	---	20
21	---	---	---	0.35	0.03	0	0	0	0	0	---	---	21
22	---	---	---	0.33	0.03	0.01	0	0	0	0	---	---	22
23	---	---	---	0.31	0.03	0	0	0	0	0	---	---	23
24	---	---	---	0.28	0.03	0	0	0	0	0	---	---	24
25	---	---	---	0.26	0.02	0.01	0	0	0	0	---	---	25
26	---	---	---	0.24	0.01	0.01	0	0	0	0	---	---	26
27	---	---	---	0.23	0.01	0.01	0	0	0	0	---	---	27
28	---	---	---	0.21	0.01	0.01	0	0	0	0	---	---	28
29	---	---	---	0.18	0.01	0.01	0	0	0	0	---	---	29
30	---		0.01 A	0.16	0.01	0	0	0	0	0	---	---	30
31	---		0.01 E		0.01		0	0		0		---	31
TOTAL	---	---	---	5.84	2.59	0.13	0	0.06	0	0	---	---	TOTAL
MEAN	---	---	---	0.19	0.08	0	0	0	0	0	---	---	MEAN
AC-FT	---	---	---	11.6	5.1	0.26	0	0.12	0	0	---	---	AC-FT
MAX	---	---	---	0.36	0.28	0.01	0	0.01	0	0	---	---	MAX
MIN	---	---	---	0.01	0.01	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.04 CFS
TOTAL DISCHARGE, 17.1 AC-FT
MAXIMUM DAILY DISCHARGE, 0.36 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON JUN 1

MAXIMUM INSTANTANEOUS DISCHARGE
0.38 CFS AT 1151 CST ON APR 17

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

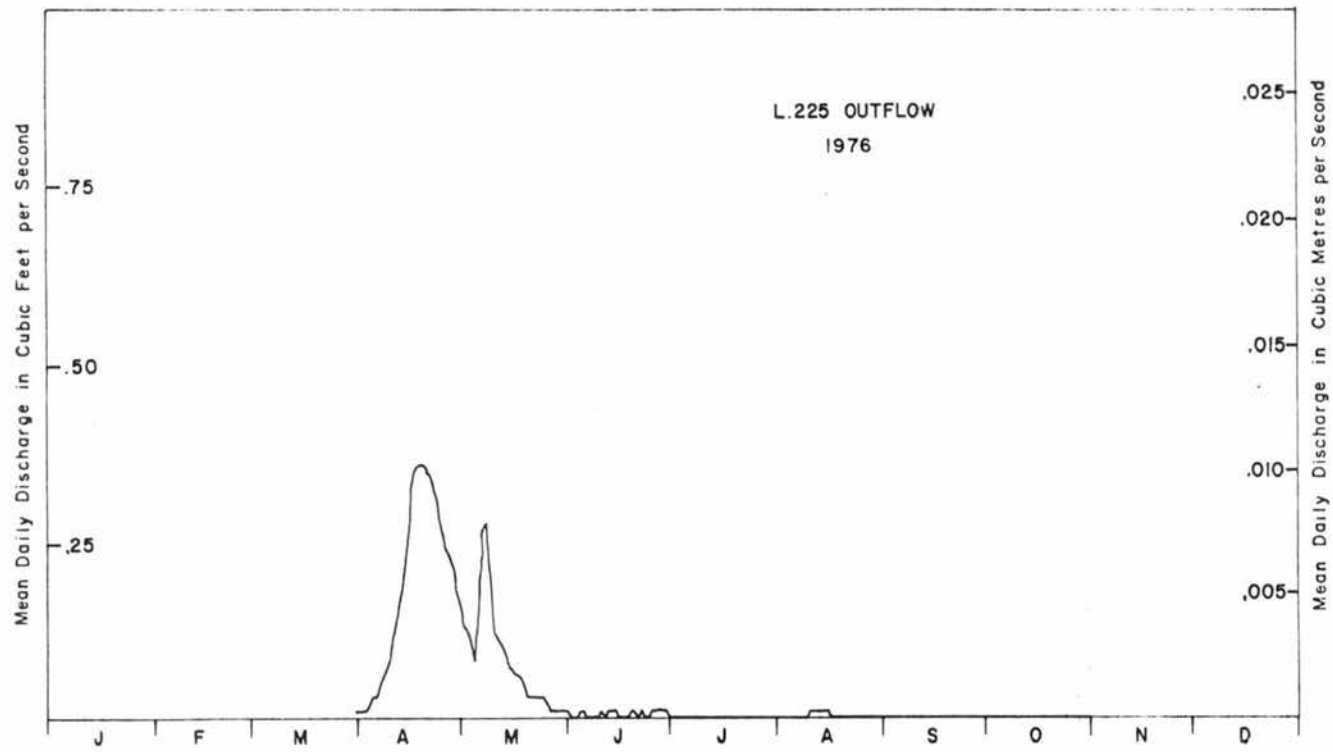


Fig. 17 Annual hydrograph based on mean daily discharges for the Lake 225 outflow for 1976.

Table 99 Mean daily discharges in cubic feet per second for the Lake 225 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0	0.01	0.15	0.04	0.01	0.01	0.02	---	1
2	---	---	---	0	0	0.01	0.15	0.04	0.01	0.01	---	---	2
3	---	---	---	0	0	0.01	0.14	0.04	0.01	0.01	---	---	3
4	---	---	---	0.01	0	0.01	0.14	0.04	0.01	0.01	---	---	4
5	---	---	---	0.01	0	0.02	0.14	0.04	0.02	0.01	---	---	5
6	---	---	---	0.01	0.01	0.02	0.13	0.04	0.01	0.01	---	---	6
7	---	---	---	0.01	0	0.01	0.13	0.04	0.01	0.01	---	---	7
8	---	---	---	0.01	0	0.02	0.11	0.03	0.01	0.01	---	---	8
9	---	---	---	0.01	0	0.01	0.12	0.03	0.02	0.01	---	---	9
10	---	---	---	0.01	0	0.01	0.11	0.03	0.02	0.01	---	---	10
11	---	---	---	0.01	0	0.01	0.09	0.02	0.02	0.01	---	---	11
12	---	---	---	0	0	0.01	0.09	0.02	0.01	0.01	---	---	12
13	---	---	---	0	0	0.02	0.09	0.02	0.01	0.01	---	---	13
14	---	---	---	0.01	0	0.02	0.10	0.02	0.01	0.03	---	---	14
15	---	---	---	0.01	0	0.05	0.09	0.02	0.01	0.03	---	---	15
16	---	---	---	0	0	0.07	0.08	0.02	0.01	0.03	---	---	16
17	---	---	---	0.01	0	0.23	0.07	0.02	0.01	0.02	---	---	17
18	---	---	---	0	0	0.31	0.06	0.02	0.01	0.02	---	---	18
19	---	---	---	0	0	0.33	0.06	0.02	0.01	0.01	---	---	19
20	---	---	---	0	0.01	0.36	0.06	0.02	0.01	0.01	---	---	20
21	---	---	---	0	0	0.35	0.06	0.02	0.01	0.02	---	---	21
22	---	---	---	0	0.01	0.34	0.06	0.01	0.01	0.03	---	---	22
23	---	---	---	0	0.01	0.30	0.05	0.01	0.01	0.02	---	---	23
24	---	---	---	0	0.02	0.27	0.05	0.01	0.02	0.02	---	---	24
25	---	---	---	0	0.01	0.24	0.04	0.01	0.02	0.03	---	---	25
26	---	---	---	0	0.01	0.22	0.04	0.01	0.02	0.03	---	---	26
27	---	---	---	0	0.01	0.19	0.03	0.01	0.01	0.01	---	---	27
28	---	---	---	0	0.02	0.18	0.03	0.01	0.01	0.01	---	---	28
29	---		0	0	0.02	0.17	0.04	0.01	0.01	0.01	---	---	29
30	---		0	0	0.01	0.17	0.05	0.01	0.01	0.01	---	---	30
31	---		0		0.02		0.05	0.01		0.02		---	31
TOTAL	---	---	---	0.11	0.16	3.97	2.61	0.69	0.37	0.49	---	---	TOTAL
MEAN	---	---	---	0	0.01	0.13	0.08	0.02	0.01	0.02	---	---	MEAN
AC-FT	---	---	---	0.22	0.32	7.9	5.2	1.4	0.73	0.97	---	---	AC-FT
MAX	---	---	---	0.01	0.02	0.36	0.15	0.04	0.02	0.03	---	---	MAX
MIN	---	---	---	0	0	0.01	0.03	0.01	0.01	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.04 CFS
TOTAL DISCHARGE, 16.7 AC-FT
MAXIMUM DAILY DISCHARGE, 0.36 CFS ON JUN 20
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
0.37 CFS AT 0042 CST ON JUN 21

TYPE OF GAUGE - RECORDING

NATURAL FLOW

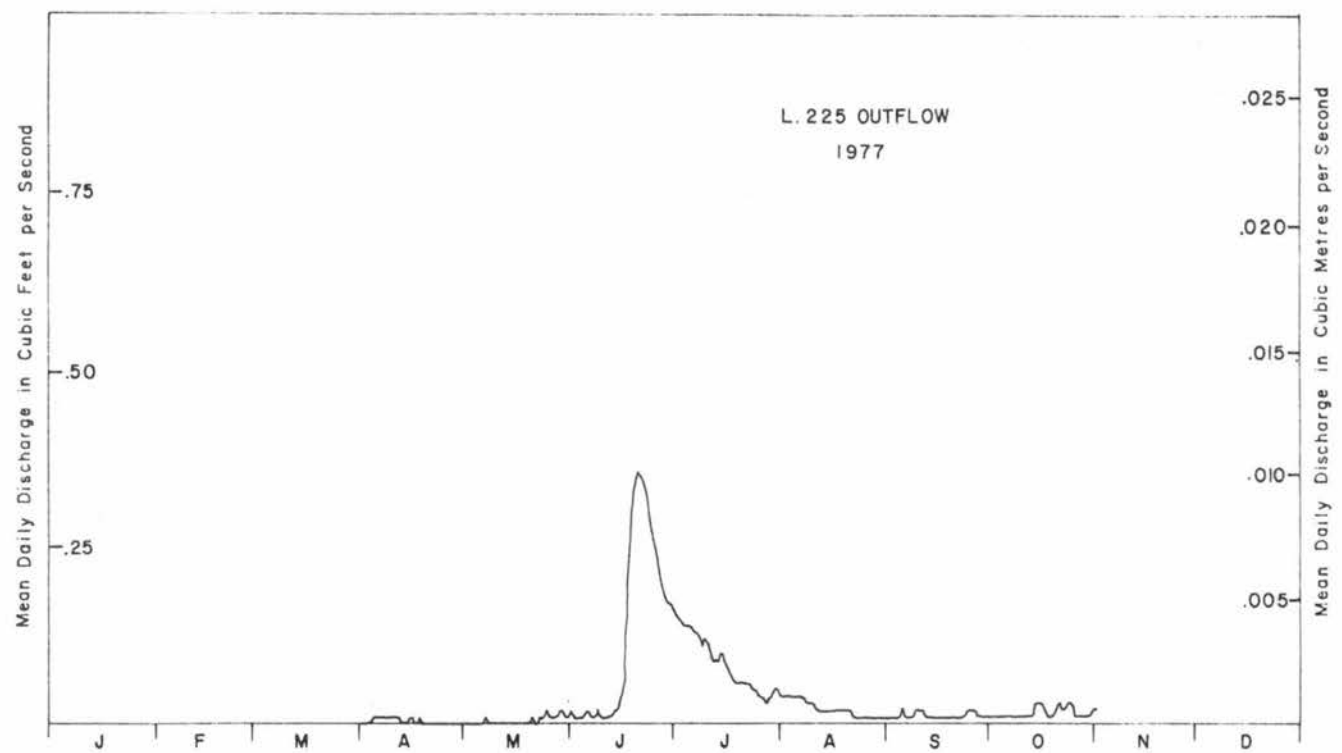


Fig. 17 Annual hydrograph based on mean daily discharges for the Lake 225 outflow for 1977.

Table 99 Mean daily discharges in cubic feet per second for the Lake 225 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AY
1	---	---	---	0	0.74	0.36	0.02	0.01	0.01	0.03	---	---	1
2	---	---	---	0	0.63	0.38	0.02	0.02	0.01	0.03	---	---	2
3	---	---	---	0	0.53	0.33	0.02	0.01	0.01	0.03	---	---	3
4	---	---	---	0	0.47	0.29	0.02	0.01	0.01	0.03	---	---	4
5	---	---	---	0	0.41	0.21	0.02	0.01	0.01	0.03	---	---	5
6	---	---	---	0	0.32	0.16	0.02	0.01	0.01	0.03	---	---	6
7	---	---	---	0	0.30	0.16	0.02	0.01	0.01	0.03	---	---	7
8	---	---	---	0	0.31	0.14	0.01	0.01	0.01	0.03	---	---	8
9	---	---	---	0	0.32	0.13	0.01	0.01	0.01	0.02	---	---	9
10	---	---	---	0	0.29	0.10	0.01	0.01	0.01	0.02	---	---	10
11	---	---	---	0	0.28	0.09	0.01	0.01	0.01	0.02	---	---	11
12	---	---	---	0	0.26	0.07	0.01	0.01	0.01	0.03	---	---	12
13	---	---	---	0	0.23	0.07	0.01	0.01	0.01	0.02	---	---	13
14	---	---	---	0	0.20	0.06	0.02	0.01	0.02	0.02	---	---	14
15	---	---	---	0	0.17	0.05	0.02	0.01	0.03	0.03	---	---	15
16	---	---	---	0	0.18	0.04	0.02	0.01	0.03	0.02	---	---	16
17	---	---	---	0	0.14	0.03	0.02	0.01	0.04	0.02	---	---	17
18	---	---	---	0	0.12	0.03	0.03	0.02	0.03	0.02	---	---	18
19	---	---	---	0.01	0.10	0.02	0.03	0.02	0.03	0.02	---	---	19
20	---	---	---	0.12	0.09	0.02	0.03	0.01	0.03	0.02	---	---	20
21	---	---	---	0.17	0.07	0.02	0.03	0.01	0.03	0.02	---	---	21
22	---	---	---	0.17	0.07	0.02	0.02	0.01	0.03	0.02	---	---	22
23	---	---	---	0.20	0.11	0.02	0.03	0.01	0.03	0.02	---	---	23
24	---	---	---	0.26	0.10	0.02	0.02	0.01	0.03	0.01	---	---	24
25	---	---	---	0.36	0.09	0.02	0.02	0.01	0.04	0.01	---	---	25
26	---	---	---	0.53	0.24	0.03	0.02	0.01	0.03	0.01	---	---	26
27	---	---	---	0.75	0.32	0.03	0.01	0.01	0.02	0.01	---	---	27
28	---	---	---	0.91	0.28	0.04	0.01	0.02	0.02	0.01	---	---	28
29	---		---	1.0	0.25	0.03	0.01	0.02	0.04	0.01	---	---	29
30	---		---	0.86	0.31	0.02	0.01	0.01	0.03	0.01	---	---	30
31	---		---		0.30		0.01	0.01		0.01		---	31
TOTAL	---	---	---	5.34	8.23	2.99	0.56	0.36	0.64	0.64	---	---	TOTAL
MEAN	---	---	---	0.18	0.27	0.10	0.02	0.01	0.02	0.02	---	---	MEAN
AC-FT	---	---	---	10.6	16.3	5.9	1.1	0.71	1.3	1.3	---	---	AC-FT
MAX	---	---	---	1.0	0.74	0.38	0.03	0.02	0.04	0.03	---	---	MAX
MIN	---	---	---	0	0.07	0.02	0.01	0.01	0.01	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.09 CFS
TOTAL DISCHARGE, 37.2 AC-FT
MAXIMUM DAILY DISCHARGE, 1.0 CFS ON APR 29
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.0 CFS AT 0137 CST ON APR 29

TYPE OF GAUGE - RECORDING

NATURAL FLOW

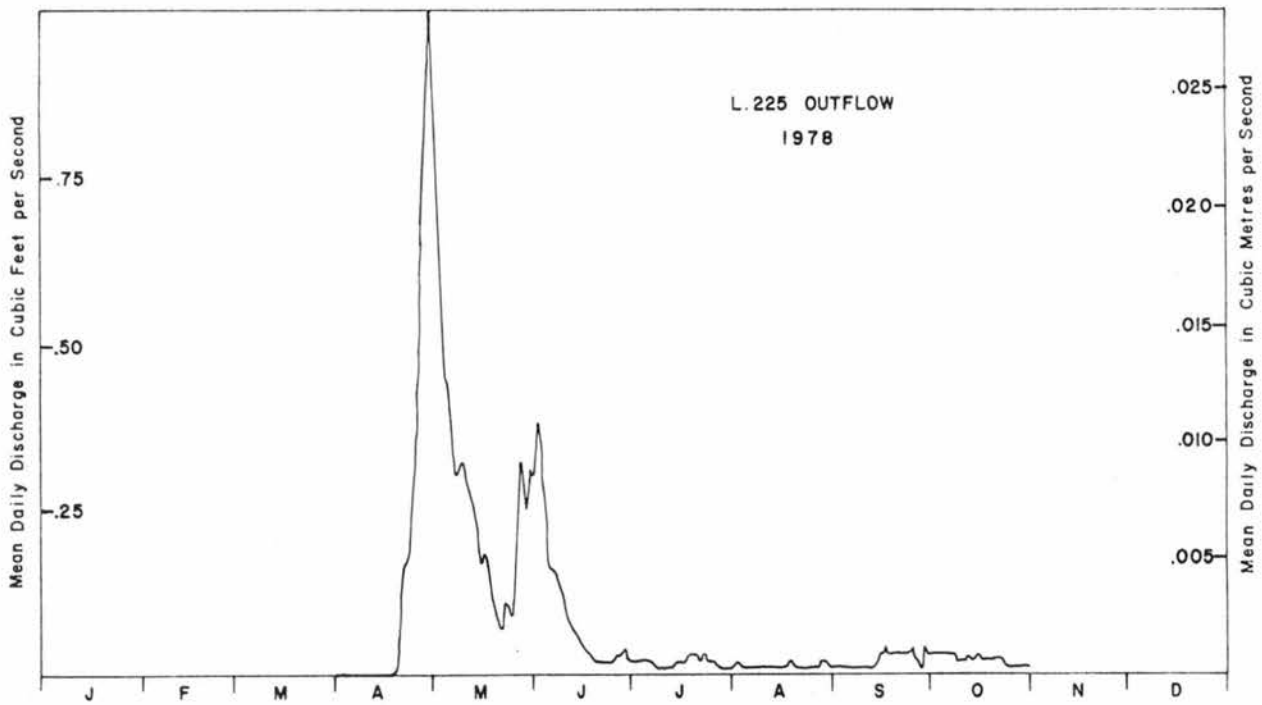


Fig. 17 Annual hydrograph based on mean daily discharges for the Lake 225 outflow for 1978.

Lake 226 Hydrological Data for 1972 to 1978

Lake 226 is located 2.2 miles (3.7 kilometres) north of the ELA field camp (Fig. 3). A basin topographical map (Fig. 18) with 10 foot contour interval, and a bathymetric map (Fig. 19) with 1 metre contour interval are included. The topographical map is based on mapping by Lockwood Survey (1972). The datum is approximate elevation above sea level in feet.

Lake 226 drains into Roddy Lake and has no headwater lakes. Table 100 provides morphometric data for the Lake 226 basin. In 1973, a sea curtain was installed to divide the lake into two approximately equal basins for the purpose of carrying out eutrophication experiments (Fig. 18 and 19). Hydrological work on Lake 226 began in 1971 when Water Survey of Canada constructed a 90° V-notch weir complete with Stevens water level recorder and staff gauge. The first year of complete record is 1972. The recorder was activated in early April and shut down in early November. No data exists for the November to April winter period, but flows are probably 0 to very low. Service of the weir and computation of flows were carried out by WSC in all years but 1974, and by ELA staff in 1974. All original water level recorder charts are on file with WSC.

Additional hydrological data collected in the 1978 open water season included manual readings of lake surface temperature and staff gauge readings of lake level (Table 101).

Table 100. Location and morphometric data for Lake 226.

Location:	
Latitude	49 41 30 N
Longitude	93 44 20 W
Morphometric data	
Total basin areas	
basin terrestrial area	81.08 ha
lake surface area	16.09
total basin area	97.17
NE basin areas	
terrestrial area	40.16 ha
lake surface	8.32
total	48.48
SW basin areas	
terrestrial area	40.92 ha
lake surface	7.77
total	48.69
Lake volumes	
whole lake	96.08 x 10^4 $metre^3$
NE basin	47.23
SE basin	48.85
Mean depth	
whole lake	6.0
NE basin	5.68
SW basin	6.29

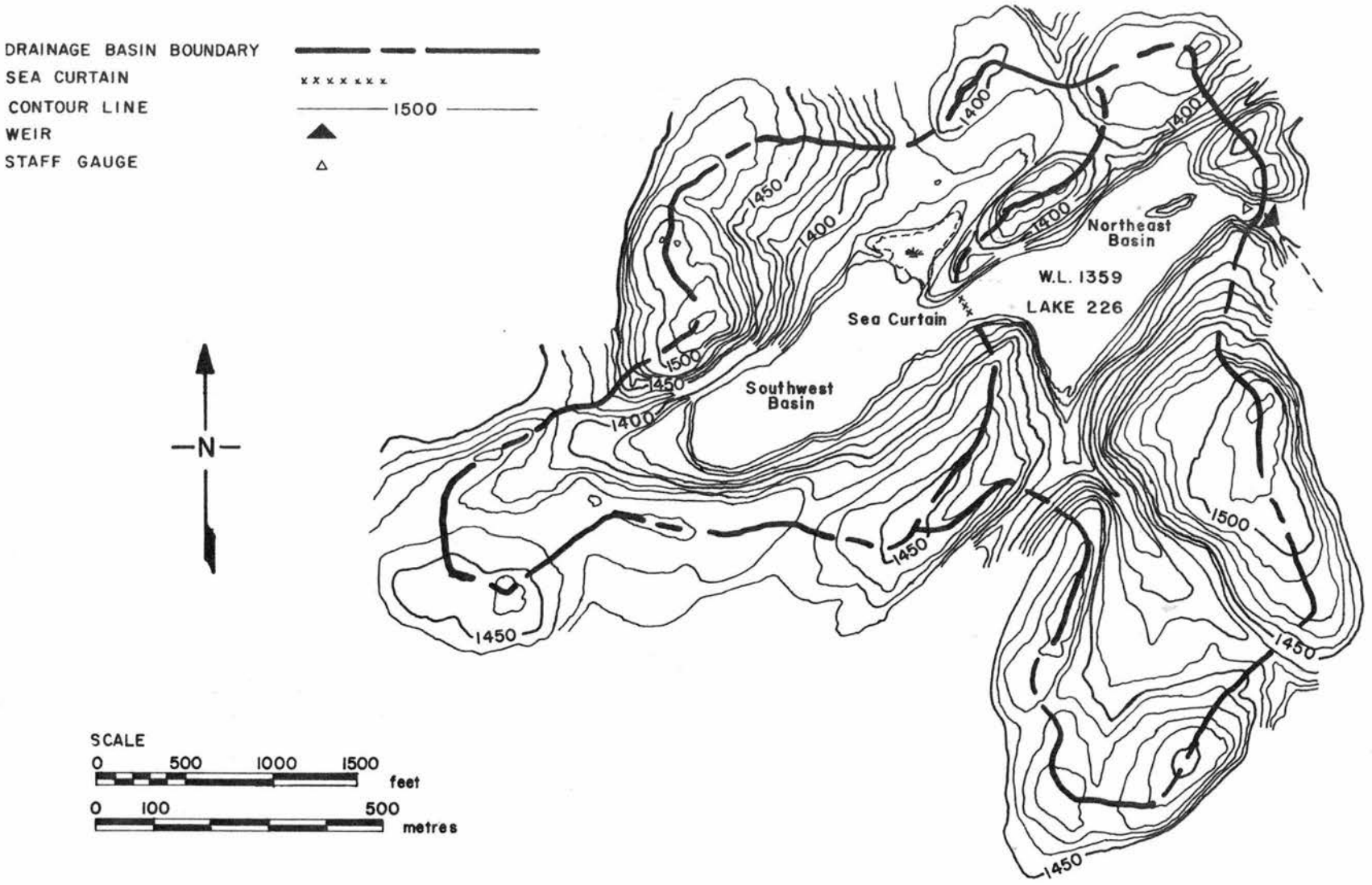


Fig. 18 Topographical map of the Lake 226 drainage basin. Contours are in feet.

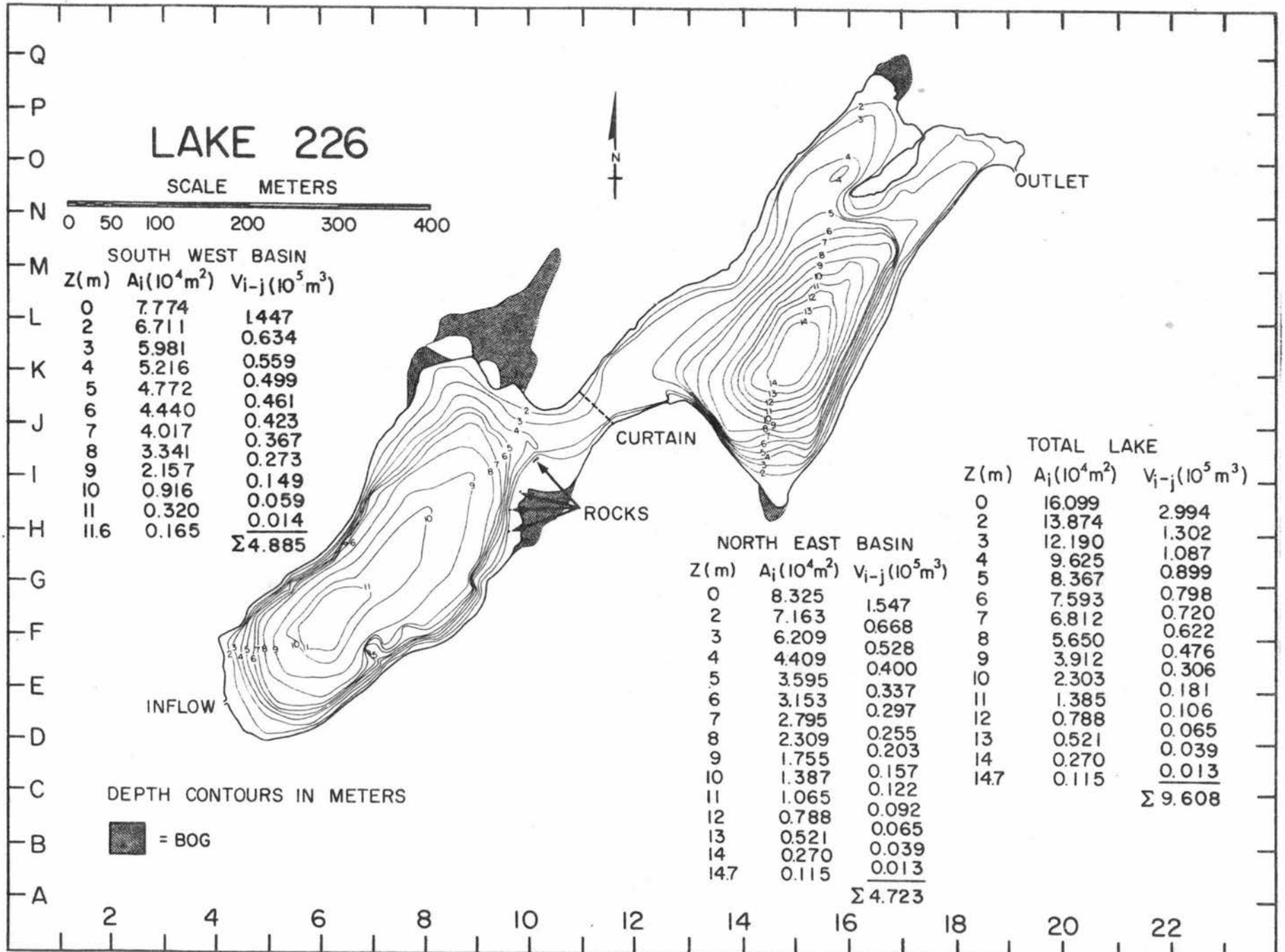


Fig. 19 Bathymetric chart of Lake 226.

Table 101 Measurements of lake surface temperature and lake level for Lake 226 for 1978.

Date	Time (cst)	Lake Temp. (°C)	Lake Level (ft.)
May 8	15:30	-	1.01
May 22	14:25	18.0	0.79
May 30	15:00	17.1	1.12
June 1	13:00	14.0	1.14
June 7	a.m.	14.6	1.05
June 14	17:00	16.5	0.97
June 22	09:05	-	0.71
June 24	03.37	-	0.72
June 26	07:34	-	0.76
June 26	20:15	-	0.77
June 27	20:45	-	0.77
June 28	20:12	22.0	0.79
June 29	03:26	-	0.78
June 30	08:23	-	0.77
June 30	18:00	25.0	0.75
July 1	15:45	-	0.75
July 2	15:03	-	0.71
July 3	15:20	-	0.70
July 4	07:30	-	0.68
July 5	15:20	22.1	0.72
July 11	03:45	-	0.65
July 11	14:05	-	0.62
July 12	15:15	-	0.66
July 14	21:10	-	0.67
July 17	13:05	-	0.62
July 19	08:30	21.5	0.66
July 19	15:00	22.0	0.69
July 24	04:20	-	0.66
July 25	04:20	-	0.64
July 26	04:20	22.0	0.63
July 26	20:55	-	0.61
July 27	04:00	-	0.62
July 28	04:30	-	0.60
July 29	14:25	-	0.57
July 31	08:25	-	0.58
July 31	16:30	21.0	0.59
Aug. 2	13:05	19.7	0.59
Aug. 7	-	22.3	-
Aug. 8	14:05	-	0.54
Aug. 9	14:04	-	0.52
Aug. 10	07:20	-	0.50
Aug. 11	-	21.8	-
Aug. 14	12:40	-	0.49
Aug. 16	09:20	20.8	0.56
Aug. 16	13:00	-	0.55
Aug. 19	11:39	-	0.58
Aug. 20	-	20.0	-
Aug. 22	-	18.4	-
Aug. 23	07:25	-	0.54
Aug. 24	-	18.9	-
Aug. 28	13:25	19.0	0.51
Aug. 29	11:13	18.4	0.55
Aug. 29	11:30	-	0.50
Aug. 31	10:35	18.4	0.56
Sept. 1	-	19.0	-
Sept. 5	08:55	23.4	0.52
Sept. 8	07:20	19.2	0.50
Sept. 11	08:00	18.2	0.49
Sept. 12	-	16.4	-
Sept. 13	08:15	16.0	0.48
Oct. 4	15:45	12.0	0.70
Oct. 10	15:00	13.5	0.69
Nov. 1	14:05	6.0	0.67

Note: - indicates no reading taken

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.21 E	1.3	0.18	0.07	0.17	0.20	0.37	---	---	1
2	---	---	---	0.21 E	1.1	0.16	0.05	0.18	0.16	0.37	---	---	2
3	---	---	---	0.21 E	0.90	0.12	0.04	0.17	0.12	0.39	---	---	3
4	---	---	---	0.21	0.75	0.10	0.03	0.13	0.18	0.37	---	---	4
5	---	---	---	0.22 E	0.64	0.10	0.03	0.10	0.14	0.36	---	---	5
6	---	---	---	0.22 E	0.59	0.09	0.02	0.07	0.29	0.33	---	---	6
7	---	---	---	0.22 E	0.51	0.08	0.03	0.06	0.56	0.30	---	---	7
8	---	---	---	0.22 E	0.44	0.06	0.03	0.06	0.55	0.26	---	---	8
9	---	---	---	0.22 E	0.39	0.04	0.02	0.04	0.50	0.24	---	---	9
10	---	---	---	0.22 E	0.36	0.03	0.05	0.04	0.46	0.22	---	---	10
11	---	---	---	0.22 E	0.32	0.04	0.45	0.04	0.41	0.32	---	---	11
12	---	---	---	0.22 E	0.28	0.04	0.57	0.04	0.35	0.28	---	---	12
13	---	---	---	0.23 E	0.31	0.04	0.53	0.05	0.32	0.27	---	---	13
14	---	---	---	0.23 E	0.33	0.04	1.0	0.04	0.25	0.23	---	---	14
15	---	---	---	0.23 E	0.31	0.03	1.1	0.20	0.22	0.23	---	---	15
16	---	---	---	0.23 E	0.28	0.02	0.95	0.34	0.22	0.04	---	---	16
17	---	---	---	0.23 E	0.25	0.01	0.94	0.34	0.20	0.04 E	---	---	17
18	---	---	---	0.23 E	0.23	0.06	0.80	0.33	0.19	0.03 E	---	---	18
19	---	---	---	0.23	0.21	0.29	0.67	0.28	0.17	0.03 E	---	---	19
20	---	---	---	0.27	0.32	0.37	0.62	1.7	0.15	0.02 E	---	---	20
21	---	---	---	0.37	0.32	0.36	0.45	3.5	0.11	0.02 E	---	---	21
22	---	---	---	0.47	0.30	0.33	0.38	3.0	0.09	0.02 E	---	---	22
23	---	---	---	0.61	0.35	0.29	0.33	2.4	0.09	0.01	---	---	23
24	---	---	---	0.67	0.34	0.24	0.26	1.8	0.22	0.01 E	---	---	24
25	---	---	---	0.69	0.33	0.20	0.24	1.3	0.23	0.01 E	---	---	25
26	---	---	---	1.2	0.32	0.17	0.16	0.90	0.24	0.03 E	---	---	26
27	---	---	---	1.9	0.28	0.14	0.12	0.67	0.26	0.03 E	---	---	27
28	---	---	---	1.9	0.31	0.13	0.11	0.53	0.35	0.03 E	---	---	28
29	---	---	---	1.8	0.30	0.13	0.09	0.44	0.36	0.03 E	---	---	29
30	---		---	1.6	0.25	0.10	0.20	0.38	0.37	0.03 E	---	---	30
31	---		---		0.22		0.21	0.29		0.03 E		---	31
TOTAL	---	---	---	15.69	13.14	3.99	10.55	19.59	7.96	4.95	---	---	TOTAL
MEAN	---	---	---	0.52	0.42	0.13	0.34	0.63	0.27	0.16	---	---	MEAN
AC-FT	---	---	---	31.1	26.1	7.9	20.9	38.9	15.8	9.8	---	---	AC-FT
MAX	---	---	---	1.9	1.3	0.37	1.1	3.5	0.56	0.39	---	---	MAX
MIN	---	---	---	0.21	0.21	0.01	0.02	0.04	0.09	0.01	---	---	MIN

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY DISCHARGE, 3.5 CFS ON AUG 21

MAXIMUM INSTANTANEOUS DISCHARGE
3.8 CFS AT 0645 CST ON AUG 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

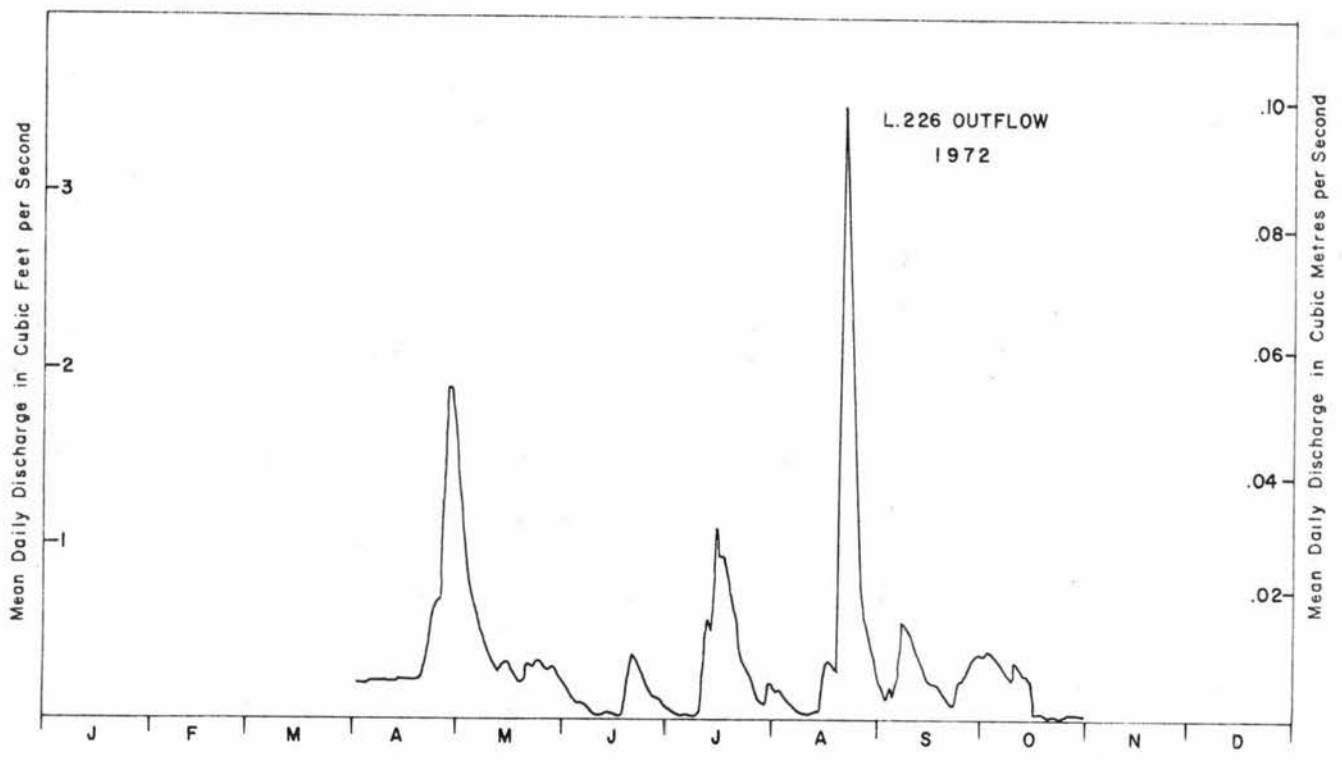


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1972.

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.13 E	0.51	0.09	0.16	0.58	0.20	0.51	---	---	1
2	---	---	---	0.13 E	0.44	0.07	0.14	0.47	0.76	0.44	---	---	2
3	---	---	---	0.13 E	0.39	0.08	0.10	0.40	0.98	0.53	---	---	3
4	---	---	---	0.13 E	0.35	0.09	0.07	0.38	1.6	0.62	---	---	4
5	---	---	---	0.13 E	0.36	0.06	0.06	0.35	1.8	0.55	---	---	5
6	---	---	---	0.15 E	0.47	0.05	0.06	0.45	1.6	0.49	---	---	6
7	---	---	---	0.17 E	0.47	0.04	0.58	0.45	1.2	0.44	---	---	7
8	---	---	---	0.18 E	0.44	0.04	0.74	0.49	0.89	0.40	---	---	8
9	---	---	---	0.18 E	0.40	0.03	0.68	1.1	0.71	0.43	---	---	9
10	---	---	---	0.18 E	0.43	0.03	0.56	1.4	0.55	0.48	---	---	10
11	---	---	---	0.19 E	0.44	0.04	0.45	1.2	0.42	0.56	---	---	11
12	---	---	---	0.20 E	0.39	0.03	0.36	0.97	0.34	1.2	---	---	12
13	---	---	---	0.22 E	0.33	0.02	0.25	0.80	0.30	1.4	---	---	13
14	---	---	---	0.23 E	0.30	0.02	0.19	0.65	0.28	1.3	---	---	14
15	---	---	---	0.32 E	0.26	0.07	0.15	0.52	0.24	1.0	---	---	15
16	---	---	0.13	0.38 E	0.24	0.06	0.13	0.44	0.21	0.85	---	---	16
17	---	---	---	0.37 E	0.20	0.18	0.16	0.38	0.18	0.73	---	---	17
18	---	---	---	0.35 E	0.19	0.27	0.16	0.33	0.16	0.65	---	---	18
19	---	---	---	0.34 E	0.18	0.32	0.14	0.35	0.13	0.56	---	---	19
20	---	---	---	1.0 E	0.16	0.36	0.12	0.30	0.11	0.50	---	---	20
21	---	---	---	2.6 E	0.14	0.38	0.10	0.24	0.15	0.45	---	---	21
22	---	---	---	2.2 E	0.12	0.34	0.08	0.21	0.56	0.41	---	---	22
23	---	---	---	1.8 E	0.14	0.30	0.06	0.18	0.77	0.39	---	---	23
24	---	---	---	1.4 E	0.13	0.25	0.08	0.15	0.80	0.38	---	---	24
25	---	---	---	1.1 E	0.17	0.26	0.10	0.12	0.97	0.36	---	---	25
26	---	---	---	1.0 E	0.19	0.26	0.23	0.11	1.1	0.33	---	---	26
27	---	---	---	0.86 E	0.17	0.30	1.1	0.10	0.99	0.31	---	---	27
28	---	---	---	0.70 E	0.15	0.25	1.2	0.09	0.86	0.29	---	---	28
29	---		---	0.64 E	0.12	0.23	1.0	0.07	0.72	0.26	---	---	29
30	---		---	0.59	0.11	0.19	0.86	0.05	0.61	0.24	---	---	30
31	---		---		0.10		0.71	0.04		0.23		---	31
TOTAL	---	---	---	18.00	8.49	4.71	10.78	13.37	20.19	17.29	---	---	TOTAL
MEAN	---	---	---	0.60	0.27	0.16	0.35	0.43	0.67	0.56	---	---	MEAN
AC-FT	---	---	---	35.7	16.8	9.3	21.4	26.5	40.0	34.3	---	---	AC-FT
MAX	---	---	---	2.6	0.51	0.38	1.2	1.4	1.8	1.4	---	---	MAX
MIN	---	---	---	0.13	0.10	0.02	0.06	0.04	0.11	0.23	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.43 CFS
TOTAL DISCHARGE, 184 AC-FT
MAXIMUM DAILY DISCHARGE, 2.6 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0.02 CFS ON JUN 13

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

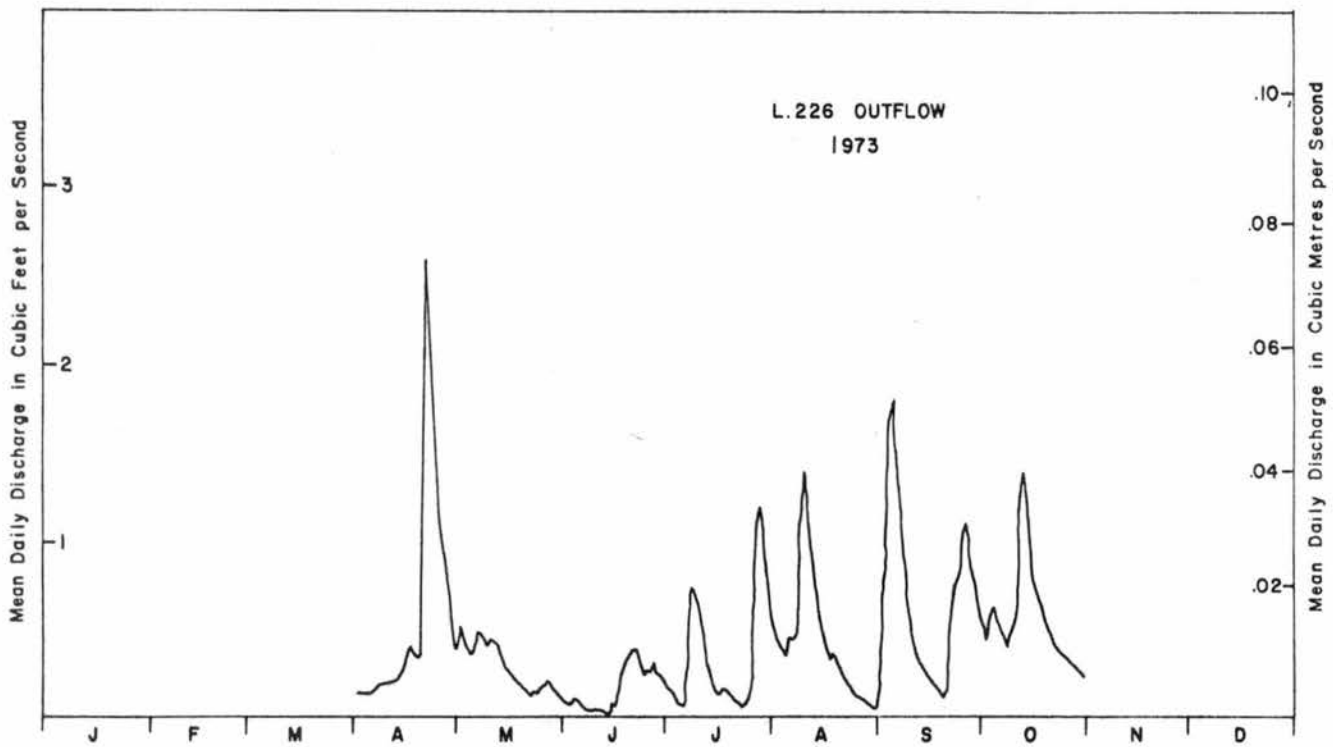


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1973.

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.05 E	1.60	0.32	0.01	0	0.71	0.20	0.21	---	1
2	---	---	---	0.05 E	1.30	0.28	M	0	0.66	0.18	0.22	---	2
3	---	---	---	0.06 E	1.10	0.25	M	0	0.56	0.14	0.22	---	3
4	---	---	---	0.06 E	0.88	0.23	M	0	0.46	0.13	0.22	---	4
5	---	---	---	0.07 E	0.77	0.38	M	0	0.40	0.18	0.22	---	5
6	---	---	---	0.07 E	0.66	1.20	M	0	0.34	0.21	0.21	---	6
7	---	---	---	0.08 E	0.59	1.80	M	0	0.32	0.22	0.21	---	7
8	---	---	---	0.08 E	0.51	1.70	M	0	0.28	0.22	0.21	---	8
9	---	---	---	0.09 E	0.44	1.30	0.08	0	0.26	0.23	0.20	---	9
10	---	---	---	0.09 E	0.40	0.94	0.06	0	0.25	0.25	0.20	---	10
11	---	---	---	0.10 E	1.10	0.74	0.06	0	0.25	0.23	0.18	---	11
12	---	---	---	0.11 E	2.00	0.56	0.07	0	0.21	0.23	0.18	---	12
13	---	---	---	0.12 E	1.90	0.44	0.05	0	0.18	0.22	0.18	---	13
14	---	---	---	0.13 E	1.70	0.42	0.01	0	0.16	0.22	0.18	---	14
15	---	---	---	0.14 E	1.50	0.38	0	0.18	0.14	0.23	0.18	---	15
16	---	---	---	0.15 E	1.20	0.33 E	0	0.32	0.17	0.28	0.18	---	16
17	---	---	---	0.16 E	1.10	0.27 E	0	0.34	0.21	0.30	0.18	---	17
18	---	---	---	0.17 A	0.94	0.22	0	0.34	0.25	0.28	0.18	---	18
19	---	---	---	0.28	0.86	0.21	0	0.32	0.26	0.28	0.17	---	19
20	---	---	---	0.86	1.10	0.18	0	0.42	0.25	0.28	0.17	---	20
21	---	---	---	3.20	1.30	0.16	0	0.69	0.23	0.26	0.17	---	21
22	---	---	---	3.60	1.20	0.13	0	0.74	0.21	0.26	---	---	22
23	---	---	---	3.10	0.94	0.11	0	0.66	0.20	0.25	---	---	23
24	---	---	---	2.60	0.83	0.10	0	0.61	0.18	0.25	---	---	24
25	---	---	---	2.20	0.71	0.07	0	0.56	0.18	0.23	---	---	25
26	---	---	---	2.20	0.61	0.05	0	0.49	0.17	0.22	---	---	26
27	---	---	---	2.40	0.51	0.04	0	0.42	0.16	0.22	---	---	27
28	---	---	0.03 A	2.40	0.46	0.03	0	0.42	0.13	0.22	---	---	28
29	---	---	0.03 E	2.10	0.40	0.02	0	0.54	0.13	0.21	---	---	29
30	---		0.04 E	1.80	0.34	0.01	0	0.64	0.20	0.21	---	---	30
31	---		0.04 E		0.32		0	0.71		0.20		---	31
TOTAL	---	---	---	28.52	29.27	12.87	---	8.40	8.11	7.04	---	---	TOTAL
MEAN	---	---	---	0.95	0.94	0.43	---	0.27	0.27	0.23	---	---	MEAN
AC-FT	---	---	---	56.57	58.06	25.53	---	16.66	16.09	13.96	---	---	AC-FT
MAX	---	---	---	3.60	2.00	1.80	---	0.74	0.71	0.30	---	---	MAX
MIN	---	---	---	0.05	0.32	0.01	0	0	0.13	0.13	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.42 CFS
TOTAL DISCHARGE, 195.9 AC-FT(MAR 28-JUL 1, JUL 9-NOV 21)
MAXIMUM DAILY DISCHARGE, 3.6 CFS ON APR 22
MINIMUM DAILY DISCHARGE, 0 ON JUL 15

MAXIMUM INSTANTANEOUS DISCHARGE
3.7 CFS AT 2400 ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
M-MISSING
NATURAL FLOW

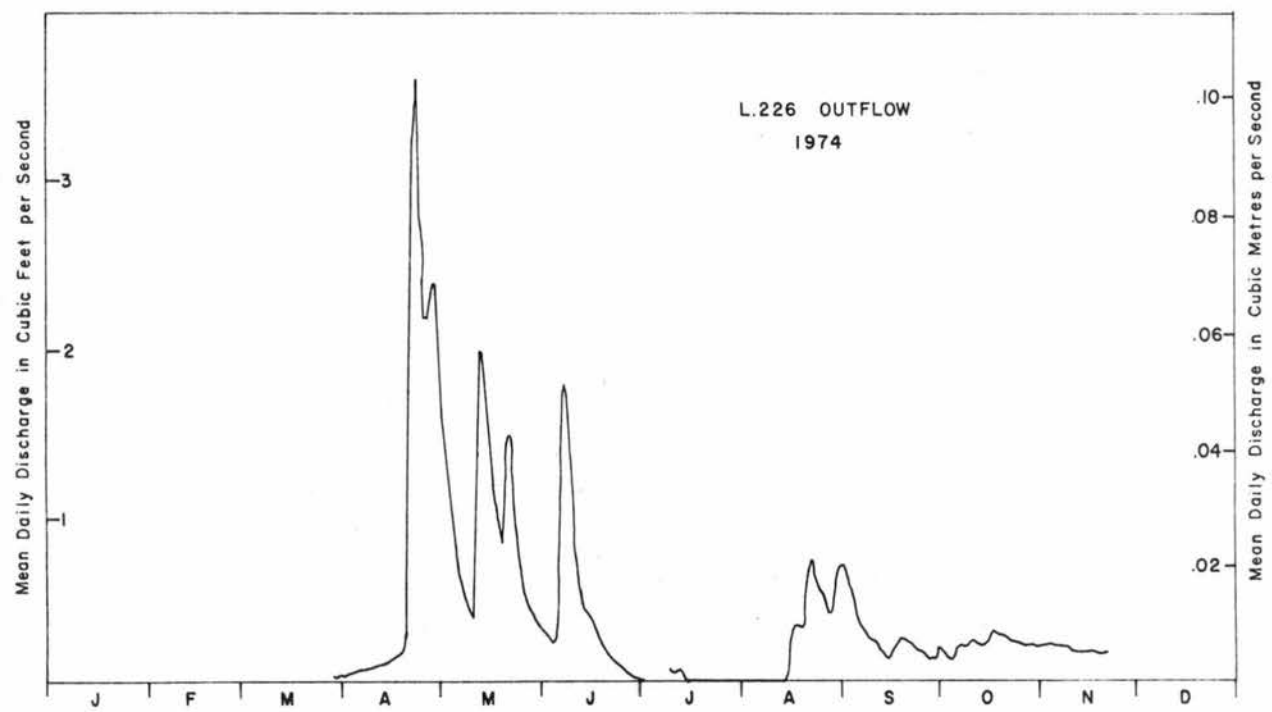


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1974.

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.17 E	1.9	0.25	0.98	0	0	0.17	---	---	1
2	---	---	---	0.17	1.8	0.21	0.92	0.01	0	0.14	---	---	2
3	---	---	---	0.17 E	1.7	0.18	0.81	0	0	0.11	---	---	3
4	---	---	---	0.16 E	1.5	0.17	0.68	0	0	0.10	---	---	4
5	---	---	---	0.16 E	1.4	0.21	0.58	0	0	0.11	---	---	5
6	---	---	---	0.15 E	1.2	0.21	0.48	0	0	0.09	---	---	6
7	---	---	---	0.15 E	0.98	0.19	0.40	0	0.05	0.08	---	---	7
8	---	---	---	0.15 E	0.86	0.17	0.27	0	0.07	0.06	---	---	8
9	---	---	---	0.14 E	0.75	0.17	0.20	0	0.08	0.06	---	---	9
10	---	---	---	0.15 E	0.65	0.18	0.14	0	0.13	0.05	---	---	10
11	---	---	---	0.22 E	0.56	0.19	0.10	0	0.18	0.05	---	---	11
12	---	---	---	0.29 E	0.49	0.19	0.07	0	0.17	0.05	---	---	12
13	---	---	---	0.36 E	0.43	0.15	0.06	0	0.18	0.04	---	---	13
14	---	---	---	0.43 E	0.43	0.14	0.05	0	0.15	0.08	---	---	14
15	---	---	---	0.50 E	0.39	0.14	0.04	0	0.13	0.12	---	---	15
16	---	---	---	0.57 E	0.42 A	0.12	0.04	0	0.12	0.12	---	---	16
17	---	---	---	0.64	0.42 E	0.10	0.03	0	0.11	0.11	---	---	17
18	---	---	---	0.78	0.42 E	0.12	0.02	0	0.13	0.11	---	---	18
19	---	---	---	1.1	0.42 E	0.12	0.02	0	0.23	0.10	---	---	19
20	---	---	---	1.3	0.41 E	0.26	0.01	0	0.32	0.10	---	---	20
21	---	---	---	1.3	0.41 E	0.56	0.01	0	0.36	0.08	---	---	21
22	---	---	---	1.3	0.41 E	1.9	0.01	0	0.36	0.07	---	---	22
23	---	---	---	1.6	0.40 E	2.7	0.01	0	0.38	0.08	---	---	23
24	---	---	---	2.0	0.40 E	2.3	0.01	0	0.34	0.09	---	---	24
25	---	---	---	2.2	0.40 E	1.8	0	0	0.31	0.20	---	---	25
26	---	---	---	2.1	0.40 A	1.5	0.01	0	0.30	0.20	---	---	26
27	---	---	---	2.1	0.33	1.1	0	0	0.26	0.19	---	---	27
28	---	---	---	2.4	0.35	0.88	0	0	0.23	0.19	---	---	28
29	---		---	2.4	0.33	0.75	0	0	0.21	0.18	---	---	29
30	---		---	2.1	0.26	0.99	0	0	0.20	0.18	---	---	30
31	---		---		0.26		0	0		0.17		---	31
TOTAL	---	---	---	27.26	21.08	17.95	5.95	0.01	5.00	3.48	---	---	TOTAL
MEAN	---	---	---	0.91	0.68	0.60	0.19	0	0.17	0.11	---	---	MEAN
AC-FT	---	---	---	54.1	41.8	35.6	11.8	0.02	9.9	6.9	---	---	AC-FT
MAX	---	---	---	2.4	1.9	2.7	0.98	0.01	0.38	0.20	---	---	MAX
MIN	---	---	---	0.14	0.26	0.10	0	0	0	0.04	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.38 CFS
TOTAL DISCHARGE, 160 AC-FT
MAXIMUM DAILY DISCHARGE, 2.7 CFS ON JUN 23
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 25

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

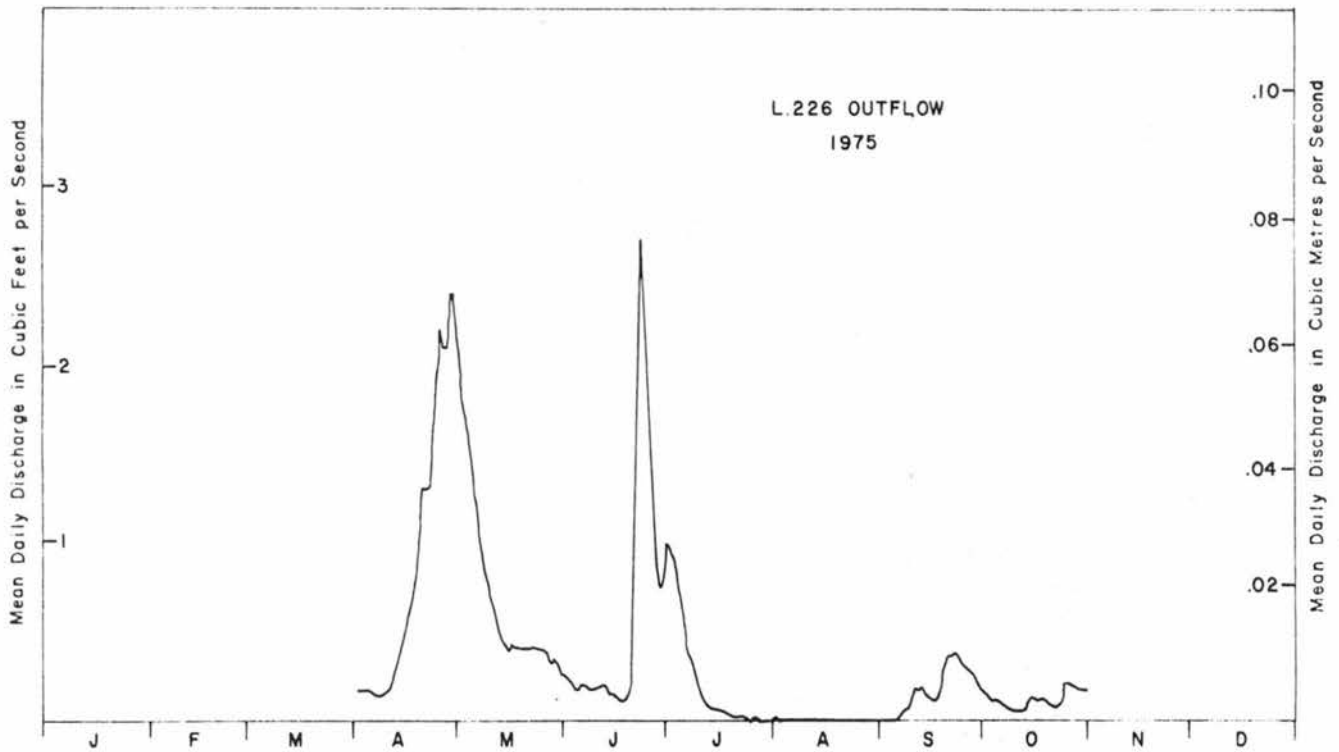


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1975.

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.18	0.45	0	0.31	0	0	0	---	---	1
2	---	---	---	0.21	0.43	0	0.25	0	0	0	---	---	2
3	---	---	---	0.22	0.38	0	0.21	0	0	0	---	---	3
4	---	---	---	0.24	0.34	0	0.16	0	0	0	---	---	4
5	---	---	---	0.29	0.31	0	0.13	0	0	0	---	---	5
6	---	---	---	0.36	0.26	0	0.09	0	0	0	---	---	6
7	---	---	---	0.47	0.24	0	0.06	0	0	0	---	---	7
8	---	---	---	0.59	0.22	0	0.05	0	0	0	---	---	8
9	---	---	---	0.77	0.21	0	0.04	0	0	0	---	---	9
10	---	---	---	1.1	0.18	0	0.04	0	0	0	---	---	10
11	---	---	---	1.4	0.15	0	0.02	0	0	0	---	---	11
12	---	---	---	1.6	0.13	0	0.01	0	0	0	---	---	12
13	---	---	---	1.8	0.16	0	0.01	0	0	0	---	---	13
14	---	---	---	2.0	0.19	0.01	0.01	0	0	0	---	---	14
15	---	---	---	2.2	0.19	0.01	0.01	0	0	0	---	---	15
16	---	---	---	2.7	0.18	0.01	0.01	0	0	0	---	---	16
17	---	---	---	3.1	0.16	0.01	0.01	0	0	0	---	---	17
18	---	---	---	2.9	0.14	0.01	0	0	0	0	---	---	18
19	---	---	---	2.4	0.12	0.01	0	0	0	0	---	---	19
20	---	---	---	1.9	0.10	0.02	0	0	0	0	---	---	20
21	---	---	---	1.6	0.09	0.01	0	0	0	0	---	---	21
22	---	---	---	1.3	0.08	0.01	0	0	0	0	---	---	22
23	---	---	---	1.1	0.07	0.01	0	0	0	0	---	---	23
24	---	---	---	0.89	0.05	0	0	0	0	0	---	---	24
25	---	---	---	0.78	0.04	0.06	0	0	0	0	---	---	25
26	---	---	---	0.70	0.03	0.20	0	0	0	0	---	---	26
27	---	---	---	0.62	0.02	0.37	0	0	0	0	---	---	27
28	---	---	---	0.57	0.01	0.46	0	0	0	0	---	---	28
29	---	---	---	0.52	0.01	0.43	0	0	0	0	---	---	29
30	---		---	0.44	0.01	0.37	0	0	0	0	---	---	30
31	---		0.12		0.01		0	0		0		---	31
TOTAL	---	---	---	34.95	4.96	2.00	1.42	0	0	0	---	---	TOTAL
MEAN	---	---	---	1.2	0.16	0.07	0.05	0	0	0	---	---	MEAN
AC-FT	---	---	---	69.3	9.8	4.0	2.8	0	0	0	---	---	AC-FT
MAX	---	---	---	3.1	0.45	0.46	0.31	0	0	0	---	---	MAX
MIN	---	---	---	0.18	0.01	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.20 CFS
TOTAL DISCHARGE, 85.9 AC-FT
MAXIMUM DAILY DISCHARGE, 3.1 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON JUN 1

MAXIMUM INSTANTANEOUS DISCHARGE
3.1 CFS AT 0736 CST ON APR 17

TYPE OF GAUGE - RECORDING

NATURAL FLOW

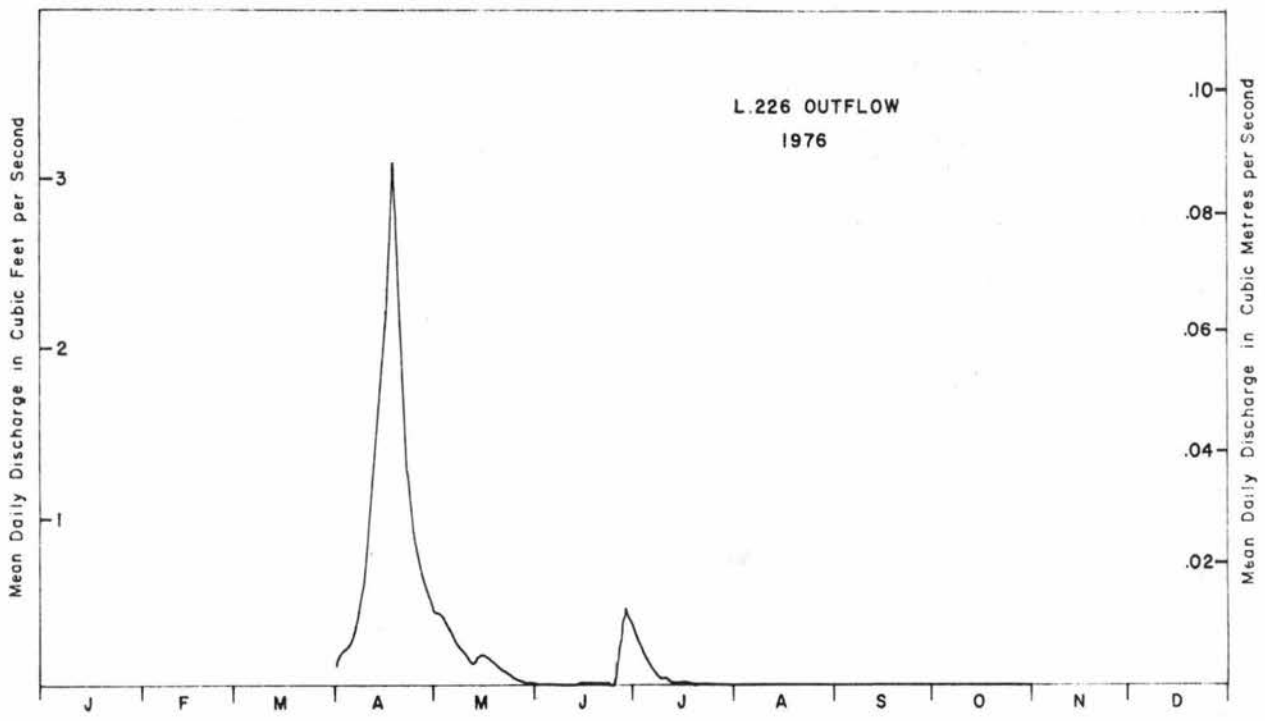


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1976.

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.16	0.65	0.64	0.18	0.03	0.35	0.02	---	1
2	---	---	---	0	0.20	0.68	0.59	0.15	0.02	0.32	0.02 A	---	2
3	---	---	---	0	0.16	0.62	0.65	0.16	0.02	0.28	---	---	3
4	---	---	---	0	0.11	0.48	0.57	0.16	0.03	0.25	---	---	4
5	---	---	---	0	0.15	0.46	0.52	0.16	0.02	0.23	---	---	5
6	---	---	---	0	0.46	0.54	0.48	0.16	0.01	0.21	---	---	6
7	---	---	---	0	0.59	0.51	0.42	0.13	0.01	0.20	---	---	7
8	---	---	---	0	0.61	0.51	0.39	0.14	0.02	0.18	---	---	8
9	---	---	---	0	0.55	0.49	0.37	0.13	0.36	0.16	---	---	9
10	---	---	---	0	0.46	0.47	0.35	0.11	0.93	0.15	---	---	10
11	---	---	---	0	0.47	0.48	0.38	0.10	0.96	0.12	---	---	11
12	---	---	---	0	0.36	0.47	0.48	0.07	0.86	0.09	---	---	12
13	---	---	---	0.07	0.32	0.48	0.48	0.06	0.77	0.08	---	---	13
14	---	---	---	0.21	0.30	0.61	0.53	0.06	0.70	0.05	---	---	14
15	---	---	---	0.25	0.37	0.97	0.50	0.05	0.60	0.05	---	---	15
16	---	---	---	0.25	0.34	1.6	0.46	0.04	0.50	0.05	---	---	16
17	---	---	---	0.39	0.23	1.8	0.41	0.04	0.43	0.04	---	---	17
18	---	---	---	0.71	0.23	2.5	0.37	0.03	0.36	0.04	---	---	18
19	---	---	---	0.78	0.21	2.6	0.35	0.04	0.31	0.03	---	---	19
20	---	---	---	0.71	0.25	2.4	0.34	0.04	0.27	0.03	---	---	20
21	---	---	---	0.67	0.25	2.0	0.29	0.04	0.24	0.02	---	---	21
22	---	---	---	0.67	0.25	1.7	0.26	0.04	0.23	0.02	---	---	22
23	---	---	---	0.56	0.49	1.4	0.24	0.04	0.20	0.01	---	---	23
24	---	---	---	0.42	0.66	1.1	0.22	0.04	0.25	0.01	---	---	24
25	---	---	---	0.35	0.52	0.91	0.20	0.04	0.35	0.01	---	---	25
26	---	---	---	0.35	0.40	0.78	0.16	0.08	0.40	0.01	---	---	26
27	---	---	---	0.28	0.44	0.66	0.14	0.09	0.39	0.01	---	---	27
28	---	---	---	0.25	0.50	0.60	0.13	0.14	0.40	0.01	---	---	28
29	---		0	0.25	0.49	0.51	0.16	0.14	0.37	0.01	---	---	29
30	---		0	0.18	0.51	0.59	0.19	0.15	0.38	0.01	---	---	30
31	---		0		0.53		0.21	0.11		0.01		---	31
TOTAL	---	---	---	7.35	11.57	29.57	11.48	2.92	10.42	3.04	---	---	TOTAL
MEAN	---	---	---	0.24	0.37	0.99	0.37	0.09	0.35	0.10	---	---	MEAN
AC-FT	---	---	---	14.6	22.9	58.7	22.8	5.8	20.7	6.0	---	---	AC-FT
MAX	---	---	---	0.78	0.66	2.6	0.65	0.18	0.96	0.35	---	---	MAX
MIN	---	---	---	0	0.11	0.46	0.13	0.03	0.01	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.36 CFS
TOTAL DISCHARGE, 166 AC-FT
MAXIMUM DAILY DISCHARGE, 2.6 CFS ON JUN 19
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1
MAXIMUM INSTANTANEOUS DISCHARGE
2.7 CFS AT 0012 CST ON JUN 19

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

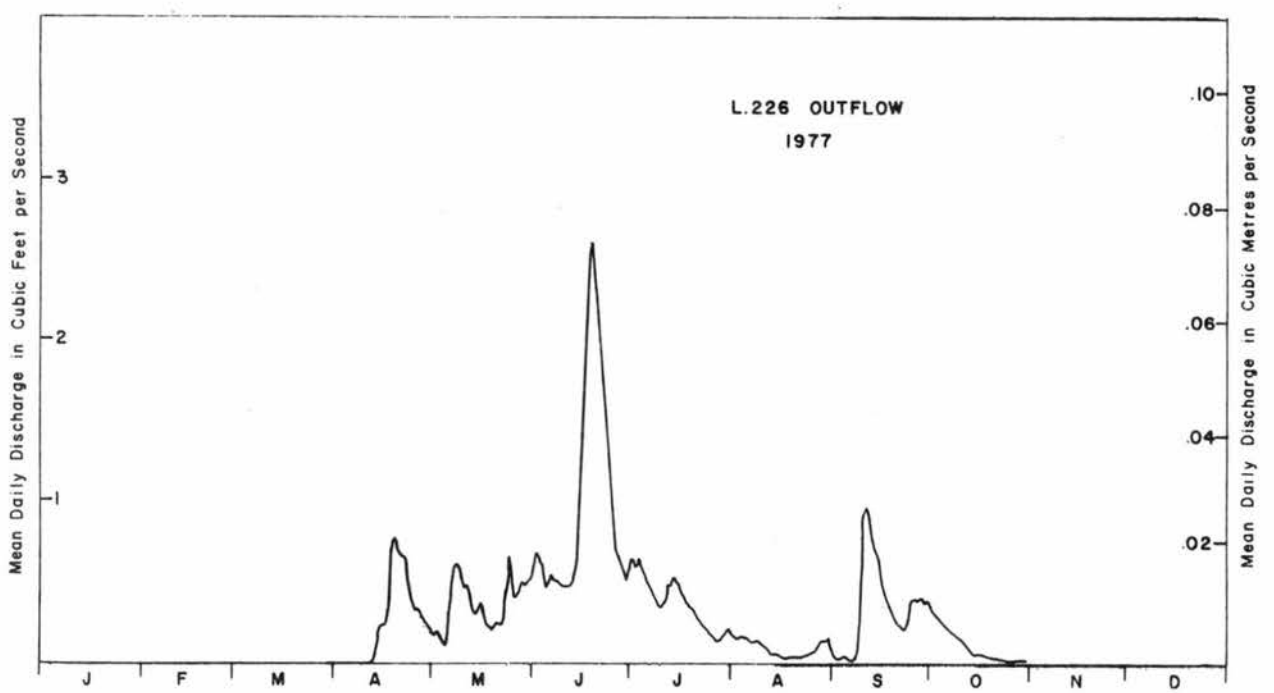


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1977.

Table 102 Mean daily discharges in cubic feet per second for the Lake 226 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.03 E	2.3	1.1	0.21	0.10	0.06	0.04	---	---	1
2	---	---	---	0.03 E	1.9	1.2	0.19	0.12	0.06	0.04	---	---	2
3	---	---	---	0.04 E	1.6	1.2	0.18	0.11	0.05	0.04	---	---	3
4	---	---	---	0.05 E	1.6	0.98	0.17	0.10	0.05	0.04	---	---	4
5	---	---	---	0.06 E	1.4	0.86	0.20	0.09	0.05	0.04	---	---	5
6	---	---	---	0.07 E	1.2	0.74	0.19	0.09	0.04	0.04	---	---	6
7	---	---	---	0.08 E	0.98	0.68	0.17	0.08	0.04	0.04	---	---	7
8	---	---	---	0.10 E	0.97	0.63	0.15	0.07	0.04	0.03	---	---	8
9	---	---	---	0.11 E	0.94	0.61	0.14	0.06	0.04	0.03	---	---	9
10	---	---	---	0.12 E	0.88	0.57	0.12	0.08	0.03	0.03	---	---	10
11	---	---	---	0.14 A	0.85	0.49	0.11	0.07	0.03	0.02	---	---	11
12	---	---	---	0.21 E	0.79	0.44	0.11	0.06	0.02	0.02	---	---	12
13	---	---	---	0.28 E	0.69	0.39	0.10	0.07	0.03	0.02	---	---	13
14	---	---	---	0.36 E	0.61	0.35	0.12	0.06	0.07	0.02	---	---	14
15	---	---	---	0.46 E	0.53	0.33	0.12	0.04	0.08	0.02	---	---	15
16	---	---	---	0.59 E	0.49	0.33	0.11	0.06	0.08	0.03	---	---	16
17	---	---	---	0.69 E	0.43	0.28	0.11	0.06	0.09	0.02	---	---	17
18	---	---	---	0.83 A	0.37	0.25	0.13	0.09	0.08	0.02	---	---	18
19	---	---	---	0.62	0.33	0.21	0.13	0.08	0.07	0.02	---	---	19
20	---	---	---	0.68	0.30	0.18	0.14	0.07	0.07	0.02	---	---	20
21	---	---	---	0.72	0.25	0.18	0.13	0.06	0.06	0.01	---	---	21
22	---	---	---	0.82	0.24	0.17	0.12	0.05	0.05	0.01	---	---	22
23	---	---	---	1.0	0.23	0.17	0.14	0.05	0.05	0.01	---	---	23
24	---	---	---	1.5	0.19	0.22	0.14	0.05	0.04	0.01	---	---	24
25	---	---	---	1.9	0.17	0.20	0.13	0.05	0.04	0.01	---	---	25
26	---	---	---	2.3	0.54	0.21	0.12	0.05	0.04	0.01	---	---	26
27	---	---	---	2.8	0.87	0.21	0.11	0.06	0.04	0.01	---	---	27
28	---	---	---	3.0	0.88	0.23	0.10	0.08	0.04	0.01	---	---	28
29	---		---	3.0	0.88	0.22	0.09	0.07	0.04	0.01	---	---	29
30	---		---	2.7	0.93	0.21	0.09	0.06	0.04	0.01	---	---	30
31	---		---		0.90		0.10	0.06		0.01		---	31
TOTAL	---	---	---	25.29	25.24	13.84	4.17	2.20	1.52	0.69	---	---	TOTAL
MEAN	---	---	---	0.84	0.81	0.46	0.13	0.07	0.05	0.02	---	---	MEAN
AC-FT	---	---	---	50.2	50.1	27.5	8.3	4.4	3.0	1.4	---	---	AC-FT
MAX	---	---	---	3.0	2.3	1.2	0.21	0.12	0.09	0.04	---	---	MAX
MIN	---	---	---	0.03	0.17	0.17	0.09	0.04	0.02	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.34 CFS
TOTAL DISCHARGE, 145 AC-FT
MAXIMUM DAILY DISCHARGE, 3.0 CFS ON APR 28
MINIMUM DAILY DISCHARGE, 0.01 CFS ON OCT 21

MAXIMUM INSTANTANEOUS DISCHARGE
3.0 CFS AT 0037 ON APR 29

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

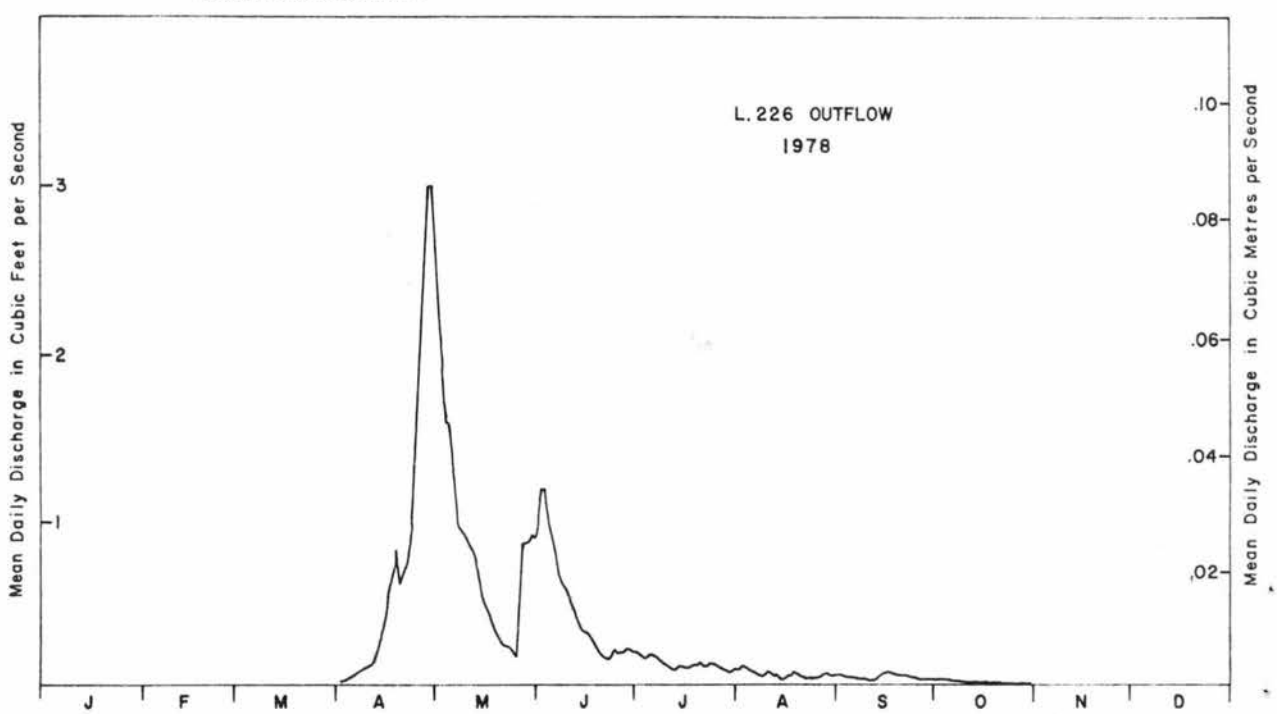


Fig. 20 Annual hydrograph based on mean daily discharges for the Lake 226 outflow for 1978.

Lake 227 Hydrological Data for 1970 to 1978

Lake 227 is located 2.5 miles (4 kilometres) northeast of the ELA field camp (Fig. 3). A basin topographical map (Fig. 21) with 10 foot contour interval, and a bathymetric map (Fig. 22) with 1 metre contour interval are included. The topographical map is based on mapping by Lockwood Survey (1972). The datum is approximate elevation above sea level.

Lake 227 drains into Lake 305 and has no headwater lakes. Table 103 provides morphometric data for the Lake 227 basin. Hydrological work began May 17, 1969 when Water Survey of Canada installed a Stevens water level recorder and stilling well on the lake. October 27, 1970, a 90° V-notch sharp crested weir was constructed by WSC on the outflow stream. The lake level gauge was operated in 1969, 1970, 1977 and 1978, and the data is presented in Table 105. The outflow data is presented in Table 104 for 1970 to 1978. Data prior to weir construction is based on an open channel section in the stream and the lake gauge. The recorders were set up in early April and closed down in early November. During the November to April winter period, data does not normally exist, but flows were usually 0 or very low. Service of the two Lake 227 stations, and computation of the flows and lake levels were carried out by WSC in all years but 1974, and by ELA staff in 1974. All original water level recorder charts are on file with WSC.

Table 103. Location and morphometric data for Lake 227.

Location:	
Latitude	49 31 18 N
Longitude	93 41 19 W
Morphometric data	
Basin terrestrial area	29.40 ha*
Lake surface area	5.0
Total basin area	34.40
Lake volume	22.1×10^4 metre^3
Mean depth	4.4 metres

*more accurate value than previously reported by Brunskill and Schindler (1971).

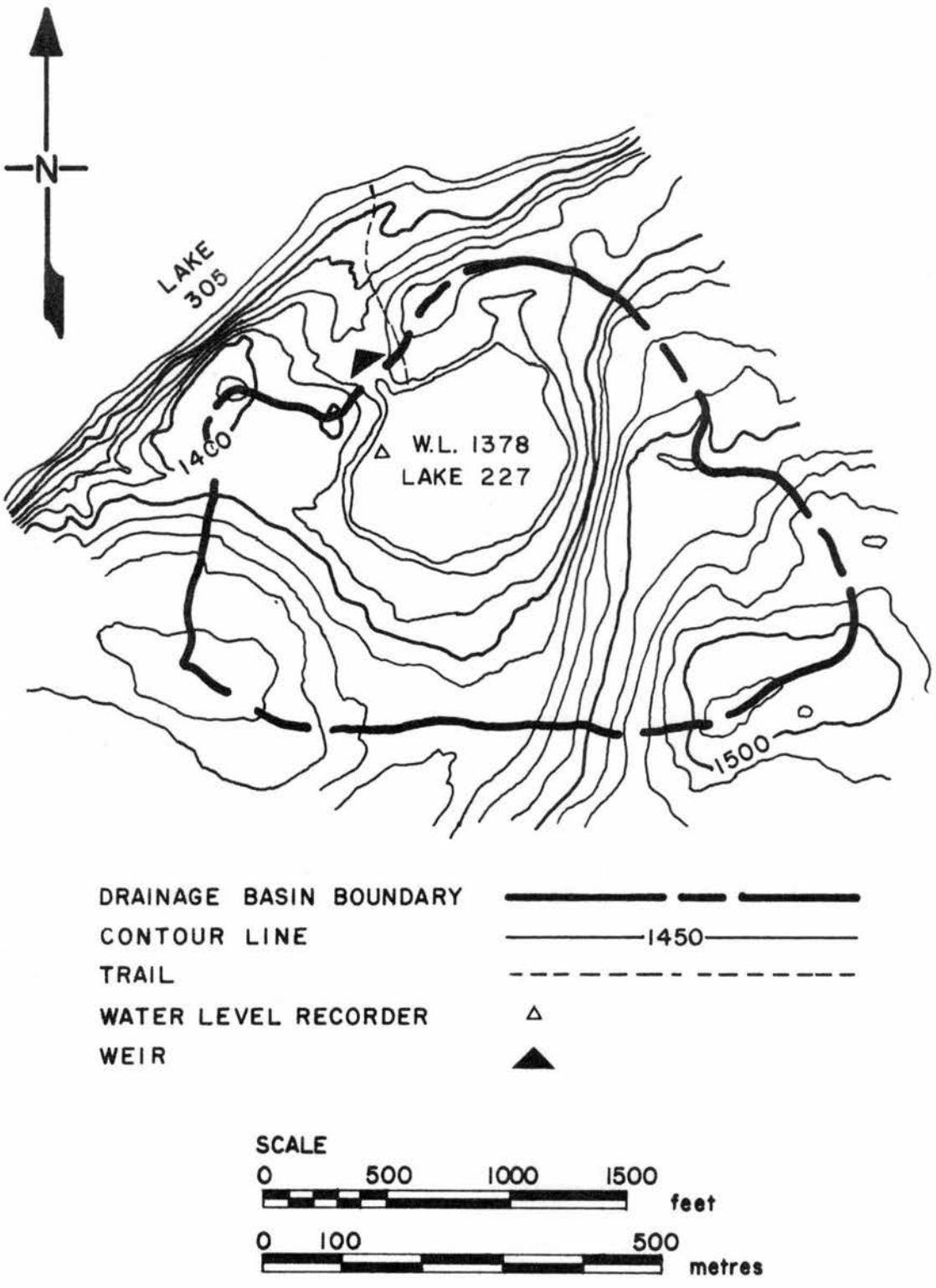


Fig. 21 Topographical map of the Lake 227 drainage basin. Contours are in feet.

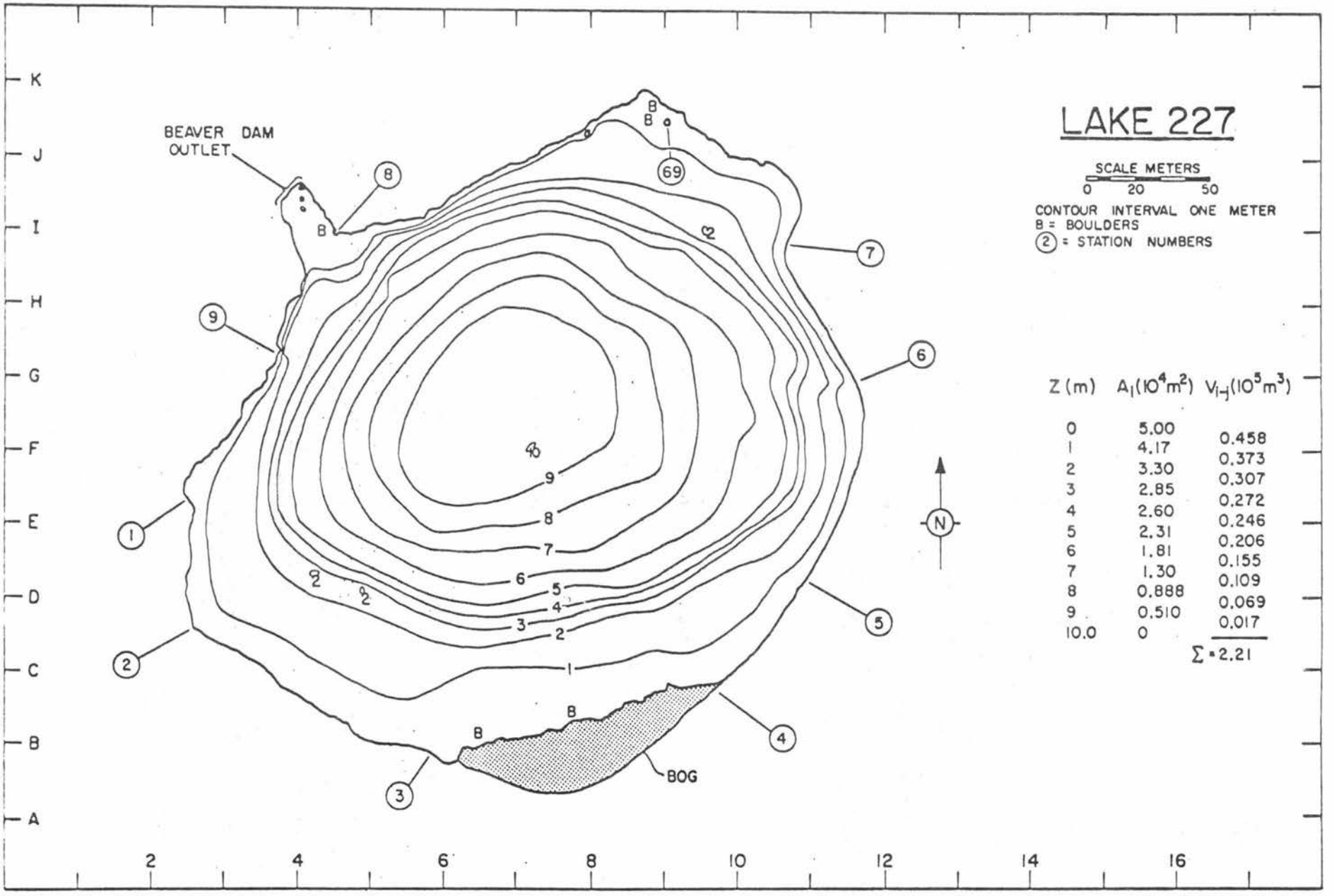


Fig. 22 Bathymetric chart of Lake 227.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.08	0.05 E	0.07 E	0.04	2.6	0.32	0.03 E	0	0	0.05	1.1	0.08 E	1
2	0.08	0.05 E	0.07 E	0.04	1.9	0.24	0.03 E	0	0	0.06	0.95	0.08 E	2
3	0.08	0.06 E	0.07 E	0.04	0.70	0.20	0.02 E	0	0	0.05	0.60	0.08 E	3
4	0.08	0.06 E	0.07 E	0.04	0.76	0.16	0.02 E	0	0	0.04	0.42	0.08 E	4
5	0.08	0.06 E	0.07 E	0.04	0.64	0.13	0.02 E	0	0	0.04	0.35	0.07 E	5
6	0.08	0.06 E	0.07 E	0.04	0.47	0.08	0.02 E	0	0	0.05	0.27	0.07 E	6
7	0.07	0.06 E	0.07 E	0.04	0.64	0.07	0.02 E	0	0	0.05	0.24	0.07 E	7
8	0.07	0.06 E	0.07 E	0.04	1.3	0.05	0.01 E	0	0.11	0.04	0.19	0.07 E	8
9	0.07	0.06 E	0.07 E	0.04	1.0	0.04	0.01	0	0.20	0.13	0.18	0.07 A	9
10	0.07	0.06 E	0.07 E	0.04	0.70	0.04	0.01	0	0.20	0.18	0.15	0.07 E	10
11	0.07	0.06 E	0.07	0.04	0.43	0.03	0.01	0	0.20	0.14	0.14	0.06 E	11
12	0.07	0.06 E	0.07	0.04	0.43	0.02	0.01	0	0.90	0.16	0.13 A	0.06 E	12
13	0.06	0.06 E	0.07	0.04	0.32	0.02	0.02	0	1.0	0.20	0.11	0.06 E	13
14	0.06	0.06 E	0.06	0.04	0.29	0.02	0.01	0	0.52	0.22	0.09	0.06 E	14
15	0.06	0.06 E	0.06	0.04	0.39	0.02	0.01	0	0.43	0.22	0.08	0.05 E	15
16	0.06	0.06 E	0.05	0.05	0.52	0.03	0	0	0.43	0.20	0.08	0.05 E	16
17	0.05	0.06 E	0.05	0.07	0.43	0.04	0	0	0.32	0.20	0.08	0.04 E	17
18	0.05	0.06 E	0.05	0.07	0.39	0.03	0	0	0.26	0.22	0.09	0.04 E	18
19	0.05	0.06 E	0.05	0.08	0.29	0.02	0	0	0.22	0.24	0.09	0.03 E	19
20	0.05	0.06 E	0.05	0.10	0.26	0.02	0	0	0.20	0.26	0.08	0.02 E	20
21	0.05	0.06 E	0.05	0.14	0.26	0.02	0	0	0.16	0.29	0.08	0.02 E	21
22	0.05 E	0.06 E	0.05	0.14	0.24	0.01	0	0	0.13	0.26	0.09 A	0.01 E	22
23	0.05 E	0.06 E	0.05	0.16	0.20	0.01	0	0	0.11	0.24	0.09 E	0.01 E	23
24	0.05 E	0.06 E	0.05	0.13	0.16	0.01	0	0	0.10	0.22	0.09 E	0 E	24
25	0.05 E	0.06 E	0.05	0.16	0.26	0.01	0	0	0.08	0.20	0.09 E	0 E	25
26	0.05 E	0.06 E	0.04	0.26	0.43	0.01	0	0	0.07	0.20	0.09 E	0 E	26
27	0.05 E	0.07 E	0.04	0.58	0.36	0.01	0	0	0.06	0.82	0.08 E	0 E	27
28	0.05 E	0.07 E	0.04	3.8	0.32	0.01	0	0	0.06	1.8 A	0.08 E	0 E	28
29	0.05 E		0.04	4.6	0.39	0.02	0	0	0.06	1.5	0.08 E	0 E	29
30	0.05 E		0.04	4.2	0.36	0.03 A	0	0	0.05	0.95	0.08 E	0 E	30
31	0.05 E		0.04		0.32		0	0		0.85		0 E	31
TOTAL	1.89	1.68	1.77	15.14	17.76	1.72	0.25	0	5.87	10.08	6.27	1.25	TOTAL
MEAN	0.06	0.06	0.06	0.50	0.57	0.06	0.01	0	0.20	0.33	0.21	0.04	MEAN
AC-FT	3.7	3.3	3.5	30.0	35.2	3.4	0.50	0	11.6	20.0	12.4	2.5	AC-FT
MAX	0.08	0.07	0.07	4.6	2.6	0.32	0.03	0	1.0	1.8	1.1	0.08	MAX
MIN	0.05	0.05	0.04	0.04	0.16	0.01	0	0	0	0.04	0.08	0	MIN

SUMMARY FOR THE YEAR 1970

MEAN DISCHARGE, 0.17 CFS
TOTAL DISCHARGE, 126 AC-FT
MAXIMUM DAILY DISCHARGE, 4.6 CFS ON APR 29
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 16

MAXIMUM INSTANTANEOUS DISCHARGE
5.2 CFS AT 2320 CST ON APR 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

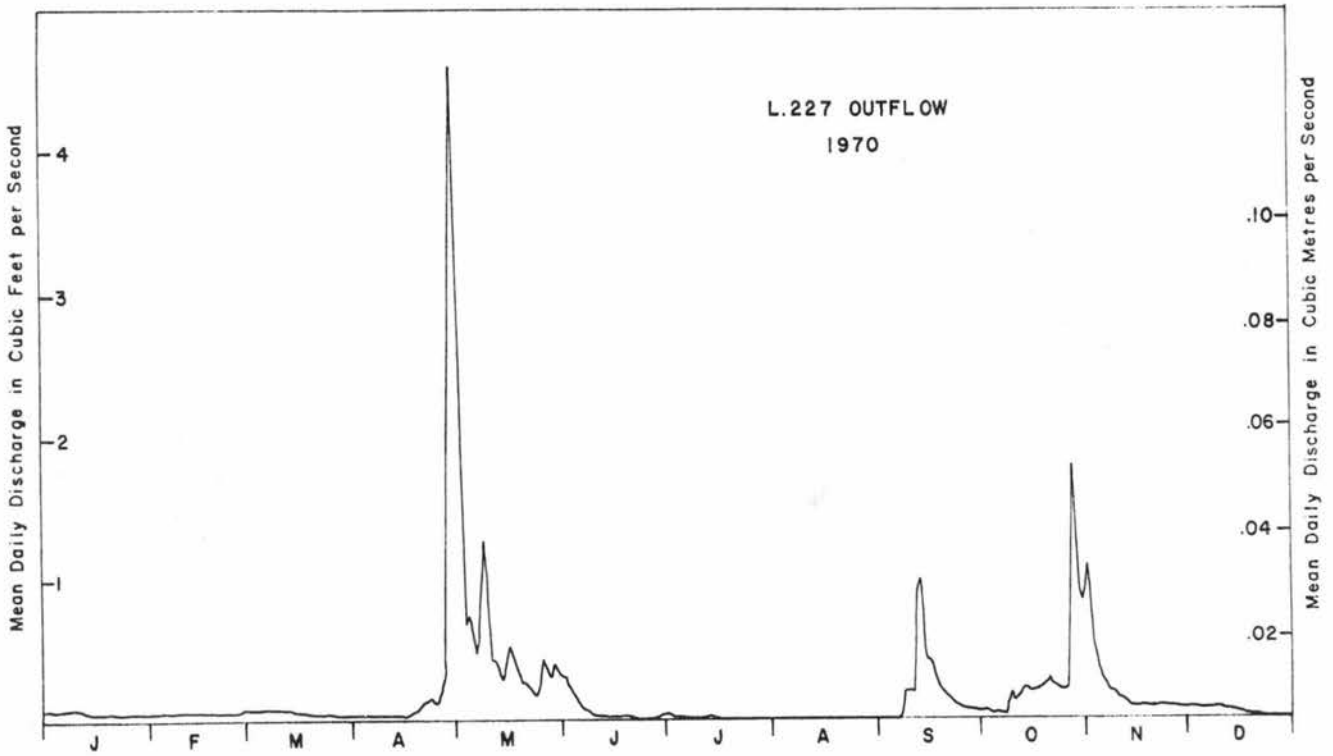


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1970.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.27 E	0.10	2.2	0.04	0	0.71	0.79	---	1
2	---	---	---	0 E	0.26 E	0.07	1.6	0.04	0	0.74	0.64	---	2
3	---	---	---	0 E	0.24 E	0.05	0.70	0.03	0.01	0.69	0.60	---	3
4	---	---	---	0 E	0.23 E	0.04	0.46	0.03	0.02	0.83	0.51	---	4
5	---	---	---	0 E	0.22 E	0.12	0.27	0.02	0.05	0.74	0.53	---	5
6	---	---	---	0 E	0.20 E	0.19	0.20	0.01	0.06	0.60	0.41	---	6
7	---	---	---	0 E	0.19 E	0.17	0.13	0.01	0.06	0.50	---	---	7
8	---	---	---	0 E	0.18 E	0.12	0.09	0.01	0.04	0.43	---	---	8
9	---	---	---	0 E	0.16 E	0.10	0.05	0	0.03	0.33	0.23	---	9
10	---	---	---	0 E	0.15 E	0.08	0.04	0	0.03	0.26	0.19	---	10
11	---	---	---	0.12 E	0.14 E	0.08	0.04	0	0.02	0.21	0.18	---	11
12	---	---	---	0.24 E	0.13 A	0.10	0.15	0	0.02	0.17	0.16	---	12
13	---	---	---	0.35 E	0.10	0.10	0.21	0	0.01	0.14	0.15	---	13
14	---	---	---	0.47 E	0.07	0.09	0.16	0	0.01	0.11	0.14	---	14
15	---	---	---	0.58 E	0.05	0.07	0.11	0	0.01	0.10	0.14	---	15
16	---	---	---	0.70 E	0.04	0.12	0.10	0	0.01	0.09	0.16	---	16
17	---	---	---	0.82 E	0.06	0.17	0.08	0	0.01	0.21	0.19	---	17
18	---	---	---	0.93 E	0.07	0.14	0.05	0	0	0.46	0.22	---	18
19	---	---	---	1.1 E	0.06	0.12	0.04	0	0	0.54	0.22	---	19
20	---	---	---	1.2 E	0.07	0.13	0.03	0	0	0.46	0.22	---	20
21	---	---	---	1.3 A	0.06	0.11	0.03	0	0	0.36	---	---	21
22	---	---	---	1.1 E	0.06	0.10	0.02	0	0	0.28	---	---	22
23	---	---	---	0.96 E	0.17	0.07	0.01	0	0	0.23	---	---	23
24	---	---	---	0.80 E	0.40	0.05	0.02	0	0	0.20	---	---	24
25	---	---	---	0.64 E	0.87	0.04	0.03	0	0	0.18	---	---	25
26	---	---	---	0.48 E	0.76	0.03	0.03	0	0	0.16	---	---	26
27	---	---	---	0.32 A	0.53	0.05	0.04	0	0	0.15	---	---	27
28	---	---	---	0.31 E	0.38	0.08	0.09	0	0	0.11	---	---	28
29	---		---	0.29 E	0.27	0.08	0.09	0	0	0.10	---	---	29
30	---		---	0.28 E	0.19	0.15	0.07	0	0.09	0.16	---	---	30
31	---		---		0.14		0.06	0		0.82		---	31
TOTAL	---	---	---	12.99	6.72	2.92	7.20	0.19	0.48	11.07	---	---	TOTAL
MEAN	---	---	---	0.43	0.22	0.10	0.23	0.01	0.02	0.36	---	---	MEAN
AC-FT	---	---	---	25.8	13.3	5.8	14.3	0.38	0.95	22.0	---	---	AC-FT
MAX	---	---	---	1.3	0.87	0.19	2.2	0.04	0.09	0.83	---	---	MAX
MIN	---	---	---	0	0.04	0.03	0.01	0	0	0.09	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.19 CFS
TOTAL DISCHARGE, 82.5 AC-FT
MAXIMUM DAILY DISCHARGE, 2.2 CFS ON JUL 1
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.9 CFS AT 0142 CST ON JUL 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

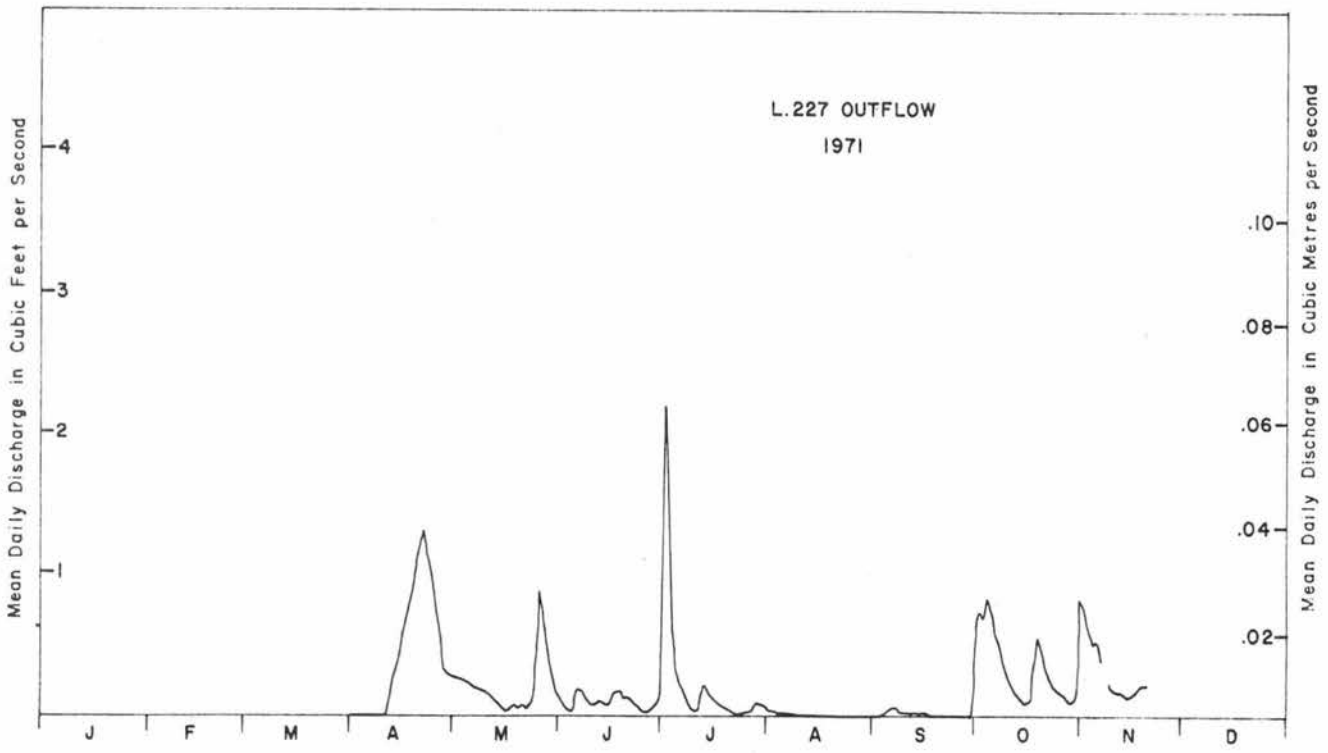


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1971.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.65	0.14	0.01	0.05	0.04	0.18	---	---	1
2	---	---	---	0 E	0.54	0.11	0	0.06	0.03	0.18	---	---	2
3	---	---	---	0 E	0.46	0.09	0	0.05	0.02	0.18	---	---	3
4	---	---	---	0 E	0.39	0.06	0	0.04	0.03	0.17	---	---	4
5	---	---	---	0 E	0.31	0.05	0	0.03	0.03	0.15	---	---	5
6	---	---	---	0 E	0.27	0.04	0	0.03	0.10	0.13	---	---	6
7	---	---	---	0 E	0.24	0.03	0	0.02	0.26	0.11	---	---	7
8	---	---	---	0 E	0.21	0.02	0	0.02	0.25	0.09	---	---	8
9	---	---	---	0 E	0.19	0.01	0	0.01	0.21	0.08	---	---	9
10	---	---	---	0 E	0.17	0	0.01	0.01	0.18	0.07	---	---	10
11	---	---	---	0 E	0.15	0	0.24	0.01	0.16	0.10	---	---	11
12	---	---	---	0 E	0.13	0	0.26	0.01	0.13	0.10	---	---	12
13	---	---	---	0 E	0.16	0	0.23	0.02	0.12	0.10	---	---	13
14	---	---	---	0 E	0.22	0	0.64	0.01	0.10	0.09	---	---	14
15	---	---	---	0 E	0.22	0	0.64	0.15	0.07	0.09	---	---	15
16	---	---	---	0 E	0.20	0	0.48	0.27	0.07	0.08	---	---	16
17	---	---	---	0 E	0.18	0	0.47	0.26	0.08	0.06	---	---	17
18	---	---	---	0 E	0.15	0.02	0.35	0.20	0.06	0.05	---	---	18
19	---	---	---	0 E	0.12	0.15	0.27	0.17	0.04	0.05	---	---	19
20	---	---	---	0.26	0.29	0.17	0.23	0.89	0.04	0.04	---	---	20
21	---	---	---	0.52	0.32	0.13	0.19	2.0	0.02	0.04	---	---	21
22	---	---	---	0.56	0.25	0.11	0.15	1.2	0.01	0.04	---	---	22
23	---	---	---	0.60	0.24	0.08	0.11	0.76	0.01	0.05	---	---	23
24	---	---	---	0.54	0.20	0.06	0.08	0.54	0.08	0.05	---	---	24
25	---	---	---	0.50	0.15	0.04	0.07	0.35	0.10	0.05	---	---	25
26	---	---	---	0.53	0.14	0.03	0.05	0.25	0.12	0.04 E	---	---	26
27	---	---	---	0.73	0.12	0.02	0.04	0.19	0.12	0.07 E	---	---	27
28	---	---	---	0.89	0.20	0.02	0.04	0.14	0.18	0.06 E	---	---	28
29	---	---	---	0.89	0.24	0.02	0.03	0.12	0.21	0.05 E	---	---	29
30	---		---	0.79	0.22	0.01	0.06	0.09	0.20	0.06 E	---	---	30
31	---		---		0.17		0.06	0.05		0.06 E		---	31
TOTAL	---	---	---	6.81	7.50	1.41	4.71	8.00	3.07	2.67	---	---	TOTAL
MEAN	---	---	---	0.23	0.24	0.05	0.15	0.26	0.10	0.09	---	---	MEAN
AC-FT	---	---	---	13.5	14.9	2.8	9.3	15.9	6.1	5.3	---	---	AC-FT
MAX	---	---	---	0.89	0.65	0.17	0.64	2.0	0.26	0.18	---	---	MAX
MIN	---	---	---	0	0.12	0	0	0.01	0.01	0.04	---	---	MIN

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY DISCHARGE, 2.0 CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.3 CFS AT 0321 CST ON AUG 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

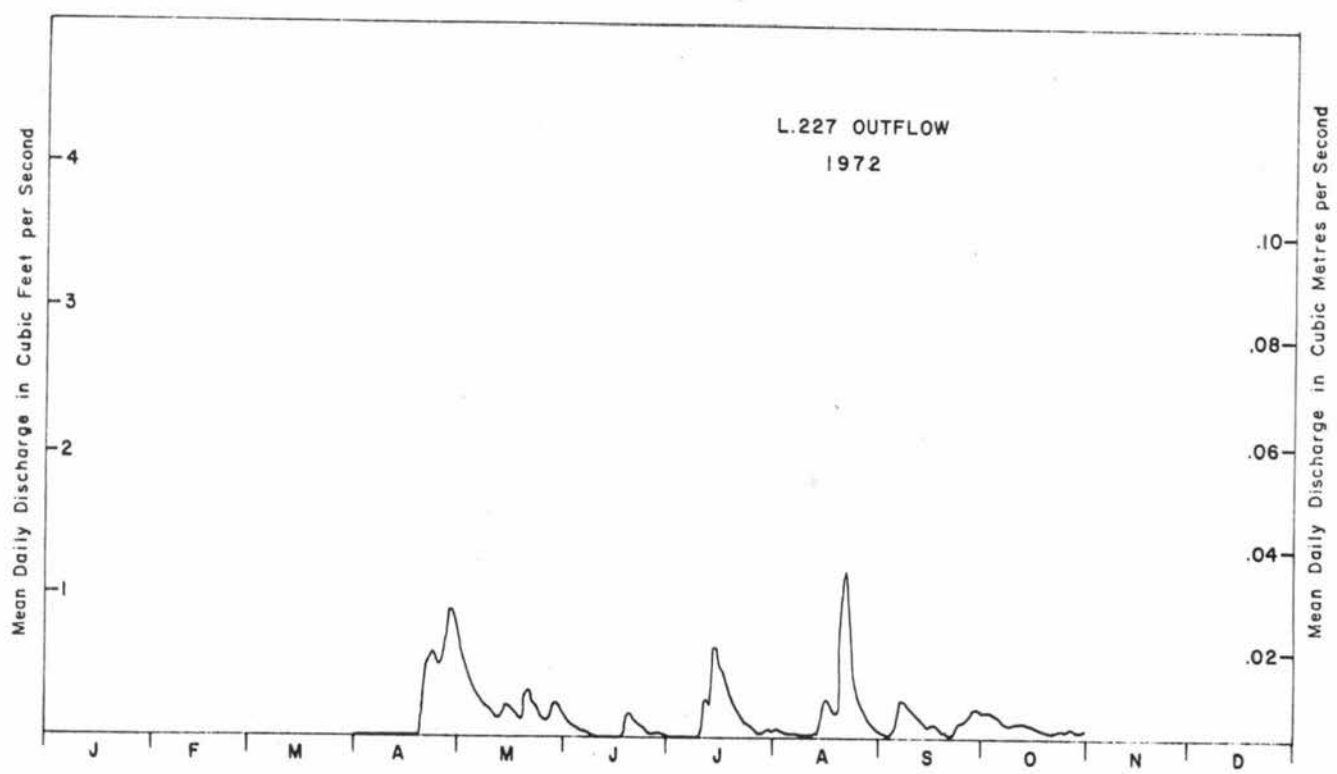


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1972.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.21	0.06	0.08	0.21	0.04	0.14	---	---	1
2	---	---	---	0	0.17	0.05	0.05	0.16	0.15	0.12	---	---	2
3	---	---	---	0	0.14	0.04	0.03	0.13	0.18	0.16	---	---	3
4	---	---	---	0	0.12	0.05	0.03	0.13	0.31	0.19	---	---	4
5	---	---	---	0	0.12	0.04	0.03	0.13	0.40	0.17	---	---	5
6	---	---	---	0	0.19	0.03	0.02	0.23	0.36	0.14	---	---	6
7	---	---	---	0	0.21	0.03	0.24	0.23	0.26	0.13	---	---	7
8	---	---	---	0	0.21	0.03	0.37	0.22	0.21	0.11	---	---	8
9	---	---	---	0	0.20	0.03	0.33	0.39	0.16	0.16	---	---	9
10	---	---	---	0	0.22	0.03	0.25	0.53	0.12	0.23	---	---	10
11	---	---	---	0	0.23	0.02	0.20	0.45	0.09	0.30	---	---	11
12	---	---	---	0	0.21	0.02	0.15	0.35	0.07	0.71	---	---	12
13	---	---	---	0.04	0.18	0.01	0.10	0.25	0.07	0.79	---	---	13
14	---	---	---	0.05	0.15	0.01	0.08	0.21	0.07	0.64	---	---	14
15	---	---	---	0.08	0.14	0.03	0.06	0.17	0.06	0.47	---	---	15
16	---	---	---	0.11	0.14	0.03	0.05	0.14	0.05	0.34	---	---	16
17	---	---	---	0.11	0.13	0.08	0.04	0.12	0.05	0.26	---	---	17
18	---	---	---	0.10	0.12	0.12	0.04	0.10	0.04	0.22	---	---	18
19	---	---	---	0.11	0.12	0.14	0.03	0.11	0.04	0.19	---	---	19
20	---	---	---	0.41	0.11	0.16	0.03	0.09	0.02	0.16	---	---	20
21	---	---	---	1.4	0.10	0.16	0.02	0.07	0.04	0.14	---	---	21
22	---	---	---	1.1	0.09	0.15	0.01	0.06	0.22	0.12	---	---	22
23	---	---	---	0.78	0.10	0.14	0.01	0.05	0.27	0.12	---	---	23
24	---	---	---	0.60	0.10	0.11	0.01	0.04	0.25	0.11	---	---	24
25	---	---	---	0.48	0.11	0.11	0.02	0.04	0.30	0.11	---	---	25
26	---	---	---	0.39	0.13	0.12	0.07	0.04	0.35	0.10	---	---	26
27	---	---	---	0.34	0.12	0.13	0.41	0.03	0.32	0.10	---	---	27
28	---	---	---	0.28	0.11	0.12	0.45	0.02	0.26	0.09	---	---	28
29	---		---	0.25	0.09	0.11	0.39	0.02	0.22	0.08	---	---	29
30	---		---	0.23	0.08	0.10	0.31	0.01	0.17	0.07	---	---	30
31	---		---		0.07		0.25	0.01		0.06		---	31
TOTAL	---	---	---	6.86	4.42	2.26	4.16	4.74	5.15	6.73	---	---	TOTAL
MEAN	---	---	---	0.23	0.14	0.08	0.13	0.15	0.17	0.22	---	---	MEAN
AC-FT	---	---	---	13.6	8.8	4.5	8.3	9.4	10.2	13.3	---	---	AC-FT
MAX	---	---	---	1.4	0.23	0.16	0.45	0.53	0.40	0.79	---	---	MAX
MIN	---	---	---	0	0.07	0.01	0.01	0.01	0.02	0.06	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.16 CFS
TOTAL DISCHARGE, 68.1 AC-FT
MAXIMUM DAILY DISCHARGE, 1.4 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.6 CFS AT 1326 CST ON APR 21

TYPE OF GAUGE - RECORDING

NATURAL FLOW

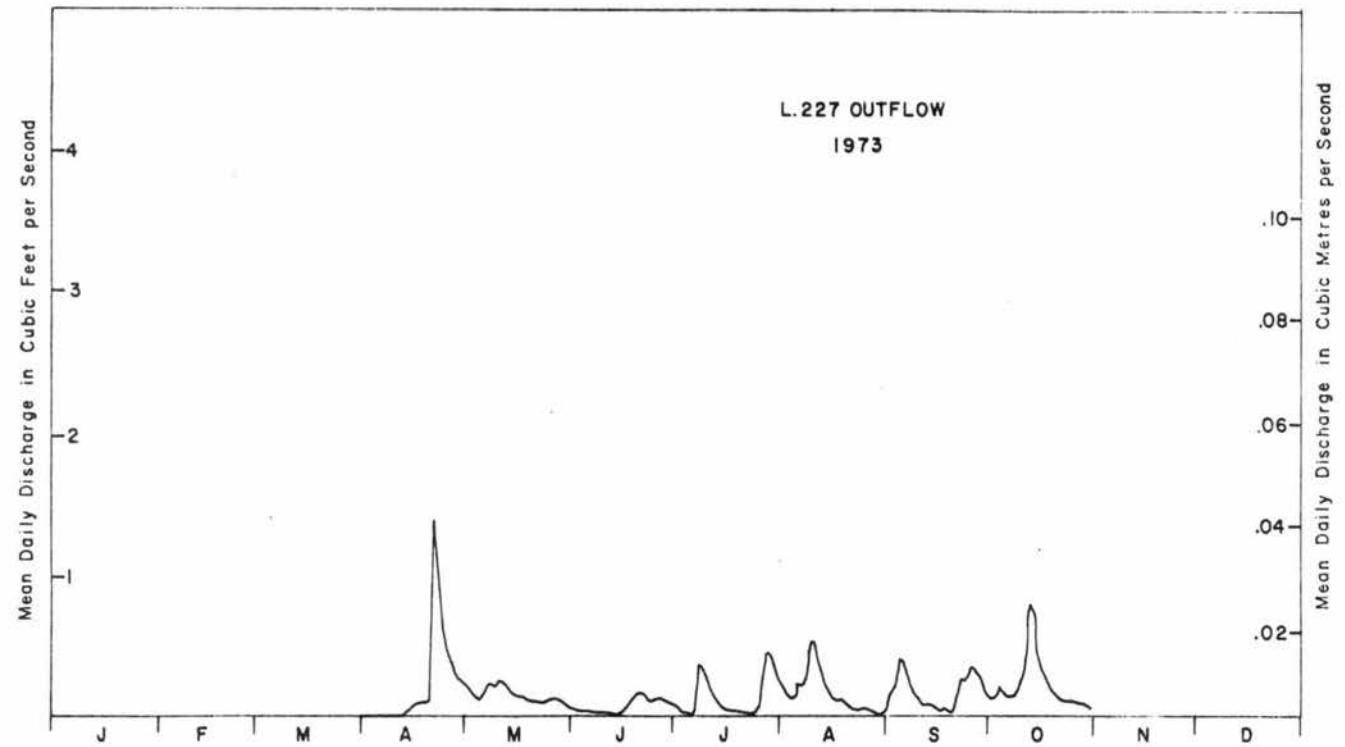


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1973.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.49	0.05	0 E	0	0.12	0.05	0.03	---	1
2	---	---	---	0 E	0.44	0.04	0 E	0	0.11	0.05	0.04	---	2
3	---	---	---	0 E	0.38	0.03	0 E	0	0.11	0.04	0.04	---	3
4	---	---	---	0 E	0.32	0.03	0 E	0	0.08	0.04	0.04	---	4
5	---	---	---	0 E	0.26	0.05	0 E	0	0.06	0.09	0.04	---	5
6	---	---	---	0 E	0.23	0.51	0 E	0	0.05	0.12	0.03	---	6
7	---	---	---	0 E	0.20	0.91	0 E	0	0.04	0.13	0.03	---	7
8	---	---	---	0 E	0.17	0.69	0 E	0	0.03	0.13	0.03	---	8
9	---	---	---	0 E	0.16	0.46	0 E	0	0.03	0.12	0.03	---	9
10	---	---	---	0 E	0.13	0.32	0 E	0	0.03	0.11	0.04	---	10
11	---	---	---	0 E	0.46	0.22	0	0	0.03	0.11	0.03	---	11
12	---	---	---	0 E	1.20	0.16	0	0	0.03	0.09	0.03	---	12
13	---	---	---	0 E	0.83	0.11	0	0	0.02	0.07	0.03	---	13
14	---	---	---	0 E	0.61	0.11	0	0	0.01	0.07	0.03	---	14
15	---	---	---	0 E	0.49	0.09	0	0	0.01	0.09	0.04	---	15
16	---	---	---	0 E	0.38	0.07	0	0	0.03	0.11	0.04	---	16
17	---	---	---	0 E	0.38	0.05	0	0	0.05	0.11	0.04	---	17
18	---	---	---	0.01	0.30	0.05	0	0	0.08	0.11	0.03	---	18
19	---	---	---	0.01	0.25	0.05 E	0	0	0.11	0.11	0.03	---	19
20	---	---	---	0.04	0.42	0.04 E	0	0	0.09	0.10	0.03	---	20
21	---	---	---	2.30	0.59	0.04 E	0	0	0.08	0.08	0.03 E	---	21
22	---	---	---	2.00	0.46	0.04 E	0	0.02	0.07	0.07	0.03 E	---	22
23	---	---	---	0.97	0.36	0.03 E	0	0.02	0.05	0.06	0.03 E	---	23
24	---	---	---	0.61	0.28	0.03 E	0	0.03	0.05	0.05	0.02 E	---	24
25	---	---	---	0.51	0.22	0.03 E	0	0.03	0.05	0.05	0.02 E	---	25
26	---	---	---	0.66	0.17	0.02 E	0	0.03	0.05	0.04	0.02 E	---	26
27	---	---	---	1.30	0.13	0.02 E	0	0.02	0.04	0.04	0.01 E	---	27
28	---	---	0 A	1.00	0.11	0.02 E	0	0.03	0.03	0.04	0.01 E	---	28
29	---		---	0.80	0.10	0.01 E	0	0.04	0.04	0.03	0.01 E	---	29
30	---		---	0.61	0.06	0.01 E	0	0.08	0.05	0.03	0.01 E	---	30
31	---		---		0.05		0	0.12		0.03		---	31
TOTAL	---	---	---	10.82	10.63	4.29	0	0.42	1.63	2.37	0.87	---	TOTAL
MEAN	---	---	---	0.36	0.34	0.14	0	0.01	0.05	0.08	0.03	---	MEAN
AC-FT	---	---	---	21.46	21.08	8.51	0	0.83	3.23	4.70	1.73	---	AC-FT
MAX	---	---	---	2.30	1.20	0.91	0	0.12	0.12	0.13	0.04	---	MAX
MIN	---	---	---	0	0.05	0.01	0	0	0.01	0.03	0.01	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.13 CFS
TOTAL DISCHARGE, 61.5 AC-FT(APR 1-NOV 30)
MAXIMUM DAILY DISCHARGE, 2.30 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
3.0 CFS AT 1600 CST ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

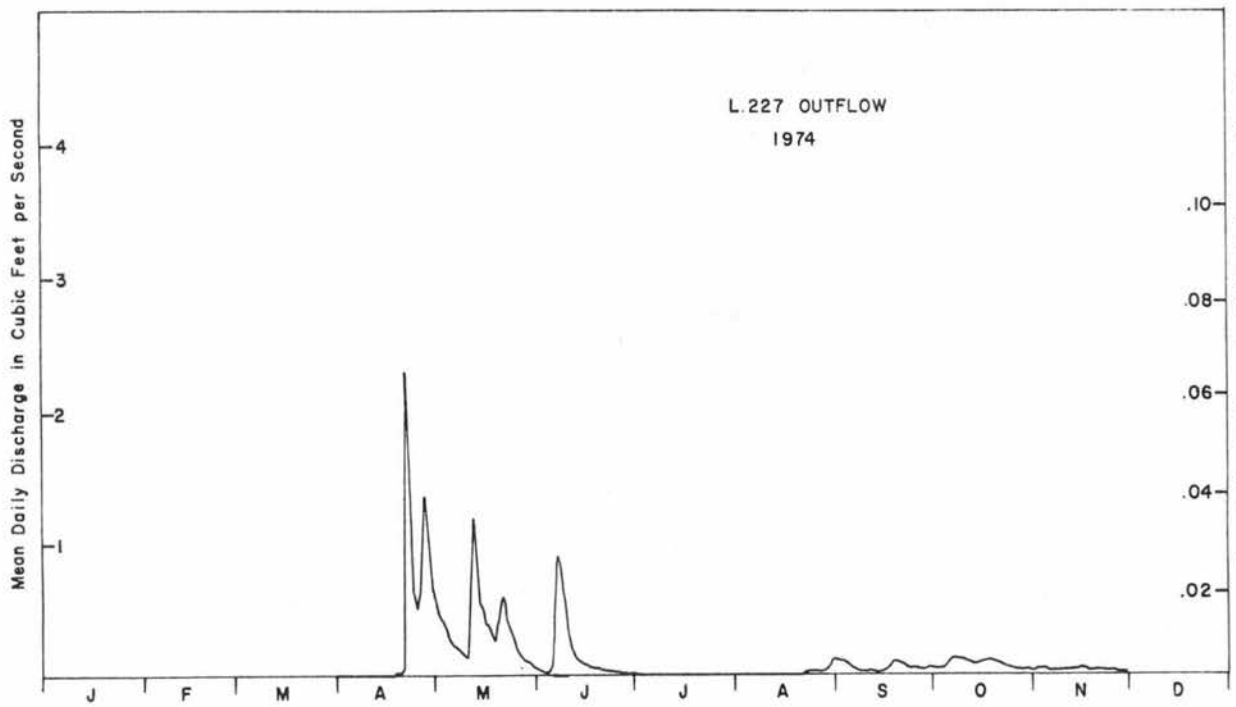


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1974.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.04	0.81	0.07	0.34	0 E	0	0.03	---	---	1
2	---	---	---	0.04	0.76	0.06	0.32	0 E	0	0.03	---	---	2
3	---	---	---	0.04	0.74	0.05	0.24	0 E	0	0.03	---	---	3
4	---	---	---	0.03	0.68	0.05	0.19	0 E	0	0.03	---	---	4
5	---	---	---	0.03	0.60	0.10	0.14	0 E	0	0.03	---	---	5
6	---	---	---	0.03	0.52	0.12	0.11	0 E	0	0.03	---	---	6
7	---	---	---	0.03	0.44	0.12	0.08	0 E	0	0.01	---	---	7
8	---	---	---	0.03	0.36	0.11	0.05	0 E	0	0.01	---	---	8
9	---	---	---	0.03	0.29	0.09	0.04	0 E	0	0.01	---	---	9
10	---	---	---	0.03	0.24	0.09	0.03	0 E	0	0.02	---	---	10
11	---	---	---	0.03	0.19	0.08	0.02	0 E	0	0.01	---	---	11
12	---	---	---	0.03	0.18	0.07	0.01	0 E	0	0.01	---	---	12
13	---	---	---	0.04 E	0.15	0.06	0	0 E	0	0.01	---	---	13
14	---	---	---	0.05 E	0.14	0.06	0	0 E	0	0.03	---	---	14
15	---	---	---	0.07 E	0.13	0.05	0 E	0 E	0	0.04	---	---	15
16	---	---	---	0.12 E	0.12	0.04	0 E	0 E	0	0.03	---	---	16
17	---	---	---	0.22 E	0.11	0.04	0 E	0 E	0	0.03	---	---	17
18	---	---	---	0.36 E	0.11	0.03	0 E	0 E	0	0.03	---	---	18
19	---	---	---	0.54 E	0.09	0.02	0 E	0 E	0.02	0.03	---	---	19
20	---	---	---	0.74 E	0.07	0.03	0 E	0 E	0.09	0.02	---	---	20
21	---	---	---	1.0 E	0.08	0.08	0 E	0 E	0.11	0.02	---	---	21
22	---	---	---	1.5 E	0.07	0.44	0 E	0	0.10	0.02	---	---	22
23	---	---	---	2.1 E	0.20	0.77	0 E	0	0.08	0.02	---	---	23
24	---	---	---	1.7 E	0.23	0.61	0 E	0	0.06	0.03	---	---	24
25	---	---	---	1.2 A	0.21	0.43	0 E	0	0.06	0.06	---	---	25
26	---	---	---	1.0	0.18	0.29	0 E	0	0.05	0.06	---	---	26
27	---	---	---	0.97	0.15	0.21	0 E	0	0.05	0.06	---	---	27
28	---	---	---	1.1	0.12	0.16	0 E	0	0.04	0.07	---	---	28
29	---		---	1.2	0.10	0.12	0 E	0	0.04	0.07	---	---	29
30	---		---	0.94	0.08	0.27	0 E	0	0.04	0.07	---	---	30
31	---		---		0.08		0 E	0		0.07		---	31
TOTAL	---	---	---	15.24	8.23	4.72	1.57	0	0.74	1.02	---	---	TOTAL
MEAN	---	---	---	0.51	0.27	0.16	0.05	0	0.02	0.03	---	---	MEAN
AC-FT	---	---	---	30.2	16.3	9.4	3.1	0	1.5	2.0	---	---	AC-FT
MAX	---	---	---	2.1	0.81	0.77	0.34	0	0.11	0.07	---	---	MAX
MIN	---	---	---	0.03	0.07	0.02	0	0	0	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.15 CFS
TOTAL DISCHARGE, 62.5 AC-FT
MAXIMUM DAILY DISCHARGE, 2.1 CFS ON APR 23
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 13

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

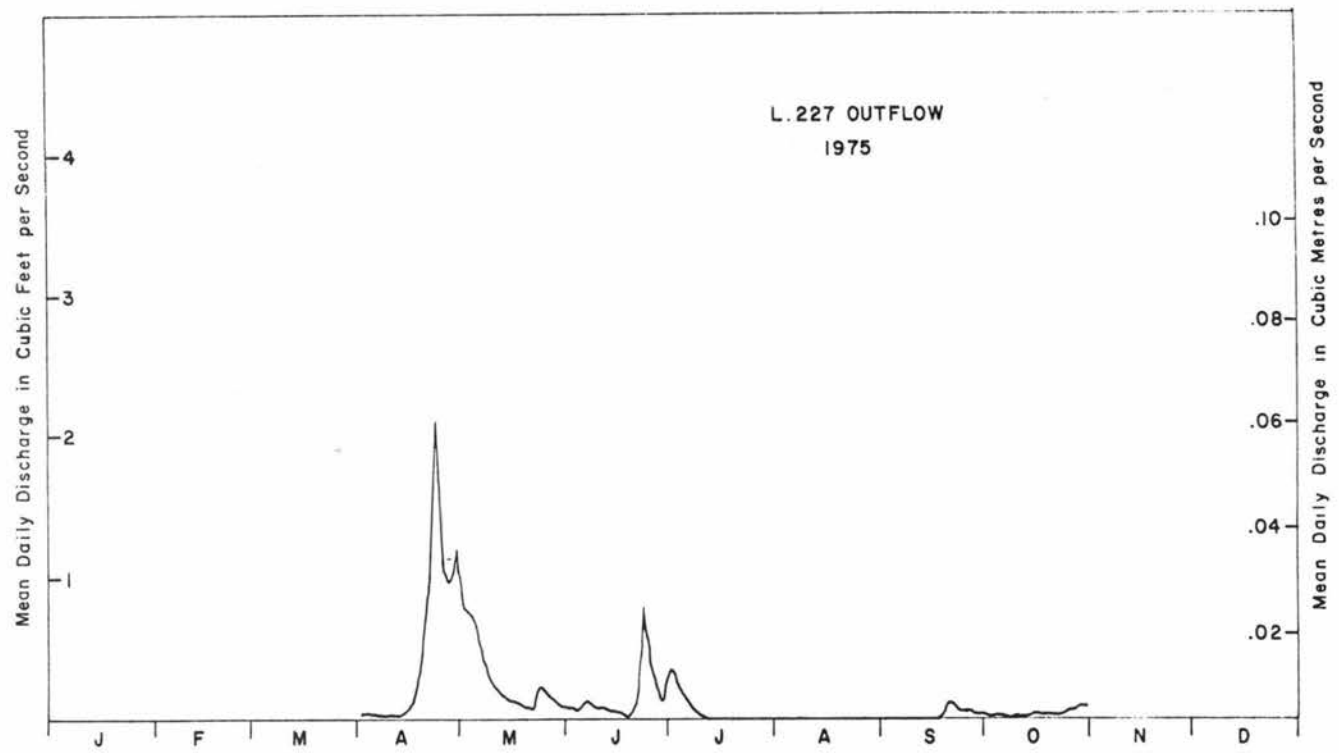


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1975.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.02	0.14	0	0.07	0	0	0	---	---	1
2	---	---	---	0.04	0.13	0	0.05	0	0	0	---	---	2
3	---	---	---	0.04	0.12	0	0.03	0	0	0	---	---	3
4	---	---	---	0.04	0.10	0	0.03	0	0	0	---	---	4
5	---	---	---	0.04	0.09	0	0.02	0	0	0	---	---	5
6	---	---	---	0.06	0.08	0	0.01	0	0	0	---	---	6
7	---	---	---	0.10	0.07	0	0.01	0	0	0	---	---	7
8	---	---	---	0.13	0.07	0	0	0	0	0	---	---	8
9	---	---	---	0.27	0.05	0	0	0	0	0	---	---	9
10	---	---	---	0.53	0.05	0	0	0	0	0	---	---	10
11	---	---	---	0.60	0.04	0	0	0	0	0	---	---	11
12	---	---	---	0.52	0.04	0	0	0	0	0	---	---	12
13	---	---	---	0.50	0.04	0	0	0	0	0	---	---	13
14	---	---	---	0.74	0.05	0	0	0	0	0	---	---	14
15	---	---	---	1.1	0.06	0	0	0	0	0	---	---	15
16	---	---	---	2.1	0.06	0	0	0	0	0	---	---	16
17	---	---	---	2.1	0.05	0	0	0	0	0	---	---	17
18	---	---	---	1.3	0.04	0	0	0	0	0	---	---	18
19	---	---	---	0.84	0.03	0	0	0	0	0	---	---	19
20	---	---	---	0.63	0.02	0	0	0	0	0	---	---	20
21	---	---	---	0.50	0.02	0	0	0	0	0	---	---	21
22	---	---	---	0.41	0.01	0	0	0	0	0	---	---	22
23	---	---	---	0.34	0.01	0	0	0	0	0	---	---	23
24	---	---	---	0.27	0	0	0	0	0	0	---	---	24
25	---	---	---	0.24	0	0	0	0	0	0	---	---	25
26	---	---	---	0.21	0	0.03	0	0	0	0	---	---	26
27	---	---	---	0.18	0	0.08	0	0	0	0	---	---	27
28	---	---	---	0.16	0	0.11	0	0	0	0	---	---	28
29	---	---	---	0.14	0	0.10	0	0	0	0	---	---	29
30	---		---	0.13	0	0.08	0	0	0	0	---	---	30
31	---		0.02		0		0	0		0		---	31
TOTAL	---	---	---	14.28	1.37	0.40	0.22	0	0	0	---	---	TOTAL
MEAN	---	---	---	0.48	0.04	0.01	0.01	0	0	0	---	---	MEAN
AC-FT	---	---	---	28.3	2.7	0.79	0.44	0	0	0	---	---	AC-FT
MAX	---	---	---	2.1	0.14	0.11	0.07	0	0	0	---	---	MAX
MIN	---	---	---	0.02	0	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.08 CFS
TOTAL DISCHARGE, 32.2 AC-FT
MAXIMUM DAILY DISCHARGE, 2.1 CFS ON APR 16
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 24

MAXIMUM INSTANTANEOUS DISCHARGE
2.8 CFS AT 2042 CST ON APR 16

TYPE OF GAUGE - RECORDING

NATURAL FLOW

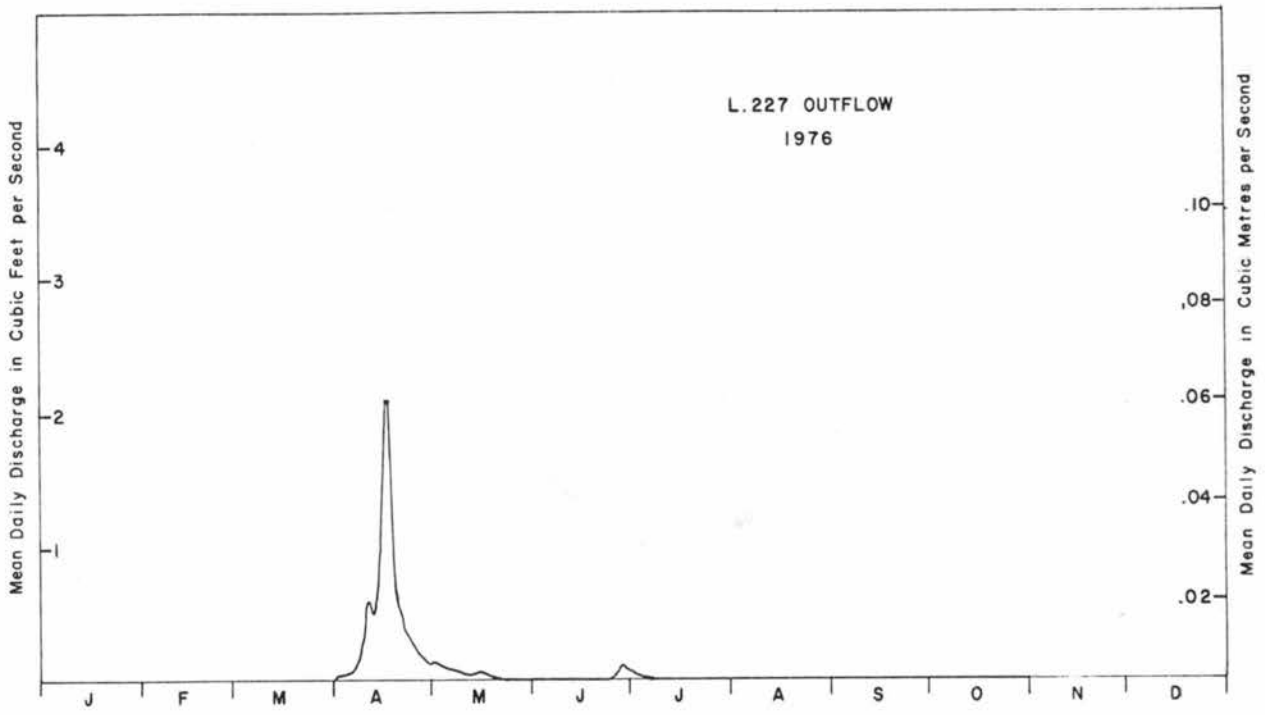


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1976.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.06	0.23	0.23	0	0	0.13	0.03	---	1
2	---	---	---	0	0.05	0.21	0.20	0	0	0.11	---	---	2
3	---	---	---	0	0.04	0.18	0.18	0	0.01	0.11	---	---	3
4	---	---	---	0	0.03	0.13	0.15	0	0.02	0.10	---	---	4
5	---	---	---	0	0.15	0.14	0.14	0	0.02	0.10	---	---	5
6	---	---	---	0	0.29	0.18	0.14	0	0.01	0.09	---	---	6
7	---	---	---	0	0.28	0.17	0.12	0	0.01	0.08	---	---	7
8	---	---	---	0	0.24	0.18	0.11	0	0.19	0.07	---	---	8
9	---	---	---	0.01	0.21	0.14	0.09	0	0.51	0.06	---	---	9
10	---	---	---	0	0.24	0.12	0.07	0	0.47	0.06	---	---	10
11	---	---	---	0	0.23	0.13	0.06	0	0.39	0.05	---	---	11
12	---	---	---	0	0.20	0.12	0.07	0	0.31	0.04	---	---	12
13	---	---	---	0	0.17	0.15	0.05	0	0.28	0.04	---	---	13
14	---	---	---	0.01	0.19	0.29	0.06	0	0.23	0.04	---	---	14
15	---	---	---	0.06	0.19	0.71	0.05	0	0.19	0.03	---	---	15
16	---	---	---	0.12	0.15	1.0	0.04	0	0.15	0.03	---	---	16
17	---	---	---	0.19	0.13	0.86	0.03	0	0.13	0.03	---	---	17
18	---	---	---	0.24	0.12	1.6	0.02	0	0.11	0.03	---	---	18
19	---	---	---	0.25	0.13	1.3	0.02	0	0.10	0.03	---	---	19
20	---	---	---	0.24	0.23	0.92	0.01	0	0.09	0.02	---	---	20
21	---	---	---	0.22	0.22	0.68	0.01	0	0.08	0.02	---	---	21
22	---	---	---	0.20	0.25	0.51	0	0	0.07	0.02	---	---	22
23	---	---	---	0.18	0.35	0.37	0	0	0.06	0.01	---	---	23
24	---	---	---	0.17	0.32	0.30	0	0	0.16	0.01	---	---	24
25	---	---	---	0.16	0.26	0.24	0	0	0.19	0.01	---	---	25
26	---	---	---	0.14	0.22	0.21	0	0	0.19	0.01	---	---	26
27	---	---	---	0.12	0.28	0.16	0	0	0.19	0.04	---	---	27
28	---	---	---	0.09	0.24	0.16	0	0	0.19	0.01	---	---	28
29	---		0	0.08	0.20	0.15	0	0	0.17	0.01	---	---	29
30	---		0	0.07	0.18	0.20	0	0	0.15	0.01	---	---	30
31	---		0		0.22		0	0		0.02		---	31
TOTAL	---	---	---	2.55	6.07	11.74	1.85	0	4.67	1.42	---	---	TOTAL
MEAN	---	---	---	0.09	0.20	0.39	0.06	0	0.16	0.05	---	---	MEAN
AC-FT	---	---	---	5.1	12.0	23.3	3.7	0	9.3	2.8	---	---	AC-FT
MAX	---	---	---	0.25	0.35	1.6	0.23	0	0.51	0.13	---	---	MAX
MIN	---	---	---	0	0.03	0.12	0	0	0	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.13 CFS
TOTAL DISCHARGE, 56.2 AC-FT
MAXIMUM DAILY DISCHARGE, 1.6 CFS ON JUN 18
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.7 CFS AT 0845 CST ON JUN 18

TYPE OF GAUGE - RECORDING

NATURAL FLOW

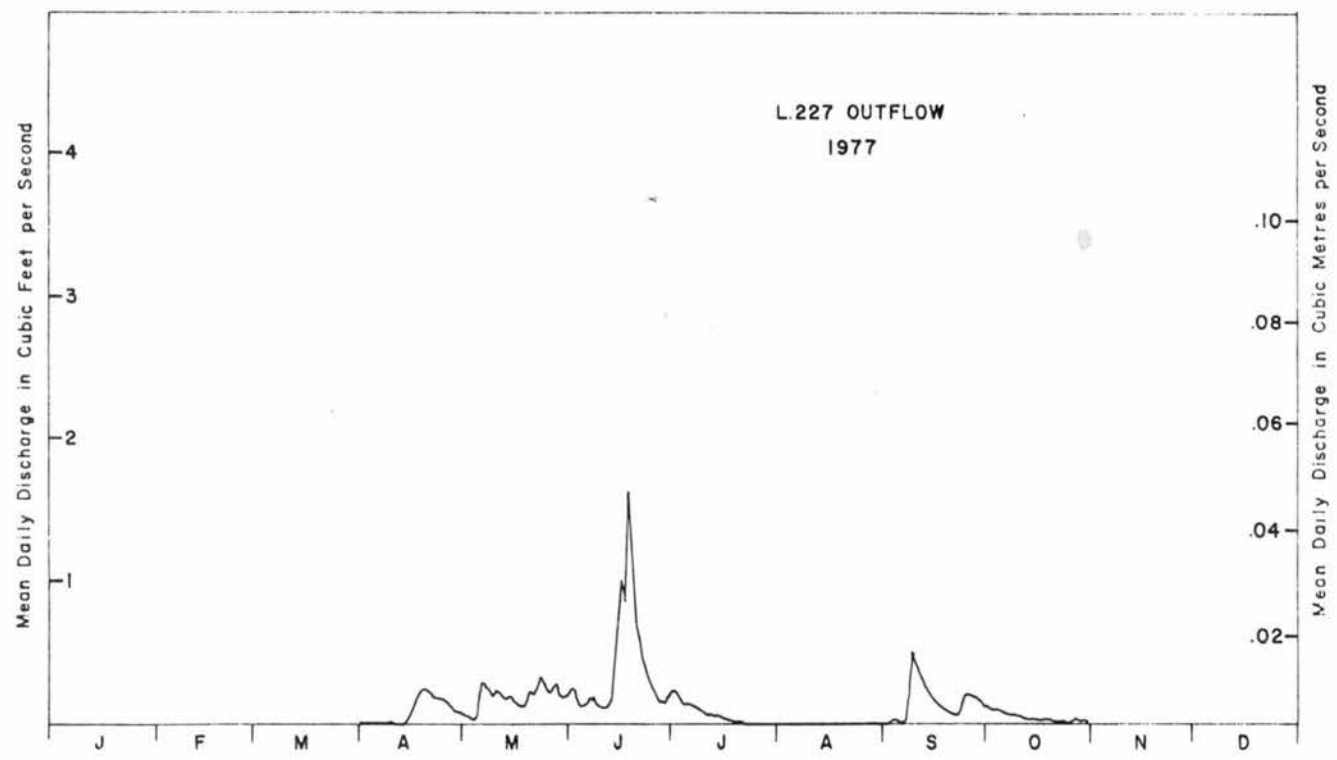


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1977.

Table 104 Mean daily discharges in cubic feet per second for the Lake 227 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.88	0.86 E	0.04	0.01	0.04	0.07	---	---	1
2	---	---	---	0 E	0.74	0.94 E	0.03	0.03	0.04	0.06	---	---	2
3	---	---	---	0 E	0.74	0.83 E	0.02	0.02	0.04	0.05	---	---	3
4	---	---	---	0 E	0.77	0.69 E	0.02	0.02	0.04	0.05	---	---	4
5	---	---	---	0 E	0.72	0.54 E	0.04	0.01	0.03	0.05	---	---	5
6	---	---	---	0 E	0.61	0.46 E	0.05	0.01	0.03	0.05	---	---	6
7	---	---	---	0 E	0.51	0.40 E	0.04	0.01	0.02	0.04	---	---	7
8	---	---	---	0 E	0.51	0.34 E	0.03	0.01	0.01	0.04	---	---	8
9	---	---	---	0 E	0.53	0.28 E	0.03	0.01	0.01	0.04	---	---	9
10	---	---	---	0 E	0.50	0.23 E	0.03	0	0.01	0.04	---	---	10
11	---	---	---	0 E	0.47	0.20 E	0.02	0	0.01	0.03	---	---	11
12	---	---	---	0 E	0.43	0.14 E	0.02	0	0	0.03	---	---	12
13	---	---	---	0 E	0.36	0.11 A	0.02	0	0.01	0.02	---	---	13
14	---	---	---	0 E	0.30	0.10	0.03	0	0.08	0.02	---	---	14
15	---	---	---	0 E	0.24	0.09	0.03	0.01	0.13	0.04	---	---	15
16	---	---	---	0 E	0.23 A	0.08	0.03	0.03	0.13	0.04	---	---	16
17	---	---	---	0.01 E	0.26 E	0.05	0.03	0.03	0.13	0.03	---	---	17
18	---	---	---	0.03 A	0.28 E	0.04	0.06	0.10	0.13	0.03	---	---	18
19	---	---	---	0.59	0.30 E	0.03	0.07	0.09	0.11	0.02	---	---	19
20	---	---	---	0.97	0.28 E	0.03	0.08	0.07	0.11	0.02	---	---	20
21	---	---	---	0.49	0.30 E	0.03	0.06	0.05	0.10	0.02	---	---	21
22	---	---	---	0.37	0.32 E	0.02	0.05	0.04	0.08	0.01	---	---	22
23	---	---	---	0.44	0.34 E	0.01	0.05	0.04	0.07	0.01	---	---	23
24	---	---	---	0.61	0.36 E	0.02	0.04	0.04	0.06	0.01	---	---	24
25	---	---	---	0.84	0.36 E	0.03	0.03	0.04	0.05	0.01	---	---	25
26	---	---	---	1.2	0.86 E	0.04	0.02	0.04	0.04	0.01	---	---	26
27	---	---	---	1.7	1.2 E	0.04	0.01	0.05	0.04	0.01	---	---	27
28	---	---	---	1.9	1.0 E	0.06	0.01	0.07	0.04	0.01	---	---	28
29	---		---	1.8	0.86 E	0.05	0.01	0.06	0.07	0.01	---	---	29
30	---		---	1.2	0.80 E	0.05	0.01	0.05	0.07	0.01	---	---	30
31	---		---		0.74 E		0.01	0.04		0.01		---	31
TOTAL	---	---	---	12.15	16.80	6.79	1.02	0.98	1.73	0.89	---	---	TOTAL
MEAN	---	---	---	0.41	0.54	0.23	0.03	0.03	0.06	0.03	---	---	MEAN
AC-FT	---	---	---	24.1	33.3	13.5	2.0	1.9	3.4	1.8	---	---	AC-FT
MAX	---	---	---	1.9	1.2	0.94	0.08	0.10	0.13	0.07	---	---	MAX
MIN	---	---	---	0	0.23	0.01	0.01	0	0	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.19 CFS
TOTAL DISCHARGE, 80.0 AC-FT
MAXIMUM DAILY DISCHARGE, 1.9 CFS ON APR 28
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.1 CFS AT 0216 CST ON APR 29

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

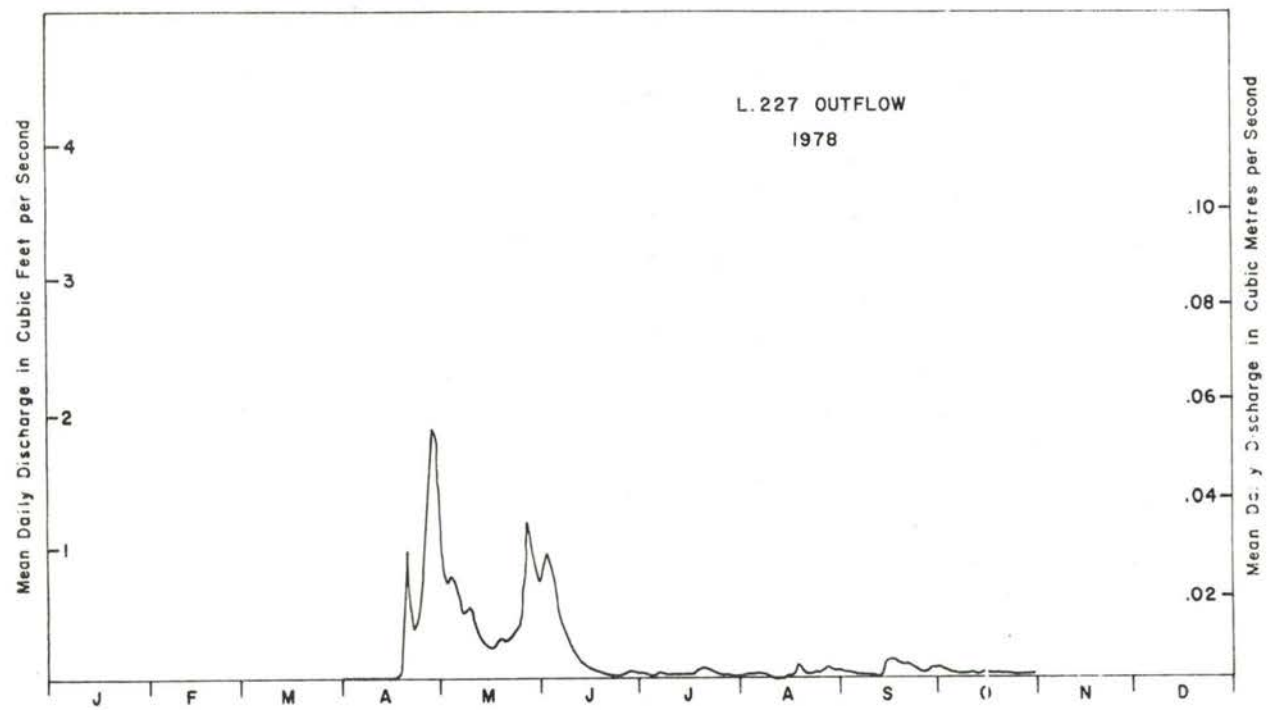


Fig. 23 Annual hydrograph based on mean daily discharges for the Lake 227 outflow for 1978.

Table 105 Mean daily water levels in feet for Lake 227 for 1969.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	95.09	95.13	95.02	95.01	1
2	---	---	---	---	---	---	---	---	95.07	95.13	95.03	95.01	2
3	---	---	---	---	---	---	---	---	95.06	95.12	95.03	95.01	3
4	---	---	---	---	---	95.39A	95.31	---	95.04	95.15	95.03	95.00	4
5	---	---	---	---	---	---	95.36	---	95.06	95.30	95.02	95.00	5
6	---	---	---	---	---	---	95.34	---	95.07	95.32	95.02	95.01	6
7	---	---	---	---	---	---	95.25	---	95.06	95.26	95.02	95.02	7
8	---	---	---	---	---	---	95.18	---	95.05	95.22	95.02	95.05	8
9	---	---	---	---	---	---	95.15	---	95.03	95.18	95.02	95.05	9
10	---	---	---	---	---	---	95.13	---	95.03	95.17	95.02	95.06	10
11	---	---	---	---	---	---	95.10	---	95.02	95.15	95.02	95.05	11
12	---	---	---	---	---	---	95.08	---	95.01	95.13	95.01	95.05	12
13	---	---	---	---	---	---	95.08	---	94.99	95.12	95.01	95.06	13
14	---	---	---	---	---	---	95.07	---	94.98	95.10	95.02	95.06	14
15	---	---	---	---	---	---	95.05	---	95.06	95.10	95.03	95.05	15
16	---	---	---	---	---	---	95.03	---	95.09	95.09	95.03	95.05	16
17	---	---	---	---	95.28A	---	95.00	---	95.08	95.07	95.03	95.04	17
18	---	---	---	---	---	---	94.98	---	95.06	95.07	95.03	95.04	18
19	---	---	---	---	---	---	94.98	---	95.04	95.06	95.03	95.04	19
20	---	---	---	---	---	---	94.96	---	95.03	95.05	95.02	95.04	20
21	---	---	---	---	---	---	94.95	---	95.03	95.04	95.02	95.04	21
22	---	---	---	---	---	---	94.48	---	95.06	95.03	95.02	95.04	22
23	---	---	---	---	---	---	95.07	---	95.05	95.02	95.02	95.04	23
24	---	---	---	---	---	---	95.06A	---	95.04	95.02	95.02	95.04	24
25	---	---	---	---	---	---	---	---	95.12	95.02	95.02	95.05	25
26	---	---	---	---	---	95.26A	---	94.99	95.12	95.01	95.02	95.04	26
27	---	---	---	---	---	---	---	94.97	95.13	95.01	95.01	95.04	27
28	---	---	---	---	---	---	---	94.96	95.13	95.01	95.01	95.04	28
29	---		---	---	---	---	---	94.98	95.14	95.00	95.01	95.04	29
30	---		---	---	---	---	---	95.12	95.13	95.00	95.01	95.04	30
31	---		---		---		---	95.11		95.00		95.04	31

SUMMARY FOR THE YEAR 1969

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 105 Mean daily water levels in feet for Lake 227 for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	95.04	---	---	94.99	95.36	95.16	---	94.79	94.65	95.01	---	---	1
2	95.04	---	---	94.99	95.32	95.13	---	94.77	94.68	95.02	---	---	2
3	95.04	---	---	94.99	95.24	95.11	---	94.74	94.70	95.01	---	---	3
4	95.04	---	---	94.99	95.25	95.09	---	94.73	94.70	95.00	---	---	4
5	95.04	---	---	94.99	95.23	95.07	---	94.72	94.69	95.00	---	---	5
6	95.04	---	---	94.99	95.20	95.04	---	94.71	94.68	95.01	---	---	6
7	95.03	---	---	94.99	95.23	95.03	---	94.70	94.86	95.01	---	---	7
8	95.03	---	---	94.99	95.29	95.01	---	94.69	95.06	95.00	---	---	8
9	95.03	---	---	94.99	95.28	94.99	94.93	94.68	95.11	95.07	---	---	9
10	95.03	---	---	94.99	95.24	95.00	94.93	94.67	95.11	95.10	---	---	10
11	95.03	---	95.03	94.99	95.19	94.98	94.92	94.66	95.11	95.08	---	---	11
12	95.03	---	95.03	94.99	95.19	94.95	94.93	94.64	95.27	95.09	---	---	12
13	95.02	---	95.03	94.99	95.16	94.95	94.94	94.65	95.28	95.11	---	---	13
14	95.02	---	95.02	94.99	95.15	94.94	94.93	94.64	95.21	95.12	---	---	14
15	95.02	---	95.02	94.99	95.18	94.94	94.91	94.63	95.19	95.12	---	---	15
16	95.02	---	95.01	95.01	95.21	94.97	94.89	94.63	95.19	95.11	---	---	16
17	95.01	---	95.01	95.03	95.19	95.00	94.87	94.61	95.16	95.11	---	---	17
18	95.01	---	95.01	95.03	95.18	94.98	94.86	94.63	95.14	95.12	---	---	18
19	95.01	---	95.01	95.04	95.15	94.96	94.87	94.64	95.12	95.13	---	---	19
20	95.01	---	95.01	95.05	95.14	94.95	94.86	94.62	95.11	95.14	---	---	20
21	95.01	---	95.01	95.08	95.14	94.94	94.84	94.62	95.09	95.15	---	---	21
22	---	---	95.01	95.08	95.13	94.93	94.83	94.64	95.07	95.14	---	---	22
23	---	---	95.01	95.09	95.11	94.92	94.81	94.64	95.06	95.13	---	---	23
24	---	---	95.01	95.07	95.09	94.90	94.79	94.63	95.05	95.12	---	---	24
25	---	---	95.01	95.09	95.14	94.90	94.79	94.62	95.04	95.11	---	---	25
26	---	---	95.00	95.14	95.19	94.93	94.78	94.61	95.03	95.11	---	---	26
27	---	---	95.00	95.22	95.17	94.93	94.77	94.62	95.02	95.26	---	---	27
28	---	---	95.00	95.42	95.16	94.93	94.76	94.61	95.02	---	---	---	28
29	---		95.00	95.46	95.18	94.95	94.77	94.62	95.02	---	---	---	29
30	---		95.00	95.44	95.17	94.98	94.83	94.67	95.01	---	---	---	30
31	---		95.00		95.16		94.82	94.66		---		---	31

SUMMARY FOR THE YEAR 1970
MAXIMUM DAILY WATER LEVEL, 95.46 FT ON APR 29

MAXIMUM INSTANTANEOUS WATER LEVEL, 95.49 FT
AT 2320 CST ON APR 28

TYPE OF GAUGE - RECORDING
LOCATION - LAT 49 41 12 N
LONG 93 41 18 W

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 105 Mean daily water levels in feet for Lake 227 for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	94.97	95.01	95.13	95.03	---	1
2	---	---	---	---	---	---	---	94.96	95.01	95.11	---	---	2
3	---	---	---	---	---	---	---	94.97	95.00	95.10	---	---	3
4	---	---	---	---	---	---	---	94.97	95.02	95.10	---	---	4
5	---	---	---	---	---	---	---	94.97	95.02	95.10	---	---	5
6	---	---	---	---	---	---	---	94.97	95.02	95.09	---	---	6
7	---	---	---	---	---	---	---	94.97	95.02	95.07	---	---	7
8	---	---	---	---	---	---	---	94.96	95.03	95.07	---	---	8
9	---	---	---	---	---	---	---	94.95	95.19	95.06	---	---	9
10	---	---	---	---	---	---	---	94.94	95.29	95.06	---	---	10
11	---	---	---	---	---	---	---	94.93	95.26	95.06	---	---	11
12	---	---	---	---	---	---	---	94.92	95.23	95.05	---	---	12
13	---	---	---	---	---	---	95.03A	94.91	95.21	95.05	---	---	13
14	---	---	---	---	---	---	95.07E	94.90	95.19	95.04	---	---	14
15	---	---	---	---	---	---	95.05E	94.90	95.17	95.03	---	---	15
16	---	---	---	---	---	---	95.03E	94.90	95.15	95.03	---	---	16
17	---	---	---	---	---	95.25A	95.02E	94.90	95.13	95.03	---	---	17
18	---	---	---	---	---	95.23E	95.00E	94.89	95.11	95.03	---	---	18
19	---	---	---	---	---	95.20E	95.00E	94.88	95.10	95.02	---	---	19
20	---	---	---	---	---	95.18E	94.99E	94.89	95.08	95.02	---	---	20
21	---	---	---	---	---	95.15E	94.97A	94.88	95.07	95.02	---	---	21
22	---	---	---	---	---	95.13E	94.96	94.88	95.06	95.01	---	---	22
23	---	---	---	---	---	95.10E	94.95	94.88	95.06	95.01	---	---	23
24	---	---	---	---	---	95.08E	94.94	94.87	95.10	95.00	---	---	24
25	---	---	---	---	95.10A	95.05E	94.92	94.87	95.15	95.01	---	---	25
26	---	---	---	---	---	95.03E	94.91	94.92	95.16	95.00	---	---	26
27	---	---	---	94.98A	---	95.00E	94.89	94.94	95.17	95.00	---	---	27
28	---	---	94.73A	---	---	94.98A	94.89	94.98	95.16	95.00	---	---	28
29	---		94.72	---	---	---	94.91	94.98	95.15	94.99	---	---	29
30	---		94.73	---	---	---	94.94	95.00	95.14	94.99	---	---	30
31	---		94.81A		---		94.98	95.00		95.02		---	31
MEAN	---	---	---	---	---	---	---	94.93	95.12	95.04	---	---	MEAN
MAX	---	---	---	---	---	---	---	95.00	95.29	95.13	---	---	MAX
MIN	---	---	---	---	---	---	---	94.87	95.00	94.99	---	---	MIN

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 105 Mean daily water levels in feet for Lake 227 for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	95.25	95.44	95.41	95.04	95.05	95.06	95.08	95.00	---	1
2	---	---	---	95.24	95.39	95.43	95.03	95.08	95.06	95.07	---	---	2
3	---	---	---	95.25	95.38	95.37	95.02	95.08	95.05	95.07	---	---	3
4	---	---	---	95.26	95.39	95.31	95.02	95.07	95.05	95.07	---	---	4
5	---	---	---	95.26	95.37	95.27	95.06	95.05	95.05	95.07	---	---	5
6	---	---	---	95.27	95.34	95.25	95.07	95.03	95.04	95.06	---	---	6
7	---	---	---	95.29	95.30	95.24	95.06	95.02	95.02	95.05	---	---	7
8	---	---	---	95.30	95.31	95.22	95.05	95.01	95.01	95.05	---	---	8
9	---	---	---	95.31	95.33	95.19	95.05	95.00	95.01	95.04	---	---	9
10	---	---	---	95.33	95.31	95.17	95.04	94.99	95.00	95.03	---	---	10
11	---	---	---	95.38	95.30	95.16	95.02	94.98	94.98	95.03	---	---	11
12	---	---	---	95.38	95.28	95.13	95.03	94.97	94.96	95.04	---	---	12
13	---	---	---	95.39	95.26	95.12	95.03	94.96	94.98	95.03	---	---	13
14	---	---	---	95.42	95.24	95.10	95.06	94.96	95.09	95.03	---	---	14
15	---	---	---	95.43	95.21	95.09	95.06	95.00	95.13	95.06	---	---	15
16	---	---	---	95.43	95.19	95.08	95.05	95.04	95.14	95.06	---	---	16
17	---	---	---	95.45	95.17	95.06	95.05	95.04	95.14	95.06	---	---	17
18	---	---	---	95.47	95.16	95.05	95.09	95.11	95.14	95.06	---	---	18
19	---	---	---	95.50	95.14	95.03	95.10	95.11	95.13	95.05	---	---	19
20	---	---	---	95.48	95.14	95.03	95.11	95.09	95.12	95.06	---	---	20
21	---	---	---	95.42	95.12	95.02	95.10	95.08	95.10	95.06	---	---	21
22	---	---	---	95.39	95.12	95.01	95.09	95.07	95.09	95.05	---	---	22
23	---	---	95.16 A	95.41	95.20	95.01	95.09	95.07	95.08	95.05	---	---	23
24	---	---	95.17	95.47	95.19	95.02	95.09	95.06	95.07	95.04	---	---	24
25	---	---	95.17	95.53	95.18	95.04	95.08	95.06	95.06	95.03	---	---	25
26	---	---	95.17	95.59	95.38	95.04	95.07	95.06	95.05	95.03	---	---	26
27	---	---	95.17	95.66	95.48	95.06	95.05	95.06	95.05	95.03	---	---	27
28	---	---	95.16	95.67	95.40	95.08	95.05	95.09	95.05	95.02	---	---	28
29	---		95.16	95.63	95.35	95.07	95.03	95.08	95.08	95.01	---	---	29
30	---		95.16	95.52	95.38	95.05	95.03	95.06	95.09	95.01	---	---	30
31	---		95.20		95.36		95.04	95.05		95.01		---	31
MEAN	---	---	---	95.41	95.28	95.14	95.06	95.04	95.06	95.05	---	---	MEAN
MAX	---	---	---	95.67	95.48	95.43	95.11	95.11	95.14	95.08	---	---	MAX
MIN	---	---	---	95.24	95.12	95.01	95.02	94.96	94.96	95.01	---	---	MIN

SUMMARY FOR THE YEAR 1978

MAXIMUM DAILY WATER LEVEL, 95.67 FT ON APR 28

MAXIMUM INSTANTANEOUS WATER LEVEL,
95.69 FT AT 0607 CST ON APR 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

Lake 230 Hydrological Data for 1971 to 1978

Lake 230 is located 4.2 miles (7 kilometres) east of the ELA field camp (Fig. 3). A bathymetric map (Fig. 24) with 1 metre contour interval is included. Lake 230 flows into Lake 310 and is a headwater lake with no streams entering it. Table 106 provides morphometric data for the Lake 230 basin. Hydrometric work began November 18, 1970, when Water Survey of Canada constructed a 60° V-notch sharp crested weir at the end of a plywood trough approach. The recorder was activated in early April and closed down in early November. No data exists for the November to April winter periods but flows were normally 0 to very low during that period. Service of the weir and computation of the flow data wereby WSC from 1971 to 1978, with the exception of 1974, when this was carried out by ELA staff. All original charts are on file with WSC.

Estimated values for August in Table 107 (1972) have been changed by the author from those previously calculated by Water Survey of Canada. Values estimated by WSC were 10 times any other recorded values for this station and were considered unacceptable and most unlikely.

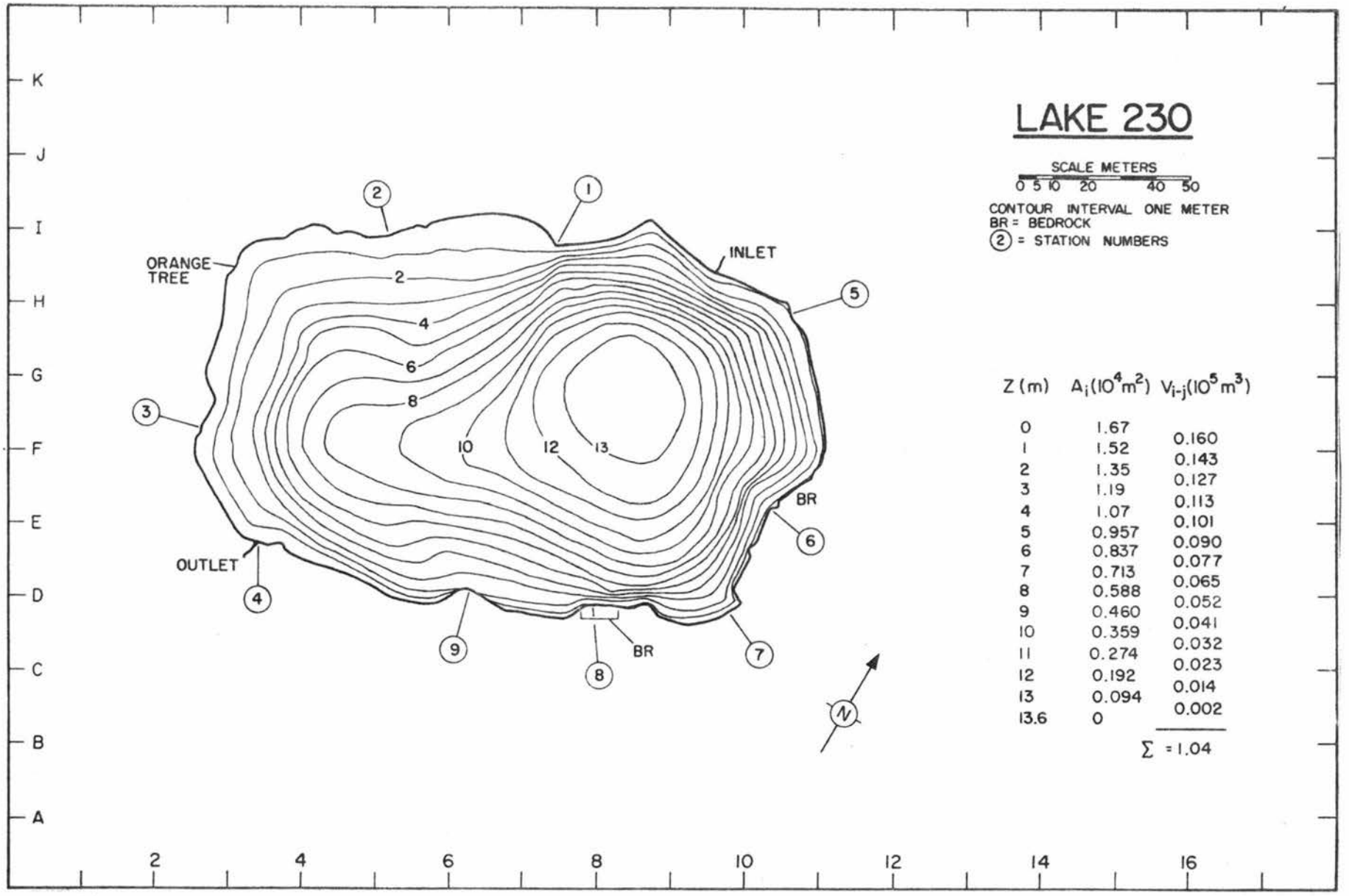
The hydrographs in Figures 107 (1971-1978) appear to be stepped. This is due to the low flows in this very small basin, and the 0.01 cubic foot per second sensitivity of the reported discharges.

This basin was severely affected by a windstorm on July 7, 1973. One year later, on June 26, 1974, the entire basin was burned by a forest fire. The windstorm and forest fire have been described by Schindler et al. (1980).

Table 106. Location and morphometric data for Lake 230.

Location:	
Latitude	49 39 30 N
Longitude	93 38 00 W
Morphometric data	
Basin terrestrial area	7.22 ha*
Lake surface area	1.67
Total basin area	8.89
Lake volume	$1.04 \times 10^5 \text{metre}^3$
Mean depth	6.2 metres

* Basin area is based on airphoto interpretation and supercedes previously reported value by Brunskill and Schindler (1971).



Z (m)	$A_i (10^4 m^2)$	$V_{i-j} (10^5 m^3)$
0	1.67	0.160
1	1.52	0.143
2	1.35	0.127
3	1.19	0.113
4	1.07	0.101
5	0.957	0.090
6	0.837	0.077
7	0.713	0.065
8	0.588	0.052
9	0.460	0.041
10	0.359	0.032
11	0.274	0.023
12	0.192	0.014
13	0.094	0.002
13.6	0	
		$\Sigma = 1.04$

Fig. 24 Bathymetric chart of Lake 230.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.01 E	0.02	0.03 E	0.02 E	0	0.16	0.09	---	1
2	---	---	---	0 E	0.02 E	0.02	0.05 E	0.02 E	0	0.14	0.08	---	2
3	---	---	---	0 E	0.02 E	0.02	0.06 E	0.02 E	0.01	0.13	0.08	---	3
4	---	---	---	0 E	0.02 E	0.02	0.05 E	0.01 E	0.02	0.14	0.07	---	4
5	---	---	---	0 E	0.02 E	0.02	0.03 E	0.01 E	0.04	0.11	0.06	---	5
6	---	---	---	0 E	0.01 E	0.03	0.03 E	0.01 E	0.04	0.09	0.06	---	6
7	---	---	---	0 E	0.01 E	0.02	0.03 E	0.01 E	0.04	0.06	0.05	---	7
8	---	---	---	0 E	0.01 E	0.02	0.03 E	0.01 E	0.04	0.06	0.05	---	8
9	---	---	---	0 E	0.01 E	0.02 A	0.02 E	0.01 E	0.03	0.05	0.05	---	9
10	---	---	---	0 E	0.01 E	0.02 E	0.02 E	0 E	0.03	0.04	0.04	---	10
11	---	---	---	0 E	0.01 E	0.02 E	0.02 E	0 E	0.02	0.03	0.04	---	11
12	---	---	---	0 E	0.01 E	0.03 E	0.03 E	0 E	0.02	0.03	0.03	---	12
13	---	---	---	0 A	0.01 E	0.03 E	0.04 E	0 E	0.02	0.02	0.03	---	13
14	---	---	---	0 E	0.01 E	0.03 E	0.03 E	0 E	0.02	0.02	0.03	---	14
15	---	---	---	0 E	0 E	0.02 E	0.03 E	0 E	0.02	0.02	0.02	---	15
16	---	---	---	0 E	0 E	0.03 E	0.03 E	0 E	0.02	0.02	0.02	---	16
17	---	---	---	0 E	0.01 E	0.03 E	0.03 E	0.01 E	0.02	0.04	0.03	---	17
18	---	---	---	0.01 E	0.01 E	0.03 E	0.02 E	0.01 E	0.02	0.06	0.03	---	18
19	---	---	---	0.02 E	0.01 E	0.03 E	0.02 E	0.01 E	0.01	0.08	0.04	---	19
20	---	---	---	0.01 E	0.01 E	0.02 E	0.02 E	0.01 E	0.01	0.06	0.04	---	20
21	---	---	---	0.01 A	0.01 E	0.02 E	0.02 E	0.01 E	0.01	0.05	0.03	---	21
22	---	---	---	0.02 E	0.01 E	0.02 E	0.01 E	0.01 E	0.01	0.04	---	---	22
23	---	---	---	0.06 E	0.02 E	0.02 E	0.01 E	0.01 E	0.01	0.04	---	---	23
24	---	---	---	0.05 E	0.02 E	0.02 E	0.01 E	0.01 E	0.01	0.03	---	---	24
25	---	---	---	0.03 E	0.04 E	0.02 E	0.01 E	0 E	0.01	0.03	---	---	25
26	---	---	---	0.02 E	0.10 A	0.02 E	0.01 E	0 A	0.01	0.02	---	---	26
27	---	---	---	0.01 A	0.08	0.01 E	0.01 A	0	0.01	0.02	---	---	27
28	---	---	---	0.01 E	0.05	0.01 E	0.02 E	0	0.01	0.02	---	---	28
29	---		---	0.01 E	0.04	0.02 E	0.02 E	0	0.01	0.02	---	---	29
30	---		---	0.01 E	0.03	0.02 E	0.02 E	0	0.04	0.02	---	---	30
31	---		---		0.03		0.02 E	0		0.10		---	31
TOTAL	---	---	---	0.27	0.65	0.66	0.78	0.20	.0.56	1.75	---	---	TOTAL
MEAN	---	---	---	0.01	0.02	0.02	0.03	0.01	0.02	0.06	---	---	MEAN
AC-FT	---	---	---	0.54	1.3	1.3	1.5	0.40	1.1	3.5	---	---	AC-FT
MAX	---	---	---	0.06	0.10	0.03	0.06	0.02	0.04	0.16	---	---	MAX
MIN	---	---	---	0	0	0.01	0.01	0	0	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.02 CFS
TOTAL DISCHARGE, 9.6 AC-FT
MAXIMUM DAILY DISCHARGE, 0.16 CFS ON OCT 1
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
0.19 CFS AT 0524 CST ON OCT 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

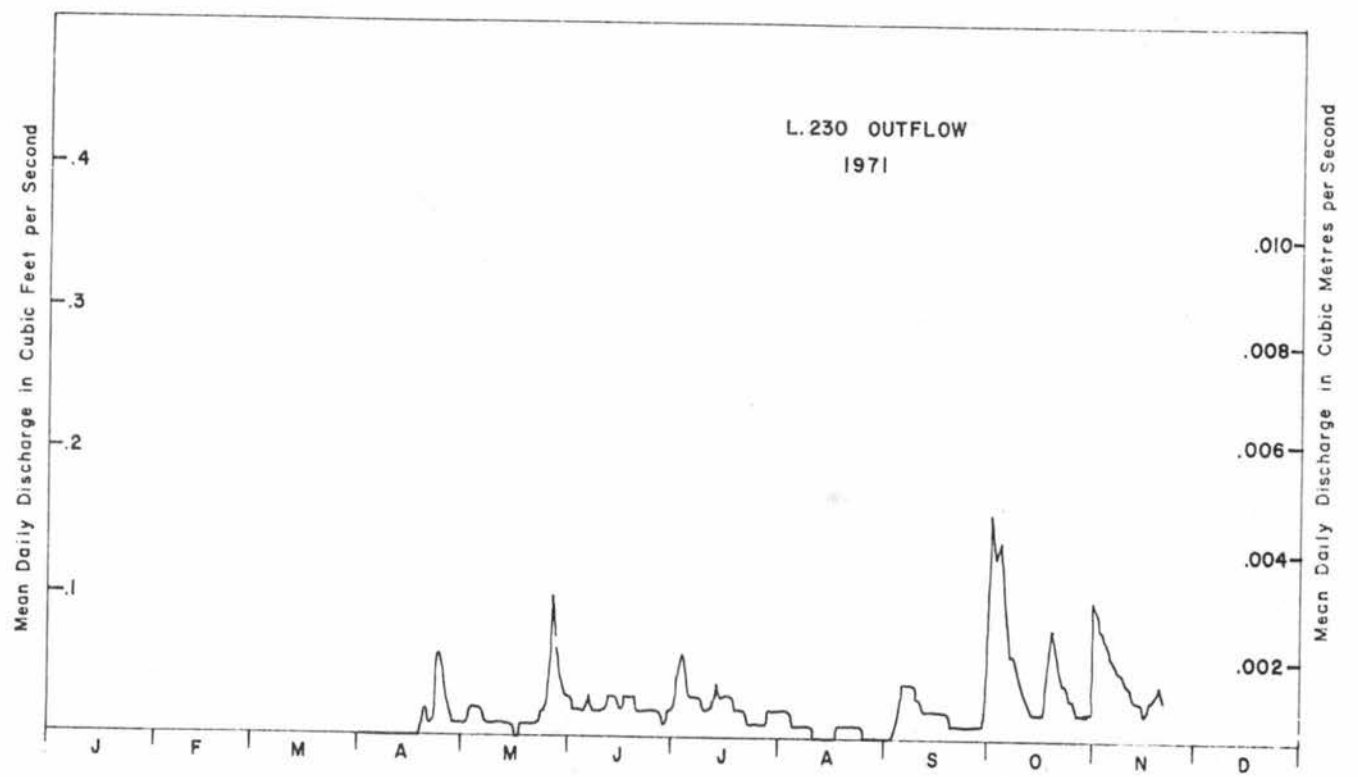


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1971.

Table 107. Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1972. Estimated values in August have been changed from those previously published by WSC.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DATE
1	---	---	---	0 E	0.04	0.02	0	0.02	0.07	0.01	---	---	1
2	---	---	---	0 E	0.04	0.01	0	0.02	0.07	0.01	---	---	2
3	---	---	---	0 E	0.04	0.01	0	0.01	0.09	0.01	---	---	3
4	---	---	---	0 E	0.03	0.01	0	0.01	0.07	0.01	---	---	4
5	---	---	---	0 E	0.03	0.01	0	0.01	0.07	0.01	---	---	5
6	---	---	---	0 E	0.03	0.01	0	0.01	0.05	0.01	---	---	6
7	---	---	---	0 E	0.03	0.01	0	0	0.02	0.01	---	---	7
8	---	---	---	0 E	0.03	0.01	0	0	0.02	0.01	---	---	8
9	---	---	---	0 E	0.03	0	0	0	0.02	0.02	---	---	9
10	---	---	---	0 E	0.02	0	0	0	0.02	0.02	---	---	10
11	---	---	---	0 E	0.02	0	0.02	0	0.03	0.01	---	---	11
12	---	---	---	0 E	0.02	0	0.03	0 E	0.03	0.01	---	---	12
13	---	---	---	0.01 E	0.02	0	0.03	0 E	0.03	0.01	---	---	13
14	---	---	---	0.02 E	0.03	0	0.08	0 E	0.03	0.01	---	---	14
15	---	---	---	0.03 E	0.03	0	0.09	0.04 E	0.04	0.01	---	---	15
16	---	---	---	0.04 E	0.02	0	0.07	0.07 E	0.04	0.01	---	---	16
17	---	---	---	0.05 E	0.02	0	0.06	0.07 E	0.04	0.02	---	---	17
18	---	---	---	0.06 E	0.02	0	0.05	0.05 E	0.04	0.02	---	---	18
19	---	---	---	0.07	0.02	0	0.04	0.04 E	0.04	0.02	---	---	19
20	---	---	---	0.04	0.02	0	0.04	0.23 E	0.04	0.02	---	---	20
21	---	---	---	0.04	0.03	0.01	0.03	0.52 E	0.04	0.02	---	---	21
22	---	---	---	0.05	0.03	0.01	0.03	0.31 E	0.05	0.05	---	---	22
23	---	---	---	0.06	0.03	0.01	0.02	0.20 E	0.05	0.01	---	---	23
24	---	---	---	0.06	0.03	0	0.02	0.14 E	0.03	0.01	---	---	24
25	---	---	---	0.06	0.03	0	0.02	0.09 E	0.02	0.01	---	---	25
26	---	---	---	0.06	0.02	0	0.01	0.06 E	0.02	0.01	---	---	26
27	---	---	---	0.05	0.02	0	0.01	0.05 E	0.02	0.01 E	---	---	27
28	---	---	---	0.05	0.02	0	0.01	0.04 E	0.01	0.01 E	---	---	28
29	---	---	---	0.05	0.02	0	0.01	0.05	0.01	0.01 E	---	---	29
30	---		---	0.05	0.02	0	0.02	0.05	0.01	0.01 E	---	---	30
31	---		---		0.02		0.02	0.06		0.01 E		---	31
TOTAL	---	---	---	0.85	0.81	0.12	0.71	2.15	1.12	0.39	---	---	TOTAL
MEAN	---	---	---	0.03	0.03	0	0.02	0.07	0.04	0.01	---	---	MEAN
AC-FT	---	---	---	1.7	1.6	0.24	1.4	4.26	2.2	0.77	---	---	AC-FT
MAX	---	---	---	0.07	0.04	0.02	0.09	0.52	0.09	0.02	---	---	MAX
MIN	---	---	---	0	0.02	0	0	0	0.01	0.01	---	---	MIN

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY DISCHARGE, 0.52 E CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

E-ESTIMATED
NATURAL FLOW

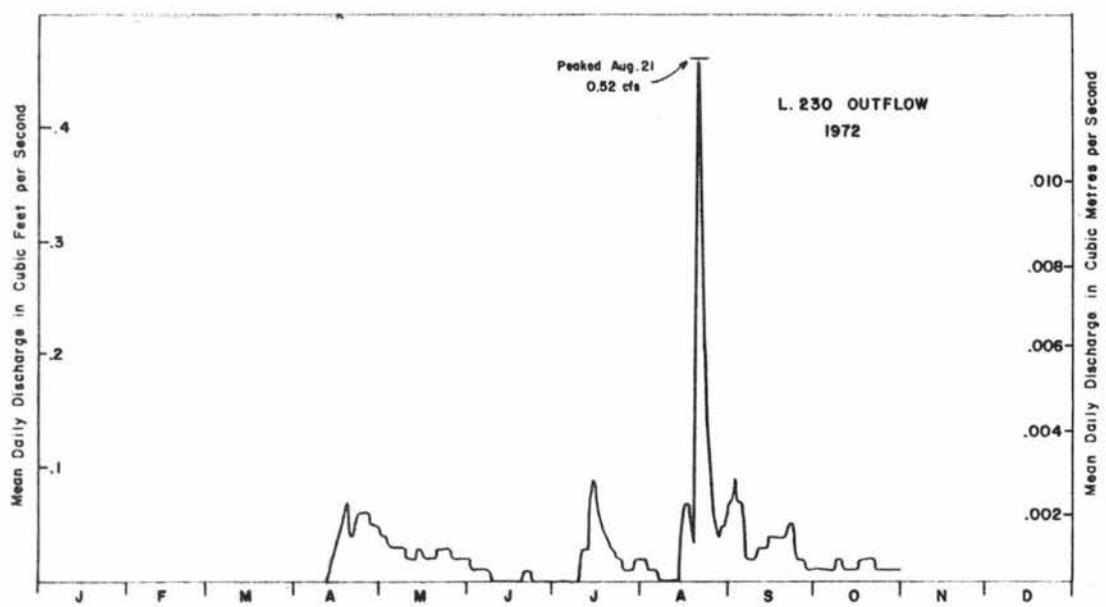


Fig. 25. Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1972.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1973.

DAY	JAN	FEB	MAR	APR		MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	E	0.03	0.01	0.01	0.10	0.01	0.04	---	---	1
2	---	---	---	0	E	0.02	0.01	0.01	0.09	0.02	0.04	---	---	2
3	---	---	---	0	E	0.02	0.01	0.01	0.07	0.02	0.05	---	---	3
4	---	---	---	0	E	0.02	0.01	0.01	0.07	0.04	0.06	---	---	4
5	---	---	---	0	E	0.02	0	0.01	0.07	0.06	0.05	---	---	5
6	---	---	---	0	E	0.02	0	0.01	0.17	0.05	0.05	---	---	6
7	---	---	---	0	E	0.02	0	0.04	0.15	0.04	0.04	---	---	7
8	---	---	---	0	E	0.02	0	0.06	0.14	0.03	0.04	---	---	8
9	---	---	---	0	E	0.02	0	0.06	0.22	0.03	0.05	---	---	9
10	---	---	---	0	E	0.02	0	0.05	0.21	0.03	0.06	---	---	10
11	---	---	---	0	E	0.02	0.01	0.05	0.17	0.02	0.07	---	---	11
12	---	---	---	0	E	0.02	0	0.05	0.13	0.02	0.15	---	---	12
13	---	---	---	0	E	0.02	0	0.04	0.11	0.02	0.15	---	---	13
14	---	---	---	0	E	0.02	0	0.03	0.08	0.02	0.12	---	---	14
15	---	---	---	0	E	0.02	0.01	0.03	0.07	0.02	0.10	---	---	15
16	---	---	---	0	E	0.02	0.01	0.02	0.06	0.02	0.08	---	---	16
17	---	---	---	0	E	0.01	0.01	0.02	0.05	0.01	0.07	---	---	17
18	---	---	---	0	E	0.01	0.02	0.02	0.04	0.01	0.06	---	---	18
19	---	---	---	0	E	0.01	0.02	0.02	0.04	0.01	0.06	---	---	19
20	---	---	---	0.01	E	0.01	0.02	0.02	0.03	0.01	0.05	---	---	20
21	---	---	---	0.17	E	0.01	0.02	0.01	0.02	0.01	0.05	---	---	21
22	---	---	---	0.13	E	0.01	0.02	0.01	0.02	0.06	0.04	---	---	22
23	---	---	---	0.07	E	0.01	0.02	0.01	0.02	0.08	0.04	---	---	23
24	---	---	---	0.05	E	0.01	0.02	0.02	0.01	0.07	0.04	---	---	24
25	---	---	---	0.04	E	0.01	0.02	0.02	0.01	0.09	0.04	---	---	25
26	---	---	---	0.03	E	0.01	0.02	0.05	0.01	0.09	0.04	---	---	26
27	---	---	---	0.03	E	0.01	0.02	0.19	0.01	0.07	0.04	---	---	27
28	---	---	---	0.03	E	0.01	0.02	0.18	0.01	0.06	0.04	---	---	28
29	---		---	0.03	E	0.01	0.02	0.15	0.01	0.06	0.03	---	---	29
30	---		---	0.03	A	0.01	0.02	0.14	0.01	0.05	0.04	---	---	30
31	---		---			0.01		0.12	0.01		0.03		---	31
TOTAL	---	---	---	0.62		0.48	0.34	1.47	2.21	1.13	1.82	---	---	TOTAL
MEAN	---	---	---	0.02		0.02	0.01	0.05	0.07	0.04	0.06	---	---	MEAN
AC-FT	---	---	---	1.2		0.95	0.67	2.9	4.4	2.2	3.6	---	---	AC-FT
MAX	---	---	---	0.17		0.03	0.02	0.19	0.22	0.09	0.15	---	---	MAX
MIN	---	---	---	0		0.01	0	0.01	0.01	0.01	0.03	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.04 CFS
TOTAL DISCHARGE, 15.9 AC-FT
MAXIMUM DAILY DISCHARGE, 0.22 CFS ON AUG 9
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
0.23 CFS AT 0335 CST ON AUG 10

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

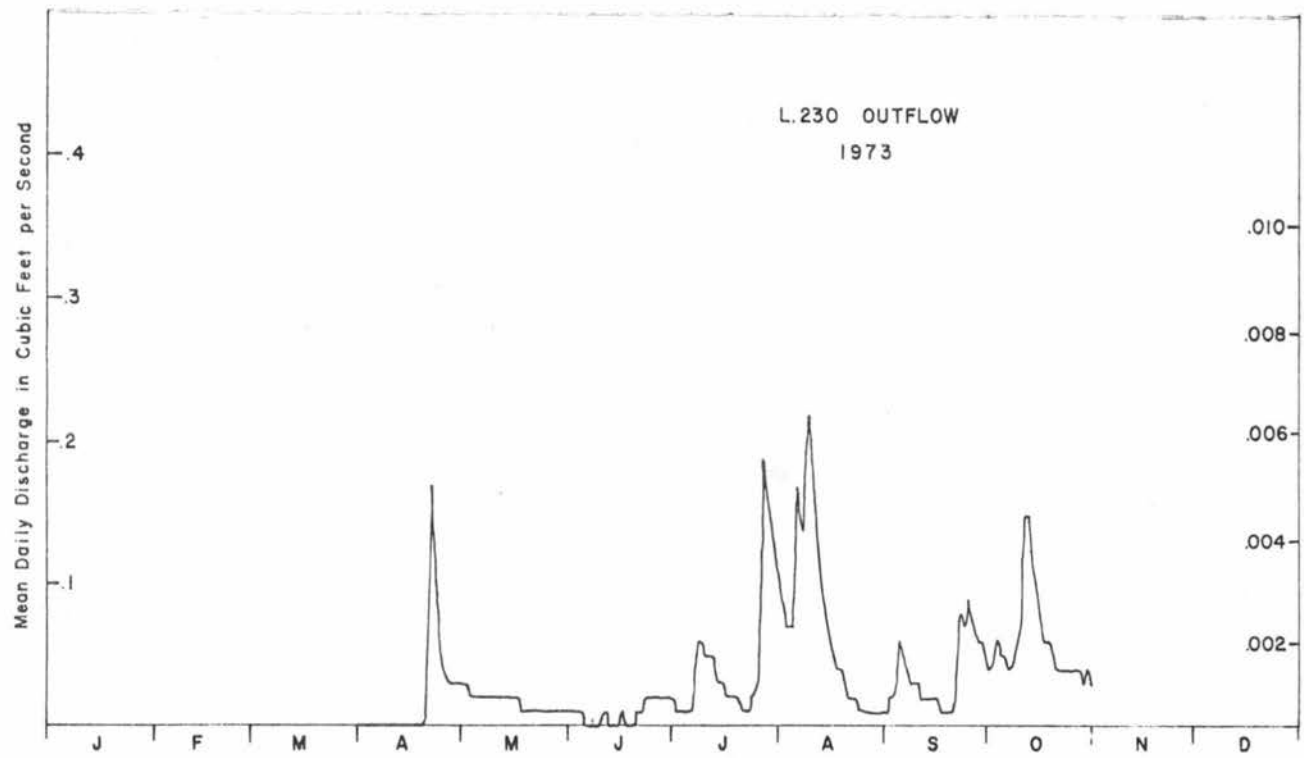


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1973.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.09	M	0 E	0 E	M	M	M	---	1
2	---	---	---	0	0.08	M	0 E	0 E	M	M	M	---	2
3	---	---	---	0	0.07	M	0 E	0 E	M	M	M	---	3
4	---	---	---	0	0.06	M	0 E	0 E	M	M	M	---	4
5	---	---	---	0	0.05	M	0 E	0 E	M	M	M	---	5
6	---	---	---	0	0.05	M	0 E	0 E	M	M	M	---	6
7	---	---	---	0	0.04	M	0 E	0 E	M	M	M	---	7
8	---	---	---	0	0.04	M	0 E	0 E	M	M	M	---	8
9	---	---	---	0	0.04	M	0 E	0 E	M	M	M	---	9
10	---	---	---	0 E	0.04	M	0 E	0 E	M	M	M	---	10
11	---	---	---	0.01 E	0.12	M	0 A	M	M	M	M	---	11
12	---	---	---	0.02 E	M	M	0	M	M	M	M	---	12
13	---	---	---	0.03 E	M	M	0	M	M	M	M	---	13
14	---	---	---	0.04 E	M	M	0	M	M	M	M	---	14
15	---	---	---	0.06 E	M	M	0	M	M	M	M	---	15
16	---	---	---	0.08 E	M	M	0	M	M	M	M	---	16
17	---	---	---	0.10 E	M	M	0	M	M	M	M	---	17
18	---	---	---	0.12 A	M	M	0	M	M	M	M	---	18
19	---	---	---	0.11	M	M	0	M	M	M	M	---	19
20	---	---	---	0.15	M	M	0	M	M	M	M	---	20
21	---	---	---	0.38	M	M	0	M	M	M	0 A	---	21
22	---	---	---	0.34	M	M	0	M	M	M	0 E	---	22
23	---	---	---	0.22	M	M	0	M	M	M	0 E	---	23
24	---	---	---	0.14	M	M	0	M	M	M	0 E	---	24
25	---	---	---	0.14	M	M	0	M	M	M	0 E	---	25
26	---	---	---	0.14	M	M	0	M	M	M	0 E	---	26
27	---	---	---	0.16	M	M	0	M	M	M	0 E	---	27
28	---		0 A	0.15	M	M	0	M	M	M	0 E	---	28
29	---		---	0.13	M	M	0	M	M	M	0 E	---	29
30	---		---	0.11	M	M	0	M	M	M	0 E	---	30
31	---		---		M		0	M		M		---	31
TOTAL	---	---	---	2.63	---	---	0	---	---	---	---	---	TOTAL
MEAN	---	---	---	0.09	---	---	0	---	---	---	---	---	MEAN
AC-FT	---	---	---	5.22	---	---	0	---	---	---	---	---	AC-FT
MAX	---	---	---	0.38	---	---	0	---	---	---	---	---	MAX
MIN	---	---	---	0	---	---	0	---	---	---	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, M
TOTAL DISCHARGE, M
MAXIMUM DAILY DISCHARGE, M
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
M-MISSING
NATURAL FLOW

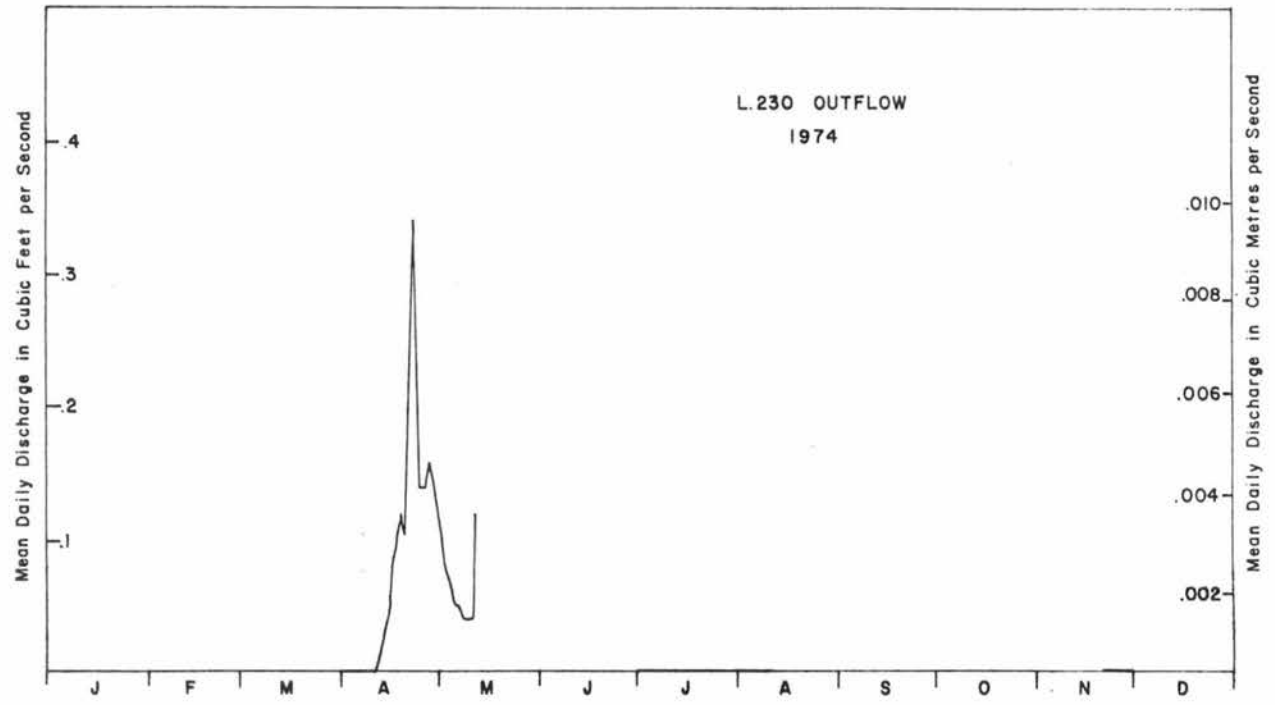


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1974.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.04	0.02	0.05	0	0	0.01	---	---	1
2	---	---	---	0 E	0.04	0.02	0.05	0	0	0.01	---	---	2
3	---	---	---	0 E	0.04	0.02	0.04	0	0	0.01	---	---	3
4	---	---	---	0 E	0.04	0.02	0.03	0	0	0.01	---	---	4
5	---	---	---	0 E	0.03	0.03	0.02	0	0	0.01	---	---	5
6	---	---	---	0 E	0.03	0.03	0.02	0	0	0.01	---	---	6
7	---	---	---	0 E	0.02	0.03	0.01	0	0	0.01	---	---	7
8	---	---	---	0.02 E	0.02	0.03	0.01	0	0	0.01	---	---	8
9	---	---	---	0.04 A	0.02	0.02	0.01	0	0	0.01	---	---	9
10	---	---	---	0.08	0.02	0.02	0	0	0.01	0.01	---	---	10
11	---	---	---	0.10	0.01	0.02	0	0	0.01	0.01	---	---	11
12	---	---	---	0.07	0.01	0.02	0	0	0.01	0.01	---	---	12
13	---	---	---	0.06	0.01	0.02	0	0	0.01	0.01	---	---	13
14	---	---	---	0.06	0.01	0.02	0	0	0.01	0.01	---	---	14
15	---	---	---	0.08	0.01	0.01	0	0	0.01	0.01	---	---	15
16	---	---	---	0.11	0.01	0.01	0	0	0.01	0.01	---	---	16
17	---	---	---	0.14	0.01	0.01	0	0	0.01	0.01	---	---	17
18	---	---	---	0.16	0.01	0.01	0	0	0.01	0.01	---	---	18
19	---	---	---	0.13	0.01	0.01	0	0	0.01	0.01	---	---	19
20	---	---	---	0.10	0.01	0.01	0	0	0.02	0.01	---	---	20
21	---	---	---	0.07	0.01	0.02	0	0	0.02	0.01	---	---	21
22	---	---	---	0.08	0.01	0.17	0	0	0.02	0.01	---	---	22
23	---	---	---	0.10	0.06	0.19	0	0	0.02	0.01	---	---	23
24	---	---	---	0.11	0.07	0.12	0	0	0.02	0.01	---	---	24
25	---	---	---	0.09	0.05	0.07	0	0	0.01	0.02	---	---	25
26	---	---	---	0.07	0.05	0.05	0	0	0.01	0.02	---	---	26
27	---	---	---	0.07	0.04	0.04	0	0	0.01	0.03	---	---	27
28	---	---	---	0.06	0.03	0.03	0	0	0.01	0.03	---	---	28
29	---		---	0.05	0.03	0.02	0	0	0.01	0.03	---	---	29
30	---		---	0.04	0.02	0.04	0	0	0.01	0.03	---	---	30
31	---		---		0.02		0	0		0.03		---	31
TOTAL	---	---	---	1.89	0.79	1.13	0.24	0	0.26	0.43	---	---	TOTAL
MEAN	---	---	---	0.06	0.03	0.04	0.01	0	0.01	0.01	---	---	MEAN
AC-FT	---	---	---	3.7	1.6	2.2	0.48	0	0.52	0.85	---	---	AC-FT
MAX	---	---	---	0.16	0.07	0.19	0.05	0	0.02	0.03	---	---	MAX
MIN	---	---	---	0	0.01	0.01	0	0	0	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.02 CFS
TOTAL DISCHARGE, 9.4 AC-FT
MAXIMUM DAILY DISCHARGE, 0.19 CFS ON JUN 23
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
0.27 CFS AT 1431 CST ON JUN 22

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

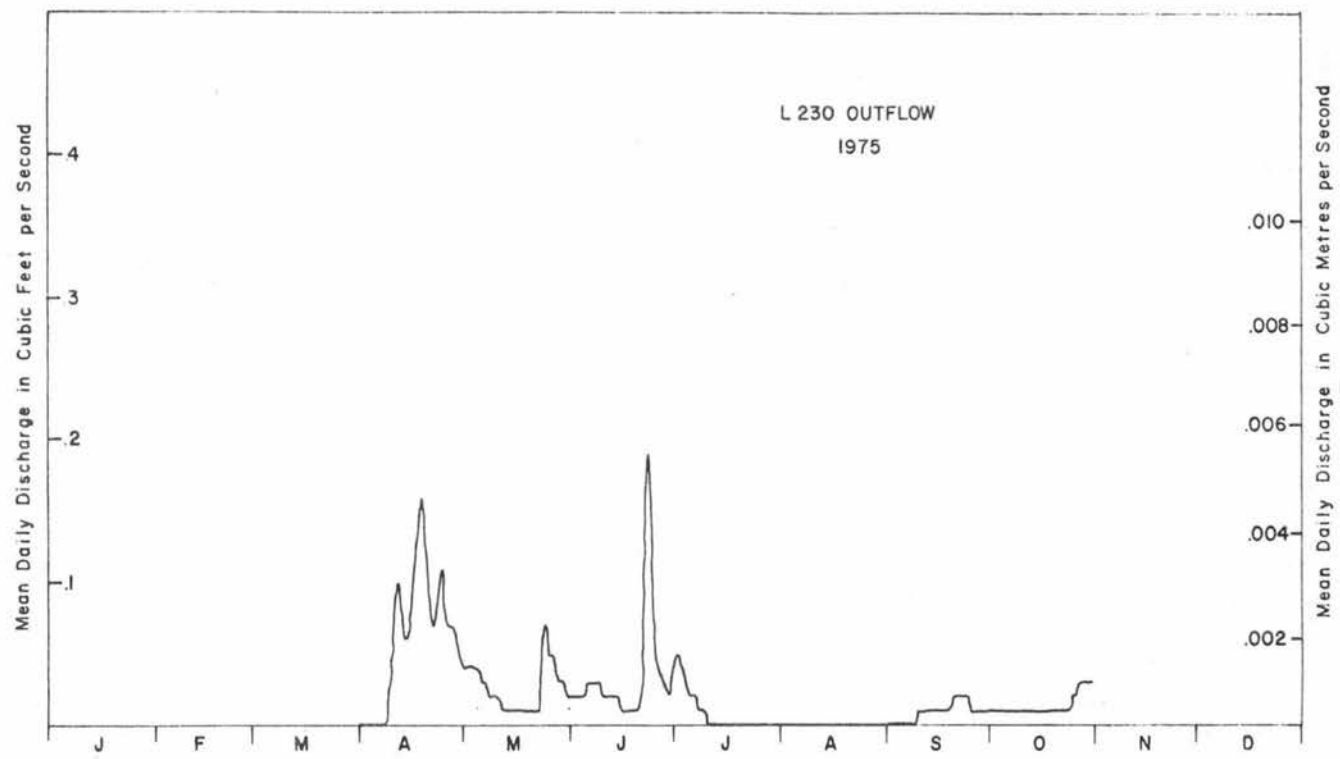


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1975.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.16	0.04	0	0.03	0	0	0	---	---	1
2	---	---	---	0.13	0.04	0	0.02	0	0	0	---	---	2
3	---	---	---	0.10	0.04	0	0.02	0	0	0	---	---	3
4	---	---	---	0.10	0.04	0	0.02	0	0	0	---	---	4
5	---	---	---	0.11	0.03	0	0.01	0	0	0	---	---	5
6	---	---	---	0.13	0.03	0	0.01	0	0	0	---	---	6
7	---	---	---	0.13	0.03	0	0.01	0	0	0	---	---	7
8	---	---	---	0.12	0.03	0	0.01	0	0	0	---	---	8
9	---	---	---	0.12	0.03	0	0.01	0	0	0	---	---	9
10	---	---	---	0.11	0.02	0	0	0	0	0	---	---	10
11	---	---	---	0.09	0.02	0	0	0	0	0	---	---	11
12	---	---	---	0.07	0.02	0	0	0	0	0	---	---	12
13	---	---	---	0.06	0.02	0	0	0	0	0	---	---	13
14	---	---	---	0.06	0.03	0	0	0	0	0	---	---	14
15	---	---	---	0.07	0.03	0	0	0	0	0	---	---	15
16	---	---	---	0.15	0.03	0	0	0	0	0	---	---	16
17	---	---	---	0.16	0.03	0	0	0	0	0	---	---	17
18	---	---	---	0.13	0.02	0.01	0	0	0	0	---	---	18
19	---	---	---	0.10	0.02	0.01	0	0	0	0	---	---	19
20	---	---	---	0.08	0.02	0.01	0	0	0	0	---	---	20
21	---	---	---	0.07	0.02	0.01	0	0	0	0	---	---	21
22	---	---	---	0.06	0.02	0.01	0	0	0	0	---	---	22
23	---	---	---	0.05	0.01	0.01	0	0	0	0	---	---	23
24	---	---	---	0.05	0.01	0.01	0	0	0	0	---	---	24
25	---	---	---	0.04	0.01	0.01	0	0	0	0	---	---	25
26	---	---	---	0.03	0.01	0.03	0	0	0	0	---	---	26
27	---	---	---	0.03	0.01	0.04	0	0	0	0	---	---	27
28	---	---	---	0.03	0.01	0.04	0	0	0	0	---	---	28
29	---	---	---	0.03	0.01	0.04	0	0	0	0	---	---	29
30	---		---	0.03	0.01	0.03	0	0	0	0	---	---	30
31	---		0.15		0		0	0		0		---	31
TOTAL	---	---	---	2.60	0.69	0.26	0.14	0	0	0	---	---	TOTAL
MEAN	---	---	---	0.09	0.02	0.01	0	0	0	0	---	---	MEAN
AC-FT	---	---	---	5.2	1.4	0.52	0.28	0	0	0	---	---	AC-FT
MAX	---	---	---	0.16	0.04	0.04	0.03	0	0	0	---	---	MAX
MIN	---	---	---	0.03	0	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.02 CFS
TOTAL DISCHARGE, 7.4 AC-FT
MAXIMUM DAILY DISCHARGE, 0.16 CFS ON APR 1
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 31

MAXIMUM INSTANTANEOUS DISCHARGE
0.20 CFS AT 0000 CST ON APR 1

TYPE OF GAUGE - RECORDING

NATURAL FLOW

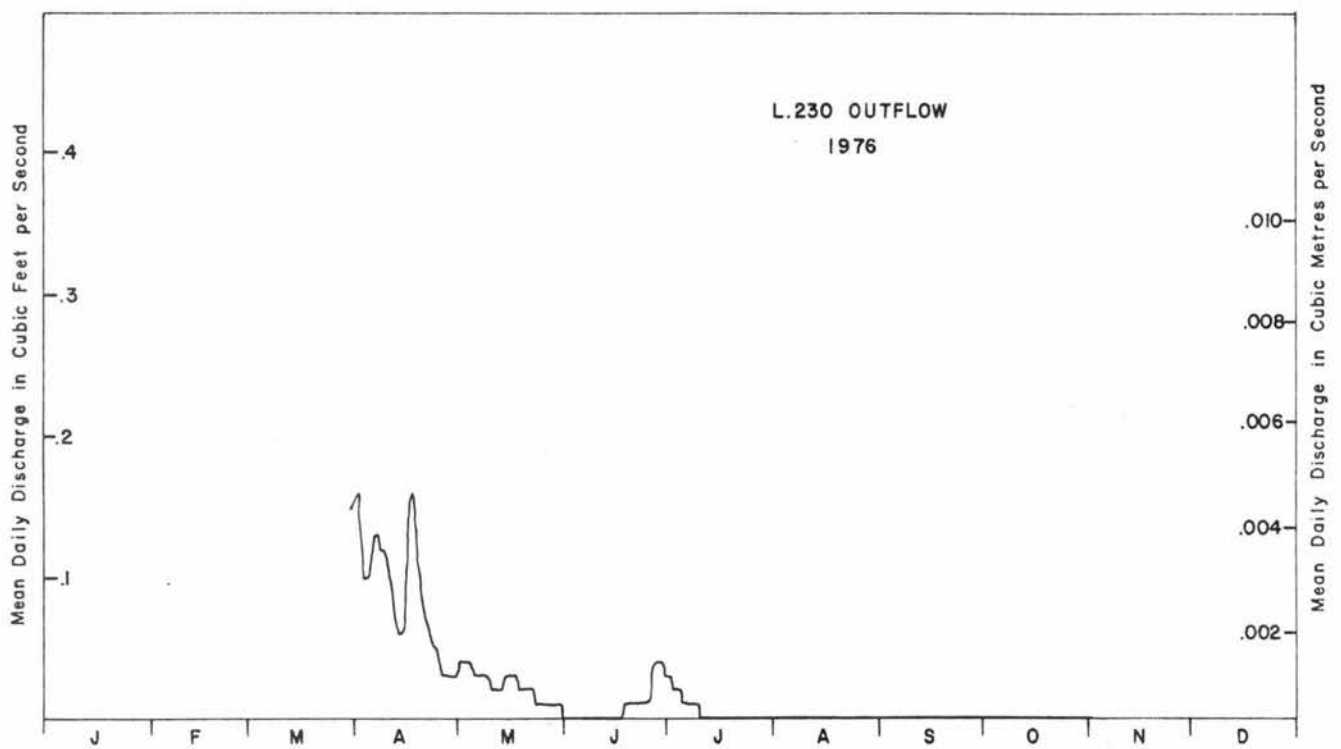


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1976.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.06	0.04	0.07	0.07	0.01	0.01	0.01	0.01	---	1
2	---	---	---	0.05	0.04	0.06	0.07	0.01	0.01	0.01	0.01 A	---	2
3	---	---	---	0.06	0.04	0.06	0.07	0.01	0.01	0.01	---	---	3
4	---	---	---	0.08	0.04	0.05	0.06	0.01	0.01	0.01	---	---	4
5	---	---	---	0.08	0.05	0.06	0.06	0.01	0.01	0.01	---	---	5
6	---	---	---	0.08	0.12	0.08	0.06	0.01	0.01	0.01	---	---	6
7	---	---	---	0.07	0.10	0.08	0.05	0.01	0.01	0.01	---	---	7
8	---	---	---	0.07	0.08	0.09	0.05	0.01	0.01	0.01	---	---	8
9	---	---	---	0.06	0.06	0.09	0.04	0.01	0.04	0.01	---	---	9
10	---	---	---	0.09	0.07	0.09	0.03	0.01	0.02	0.01	---	---	10
11	---	---	---	0.12	0.07	0.09	0.03	0	0.01	0.01	---	---	11
12	---	---	---	0.12	0.07	0.09	0.03	0	0	0.01	---	---	12
13	---	---	---	0.11	0.07	0.11	0.03	0	0.01	0.01	---	---	13
14	---	---	---	0.10	0.06	0.17	0.04	0	0.01	0.01	---	---	14
15	---	---	---	0.09	0.06	0.27	0.04	0	0.01	0.01	---	---	15
16	---	---	---	0.09	0.06	0.34	0.03	0	0.01	0.01	---	---	16
17	---	---	---	0.08	0.06	0.33	0.03	0	0.01	0.01	---	---	17
18	---	---	---	0.09	0.06	0.36	0.03	0	0.01	0.01	---	---	18
19	---	---	---	0.09	0.06	0.24	0.03	0	0.01	0.01	---	---	19
20	---	---	---	0.09	0.12	0.19	0.02	0	0.01	0.01	---	---	20
21	---	---	---	0.08	0.15	0.14	0.02	0	0.01	0.01	---	---	21
22	---	---	---	0.08	0.18	0.10	0.01	0	0.01	0.01	---	---	22
23	---	---	---	0.08	0.25	0.08	0.01	0	0.01	0.01	---	---	23
24	---	---	---	0.07	0.18	0.06	0.01	0	0.01	0.01	---	---	24
25	---	---	---	0.07	0.13	0.05	0.01	0	0.01	0.01	---	---	25
26	---	---	---	0.07	0.10	0.04	0.01	0	0.01	0	---	---	26
27	---	---	---	0.07	0.11	0.03	0.01	0	0.01	0	---	---	27
28	---	---	---	0.06	0.08	0.04	0	0.01	0.01	0	---	---	28
29	---		0.02	0.05	0.07	0.04	0.01	0.01	0.01	0	---	---	29
30	---		0.07	0.05	0.05	0.06	0.01	0.01	0.01	0	---	---	30
31	---		0.08		0.07		0.01	0.01		0.01		---	31
TOTAL	---	---	---	2.36	2.70	3.56	0.98	0.14	0.33	0.26	---	---	TOTAL
MEAN	---	---	---	0.08	0.09	0.12	0.03	0	0.01	0.01	---	---	MEAN
AC-FT	---	---	---	4.7	5.4	7.1	1.9	0.28	0.65	0.52	---	---	AC-FT
MAX	---	---	---	0.12	0.25	0.36	0.07	0.01	0.04	0.01	---	---	MAX
MIN	---	---	---	0.05	0.04	0.03	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.05 CFS
TOTAL DISCHARGE, 20.6 AC-FT
MAXIMUM DAILY DISCHARGE, 0.36 CFS ON JUN 18
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 28

MAXIMUM INSTANTANEOUS DISCHARGE
0.40 CFS AT 0640 CST ON JUN 18

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

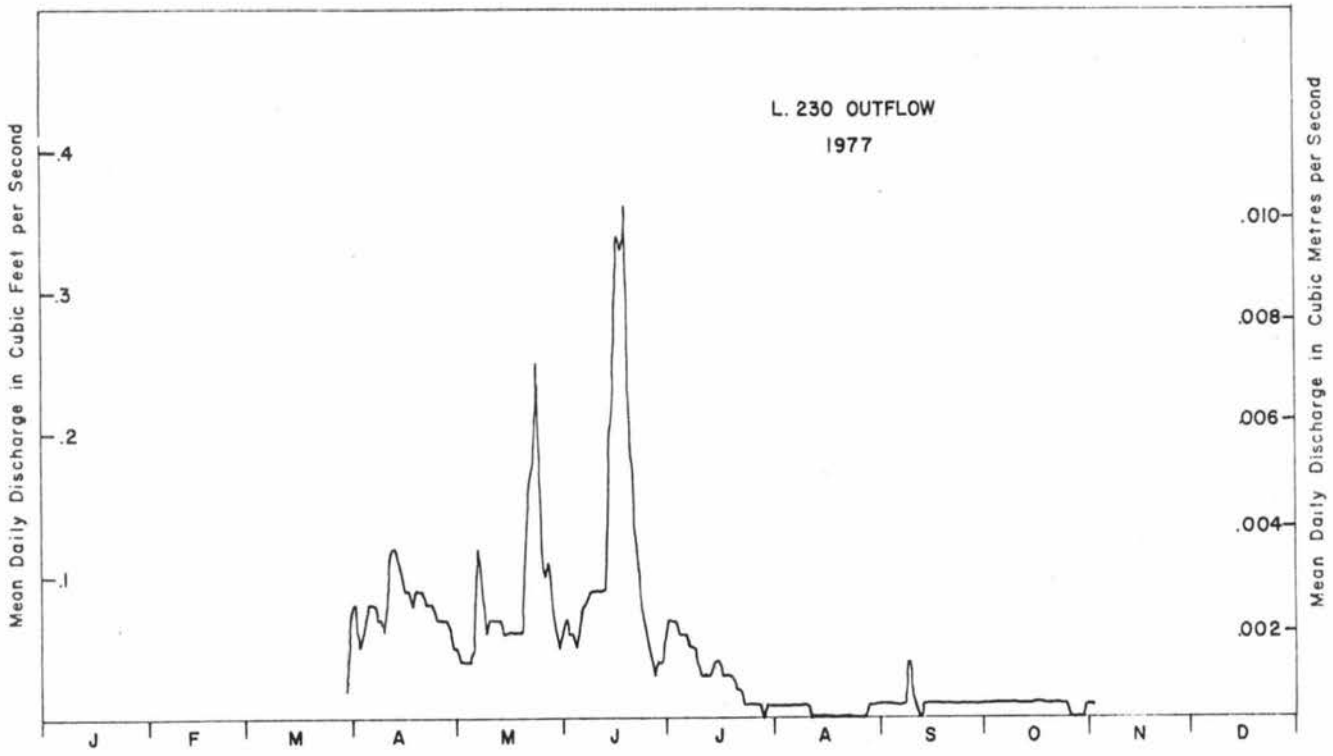


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1977.

Table 107 Mean daily discharges in cubic feet per second for the Lake 230 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.03 E	0.13 E	0.27	0.02	0.02	0.02	0.02	---	---	1
2	---	---	---	0.01 E	0.11 E	0.24	0.01	0.04	0.03	0.02	---	---	2
3	---	---	---	0.02 E	0.22 A	0.19	0.01	0.04	0.02	0.02	---	---	3
4	---	---	---	0.03 E	0.22	0.17	0.01	0.03	0.02	0.02	---	---	4
5	---	---	---	0.05 A	0.15	0.14	0.03	0.02	0.02	0.02	---	---	5
6	---	---	---	0.05	0.11	0.15	0.03	0.02	0.02	0.01	---	---	6
7	---	---	---	0.05	0.08	0.16	0.03	0.02	0.01	0.01	---	---	7
8	---	---	---	0.05	0.08	0.16	0.02	0.02	0.01	0.01	---	---	8
9	---	---	---	0.05	0.09	0.16	0.02	0.01	0.01	0.01	---	---	9
10	---	---	---	0.06	0.08	0.16	0.02	0.01	0.01	0.01	---	---	10
11	---	---	---	0.07	0.08	0.15	0.02	0.01	0.01	0.01	---	---	11
12	---	---	---	0.06	0.08	0.14	0.02	0.01	0.01	0.01	---	---	12
13	---	---	---	0.05	0.07	0.13	0.02	0.01	0.01	0.01	---	---	13
14	---	---	---	0.05	0.06	0.12	0.02	0.01	0.02	0.01	---	---	14
15	---	---	---	0.05	0.06	0.12	0.02	0.01	0.03	0.01	---	---	15
16	---	---	---	0.05	0.05	0.11	0.02	0.03	0.03	0.01	---	---	16
17	---	---	---	0.07	0.05	0.11	0.02	0.02	0.03	0.01	---	---	17
18	---	---	---	0.12	0.04	0.09	0.04	0.04	0.03	0.01	---	---	18
19	---	---	---	0.16	0.04	0.09	0.04	0.03	0.03	0.01	---	---	19
20	---	---	---	0.14	0.04	0.09	0.05	0.03	0.02	0.01	---	---	20
21	---	---	---	0.14	0.03	0.06	0.04	0.02	0.02	0.01	---	---	21
22	---	---	---	0.17	0.03	0.02	0.04	0.02	0.02	0.01	---	---	22
23	---	---	---	0.20	0.05	0.02	0.04	0.02	0.02	0.01	---	---	23
24	---	---	---	0.22	0.05	0.02	0.04	0.02	0.02	0	---	---	24
25	---	---	---	0.25	0.04	0.02	0.03	0.02	0.01	0	---	---	25
26	---	---	---	0.27	0.30	0.02	0.03	0.02	0.01	0	---	---	26
27	---	---	---	0.17 E	0.32	0.02	0.03	0.02	0.01	0	---	---	27
28	---	---	---	0.15 E	0.23	0.02	0.02	0.03	0.01	0	---	---	28
29	---		---	0.14 E	0.20	0.02	0.02	0.03	0.02	0	---	---	29
30	---		---	0.13 E	0.26	0.02	0.02	0.03	0.02	0	---	---	30
31	---		---		0.24		0.02	0.02		0		---	31
TOTAL	---	---	---	3.06	3.59	3.19	0.80	0.68	0.55	0.28	---	---	TOTAL
MEAN	---	---	---	0.10	0.12	0.11	0.03	0.02	0.02	0.01	---	---	MEAN
AC-FT	---	---	---	6.1	7.1	6.3	1.6	1.3	1.1	0.56	---	---	AC-FT
MAX	---	---	---	0.27	0.32	0.27	0.05	0.04	0.03	0.02	---	---	MAX
MIN	---	---	---	0.01	0.03	0.02	0.01	0.01	0.01	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.06 CFS
TOTAL DISCHARGE, 24.1 AC-FT
MAXIMUM DAILY DISCHARGE, 0.32 CFS ON MAY 27
MINIMUM DAILY DISCHARGE, 0 CFS ON OCT 24

MAXIMUM INSTANTANEOUS DISCHARGE
0.40 CFS AT 1851 CST ON MAY 26

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

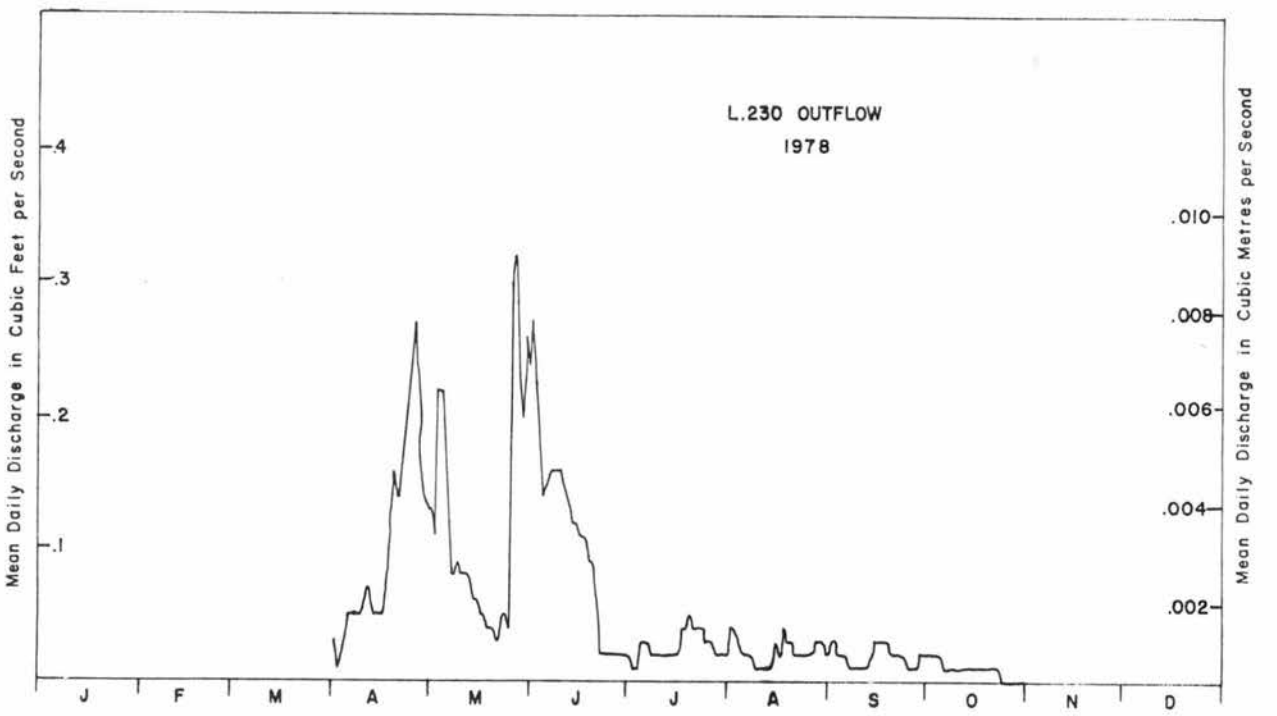


Fig. 25 Annual hydrograph based on mean daily discharges for the Lake 230 outflow for 1978.

Lake 239 Hydrological Data 1969 to 1978

The Rawson Lake (239) watershed and its hydrologic processes have been previously described by Schindler et al. (1976), Newbury and Beaty (1977), Newbury et al. (1979) and Schindler et al. (1980).

The Rawson Lake watershed serves as the index basin for all hydrologic work that has taken place at ELA. The close proximity of the basin to the field station, the instrumentation, and continuous data base make it ideal for the investigation of evaporation and direct runoff parameters.

Lake 239 receives runoff from three subbasins, each of which has a stream monitoring station. These drainage subbasins are referred to as the east (E), northwest (NW) and northeast (NE) inflows to Lake 239. Together they total 70.3% of the terrestrial drainage. The remaining 29.7% is direct drainage area immediately adjacent to the lake. The volume of direct runoff from these direct drainage areas cannot be measured directly but may be estimated from nearby streams with similar drainage conditions. Existing hydrometric data for the three subbasin streams are included in this report. A topographical map of the Lake 239 basin (Fig. 26) with 20 foot contour interval, and a lake bathymetric map (Fig. 27) with 1 metre contour interval are also included. The topographical map is based on mapping by Western Photogrammetry Limited in 1970 using an assumed datum. The drainage basin boundary and areas for the NW Subbasin have been slightly adjusted from previously reported values and figures. This change was 11% (from 62.78 to 56.38 hectares) for the Northwest Subbasin and 1.3% (from 395.46 to 390.46 hectares) for the Rawson Lake basin (Table 108).

Hydrometric work on Lake 239 began June 4, 1969 when Water Survey of Canada established a servo-manometer pressure gauge and lake level recorder located on the lake in the pumphouse building 150 metres north of the outflow. This gauge served a dual function as lake stage recorder for storage calculations and for stage values in the stage-discharge relationship for the outflow stream. The streambed is mobile, comprised of mainly sand and fine gravel. In June 1970, a metering flume was installed also by Water Survey of Canada. This proved only to be a slight improvement due to the shifting streambed and effect of wind at this station. On June 6, 1972, a 12 inch trapezoidal cut throat flume was installed by ELA staff. This provided a great improvement in the quality of record. Normally, the Lake 240 surface elevation is approximately 0.7 feet (0.2 metres) lower than Lake 239. The increased velocities in the cut throat flume reduce the danger of a backwater problem from Lake 240 and the effect of wind on discharge. On November 6, 1975, the servo-manometer pressure gauge was removed and a conventional float activated water level recorder and stilling well were installed by WSC. It was attached to the helicopter landing pad on the lake and again served to provide water level data for both storage and discharge calculations. In winter, this stilling well was kept ice free with one 250 watt electric heat lamp. In 1976, a variable head

loss situation was noticed between water level at the lake recorder and water level at the outflow flume. In order to improve outflow data, a second water level recorder was installed July 12, 1976 on the outflow flume. Winter discharge records were further improved in 1976 by the use of a snow shelter and electric heat lamp in the stilling well and flume.

Service of these two hydrometric stations and computation of the lake level and stream discharge data were by WSC in all years except 1974. In 1974, this was carried out by ELA hydrologic studies personnel. All original water level charts are on file with WSC. Tables 110 provide all mean daily discharge data from 1970 to 1978. Figures 28 provide annual hydrographs of discharge for each year, and Tables 111 provide mean daily lake level values from 1969 to 1978.

Instrumentation sites within the basin,in addition to the hydrometric stations of lake level and outflow discharge,include the meteorological site, rain gauge stations, and groundwater installations. Data from these sites relevant to hydrometeorological work at ELA have been included in other sections of this report. Approximate dates of ice on and ice off for each year are provided in Table 109. These dates have been used to define the open water season for evaporation calculations.

At 05:00 on July 7, 1973, a severe windstorm, with winds up to 150 kph, struck the Experimental Lakes Area. Parts of the Rawson Lake basin were severely affected by blowdown. Almost one year later at 12:08 on June 26, 1974, a major forest fire swept the area burning 323 km^2 in total and 70.8% or 238.20 hectares of the Rawson Lake basin (Schindler et al. 1980).

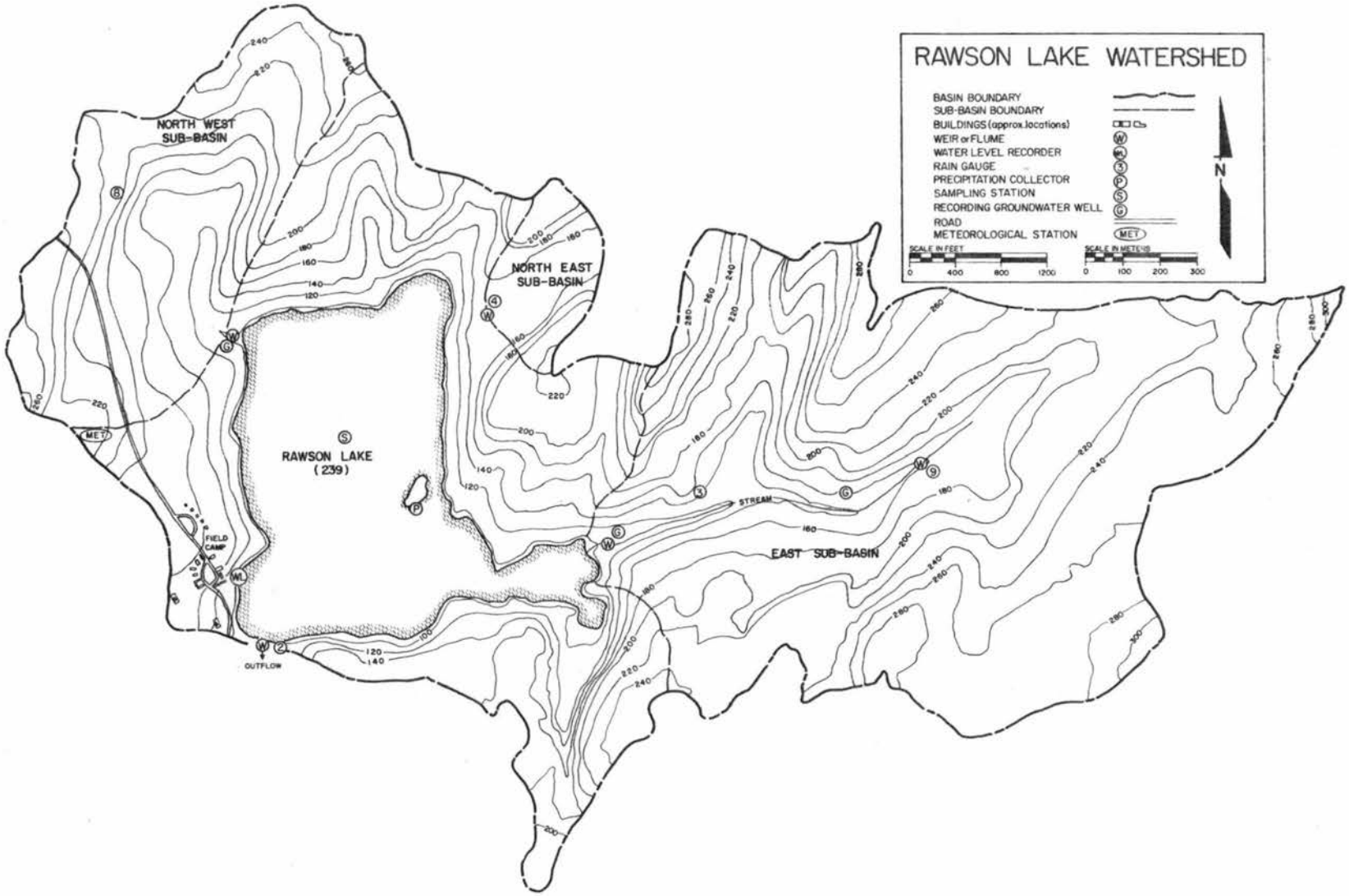


Fig. 26 Topographical map of the Lake 239 drainage basin. Contours are in feet.

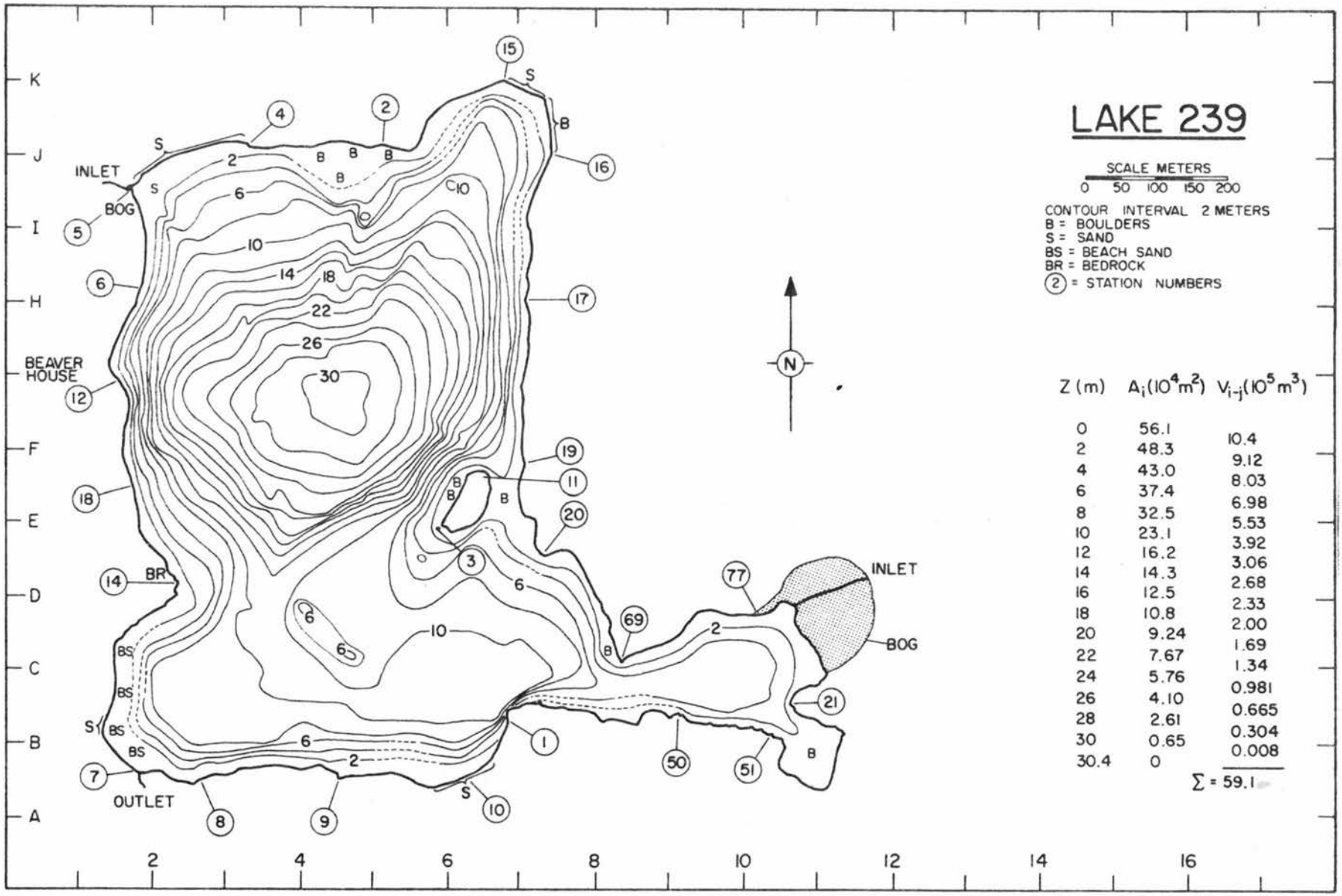


Fig. 27 Bathymetric chart of Lake 239.

Table 108. Location and morphometric data from Rawson Lake drainage basin.

Location:

Latitude	49°39'43"N
Longitude	93°43'36"W

Basin areas	Acres	Hectares	% of total terrestrial
East Subbasin	420.77	170.28	50.7
NW Subbasin	139.32[a]	56.38[a]	16.8
NE Subbasin	23.60	9.55	2.8
Direct runoff area	247.03[a]	99.97[a]	29.7
Total terrestrial	830.72[a]	336.18[a,c]	100.0
Lake surface	134.13	54.28[d]	
Total basin	964.85[a]	390.46[a]	
Burnt portion of Rawson Lake basin[b]			
East subbasin	420.77	170.28	
NE subbasin	23.60	9.55	
Direct runoff area east of L.239	69.87	28.27	
Direct runoff area south of L.239	74.38	30.10	
Total burnt	588.62	238.20	70.8
Unburnt portion of Rawson Lake basin			
NW subbasin	139.32[a]	56.38[a]	
Direct runoff area north of L.239	56.49	22.86	
Direct runoff area west of L.239	46.31[a]	18.74[a]	
Total unburnt	242.12[a]	97.98[a]	29.1

Lake volume 591.0 x 10^4 metres^3

Mean depth 10.9 metres

[a] values adjusted May 1979 after a re-analysis of the NW subbasin drainage basin using better aerial photography.

[b] forest fire started June 26, 1974.

[c] more accurate value than previously reported by Brunskill and Schindler (1971).

[d] surface area 3% lower than previously reported by Brunskill and Schindler (1971) and on Fig. 27.

Table 109. Approximate dates of ice-off and ice-on for Rawson Lake in the Experimental Lakes Area of Northwestern Ontario.

Year	Ice-off	Ice-on
1969	Apr 27	Nov 16
1970	May 16	Nov 15
1971	May 1	Nov 10
1972	May 5	Nov 14
1973	May 1	Nov 18
1974	May 9	Nov 15
1975	May 7	Nov 23
1976	Apr 23	Nov 8
1977	Apr 27	Nov 22
1978	May 6	Nov 18/19

Note: Dates may be approximate to a few days in some cases.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.72	0.47	0.59	0.68	11.4	4.3	1.6	0.30	0	1.2	4.6	1.4 E	1
2	0.72	0.47	0.63	0.68	10.4	4.2	1.5	0.23	0.05	1.0	4.9	1.4 E	2
3	0.72	0.51	1.3	0.63	9.1	3.9	1.6	0.23	0.08	0.95	4.5	1.4 E	3
4	0.68	0.51	1.5	0.63	9.1	3.5	1.5	0.19	0.16	0.86	4.2	1.3 E	4
5	0.68	0.54	1.4	0.59	8.7	3.2	1.3	0.19	0.14	0.82	4.1	1.3 E	5
6	0.68	0.51	1.3	0.59	8.0	2.9	1.3	0.19 A	0.11	0.82	3.8	1.3 E	6
7	0.63	0.51	1.3	0.59	7.6	2.6	1.3	0.16 E	0.68	0.72	3.7	1.3 E	7
8	0.63	0.51	1.2	0.59	7.3	2.3	1.1	0.14 E	1.6	0.72	3.4	1.3 E	8
9	0.59	0.54	1.1	0.59	7.2	2.1	1.0	0.11 E	2.1	0.95	3.2	1.3 A	9
10	0.59	0.54	1.1	0.59	6.8	2.0	0.91	0.08 E	2.1	1.2	3.0	1.2 A	10
11	0.59	0.51	1.0	0.54	6.3	1.9	0.82	0.05 A	2.0	1.1	2.8	1.1	11
12	0.54	0.51	1.0	0.54	5.9	1.7	0.82	0	3.0	1.0	2.7	1.1	12
13	0.54	0.51	0.91	0.54	5.5	1.6	0.82	0	3.5	1.3	2.4	1.0	13
14	0.54	0.51	0.91	0.54	5.2	1.5	0.72	0	3.4	1.3	2.2	1.0	14
15	0.59	0.51	0.86	0.59	5.4	1.4	0.59	0	3.3	1.3	1.9	1.0	15
16	0.59	0.54	0.82	0.72	5.6	1.6	0.47	0	3.4	1.2	1.9	1.0	16
17	0.54	0.68	0.82	0.82	5.6	2.5	0.33	0	3.4	1.2	1.7	1.0	17
18	0.54	0.72	0.77	0.82	5.4	2.5	0.33	0	3.2	1.2	1.8	1.1	18
19	0.54	0.72	0.77	0.86	5.1	2.4	0.40	0	3.0	1.3	1.7	1.0	19
20	0.54	0.72	0.77	1.0	4.7	2.3	0.37	0	2.9	1.3	1.6	1.0	20
21	0.54	0.72	0.72	1.2	4.7	2.3	0.37	0	2.6	1.4	1.5	1.0	21
22	0.51	0.68	0.72	1.3	4.5	2.3	0.26	0	2.4	1.5	1.5 A	1.0	22
23	0.51	0.68	0.72	1.3	4.2	2.3	0.23	0	2.2	1.5	1.5 E	0.95	23
24	0.51	0.63	0.72	1.3	4.0	2.3	0.16	0	2.0	1.5	1.5 E	0.86	24
25	0.51	0.59	0.72	1.4	4.3	2.0	0.16	0	1.9	1.5	1.5 E	0.86	25
26	0.47	0.63	0.77	1.6	4.8	1.7	0.16	0	1.8	1.5	1.5 E	0.86	26
27	0.47	0.63	0.77	2.3	4.9	1.6	0.16	0	1.6	2.2	1.5 E	0.82	27
28	0.51	0.59	0.72	4.7	4.6	1.6	0.14	0	1.5	3.3	1.4 E	0.82	28
29	0.47		0.68	7.2	4.7	1.6	0.19	0	1.3	3.8	1.4 E	0.77	29
30	0.47		0.72	10.4	4.7	1.6	0.37	0.03	1.3	4.0	1.4 E	0.77	30
31	0.47		0.68		4.5		0.37	0		4.2		0.72	31
TOTAL	17.63	16.19	27.99	45.83	190.2	69.7	21.35	1.90	56.72	47.84	74.8	32.93	TOTAL
MEAN	0.57	0.58	0.90	1.5	6.1	2.3	0.69	0.06	1.9	1.5	2.5	1.1	MEAN
AC-FT	35.0	32.1	55.5	90.9	377	138	42.3	3.8	113	94.9	148	65.3	AC-FT
MAX	0.72	0.72	1.5	10.4	11.4	4.3	1.6	0.30	3.5	4.2	4.9	1.4	MAX
MIN	0.47	0.47	0.59	0.54	4.0	1.4	0.14	0	0	0.72	1.4	0.72	MIN

SUMMARY FOR THE YEAR 1970

MEAN DISCHARGE, 1.7 CFS
TOTAL DISCHARGE, 1200 AC-FT
MAXIMUM DAILY DISCHARGE, 11.4 CFS ON MAY 1
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 12

MAXIMUM INSTANTANEOUS DISCHARGE
12.0 CFS AT 0930 CST ON MAY 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

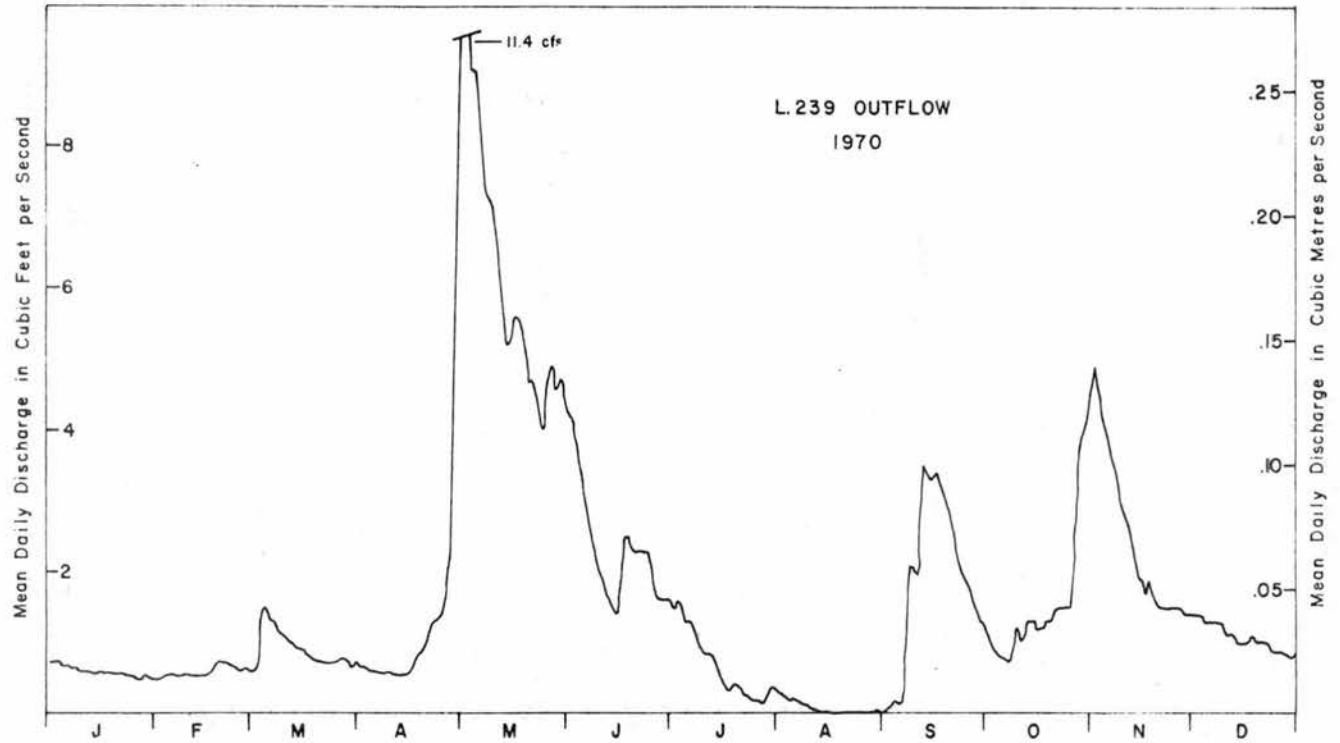


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1970.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.68	0.40	0.34	0.55	2.9	2.3 E	3.5	1.1	0.92 E	2.3	3.4	1.4	1
2	0.68	0.39	0.35	0.65	2.9	2.0 E	4.4	1.0	0.98 E	2.8	3.5	1.3	2
3	0.66	0.40	0.36	0.67	2.9	1.7 E	4.4	0.94	1.0 E	3.0	3.7	1.2	3
4	0.63	0.42	0.36	0.67	2.8	1.5 E	4.1	0.88	1.1 E	3.3	3.6	1.2	4
5	0.62	0.41	0.36	0.43	2.7	1.8	3.4	0.82	1.2 E	3.4	3.7	1.2	5
6	0.60	0.39	0.37	0.39	2.5	2.2	3.0	0.76	1.2 E	3.6	3.5	1.2	6
7	0.60	0.37	0.38	0.39	2.3	2.2	2.6	0.71	1.3 E	3.5	3.3	1.2	7
8	0.57	0.35	0.38	0.39	2.3	2.1	2.3	0.62	1.4 E	3.3	2.9	1.1	8
9	0.59	0.32	0.39	0.41	2.0	1.9	2.1	0.58	1.4 E	3.1	2.8	1.1	9
10	0.60	0.30	0.39	0.43	1.9	1.8	1.9	0.51	1.5 A	2.8	2.5	1.1	10
11	0.38 A	0.32	0.40	0.49	1.8	1.8	1.7	0.44	1.3 E	2.5	2.4	1.1	11
12	0.38 E	0.32	0.40	0.71	1.7	1.7	1.9	0.39	1.2 E	2.4	2.2	1.1	12
13	0.38 E	0.31	0.41	1.0	1.5	1.7	2.1	0.34	0.99 A	2.2	2.1	1.0	13
14	0.37 E	0.30	0.50	1.2	1.4	1.7	1.9	0.30	0.88	2.1	2.0	0.96	14
15	0.37 E	0.29	0.62	1.3	1.3	1.6	1.7	0.28	0.82	2.0	1.9	0.98	15
16	0.37 E	0.29	0.63	1.9	1.2	1.7	1.7	0.27	0.73	1.9	1.8	1.0	16
17	0.37 E	0.33	0.66	3.6	1.3	1.8	1.5	0.57	0.70	2.3	1.8	1.0	17
18	0.37 E	0.33	0.63	4.7	1.4	1.7	1.4	0.64	0.63	2.7	1.9	1.0	18
19	0.36 E	0.33	0.64	5.7	1.3	1.6	1.2	0.69	0.54	3.0	1.9	0.97	19
20	0.36 E	0.33	0.65	6.6	1.3	1.6	1.1	0.72	0.49	3.1	1.8	0.95	20
21	0.36 E	0.32	0.62	6.7	1.3	1.5	0.98	0.74	0.48	3.1	1.8	0.91	21
22	0.36 E	0.32	0.58	6.3	1.3	1.5	0.87	0.65	0.46	3.0	1.7	0.86	22
23	0.36 E	0.33	0.56	5.4	1.7	1.3	0.79	0.56	0.41	2.7	1.7	0.81	23
24	0.36 E	0.34	0.56	4.8	2.1	1.1	0.77	0.64	0.38	2.6	1.7	0.77	24
25	0.35 E	0.36	0.56	4.2	2.8	1.0	0.90	0.67	0.34	2.6	1.7	0.78	25
26	0.35 E	0.37	0.57	3.6	2.9	0.96	0.99	0.63 A	0.31	2.7	1.6	0.78	26
27	0.35 A	0.29	0.58	3.2	2.9	1.0	1.1	0.60 A	0.34	2.4	1.5	0.72	27
28	0.35 A	0.32	0.58	3.0	2.7	1.2	1.3	0.66 E	0.41	2.2	1.5	0.71	28
29	0.47		0.59	2.9	2.5	1.2	1.4	0.73 E	0.48	2.1	1.5	0.67	29
30	0.44		0.57	2.8	3.0 E	1.4	1.3	0.79 E	0.84	2.1	1.4	0.64	30
31	0.42		0.54		2.6 E		1.2	0.86 E		3.1		0.61	31
TOTAL	14.11	9.55	15.53	75.08	65.2	48.56	59.50	20.09	24.73	83.9	68.8	30.32	TOTAL
MEAN	0.46	0.34	0.50	2.5	2.1	1.6	1.9	0.65	0.82	2.7	2.3	0.98	MEAN
AC-FT	28.0	18.9	30.8	149	129	96.3	118	39.8	49.1	166	136	60.1	AC-FT
MAX	0.68	0.42	0.66	6.7	3.0	2.3	4.4	1.1	1.5	3.6	3.7	1.4	MAX
MIN	0.35	0.29	0.34	0.39	1.2	0.96	0.77	0.27	0.31	1.9	1.4	0.61	MIN

SUMMARY FOR THE YEAR 1971

MEAN DISCHARGE, 1.4 CFS
TOTAL DISCHARGE, 1020 AC-FT
MAXIMUM DAILY DISCHARGE, 6.7 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0.27 CFS ON AUG 16

MAXIMUM INSTANTANEOUS DISCHARGE
7.0 CFS AT 2157 CST ON APR 20

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

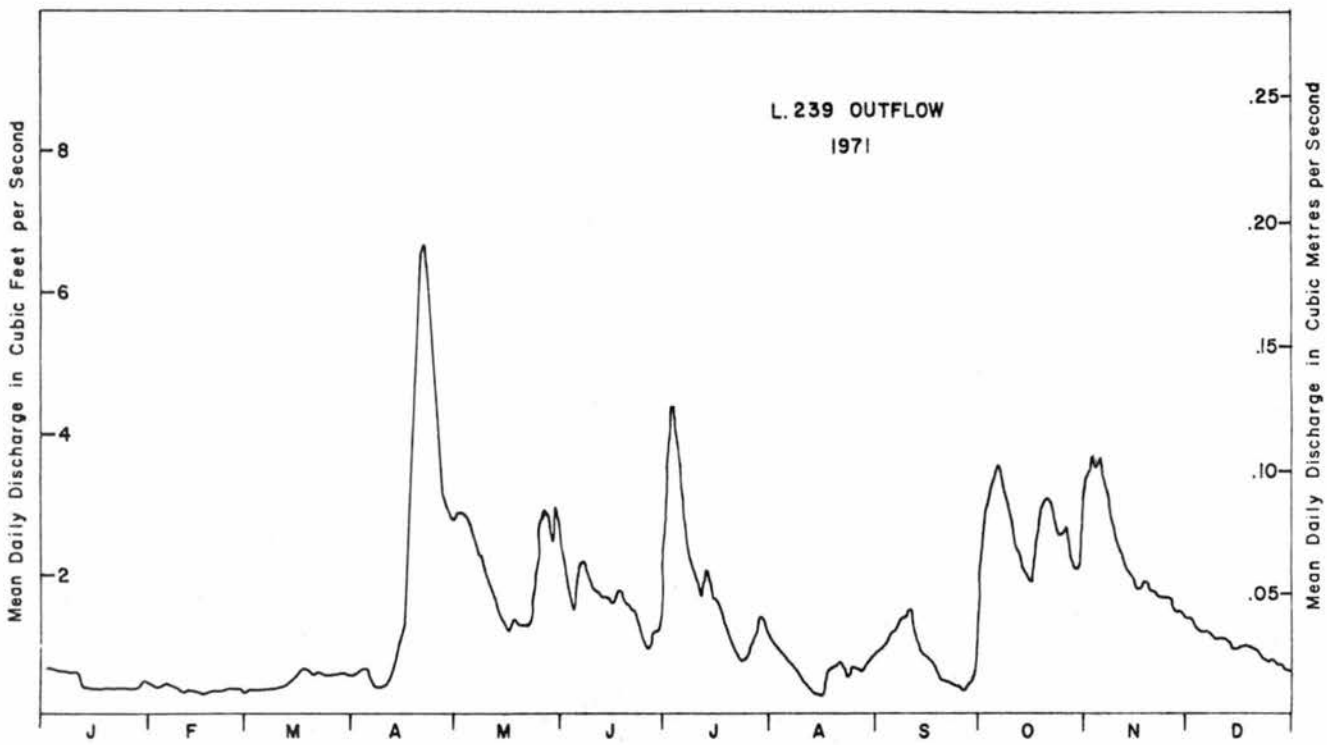


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1971.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.63	0.43	0.32	0.38	4.7	0	0.31	1.6	1.6	1.6	0.71	0.89	1
2	0.62	0.44	0.32	0.38	4.7	0	0.24	1.6	1.5	1.7	0.64	0.83	2
3	0.62	0.40	0.32	0.35	4.3	0	0.20	1.5	1.3	1.7	0.60	0.78	3
4	0.59	0.38	0.33	0.29	4.0	0	0.17	1.4	1.3	1.7	0.58	0.77	4
5	0.53	0.36	0.30	0.26	3.6	0	0.15	1.3	1.2	1.6	0.60	0.74	5
6	0.53	0.37	0.31	0.25	3.5	0.17	0.13	1.1	1.5	1.6	0.76	0.65	6
7	0.50	0.36	0.45	0.24	3.2	0.31	0.13	1.0	2.0	1.5	0.99	0.64	7
8	0.50	0.35	0.48	0.25	3.0	0.28	0.16	1.0	2.1	1.4	1.0	0.62	8
9	0.53	0.36	0.44	0.26	2.9	0.20	0.15	0.90	2.1	1.3	1.1	0.61	9
10	0.54	0.31	0.42	0.27	2.6	0.15	0.21	0.81	2.0	1.2	1.1	0.59	10
11	0.54	0.29	0.43	0.26	2.4	0.15	1.5	0.80	2.0	1.4	1.2	0.58	11
12	0.54	0.30	0.42	0.23	2.3	0.15	2.0	0.85	1.8	1.6	1.3	0.56	12
13	0.54	0.34	0.43	0.23	2.4	0.17	2.1	0.87	1.8	1.5	1.3	0.53	13
14	0.52	0.39	0.38	0.26	2.5	0.18	3.0	0.76	1.6	1.4	1.3	0.45	14
15	0.50	0.33	0.38	0.27	2.6	0.15	3.5	0.98	1.5	1.4	1.3	0.42	15
16	0.50	0.32	0.33	0.25	2.5	0.13	3.5	1.1	1.4	1.3	1.2	0.42	16
17	0.52	0.31	0.32	0.49 E	2.4	0.12	3.6	1.1	1.4	1.2	1.2	0.43	17
18	0.52	0.35	0.32	0.73 E	2.3	0.20	3.3	1.0	1.4	1.2	1.2	0.49	18
19	0.52	0.33	0.32	0.97 E	2.2	0.64	3.0	1.0	1.3	1.1	1.2	0.46	19
20	0.50	0.35	0.31	1.2 E	2.5	0.76	2.9	1.8	1.2	1.0	1.1	0.44	20
21	0.53	0.35	0.30	1.5 E	2.5	0.81	2.7	3.6	1.1	0.98	1.1	0.45	21
22	0.58	0.33	0.30	1.7 E	2.5	0.82	2.4	4.0	0.98	0.87	1.1	0.45	22
23	0.59	0.34	0.28	1.9 E	2.5	0.78	2.3	3.9	0.95	0.77	1.1	0.45	23
24	0.55	0.34	0.26	2.2 E	2.3	0.72	2.0	3.7	1.3	0.72	1.1	0.41	24
25	0.58	0.35	0.26	2.4	2.1	0.67	1.9	3.4	1.4	0.74	1.1	0.41	25
26	0.56	0.36	0.20	2.7	2.1	0.60	1.8	3.1	1.4	0.75	1.1	0.43	26
27	0.54	0.36	0.19	3.3	2.0	0.54	1.7	2.8	1.4	0.74	1.0	0.43	27
28	0.55	0.33	0.18	3.9	2.1	0.50	1.5	2.5	1.5	0.72	1.0	0.43	28
29	0.51	0.33	0.18	4.5	2.1	0.46	1.4	2.3	1.6	0.74	0.93	0.40	29
30	0.47		0.19	4.7	1.1	0.37	1.7	2.1	1.6	0.72	0.90	0.39	30
31	0.43		0.33		0		1.7	1.8		0.72		0.55	31
TOTAL	16.68	10.16	10.00	36.62	81.9	10.03	51.35	55.67	45.23	36.87	30.81	16.70	TOTAL
MEAN	0.54	0.35	0.32	1.2	2.6	0.33	1.7	1.8	1.5	1.2	1.0	0.54	MEAN
AC-FT	33.1	20.2	19.8	72.6	162	19.9	102	110	89.7	73.1	61.1	33.1	AC-FT
MAX	0.63	0.44	0.48	4.7	4.7	0.82	3.6	4.0	2.1	1.7	1.3	0.89	MAX
MIN	0.43	0.29	0.18	0.23	0	0	0.13	0.76	0.95	0.72	0.58	0.39	MIN

SUMMARY FOR THE YEAR 1972

MEAN DISCHARGE, 1.1 CFS
TOTAL DISCHARGE, 797 AC-FT
MAXIMUM DAILY DISCHARGE, 4.7 CFS ON APR 30
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 31

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

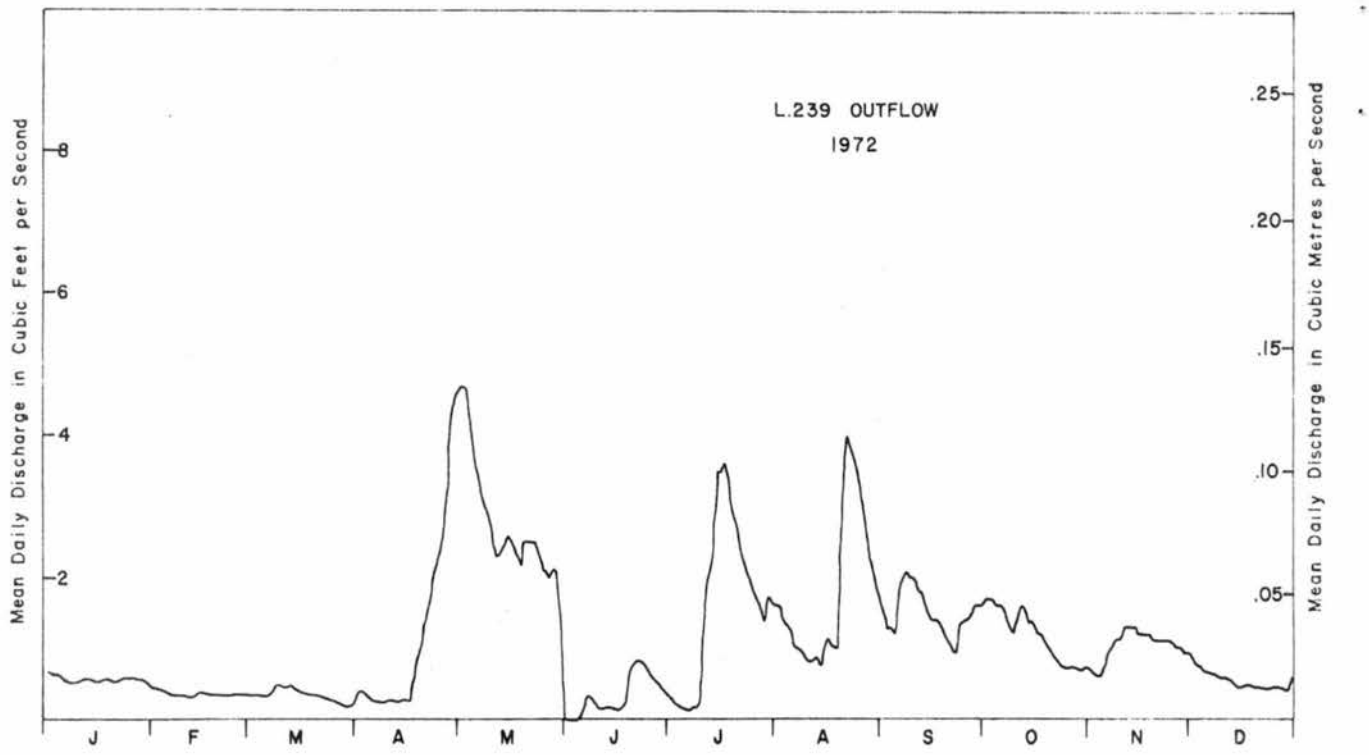


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1972.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.39	0.26 E	0.19	0.18	2.3	0.95	1.6	2.0	0.84	2.4	1.6	0.76	1
2	0.39	0.27 E	0.19	0.18	2.2	0.85	1.6	1.8	1.5	2.3	1.5	0.71	2
3	0.39	0.27 E	0.19	0.19	2.0	0.86	1.6	1.7	1.7	2.2	1.3	0.70	3
4	0.39	0.27 E	0.19	0.19	1.9	0.86	1.7	1.6	2.3	2.3	1.2	0.68	4
5	0.33	0.27 E	0.20	0.22	1.8	0.84	1.7	1.5	2.8	2.2	1.0	0.65	5
6	0.31	0.27 E	0.20	0.24	2.0	0.78	1.7	1.7	2.9	2.2	0.99	0.63	6
7	0.31	0.27 E	0.20	0.26	2.1	0.74	2.1	1.7	2.7	2.0	1.0	0.58	7
8	0.31	0.27 E	0.21	0.27	2.0	0.67	2.6	1.7	2.6	1.9	1.0	0.60	8
9	0.31	0.27 E	0.21	0.27	2.0	0.68	2.7	2.4	2.4	2.0	1.0	0.62	9
10	0.31	0.27 E	0.22	0.26	2.1	0.69	2.6	2.8	2.2	2.2	0.97	0.64	10
11	0.28	0.26 E	0.22	0.28	2.1	0.65	2.6	2.9	2.0	2.4	0.90	0.61	11
12	0.28	0.26 E	0.22	0.29	2.0	0.58	2.4	3.0	1.9	3.4	0.88	0.58	12
13	0.28	0.26	0.22	0.32	1.9	0.52	2.0	2.8	1.7	4.2	0.90	0.55	13
14	0.28	0.25	0.26	0.35	1.8	0.51	1.9	2.6	1.6	4.3	0.90	0.53	14
15	0.26	0.23	0.32	0.40	1.7	0.64	1.8	2.4	1.5	4.3	0.88	0.54	15
16	0.26	0.22	0.32	0.47	1.6	0.60	1.6	2.2	1.4	3.8	0.86	0.53	16
17	0.26 E	0.22	0.30	0.50	1.5	0.81	1.5	2.0	1.2	3.6	0.83	0.53	17
18	0.25 E	0.22	0.30	0.53	1.4	1.0	1.4	1.8	1.1	3.5	0.83	0.53	18
19	0.25 E	0.22	0.29	0.59	1.4	1.1	1.3	1.8	0.97	3.3	0.82	0.52	19
20	0.25 E	0.21	0.29	1.0	1.3	1.3	1.3	1.6	0.89	3.1	0.79	0.50	20
21	0.25 E	0.20	0.26	2.9	1.2	1.4	1.2	1.4	0.91	2.9	0.85 E	0.48	21
22	0.25 E	0.18	0.25	3.8	1.1	1.4	1.1	1.3	1.6	2.7	0.91	0.48	22
23	0.25 E	0.18	0.20	3.9	1.1	1.3	1.1	1.2	1.9	2.6	0.88	0.49	23
24	0.24 E	0.17	0.19	3.8	1.1	1.2	0.90	1.0	2.1	2.4	0.88	0.46	24
25	0.24 E	0.16	0.19	3.6	1.2	1.2	0.79	0.93	2.4	2.3	0.88	0.45	25
26	0.25 E	0.15	0.18	3.4	1.4	1.3	1.1	0.88	2.7	2.1	0.89	0.47	26
27	0.25 E	0.15	0.18	3.2	1.4	1.5	1.9	0.84	2.7	2.1	0.91	0.47	27
28	0.26 E	0.17	0.19	3.0	1.3	1.5	2.1	0.77	2.7	1.9	0.90	0.49	28
29	0.27 E		0.16	2.8	1.2	1.6	2.2	0.72	2.7	1.8	0.84	0.46	29
30	0.27 E		0.16	2.6	1.1	1.6	2.2	0.61	2.5	1.7	0.77	0.44	30
31	0.27 E		0.17		1.1		2.1	0.55		1.7		0.40	31
TOTAL	8.89	6.40	6.87	39.99	50.3	29.63	54.39	52.20	58.41	81.8	28.86	17.08	TOTAL
MEAN	0.29	0.23	0.22	1.3	1.6	0.99	1.8	1.7	1.9	2.6	0.96	0.55	MEAN
AC-FT	17.6	12.7	13.6	79.3	99.8	58.8	108	104	116	162	57.2	33.9	AC-FT
MAX	0.39	0.27	0.32	3.9	2.3	1.6	2.7	3.0	2.9	4.3	1.6	0.76	MAX
MIN	0.24	0.15	0.16	0.18	1.1	0.51	0.79	0.55	0.84	1.7	0.77	0.40	MIN

SUMMARY FOR THE YEAR 1973

MEAN DISCHARGE, 1.2 CFS
TOTAL DISCHARGE, 863 AC-FT
MAXIMUM DAILY DISCHARGE, 4.3 CFS ON OCT 14
MINIMUM DAILY DISCHARGE, 0.15 CFS ON FEB 26

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

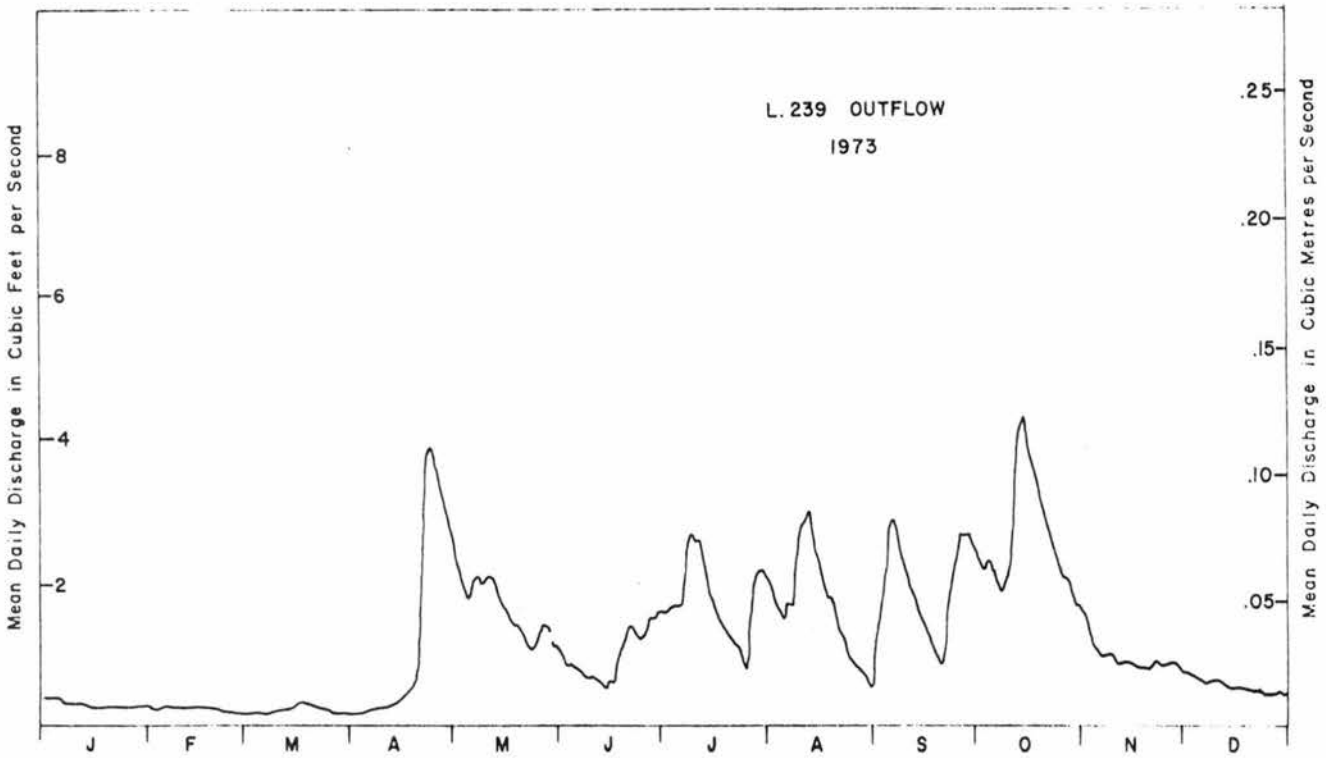


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1973.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.41	0.41	0.29	0.40 E	7.40	2.80	0.63	0.04	2.70	1.20	0.83	0.49	1
2	0.41	0.41	0.29	0.46 E	7.00	2.60	0.59	0.04	2.70	1.20	0.91	0.49	2
3	0.38	0.41	0.29	0.46 E	6.40	2.50	0.52	0.04	2.50	1.20	0.95	0.49	3
4	0.38	0.41	0.29	0.46 E	5.80	2.30	0.55	0.04	2.40	1.20	1.00	0.49	4
5	0.38	0.38	0.29	0.47 E	5.00	2.40	0.55	0.04	2.20	1.50	1.00	0.46	5
6	0.38	0.35	0.26	0.47 E	4.50	4.20	0.52	0.02	2.10	1.60	1.00	0.46	6
7	0.35	0.35	0.26	0.47 E	4.20	6.30	0.49	0.02	2.00	1.70	0.91	0.41	7
8	0.32	0.35	0.24	0.47 E	3.80	6.70	0.46	0.02	1.90	1.50 E	0.91	0.41	8
9	0.32	0.35	0.24	0.35 E	3.50	6.20	0.52	0.01	1.70	1.50 E	0.87	0.41	9
10	0.32	0.35	0.24	0.35 E	3.30	5.60	0.46	0	1.60	1.50 E	0.87	0.43	10
11	0.29	0.35	0.24	0.35 E	4.00	4.80	0.41	0.07	1.60	1.50 E	0.87	0.43	11
12	0.29	0.35	0.22	0.35 E	7.00	4.20	0.43	0.12	1.40	1.50 E	0.79	0.38	12
13	0.29	0.32	0.22	0.35 E	7.30	3.90	0.38	0.12	1.30	1.50 E	0.75	0.38	13
14	0.32	0.32	0.22	0.35 E	7.30	3.90	0.29	0.13	1.20	1.50 E	0.75	0.38	14
15	0.32	0.32	0.22	0.35 E	7.00	3.60	0.26	0.87	1.20	1.70	0.67	0.38	15
16	0.35	0.35	0.22	0.19	6.50	3.30	0.24	1.40	1.20	1.80	0.67	0.38	16
17	0.38	0.32	0.22	0.21	6.40	3.00	0.29	1.50	1.30	1.80	0.63	0.41	17
18	0.43	0.32	0.22	0.22	6.10	2.70	0.29	1.50	1.60	1.80	0.63	0.41	18
19	0.41	0.32	0.24	0.38	5.40	2.50	0.24	1.50	1.60	1.80	0.63	0.41	19
20	0.38	0.32	0.22	0.79	6.10	2.20	0.21	1.70	1.60	1.80	0.67	0.35	20
21	0.41	0.26	0.22	3.90	6.90	2.00	0.17	2.30	1.40	1.60	0.67	0.35	21
22	0.38	0.26	0.21	7.00	6.70	1.90	0.15	2.50	1.30	1.60	0.63	0.38	22
23	0.38	0.26	0.21	7.60	6.30	1.60	0.13	2.60	1.30	1.40	0.63	0.43	23
24	0.38	0.26	0.22	7.40	5.70	1.50	0.10	2.50	1.30	1.30	0.63	0.43	24
25	0.38	0.24	0.22	7.40	5.40	1.40	0.08	2.50	1.30	1.30	0.59	0.41	25
26	0.38	0.24	0.39 E	7.90	4.80	1.30	0.07	2.30	1.20	1.20	0.49	0.41	26
27	0.38	0.24	0.39 E	7.90	4.20	1.10	0.06	2.20	1.10	1.20	0.52	0.41	27
28	0.38	0.29	0.39 E	9.60	4.00	0.87	0.05	2.10	1.10	1.20	0.52	0.38	28
29	0.41		0.40 E	9.30	4.00	0.83	0.05	2.20	1.10	1.10	0.52	0.38	29
30	0.41		0.40 E	8.50	3.60	0.67	0.04	2.50	1.10	1.00	0.52	0.35	30
31	0.41		0.40 E		3.30		0.04	2.70		0.91		0.35	31
TOTAL	11.41	9.11	8.38	84.40	168.90	88.87	9.27	35.58	48.00	44.61	22.03	12.73	TOTAL
MEAN	0.37	0.32	0.27	2.81	5.45	2.96	0.30	1.15	1.60	1.44	0.73	0.41	MEAN
AC-FT	22.6	18.1	16.6	167.4	335.0	176.3	18.4	70.6	95.2	88.5	43.7	25.2	AC-FT
MAX	0.43	0.41	0.40	9.60	7.40	6.70	0.63	2.70	2.70	1.80	1.00	0.49	MAX
MIN	0.29	0.24	0.21	0.19	3.30	0.67	0.04	0	1.10	0.91	0.49	0.35	MIN

SUMMARY FOR THE YEAR 1974

MEAN DISCHARGES, 1.5 CFS
TOTAL DISCHARGE, 1077 AC-FT
MAXIMUM DAILY DISCHARGE, 9.6 CFS ON APR 28
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 10

MAXIMUM INSTANTANEOUS DISCHARGE
9.8 CFS AT 1200 CST ON APR 28

TYPE OF GAUGE - RECORDING

E-ESTIMATED by water budget as records missing or unreliable.

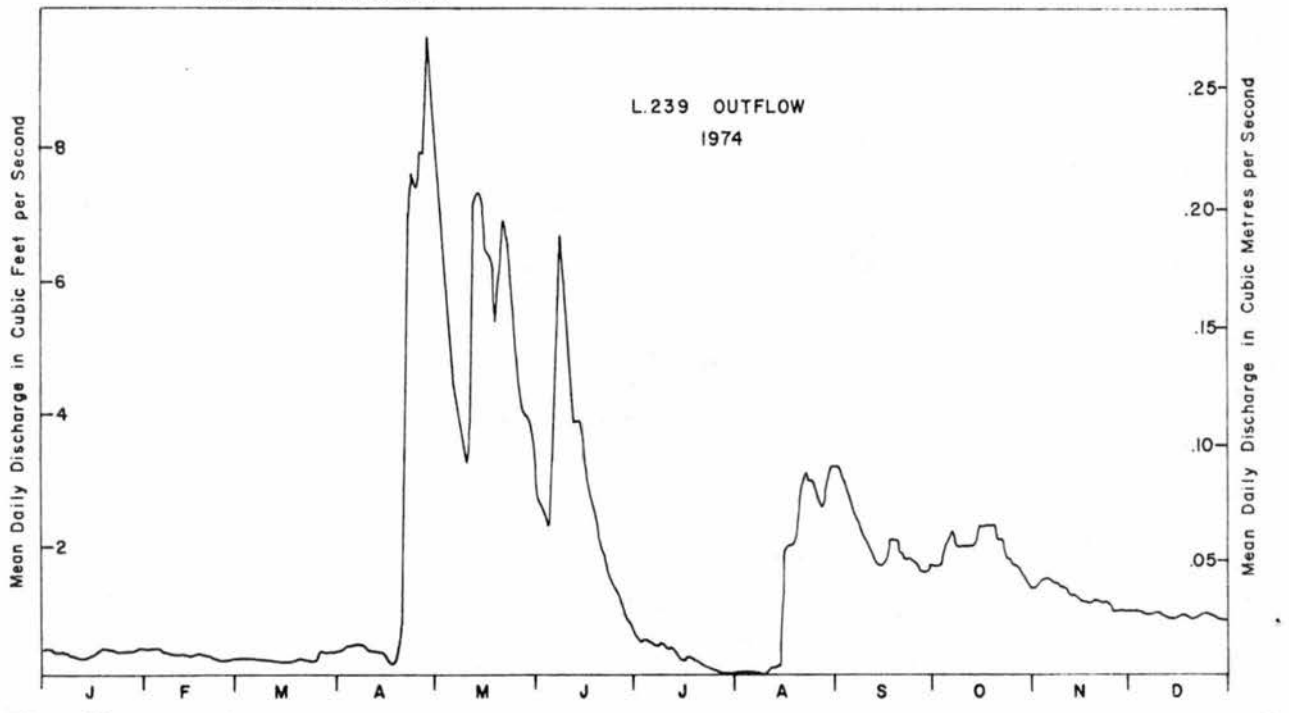


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1974.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.35 A	0.48	0.31	0.52	7.4	2.0	4.4	0.22	0.45	0.84	0.99	0.42	1
2	0.35 A	0.47	0.30	0.52	7.0	1.8	4.5	0.22	0.40	0.77	0.98	0.39	2
3	0.35 A	0.43	0.31	0.53	6.8	1.8	4.2	0.20	0.34	0.77	0.98	0.41	3
4	0.35 A	0.42	0.31	0.53	6.4	1.6	3.9	0.17	0.32	0.70	0.93	0.41 A	4
5	0.35 A	0.43	0.31	0.55	6.0	1.7	3.4	0.15	0.31	0.65	0.90	0.38 E	5
6	0.35 A	0.43	0.32	0.54	5.5	1.8	3.1	0.12	0.32	0.62 E	0.87	0.38 E	6
7	0.35 A	0.44	0.32	0.55	5.0	1.8	2.6	0.08	0.50	0.58	0.83	0.38 E	7
8	0.35 A	0.44	0.31	0.54	4.6	1.8	2.2	0.08	0.60	0.54	0.77	0.38 E	8
9	0.35 A	0.46	0.32	0.54	4.4	1.6	1.9	0.07	0.66	0.55	0.68	0.38 E	9
10	0.41 A	0.46	0.31	0.54	4.0	1.6	1.7	0.06	0.75	0.55	0.64	0.41 E	10
11	0.59 A	0.44	0.31	0.54	3.7	1.6	1.5	0.06	0.87	0.54	0.56	0.41 E	11
12	0.63 A	0.43	0.30	0.54	3.3	1.5	1.3	0.06	0.88	0.55	0.49	0.43 E	12
13	0.59 A	0.43	0.28	0.53	3.0	1.4	1.2	0.06	0.87	0.54	0.44	0.43 E	13
14	0.59 A	0.44	0.26	0.52	2.8	1.3	1.1	0.05	0.87	0.61	0.40	0.46 E	14
15	0.55 A	0.42	0.28	0.56	2.6	1.2	1.0	0.05	0.86	0.77	0.38	0.46 E	15
16	0.55 A	0.41	0.27	0.82	2.5	1.1	0.94	0.04	0.83	0.78	0.38	0.49 E	16
17	0.52	0.41	0.27	1.4	2.3	0.97	0.86	0.03	0.78	0.79	0.37	0.49 A	17
18	0.52	0.41	0.26	2.3	2.2	0.92	0.77	0.02	0.79	0.78	0.38	0.49 E	18
19	0.53	0.41	0.26	3.2	2.1	0.71 A	0.67	0.02	0.89	0.77	0.50	0.49 E	19
20	0.53	0.40	0.25	3.8	2.0	0.95 E	0.62	0.03	1.0	0.73	0.52	0.46 E	20
21	0.54	0.39	0.22	4.2	1.9	1.4 E	0.53	0.07	1.1	0.69	0.49	0.46 E	21
22	0.52	0.37	0.22	4.6	1.8	3.0 E	0.48	0.08	1.1	0.63	0.46	0.46 E	22
23	0.51	0.37	0.21	5.7	2.6	5.3 A	0.43	0.22	1.1	0.64	0.45	0.46 E	23
24	0.51	0.36	0.19	7.1	3.2	5.3	0.37	0.36	1.1	0.69	0.44	0.46 E	24
25	0.54	0.33	0.19	8.2	3.2	5.1	0.32	0.41	1.1	0.93	0.43	0.43 E	25
26	0.53	0.32	0.18	8.6	3.1	4.6	0.32	0.42	1.0	0.92	0.41	0.43 E	26
27	0.51	0.31	0.24	8.5	2.9	4.3	0.28	0.41	0.99	0.93	0.41	0.43 E	27
28	0.51	0.31	0.44	8.3	2.7	3.7	0.25	0.42	0.98	0.98	0.40	0.43 E	28
29	0.49		0.51	8.2	2.4	3.4	0.24	0.41	0.90	1.0	0.42	0.43 E	29
30	0.49		0.54	7.8	2.3	3.9	0.21	0.38	0.86	1.0	0.42	0.41 E	30
31	0.49		0.53		2.1		0.18	0.37		1.0		0.41 E	31
TOTAL	14.80	11.42	9.33	90.77	111.8	69.15	45.47	5.34	23.52	22.84	17.32	13.36	TOTAL
MEAN	0.48	0.41	0.30	3.0	3.6	2.3	1.5	0.17	0.78	0.74	0.58	0.43	MEAN
AC-FT	29.4	22.7	18.5	180	222	137	90.2	10.6	46.7	45.3	34.4	26.5	AC-FT
MAX	0.63	0.48	0.54	8.6	7.4	5.3	4.5	0.42	1.1	1.0	0.99	0.49	MAX
MIN	0.35	0.31	0.18	0.52	1.8	0.71	0.18	0.02	0.31	0.54	0.37	0.38	MIN

SUMMARY FOR THE YEAR 1975

MEAN DISCHARGE, 1.2 CFS
TOTAL DISCHARGE, 863 AC-FT
MAXIMUM DAILY DISCHARGE, 8.6 CFS ON APR 26
MINIMUM DAILY DISCHARGE, 0.02 CFS ON AUG 18

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

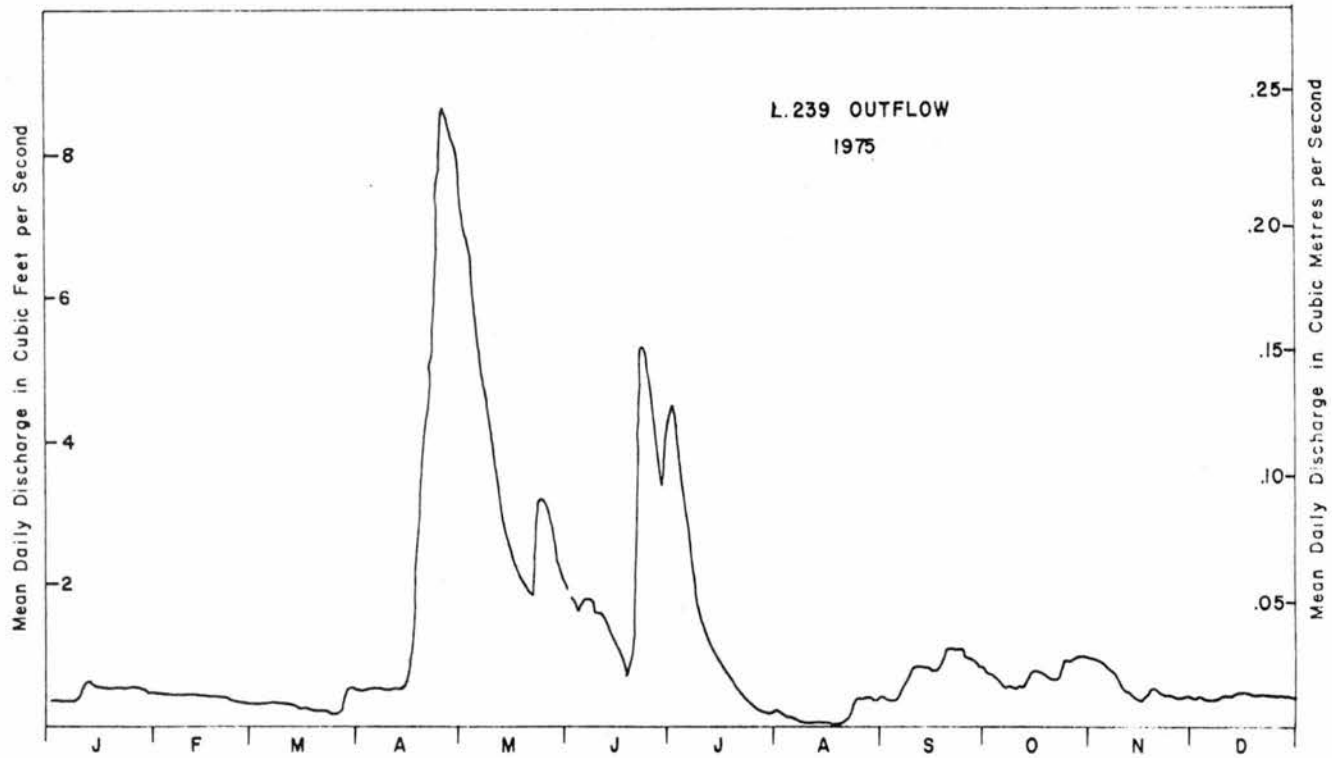


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1975.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.41 E	0.41 E	0.40	0.43	2.6	0.36	2.1	0.05	0.04	0	0	0	1
2	0.41 E	0.41 E	0.41	0.46	2.5	0.31	1.9	0.04	0.02	0	0	0 A	2
3	0.41 E	0.42 E	0.48	0.51	2.4	0.28	1.8	0.03	0.06	0	0	0 A	3
4	0.38 E	0.42 E	0.47	0.57	2.2	0.26	1.6	0.03	0.02	0	0	0 A	4
5	0.38 E	0.43 A	0.47	0.73	2.0	0.21	1.4	0.02	0	0	0	0 A	5
6	0.38 E	0.43 E	0.45	1.1	1.8	0.18	1.3	0	0	0	0	0 A	6
7	0.38 E	0.43 E	0.46	1.7	1.7	0.19	1.1	0	0	0	0	0 A	7
8	0.38 E	0.43 E	0.45	2.3	1.6	0.18	1.0	0	0	0	0	0 A	8
9	0.35 E	0.43 E	0.44	2.9	1.4	0.17	0.91	0.02	0	0	0	0 A	9
10	0.35 E	0.43 A	0.43	3.9	1.3	0.20	0.82	0.15	0	0	0	0 A	10
11	0.35 E	0.42	0.43	4.3	1.3	0.18	0.68	0.18	0	0	0	0 A	11
12	0.35 E	0.39	0.42	4.3	1.2	0.22	0.56	0.18	0	0	0	0 A	12
13	0.35 E	0.37	0.41	4.3	1.2	0.30	0.54	0.17	0.05	0	0	0 A	13
14	0.32 E	0.34	0.41	4.5	1.3	0.45	0.51	0.15	0	0	0	0 A	14
15	0.32 E	0.32	0.41	5.1	1.3	0.47	0.44	0.13	0	0	0	0 A	15
16	0.32 A	0.31	0.41	7.2	1.3	0.46 A	0.38	0.11	0	0	0	0 A	16
17	0.33 E	0.32	0.40	9.3	1.2	0.48 E	0.31	0.09	0	0	0	0 A	17
18	0.33 E	0.35	0.38	9.0	1.1	0.51 E	0.28	0.08	0.01	0	0	0 A	18
19	0.34 E	0.35	0.36	8.2	1.0	0.53 E	0.25	0.15	0.03	0	0	0 A	19
20	0.34 E	0.35	0.38	7.5	0.95	0.56 E	0.23	0.18	0	0	0	0 A	20
21	0.35 E	0.35	0.39	6.8	0.91	0.59 A	0.20	0.15	0	0	0	0 A	21
22	0.35 E	0.35	0.38	6.1	0.85	0.59 A	0.17	0.13	0	0	0	0 A	22
23	0.36 E	0.35	0.36	5.5	0.81	0.51 E	0.16	0.10	0	0	0	0 A	23
24	0.36 E	0.34	0.36	4.9	0.75	0.43 A	0.14	0.08	0	0	0	0 A	24
25	0.37 E	0.33	0.36	4.4	0.69	0.80	0.12	0.07	0	0	0	0 A	25
26	0.38 E	0.33	0.39	4.0	0.65	1.6	0.11	0.07	0	0	0	0 A	26
27	0.38 E	0.35	0.38	3.6	0.58	2.2	0.08	0.11	0	0	0	0 A	27
28	0.39 E	0.38	0.37	3.2	0.51	2.4	0.08	0.09	0	0	0	0 A	28
29	0.39 E	0.42	0.40	2.9	0.48	2.4	0.08	0.06	0	0	0	0 A	29
30	0.40 E		0.41	2.7	0.43	2.3	0.08	0.06	0	0	0	0 A	30
31	0.40 E		0.41		0.41		0.06	0.06		0		0 A	31
TOTAL	11.31	10.96	12.68	122.40	38.42	20.32	19.39	2.74	0.23	0	0	0	TOTAL
MEAN	0.36	0.38	0.41	4.1	1.2	0.68	0.63	0.09	0.01	0	0	0	MEAN
AC-FT	22.4	21.7	25.2	243	76.2	40.3	38.5	5.4	0.46	0	0	0	AC-FT
MAX	0.41	0.43	0.48	9.3	2.6	2.4	2.1	0.18	0.06	0	0	0	MAX
MIN	0.32	0.31	0.36	0.43	0.41	0.17	0.06	0	0	0	0	0	MIN

SUMMARY FOR THE YEAR 1976

MEAN DISCHARGE, 0.65 CFS
TOTAL DISCHARGE, 473 AC-FT
MAXIMUM DAILY DISCHARGE, 9.3 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 6

MAXIMUM INSTANTANEOUS DISCHARGE
9.4 CFS AT 1628 CST ON APR 17

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

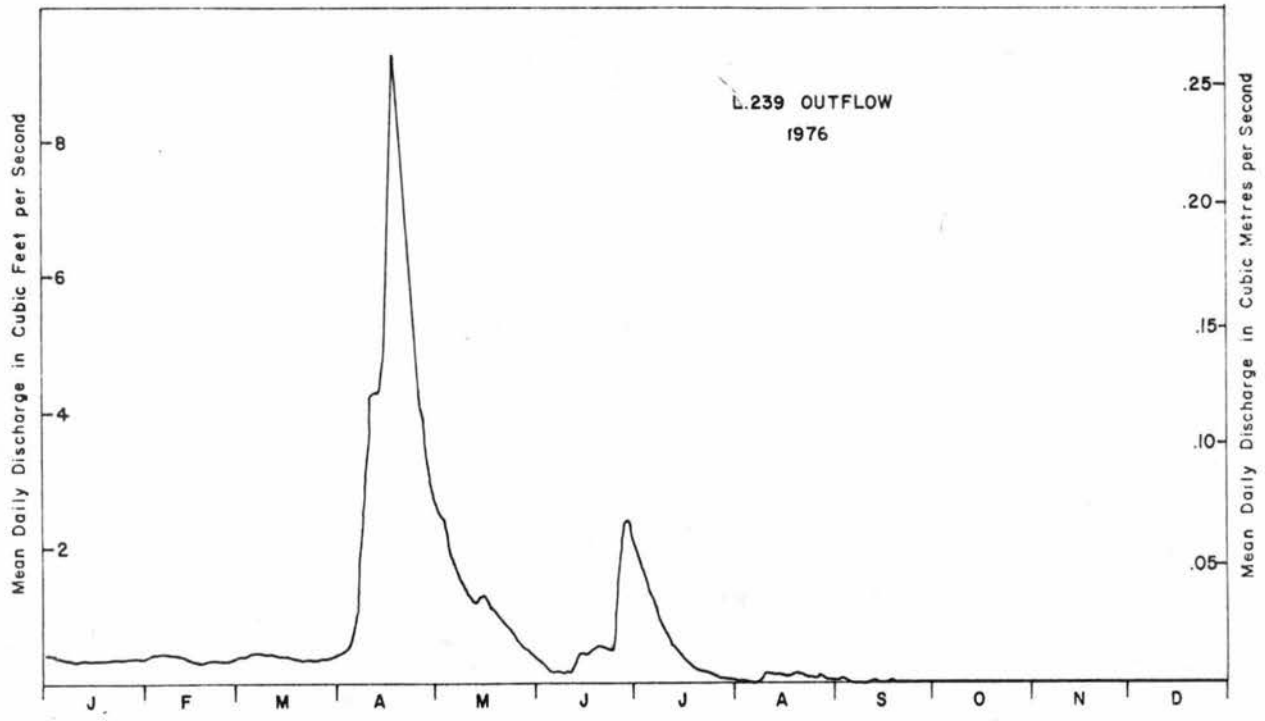


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1976.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0	0	0	0	1.8	2.5	2.4	0.40	0.36	1.2	0.35	1.2	1
2	0	0	0	0	1.7	2.3	2.3	0.35	0.34	1.1	0.36	1.2	2
3	0	0	0	0	1.6	2.1	2.2	0.35	0.33	1.0	0.39	1.2	3
4	0	0	0	0	1.5	1.9	2.0	0.32	0.37	0.94	0.36	1.1	4
5	0	0	0	0	1.7	1.9	1.9	0.30	0.36	0.91	0.33	1.1	5
6	0	0	0	0	2.5	2.0	1.8	0.26	0.35	0.86	0.31	1.1	6
7	0	0	0	0	2.7	1.9	1.7	0.25	0.33	0.79	0.31	1.0	7
8	0	0	0	0	2.7	1.9	1.5	0.25	0.37	0.76	0.36	0.99	8
9	0	0	0	0	2.6	1.8	1.4	0.22	0.77	0.71	0.85	0.97	9
10	0	0	0	0	2.6	1.7	1.2	0.18	1.4	0.68	1.0	0.94	10
11	0	0	0	0.02 A	2.7	1.7	1.1	0.15	1.7	0.51	0.94	0.93	11
12	0	0	0	0.15 E	2.7	1.6	1.1	0.14	1.7	0.46	0.86	0.97	12
13	0	0	0	0.63 E	2.6	1.6	1.0	0.12	1.7	0.46	0.79	0.94	13
14	0	0	0	1.5 A	2.4	1.9	1.1	0.11	1.7	0.48	0.76	0.90	14
15	0	0	0	1.7	2.3	2.7	1.0	0.10	1.7	0.45	0.74	0.86	15
16	0	0	0	2.6	2.2 A	3.9	0.92	0.10	1.6	0.42	0.86	0.84	16
17	0	0	0	2.8	2.1 A	4.2	0.85	0.10	1.5	0.40	0.93	0.83	17
18	0	0	0	3.0	2.0	5.1	0.79	0.09	1.3	0.39	0.89	0.86	18
19	0	0	0	3.0	2.0	5.6	0.78	0.08	0.99	0.37	0.85	0.87	19
20	0	0	0	2.9	2.3	5.7	0.71	0.08	0.92	0.35	1.2	0.83	20
21	0	0	0	2.8	2.5	5.4	0.62	0.07	0.87	0.34	1.5	0.80	21
22	0	0	0	2.7	2.5	4.8	0.54	0.07	0.84	0.33	1.5 A	0.76	22
23	0	0	0	2.5	2.8	4.3	0.49	0.07	0.79	0.32	1.4 E	0.71	23
24	0	0	0	2.4	2.7	3.9	0.46	0.06	0.98	0.30	1.4 E	0.68	24
25	0	0	0	2.3	2.6	3.5	0.39	0.07	1.3	0.30	1.4 E	0.64	25
26	0	0	0	2.2	2.5	3.1	0.31	0.13	1.4	0.34	1.3 E	0.61	26
27	0	0	0	2.1	2.6	2.7	0.26	0.18	1.4	0.32	1.3 E	0.60	27
28	0	0	0	2.0	2.5	2.6	0.24	0.25	1.4	0.30	1.3 E	0.58	28
29	0		0	1.9	2.5	2.3	0.24	0.27	1.4	0.27	1.3 E	0.56	29
30	0		0	1.8	2.3	2.4	0.29	0.34	1.3	0.25	1.2 A	0.53	30
31	0		0		2.4		0.43	0.35		0.33		0.51	31
TOTAL	0	0	0	41.00	72.6	89.0	32.02	5.81	31.47	16.64	27.04	26.61	TOTAL
MEAN	0	0	0	1.4	2.3	3.0	1.0	0.19	1.0	0.54	0.90	0.86	MEAN
AC-FT	0	0	0	81.3	144	177	63.5	11.5	62.4	33.0	53.6	52.8	AC-FT
MAX	0	0	0	3.0	2.8	5.7	2.4	0.40	1.7	1.2	1.5	1.2	MAX
MIN	0	0	0	0	1.5	1.6	0.24	0.06	0.33	0.25	0.31	0.51	MIN

SUMMARY FOR THE YEAR 1977

MEAN DISCHARGE, 0.94 CFS
TOTAL DISCHARGE, 679 AC-FT
MAXIMUM DAILY DISCHARGE, 5.7 CFS ON JUN 20
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 1

MAXIMUM INSTANTANEOUS DISCHARGE
5.8 CFS AT 0616 CST ON JUN 20

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

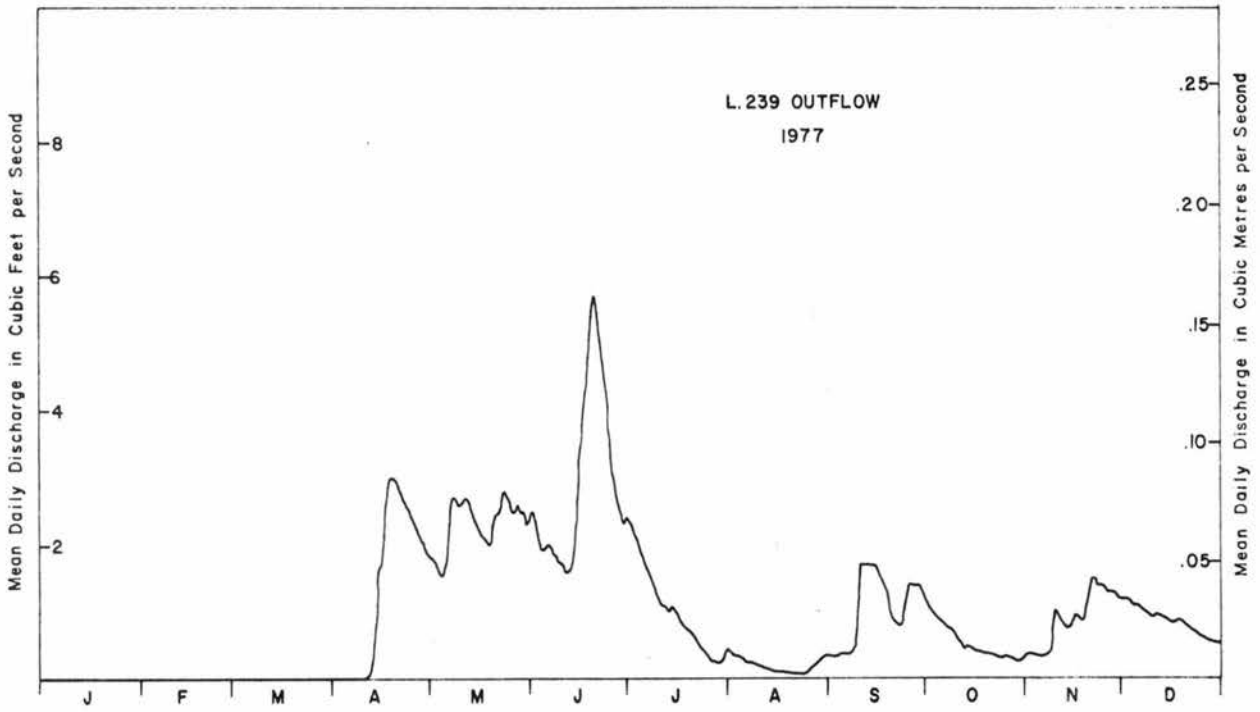


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1977.

Table 110 Mean daily discharges in cubic feet per second for the Lake 239 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.45	0.24 E	0.09	0.45	10.0	4.9	0.70	0.51	0.58	0.60	0.21	0.25	1
2	0.44	0.24 E	0.09	0.46	9.0	5.2	0.66	0.71	0.58	0.58	0.20	0.23	2
3	0.43	0.22 E	0.08	0.52	8.1	5.2	0.63	0.76	0.54	0.58	0.22	0.21	3
4	0.44	0.21 E	0.08	0.52	7.4	4.8	0.64	0.75	0.51	0.57	0.23	0.21	4
5	0.45	0.19 E	0.08	0.54	6.6	4.4	0.80	0.71	0.49	0.56	0.22	0.24	5
6	0.43	0.19 E	0.08	0.56	6.1	4.2	0.82	0.65	0.48	0.52	0.20	0.24	6
7	0.45	0.17 A	0.08	0.55	5.5	4.0	0.79	0.62	0.42	0.48	0.20	0.23	7
8	0.43 A	0.17 E	0.08	0.53	5.4	3.8	0.72	0.57	0.37	0.44	0.19	0.23	8
9	0.41 E	0.19 E	0.09	0.66	5.3	3.6	0.71	0.53	0.32	0.44	0.19	0.22	9
10	0.41 E	0.19 E	0.09	0.70	5.1	3.3	0.65	0.50	0.29	0.43	0.17	0.21	10
11	0.38 E	0.17 E	0.09	0.75	5.0	3.0	0.56	0.47	0.25	0.38	0.15	0.20	11
12	0.35 E	0.17 E	0.09	0.85	4.6	2.6	0.59 A	0.45	0.15	0.37	0.16	0.20	12
13	0.35 E	0.17 E	0.08	0.87	4.3	2.4	0.52 E	0.43	0.19	0.35	0.20	0.20	13
14	0.32 E	0.15 E	0.08	0.86	4.1	2.2	0.59 E	0.40	0.48	0.33	0.24	0.21	14
15	0.35 E	0.15 E	0.08	0.87	3.7	2.0	0.63 E	0.47	0.64	0.41	0.22	0.21	15
16	0.35 E	0.17 A	0.08	0.84	3.5	1.9	0.59 E	0.56	0.72	0.40	0.20	0.21	16
17	0.35 E	0.17 A	0.08	0.91	3.3	1.7	0.52 A	0.53	0.75	0.38	0.18	0.21	17
18	0.32 E	0.15 E	0.08	1.2	3.0	1.6	0.64	0.80	0.78	0.35	0.14	0.20	18
19	0.32 E	0.15 E	0.10	1.8	2.7	1.4	0.68	0.81	0.73	0.32	0.16	0.21	19
20	0.29 E	0.15 E	0.12	2.3	2.5	1.3	0.71	0.78	0.71	0.31	0.17	0.23	20
21	0.29 E	0.13 A	0.14	2.7	2.1	1.2	0.68	0.74	0.68	0.30	0.17	0.23	21
22	0.26 E	0.13	0.15	3.6	2.1	1.1	0.63	0.67	0.63	0.30	0.16	0.23	22
23	0.29 E	0.12	0.15	5.0	2.0	0.98	0.69	0.62	0.57	0.28	0.17	0.22	23
24	0.29 E	0.12	0.14	6.9	1.9	0.96	0.68	0.60	0.52	0.25	0.19	0.21	24
25	0.32 A	0.13	0.14	9.2	1.8	0.94	0.66	0.59	0.49	0.25	0.20	0.22	25
26	0.35 A	0.12	0.14	10.8	2.5	0.90	0.63	0.57	0.47	0.25	0.20	0.21	26
27	0.35 E	0.11	0.14	12.3	3.5	0.88	0.59	0.60	0.48	0.26	0.22	0.20	27
28	0.32 E	0.09	0.14	12.8	3.6	0.85	0.53	0.68	0.49	0.25	0.22	0.21	28
29	0.29 E		0.15	12.4	3.8	0.79	0.49	0.67	0.62	0.23	0.24	0.22	29
30	0.29 E		0.15	11.1	4.5	0.74	0.44	0.61	0.61	0.24	0.24	0.25	30
31	0.26 E		0.30		4.5		0.47	0.55		0.23		0.24	31
TOTAL	11.03	4.56	3.46	103.54	137.5	72.84	19.64	18.91	15.54	11.64	5.86	6.79	TOTAL
MEAN	0.36	0.16	0.11	3.5	4.4	2.4	0.63	0.61	0.52	0.38	0.20	0.22	MEAN
AC-FT	21.9	9.0	6.9	205	273	144	39.0	37.5	30.8	23.1	11.6	13.5	AC-FT
MAX	0.45	0.24	0.30	12.8	10.0	5.2	0.82	0.81	0.78	0.60	0.24	0.25	MAX
MIN	0.26	0.09	0.08	0.45	1.8	0.74	0.44	0.40	0.15	0.23	0.14	0.20	MIN

SUMMARY FOR THE YEAR 1978

MEAN DISCHARGE, 1.1 CFS
TOTAL DISCHARGE, 815 AC-FT
MAXIMUM DAILY DISCHARGE, 12.8 CFS ON APR 28
MINIMUM DAILY DISCHARGE, 0.08 CFS ON MAR 3

MAXIMUM INSTANTANEOUS DISCHARGE
12.9 CFS AT 0745 CST ON APR 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

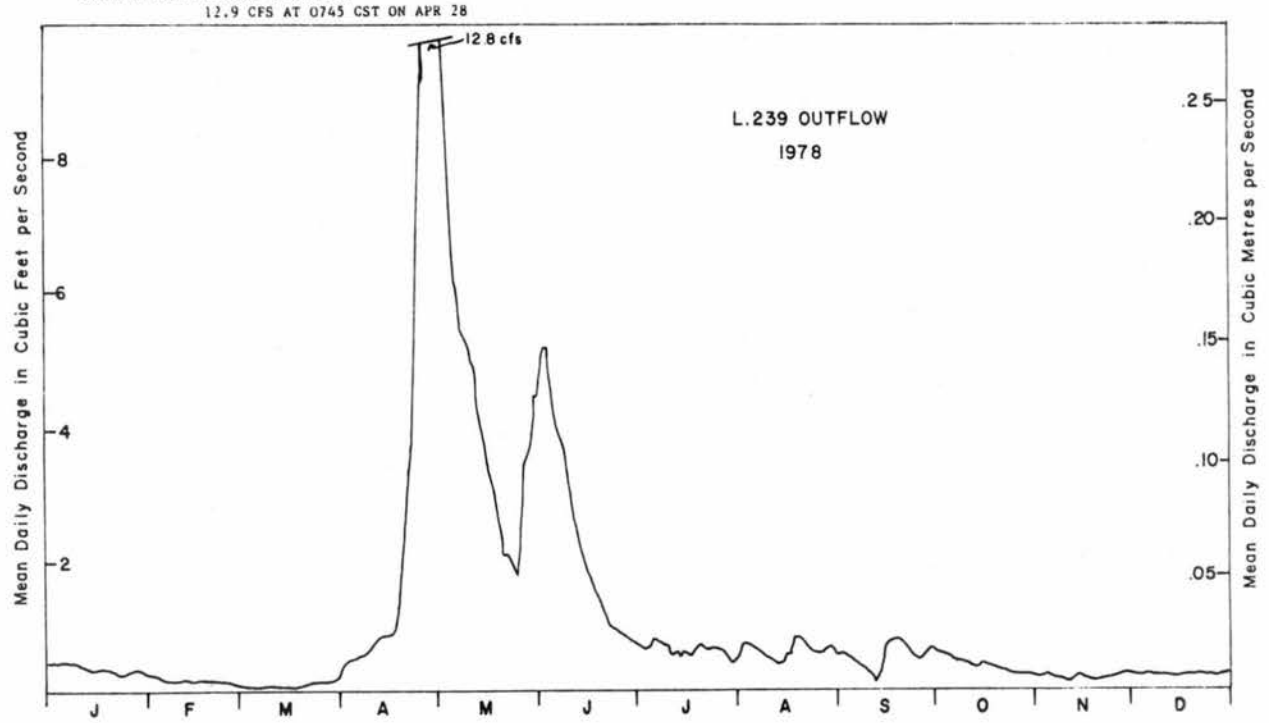


Fig. 28 Annual hydrograph based on mean daily discharges for the Lake 239 outflow for 1978.

Table 111 Mean daily water levels in feet for Lake 239 for 1969.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	96.86	96.73	96.84A	96.79	96.74	96.67	96.55	1
2	---	---	---	---	---	96.92	96.73	---	96.75	96.75	96.67	96.54	2
3	---	---	---	---	---	96.94	96.72	---	96.74	96.75	96.67	96.54	3
4	---	---	---	---	---	96.96	96.73	---	96.71	96.76	96.67	96.54	4
5	---	---	---	---	---	96.99	96.75	---	96.72	96.88	96.67	96.54	5
6	---	---	---	---	---	97.01	96.75	---	96.74	96.99	96.68	96.53	6
7	---	---	---	---	---	---	96.75	---	96.74	97.02	96.68	96.54	7
8	---	---	---	---	---	---	96.76	---	96.70	97.03	96.68	96.55	8
9	---	---	---	---	---	---	96.73	---	96.68	97.01	96.68	96.56	9
10	---	---	---	---	---	---	96.73	---	96.67	97.00	96.67	96.56	10
11	---	---	---	---	---	---	96.72	---	96.66	96.99	96.66	96.56	11
12	---	---	---	---	---	96.87A	96.71	---	96.65	96.97	96.67	96.58	12
13	---	---	---	---	---	96.85	96.70	---	96.64	96.94	96.66	96.59	13
14	---	---	---	---	---	96.84	96.69	---	96.64	96.90	96.65	96.59	14
15	---	---	---	---	---	96.82	96.67	---	96.68	96.89	96.64	96.59	15
16	---	---	---	---	---	96.79	96.67	---	---	96.87	96.64	96.59	16
17	---	---	---	---	---	96.77	96.66	---	---	96.84	96.63	96.57	17
18	---	---	---	---	96.98A	96.78	96.64	---	---	96.82	96.63	96.57	18
19	---	---	---	---	---	96.79	96.64	---	---	96.81	96.63	96.57	19
20	---	---	---	---	---	96.76	96.63	---	---	96.78	96.63	96.57	20
21	---	---	---	---	---	96.75	96.61	---	---	96.76	96.62	96.57	21
22	---	---	---	---	---	96.74	96.60	---	---	96.73	96.61	96.56	22
23	---	---	---	---	---	96.72	96.60	---	96.64	96.73	96.61	96.56	23
24	---	---	---	---	---	96.70	96.64	---	96.63	96.72	96.58	96.55	24
25	---	---	---	---	---	96.70	96.71	---	96.67	96.72	96.58	96.55	25
26	---	---	---	---	---	96.77	96.70	96.73A	96.71	96.71	96.58	96.55	26
27	---	---	---	---	---	96.79	96.70	96.72	96.74	96.70	96.57	96.54	27
28	---	---	---	---	---	96.77	96.70	96.70	96.74	96.69	96.56	96.54	28
29	---		---	---	96.77A	96.77	96.70	96.68	96.75	96.68	96.56	96.54	29
30	---		---	---	96.78	96.74	96.70	96.80	96.74	96.67	96.56	96.54	30
31	---		---		96.78		96.82	96.80		96.66		96.54	31

SUMMARY FOR THE YEAR 1969

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 111 Mean daily water levels in feet for Lake 239 for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.54	96.48	96.51	96.53	97.46	97.01	96.70	96.43	96.33	96.63	97.04	---	1
2	96.54	96.48	96.52	96.53	97.43	96.99	96.68	96.41	96.35	96.60	97.07	---	2
3	96.54	96.49	96.64	96.52	97.38	96.96	96.69	96.41	96.36	96.59	97.03	---	3
4	96.53	96.49	96.67	96.52	97.38	96.92	96.68	96.40	96.39	96.57	97.00	---	4
5	96.53	96.50	96.66	96.51	97.36	96.89	96.64	96.40	96.38	96.56	96.98	---	5
6	96.53	96.49	96.65	96.51	97.32	96.86	96.64	96.40A	96.37	96.56	96.95	---	6
7	96.52	96.49	96.64	96.51	97.30	96.82	96.64	---	96.53	96.54	96.94	---	7
8	96.52	96.49	96.63	96.51	97.28	96.78	96.62	---	96.69	96.54	96.91	---	8
9	96.51	96.50	96.61	96.51	97.27	96.76	96.59	---	96.76	96.59	96.89	96.65A	9
10	96.51	96.50	96.61	96.51	97.24	96.75	96.58	---	96.76	96.63	96.87	96.62A	10
11	96.51	96.49	96.59	96.50	97.20	96.73	96.56	96.35A	96.75	96.61	96.84	---	11
12	96.50	96.49	96.59	96.50	97.17	96.71	96.56	96.34	96.87	96.60	96.83	---	12
13	96.50	96.49	96.58	96.50	97.13	96.70	96.56	96.33	96.92	96.64	96.80	---	13
14	96.50	96.49	96.58	96.50	97.10	96.68	96.54	96.32	96.91	96.65	96.77	---	14
15	96.51	96.49	96.57	96.51	97.12	96.66	96.51	96.31	96.90	96.64	96.74	---	15
16	96.51	96.50	96.56	96.54	97.14	96.69	96.48	96.30	96.91	96.63	96.73	---	16
17	96.50	96.53	96.56	96.56	97.14	96.81	96.44	96.27	96.91	96.63	96.71	---	17
18	96.50	96.54	96.55	96.56	97.12	96.81	96.44	96.30	96.89	96.63	96.72	---	18
19	96.50	96.54	96.55	96.57	97.09	96.80	96.46	96.31	96.87	96.64	96.71	---	19
20	96.50	96.54	96.55	96.60	97.05	96.78	96.45	96.30	96.85	96.65	96.69	---	20
21	96.50	96.54	96.54	96.63	97.05	96.78	96.45	96.28	96.82	96.66	96.68	---	21
22	96.49	96.53	96.54	96.64	97.03	96.78	96.42	96.31	96.80	96.67	96.68A	---	22
23	96.49	96.53	96.54	96.65	97.00	96.79	96.41	96.31	96.77	96.67	---	---	23
24	96.49	96.52	96.54	96.65	96.97	96.79	96.39	96.31	96.75	96.67	---	---	24
25	96.49	96.51	96.54	96.66	97.01	96.75	96.39	96.30	96.74	96.67	---	---	25
26	96.48	96.52	96.55	96.70	97.06	96.71	96.39	96.30	96.72	96.67	---	---	26
27	96.48	96.52	96.55	96.79	97.07	96.70	96.39	96.30	96.69	96.77	---	---	27
28	96.49	96.51	96.54	97.05	97.04	96.69	96.38	96.29	96.67	96.90	---	---	28
29	96.48		96.53	97.27	97.05	96.70	96.40	96.29	96.65	96.95	---	---	29
30	96.48		96.54	97.43	97.05	96.69	96.45	96.34	96.64	96.97	---	---	30
31	96.48		96.53		97.03		96.45	96.33		97.00		---	31

SUMMARY FOR THE YEAR 1970
MAXIMUM DAILY WATER LEVEL, 97.46 FT ON MAY 1
MINIMUM DAILY WATER LEVEL, 96.27 FT ON AUG 17
MAXIMUM INSTANTANEOUS WATER LEVEL, 97.48 FT
AT 0930 CST ON MAY 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 111 Mean daily water levels in feet for Lake 239 for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.55	96.47	96.45	96.52	96.95	96.82	97.02	96.68	---	96.87	97.01	96.73	1
2	96.55	96.47	96.46	96.54	96.95	96.80	97.10	96.67	---	96.93	97.02	96.71	2
3	96.55	96.48	96.46	96.55	96.95	96.77	97.10	96.65	---	96.96	97.04	96.71	3
4	96.54	96.48	96.46	96.55	96.94	96.75	97.07	96.64	---	97.00	97.03	96.70	4
5	96.54	96.48	96.46	96.54	96.92	96.80	97.01	96.63	---	97.01	97.04	96.70	5
6	96.53	96.47	96.46	96.52	96.90	96.86	96.97	96.62	---	97.02	97.02	96.70	6
7	96.53	96.46	96.47	96.52	96.88	96.86	96.92	96.61	---	97.01	97.00	96.70	7
8	96.52	96.46	96.47	96.52	96.86	96.84	96.87	96.60	---	96.99	96.95	96.69	8
9	96.53	96.45	96.47	96.53	96.83	96.82	96.84	96.58	---	96.97	96.93	96.69	9
10	96.53	96.44	96.47	96.54	96.81	96.79	96.81	96.56	96.75A	96.94	96.91	96.68	10
11	96.52A	96.45	96.47	96.55	96.80	96.79	96.78	96.54	---	96.90	96.88	96.68	11
12	---	96.45	96.48	96.61	96.78	96.79	96.82	96.52	---	96.88	96.86	96.68	12
13	---	96.44	96.48	96.67	96.75	96.78	96.84	96.51	96.67A	96.85	96.84	96.67	13
14	---	96.44	96.51	96.69	96.73	96.78	96.82	96.49	96.64	96.84	96.83	96.66	14
15	---	96.44	96.54	96.72	96.71	96.76	96.79	96.48	96.63	96.83	96.82	96.66	15
16	---	96.44	96.54	96.81	96.70	96.78	96.78	96.48	96.62	96.82	96.81	96.67	16
17	---	96.45	96.55	97.02	96.72	96.80	96.75	96.58	96.61	96.86	96.80	96.67	17
18	---	96.45	96.54	97.12	96.73	96.78	96.73	96.60	96.60	96.93	96.81	96.67	18
19	---	96.45	96.54	97.21	96.71	96.77	96.69	96.61	96.57	96.97	96.81	96.66	19
20	---	96.45	96.54	97.26	96.71	96.77	96.68	96.62	96.56	96.98	96.80	96.66	20
21	---	96.45	96.54	97.27	96.72	96.75	96.66	96.62	96.55	96.98	96.79	96.65	21
22	---	96.45	96.53	97.24	96.72	96.74	96.64	96.60	96.55	96.96	96.78	96.64	22
23	---	96.45	96.52	97.18	96.78	96.71	96.63	96.58	96.53	96.93	96.78	96.63	23
24	---	96.45	96.52	97.13	96.84	96.69	96.62	96.60	96.52	96.91	96.78	96.62	24
25	---	96.46	96.52	97.08	96.94	96.67	96.65	96.61	96.50	96.91	96.78	96.63	25
26	---	96.46	96.52	97.03	96.95	96.66	96.66	96.60A	96.50	96.93	96.77	96.63	26
27	96.51A	96.44	96.53	96.99	96.95	96.67	96.68	96.59A	96.51	96.89	96.76	96.62	27
28	96.51A	96.45	96.53	96.97	96.93	96.70	96.72	---	96.53	96.86	96.75	96.61	28
29	96.50		96.53	96.95	96.90	96.70	96.73	---	96.55	96.84	96.74	96.61	29
30	96.49		96.52	96.94	96.88	96.72	96.71	---	96.62	96.84	96.74	96.60	30
31	96.48		96.52		96.85		96.69	---		96.97		96.59	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 111 Mean daily water levels in feet for Lake 239 for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.59	96.55	96.53	96.54	97.07	96.77	96.77	97.06	97.06	97.07	96.88	96.92	1
2	96.59	96.55	96.53	96.54	97.06	96.77	96.74	97.05	97.03	97.08	96.86	96.91	2
3	96.59	96.55	96.53	96.54	97.03	96.78	96.72	97.04	97.00	97.09	96.85	96.90	3
4	96.58	96.54	96.53	96.52	97.00	96.78	96.71	97.01	97.01	97.08	96.85	96.90	4
5	96.57	96.54	96.53	96.52	96.96	96.77	96.70	96.99	96.98	97.07	96.86	96.89	5
6	96.57	96.54	96.53	96.52	96.94	96.75A	96.69	96.96	97.04	97.06	96.89	96.87	6
7	96.57	96.54	96.56	96.52	96.91	96.77	96.69	96.95	97.13	97.04	96.94	96.86	7
8	96.57	96.54	96.56	96.52	96.89	96.76	96.71	96.94	97.15	97.01	96.94	96.86	8
9	96.57	96.54	96.56	96.52	96.87	96.72	96.70	96.92	97.15	97.00	96.95	96.86	9
10	96.57	96.53	96.55	96.52	96.84	96.70	96.72	96.91	97.14	96.98	96.96	96.85	10
11	96.57	96.53	96.55	96.52	96.82	96.71	97.05	96.90	97.13	97.03	96.99	96.85	11
12	96.57	96.53	96.55	96.51	96.80	96.71	97.14	96.91	97.10	97.05	97.00	96.84	12
13	96.57	96.54	96.55	96.51	96.82	96.71	97.16	96.92	97.10	97.05	97.00	96.84	13
14	96.57	96.54	96.54	96.52	96.83	96.72	97.27	96.90	97.07	97.03	97.00	96.82	14
15	96.57	96.53	96.54	96.52	96.83	96.70	97.33	96.94	97.04	97.02	96.99	96.81	15
16	96.57	96.53	96.53	96.53A	96.83	96.69	97.33	96.95	97.03	96.99	96.98	96.81	16
17	96.57	96.53	96.53	---	96.81	96.68	97.34	96.97	97.03	96.97	96.98	96.81	17
18	96.57	96.54	96.53	---	96.81	96.72	97.31	96.95	97.02	96.97	96.98	96.83	18
19	96.57	96.53	96.53	---	96.79	96.87	97.28	96.95	97.00	96.95	96.97	96.82	19
20	96.57	96.54	96.53	---	96.83	96.89	97.26	97.08	96.99	96.94	96.97	96.81	20
21	96.57	96.54	96.53	---	96.83	96.91	97.24	97.34	96.95	96.94	96.96	96.82	21
22	96.58	96.53	96.53	---	96.82	96.91	97.20	97.38	96.94	96.92	96.96	96.82	22
23	96.58	96.54	96.52	---	96.82	96.90	97.18	97.37	96.93	96.90	96.95	96.82	23
24	96.58	96.53	96.52	---	96.80	96.88	97.13	97.35	96.99	96.88	96.95	96.81	24
25	96.58	96.54	96.52	96.82A	96.77	96.87	97.11	97.32	97.01	96.89	96.95	96.81	25
26	96.58	96.54	96.51	96.85	96.77	96.86	97.10	97.29	97.01	96.89	96.95	96.81	26
27	96.57	96.54	96.51	96.92	96.76	96.84	97.07	97.25	97.02	96.89	96.95	96.81	27
28	96.58	96.53	96.50	96.99	96.77	96.83	97.05	97.22	97.05	96.88	96.94	96.81	28
29	96.57	96.53	96.50	97.05	96.77	96.82	97.02	97.18	97.06	96.89	96.93	96.80	29
30	96.56		96.51	97.07	96.74A	96.79	97.07	97.15	97.07	96.89	96.92	96.80	30
31	96.55		96.53		96.75		97.08	97.11		96.88		96.84	31

A-MANUAL GAUGE

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY WATER LEVEL, 97.38 FT ON AUG 22
MINIMUM DAILY WATER LEVEL, 96.50 FT ON MAR 28

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 111 Mean daily water levels in feet for Lake 239 for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.85A	---	96.76	96.76	97.23	97.00	97.12	97.18	96.97	97.24	97.11	96.95	1
2	96.85A	---	96.76	96.76	97.21	96.97	97.12	97.15	97.09	97.22	97.09	96.94	2
3	96.85A	---	96.76	96.76	97.19	96.98	97.12	97.14	97.13	97.22	97.07	96.94	3
4	96.85A	---	96.76	96.76	97.17	96.98	97.13	97.12	97.23	97.23	97.05	96.93	4
5	96.83A	---	96.76	96.78	97.16	96.97	97.13	97.11	97.30	97.22	97.01	96.93	5
6	96.82A	---	96.77	96.79	97.19	96.96	97.14	97.13	97.31	97.21	97.01	96.92	6
7	96.82A	---	96.77	96.80	97.20	96.95	97.19	97.13	97.29	97.19	97.01	96.91	7
8	96.82A	---	96.77	96.80	97.19	96.93	97.27	97.14	97.27	97.17	97.01	96.91	8
9	96.82A	---	96.77	96.80	97.18	96.93	97.28	97.24	97.25	97.18	97.01	96.92	9
10	96.82A	---	96.78	96.80	97.20	96.94	97.27	97.30	97.22	97.21	97.00	96.92	10
11	96.81A	---	96.78	96.81	97.20	96.93	97.27	97.31	97.18	97.24	96.99	96.92	11
12	96.81A	---	96.78	96.81	97.19	96.91	97.25	97.32	97.16	97.37	96.98	96.91	12
13	96.81A	96.80A	96.78	96.82	97.17	96.89	97.18	97.30	97.13	97.45	96.99	96.90	13
14	96.81A	96.79	96.80	96.83	97.16	96.89	97.17	97.26	97.12	97.47	96.99	96.89	14
15	96.80A	96.78	96.82	96.85	97.14	96.92	97.16	97.24	97.10	97.46	96.98	96.90	15
16	96.80A	96.78	96.82	96.87	97.11	96.91	97.11	97.21	97.07	97.42	96.98	96.89	16
17	---	96.78	96.81	96.88	97.10	96.96	97.09	97.18	97.05	97.39	96.97	96.89	17
18	---	96.78	96.81	96.89	97.09	97.01	97.08	97.16	97.03	97.37	96.97	96.89	18
19	---	96.78	96.81	96.91	97.08	97.03	97.07	97.14	97.00	97.36	96.97	96.89	19
20	---	96.77	96.81	97.01	97.07	97.07	97.06	97.12	96.98	97.34	96.96A	96.88	20
21	---	96.77	96.80	97.31	97.04	97.08	97.05	97.09	96.99	97.31	---	96.88	21
22	---	96.76	96.79	97.41	97.02	97.07	97.04	97.07	97.11	97.29	96.99A	96.88	22
23	---	96.76	96.77	97.42	97.03	97.06	97.03	97.04	97.17	97.27	96.98	96.88	23
24	---	96.75	96.76	97.41	97.03	97.05	96.99	97.01	97.19	97.25	96.98	96.87	24
25	---	96.75	96.76	97.39	97.04	97.04	96.96	97.00	97.24	97.22	96.98	96.87	25
26	---	96.74	96.76	97.37	97.07	97.07	97.01	96.98	97.28	97.20	96.98	96.87	26
27	---	96.74	96.76	97.35	97.08	97.10	97.17	96.97	97.29	97.19	96.99	96.87	27
28	---	96.75	96.76	97.32	97.06	97.10	97.21	96.96	97.29	97.17	96.99	96.88	28
29	---		96.75	97.30	97.05	97.11	97.21	96.94	97.28	97.15	96.97	96.87	29
30	---		96.75	97.27	97.04	97.12	97.21	96.92	97.26	97.14	96.95	96.86	30
31	---		96.75		97.02		97.19	96.90		97.12		96.85	31

SUMMARY FOR THE YEAR 1973

MAXIMUM DAILY WATER LEVEL, 97.47 FT ON OCT 14 TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 111 Mean daily water levels in feet for Lake 239 for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.85	96.85	96.81	M	97.74	97.30	96.92	96.64	97.29	97.04	96.97	96.88	1
2	96.85	96.85	96.81	M	97.71	97.27	96.91	96.64	97.28	97.05	96.99	96.88	2
3	96.84	96.85	96.81	M	97.66	97.25	96.89	96.64	97.26	97.05	97.00	96.88	3
4	96.84	96.85	96.81	M	97.61	97.23	96.90	96.64	97.24	97.05	97.01	96.88	4
5	96.84	96.84	96.81	M	97.54	97.24	96.90	96.64	97.21	97.10	97.01	96.87	5
6	96.84	96.83	96.80	M	97.49	97.46	96.89	96.62	97.20	97.12	97.01	96.87	6
7	96.83	96.83	96.80	M	97.45	97.65	96.88	96.61	97.18	97.14	96.99	96.85	7
8	96.82	96.83	96.79	M	97.41	97.68	96.87	96.61	97.16	97.15	96.99	96.85	8
9	96.82	96.83	96.79	M	97.38	97.64	96.89	96.60	97.14	97.15	96.98	96.85	9
10	96.82	96.83	96.79	96.75	97.35	97.59	96.87	96.59	97.11	97.15	96.98	96.86	10
11	96.81	96.83	96.79	96.73	97.43	97.52	96.85	96.68	97.11	97.15	96.98	96.86	11
12	96.81	96.83	96.78	96.75	97.71	97.46	96.86	96.72	97.09	97.14	96.96	96.84	12
13	96.81	96.82	96.78	96.75	97.73	97.42	96.84	96.72	97.06	97.14	96.95	96.84	13
14	96.82	96.82	96.78	96.75	97.73	97.42	96.81	96.73	97.04	97.14	96.95	96.84	14
15	96.82	96.82	96.78	96.75	97.71	97.39	96.80	96.98	97.04	97.14	96.93	96.84	15
16	96.83	96.83	96.78	96.76	97.67	97.35	96.79	97.08	97.04	97.15	96.93	96.84	16
17	96.84	96.82	96.78	96.77	97.66	97.32	96.81	97.10	97.07	97.15	96.92	96.85	17
18	96.86	96.82	96.78	96.78	97.63	97.28	96.81	97.10	97.11	97.15	96.92	96.85	18
19	96.85	96.82	96.79	96.84	97.57	97.25	96.79	97.10	97.12	97.15	96.92	96.85	19
20	96.84	96.82	96.78	96.96	97.63	97.22	96.77	97.14	97.11	97.15	96.93	96.83	20
21	96.85	96.80	96.78	97.42	97.70	97.18	96.75	97.23	97.08	97.12	96.93	96.83	21
22	96.84	96.80	96.77	97.71	97.68	97.16	96.74	97.26	97.07	97.11	96.92	96.84	22
23	96.84	96.80	96.77	97.75	97.65	97.12	96.73	97.27	97.06	97.09	96.92	96.86	23
24	96.84	96.80	96.78	97.74	97.60	97.10	96.71	97.26	97.06	97.07	96.92	96.86	24
25	96.84	96.79	96.78	97.74	97.57	97.09	96.70	97.25	97.06	97.06	96.91	96.85	25
26	96.84	96.79	96.77	97.78	97.52	97.06	96.68	97.23	97.04	97.05	96.88	96.85	26
27	96.84	96.79	96.76	97.78	97.46	97.02	96.67	97.21	97.03	97.04	96.89	96.85	27
28	96.84	96.81	M	97.90	97.43	96.98	96.65	97.20	97.03	97.04	96.89	96.84	28
29	96.85		M	97.88	97.43	96.97	96.65	97.22	97.02	97.03	96.89	96.84	29
30	96.85		M	97.82	97.39	96.93	96.64	97.25	97.03	97.01	96.89	96.83	30
31	96.85		M		97.35		96.64	97.29		96.99		96.83	31
MEAN	96.83	96.82	96.79	97.24	97.57	97.32	96.79	96.94	97.11	97.10	96.94	96.85	MEAN
MAX	96.86	96.85	96.81	97.90	97.74	97.68	96.92	97.29	97.29	97.15	97.01	96.88	MAX
MIN	96.81	96.79	96.76	96.73	97.35	96.93	96.64	96.59	97.02	96.99	96.88	96.83	MIN

SUMMARY FOR THE YEAR 1974

MEAN WATER LEVEL, 97.02 FT
MAXIMUM DAILY WATER LEVEL, 97.90 ON APR 28
MINIMUM DAILY WATER LEVEL, 96.59 ON AUG 10

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

TYPE OF GAUGE - RECORDING

M-MISSING
NATURAL FLOW

Table 111 Mean daily water levels in feet for Lake 239 for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.83A	96.88	96.82	96.89	97.74	97.18	97.47	96.78	96.86	96.97	97.01	96.86	1
2	96.83A	96.87	96.81	96.89	97.71	97.16	97.49	96.78	96.85	96.95	97.01	96.85	2
3	96.83A	96.86	96.82	96.89	97.69	97.14	97.46	96.77	96.83	96.96	97.00	96.85	3
4	96.83A	96.86	96.82	96.89	97.66	97.12	97.42	96.75	96.82	96.94	96.99	96.85A	4
5	96.83A	96.86	96.82	96.90	97.62	97.14	97.37	96.74	96.82	96.93	96.99	---	5
6	96.83A	96.86	96.82	96.90	97.58	97.15	97.33	96.72	96.82	96.92E	96.98	---	6
7	96.83A	96.86	96.82	96.90	97.54	97.15	97.27	96.70	96.88	96.91	96.97	---	7
8	96.83A	96.86	96.82	96.90	97.50	97.15	97.21	96.69	96.91	96.90	96.95	---	8
9	96.83A	96.87	96.82	96.89	97.47	97.12	97.17	96.68	96.93	96.90	96.93	---	9
10	96.85A	96.87	96.82	96.90	97.43	97.11	97.13	96.68	96.95	96.90	96.92	---	10
11	96.91A	96.86	96.82	96.90	97.40	97.11	97.09	96.68	96.98	96.90	96.90	---	11
12	96.92A	96.86	96.81	96.90	97.36	97.10	97.07	96.68	96.98	96.90	96.88	---	12
13	96.91A	96.86	96.81	96.89	97.32	97.08	97.05	96.67	96.98	96.90	96.86	---	13
14	96.91A	96.86	96.80	96.89	97.30	97.07	97.03	96.66	96.98	96.92	96.85	---	14
15	96.90A	96.86	96.81	96.90	97.28	97.04	97.01	96.66	96.98	96.96	96.84	---	15
16	96.90A	96.85	96.80	96.97	97.26	97.02	97.00	96.65	96.97	96.96	96.84	---	16
17	96.89	96.85	96.80	97.08	97.23	97.00	96.98	96.63	96.96	96.96	96.84	96.88A	17
18	96.89	96.85	96.80	97.22	97.22	96.99	96.95	96.62	96.96	96.96	96.84	---	18
19	96.89	96.85	96.80	97.34	97.19	96.94A	96.93	96.61	96.99	96.96	96.88	---	19
20	96.89	96.85	96.79	97.41	97.18	---	96.92	96.62	97.02	96.95	96.89	---	20
21	96.90	96.84	96.78	97.45	97.17	---	96.89	96.68	97.03	96.93	96.88	---	21
22	96.89	96.84	96.78	97.50	97.15	---	96.88	96.69	97.03	96.92	96.87	---	22
23	96.89	96.84	96.77	97.60	97.27	97.56A	96.86	96.78	97.03	96.92	96.86	---	23
24	96.89	96.83	96.76	97.72	97.34	97.56	96.84	96.84	97.03	96.93	96.86	---	24
25	96.90	96.83	96.76	97.80	97.35	97.54	96.82	96.85	97.02	96.99	96.86	---	25
26	96.89	96.82	96.76	97.83	97.34	97.49	96.82	96.85	97.02	96.99	96.85	---	26
27	96.89	96.82	96.79	97.82	97.31	97.46	96.81	96.85	97.01	97.00	96.85	---	27
28	96.88	96.82	96.86	97.81	97.29	97.40	96.79	96.85	97.01	97.01	96.85	---	28
29	96.88		96.89	97.80	97.25	97.36	96.79	96.85	96.99	97.01	96.86	---	29
30	96.88		96.90	97.77	97.22	97.42	96.77	96.84	96.98	97.01	96.85	---	30
31	96.88		96.89		97.21		96.76	96.84		97.01		---	31
MEAN	96.87	96.85	96.81	97.22	97.37	---	97.04	96.73	96.95	96.95	96.90	---	MEAN
MAX	96.92	96.88	96.90	97.83	97.74	---	97.49	96.85	97.03	97.01	97.01	---	MAX
MIN	96.83	96.82	96.76	96.89	97.15	---	96.76	96.61	96.82	96.90	96.84	---	MIN

SUMMARY FOR THE YEAR 1975

MAXIMUM DAILY WATER LEVEL, 97.83 FT ON APR 26

MAXIMUM INSTANTANEOUS WATER LEVEL,
97.83 FT AT 1727 CST ON APR 26

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 111 Mean daily water levels in feet for Lake 239 for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	96.85	96.86	97.28	96.83	97.21	96.66	96.64	96.46	96.40	96.30	1
2	---	---	96.85	96.87	97.26	96.82	97.17	96.64	96.61	96.46	96.39	96.30A	2
3	---	---	96.87	96.88	97.24	96.81	97.14	96.63	96.67	96.46	96.40	96.30A	3
4	---	---	96.87	96.91	97.21	96.80	97.11	96.63	96.62	96.48	96.39	96.30A	4
5	---	96.86A	96.87	96.95	97.18	96.77	97.08	96.61	96.59	96.47	96.39	96.30A	5
6	---	---	96.87	97.02	97.15	96.75	97.06	96.56	96.58	96.45	96.38	96.30A	6
7	---	---	96.87	97.13	97.13	96.76	97.03	96.55	96.59	96.44	96.37	96.30A	7
8	---	---	96.87	97.22	97.11	96.75	97.01	96.53	96.57	96.44	96.36	96.30A	8
9	---	---	96.86	97.31	97.09	96.75	96.99	96.58	96.56	96.44	96.35	96.30A	9
10	---	96.86A	96.86	97.43	97.07	96.77	96.97	96.74	96.56	96.44	96.35	96.30A	10
11	---	96.86	96.86	97.47	97.05	96.76	96.93	96.76	96.55	96.44	96.35	96.30A	11
12	---	96.85	96.86	97.47	97.04	96.78	96.90	96.75	96.54	96.44	96.36	96.30A	12
13	---	96.84	96.85	97.47	97.05	96.81	96.90	96.75	96.65	96.44	96.36	96.30A	13
14	---	96.83	96.85	97.49	97.07	96.86	96.88	96.74	96.57	96.44	96.34	96.30A	14
15	---	96.82	96.85	97.55	97.07	96.87	96.86	96.73	96.57	96.45	96.33	96.30A	15
16	96.82A	96.82	96.85	97.72	97.07	96.87A	96.84	96.72	96.56	96.45	96.33	96.30A	16
17	---	96.82	96.85	97.88	97.05	---	96.82	96.70	96.55	96.44	96.33	96.30A	17
18	---	96.83	96.84	97.86	97.03	---	96.81	96.70	96.56	96.43	96.34	96.30A	18
19	---	96.83	96.83	97.80	97.02	---	96.80	96.74	96.62	96.43	96.36	96.30A	19
20	---	96.83	96.84	97.75	97.00	---	96.79	96.75	96.56	96.43	96.36	96.30A	20
21	---	96.83	96.85	97.69	96.99	96.91A	96.77	96.74	96.53	96.44	96.37	96.42A	21
22	---	96.83	96.84	97.64	96.98	96.91A	96.75	96.73	96.53	96.43	96.37	96.43A	22
23	---	96.83	96.84	97.58	96.97	---	96.75	96.71	96.52	96.42	96.37	96.44A	23
24	---	96.83	96.83	97.53	96.95	96.86A	96.74	96.70	96.50	96.42	96.37	96.43A	24
25	---	96.83	96.83	97.48	96.93	96.95	96.72	96.69	96.49	96.41	96.37	96.43A	25
26	---	96.82	96.84	97.43	96.92	97.12	96.71	96.68	96.50	96.40	96.36	96.43A	26
27	---	96.83	96.84	97.39	96.91	97.22	96.70	96.71	96.49	96.40	96.33	96.44A	27
28	---	96.84	96.84	97.35	96.89	97.25	96.70	96.71	96.48	96.41	96.33	96.45A	28
29	---	96.85	96.85	97.31	96.87	97.25	96.69	96.68	96.47	96.40	96.32	96.44A	29
30	---		96.85	97.29	96.86	97.23	96.69	96.67	96.46	96.40	96.31	96.45A	30
31	---		96.85		96.85		96.68	96.67		96.40		96.45A	31
MEAN	---	---	96.85	97.39	97.04	---	96.88	96.68	96.56	96.43	96.36	96.35	MEAN
MAX	---	---	96.87	97.88	97.28	---	97.21	96.76	96.67	96.48	96.40	96.45	MAX
MIN	---	---	96.83	96.86	96.85	---	96.68	96.53	96.46	96.40	96.31	96.30	MIN

SUMMARY FOR THE YEAR 1976

MAXIMUM DAILY WATER LEVEL, 97.88 FT ON APR 17
MINIMUM DAILY WATER LEVEL, 96.30 FT ON DEC 1
MAXIMUM INSTANTANEOUS WATER LEVEL,
97.89 FT AT 1628 CST ON APR 17

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 111 Mean daily water levels in feet for Lake 239 for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.45A	96.46A	96.60A	96.81	97.15	97.33A	97.32	96.89	96.87E	97.14	96.92	97.11A	1
2	96.46A	96.47A	96.60A	96.82	97.14	97.34A	97.30	96.87	96.88E	97.12	96.91	97.10A	2
3	96.46A	96.48A	96.60A	96.82	97.13	97.30	97.29	96.87	96.88E	97.11	96.90	97.10E	3
4	96.45E	96.47A	96.60A	96.83	97.11	97.27	97.26	96.86	96.87E	97.10	96.89	97.09E	4
5	96.44E	96.47E	96.60A	96.84	97.15	97.28	97.24	96.85	96.87E	97.09	96.88	97.09A	5
6	96.45A	96.48A	96.62A	96.84	97.29	97.28	97.22	96.84	96.87E	97.08	96.87	97.09	6
7	96.45A	96.47A	96.62A	96.84	97.32	97.26A	97.20	96.83	96.88A	97.07	96.87	97.08	7
8	96.46A	96.47A	96.61A	96.84A	97.32	97.24E	97.16	96.82	96.89	97.06	96.89	97.07	8
9	96.43E	96.47A	96.55A	96.85E	97.30	97.23E	97.13	96.81	97.02	97.04	97.05	97.07A	9
10	96.44A	96.46A	96.57	96.90E	97.31	97.21E	97.10	96.79	97.15	97.03	97.10	97.07E	10
11	96.43A	96.48A	96.59	97.03A	97.33	97.21E	97.07	96.77	97.20	97.02	97.09	97.06E	11
12	96.43A	96.48A	96.63	97.11	97.32	97.20E	97.10	96.76	97.20	97.01	97.07	97.06E	12
13	96.44A	96.49A	96.71	97.17	97.31	97.24E	97.08	96.75A	97.21	97.01	97.06	97.06E	13
14	96.44A	96.49A	96.74	97.21	97.29	97.32E	97.10	96.75E	97.21	96.99	97.05	97.05E	14
15	96.43A	96.49E	96.74	97.25	97.29	97.42E	97.08	96.75E	97.19	96.99	97.05	97.05A	15
16	96.43A	96.49A	96.72	97.27	97.28	97.50A	97.05	96.74E	97.18	96.98	97.08	97.04	16
17	96.43E	96.50A	96.70	97.29	97.25	97.54	97.02	96.74E	97.16	96.97	97.10	97.04	17
18	96.42A	96.50A	96.69	97.31	97.23	97.63	97.01	96.74A	97.14	96.96	97.09	97.04	18
19	96.43A	96.50A	96.70	97.32	97.24	97.67	97.00	96.74	97.13	96.96	97.08	97.04	19
20	96.43A	96.50A	96.69	97.31	97.29	97.69	96.99	96.73	97.11	96.95	97.08A	97.03	20
21	96.43A	96.50A	96.70	97.30	97.32	97.66	96.96	96.72	97.10	96.94	97.10E	97.03	21
22	96.43A	96.50A	96.70	97.29	97.33	97.60	96.94	96.72	97.08	96.94	97.11E	97.02	22
23	96.45A	96.49A	96.70	97.27	97.36	97.55	96.92	96.71	97.07	96.93	97.13E	97.01	23
24	96.45A	96.54E	96.70	97.26	97.36	97.50	96.89A	96.70	97.09	96.92	97.16A	97.00	24
25	96.44A	96.58A	96.69	97.24	97.34	97.44	96.87E	96.71	97.14	96.92	97.15E	97.00	25
26	96.46A	96.59A	96.71	97.22	97.31	97.40	96.85E	96.76	97.16	96.92	97.14E	96.99	26
27	96.46A	96.59A	96.72	97.20	97.34	97.35	96.83E	96.79	97.17	96.91	97.14E	96.98	27
28	96.47A	96.60A	96.73	97.19	97.32	97.33	96.81A	96.83	97.17	96.90	97.13E	96.98	28
29	96.48A		96.74	97.17	97.32	97.31	96.82	96.84	97.17	96.89	97.12E	96.97	29
30	96.47A		96.79	97.16	97.29	97.32	96.85	96.86	97.15	96.88	97.11A	96.97	30
31	96.46A		96.80		97.31		96.90	96.87A		96.91		96.96	31
MEAN	96.45	96.50	96.67	97.10	97.28	97.39	97.04	96.79	97.07	96.99	97.04	97.04	MEAN
MAX	96.48	96.60	96.80	97.32	97.36	97.69	97.32	96.89	97.21	97.14	97.16	97.11	MAX
MIN	96.42	96.46	96.55	96.81	97.11	97.20	96.81	96.70	96.87	96.88	96.87	96.96	MIN

SUMMARY FOR THE YEAR 1977

MEAN WATER LEVEL, 96.95 FT
MAXIMUM DAILY WATER LEVEL, 97.69 FT ON JUN 20
MINIMUM DAILY WATER LEVEL, 96.42 FT ON JAN 18
MAXIMUM INSTANTANEOUS WATER LEVEL,
97.70 FT AT 1143 CST ON JUN 20

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 111 Mean daily water levels in feet for Lake 239 for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	96.95	96.85	96.82 E	96.89	98.02 A	97.62	97.00	96.93	96.95	96.98	96.83	96.86	1
2	96.95	96.86	96.82 E	96.89	97.96 A	97.65	96.99	96.99	96.96	96.97	96.83	96.86	2
3	96.94	96.85	96.82 E	96.91	97.91	97.63	96.97	97.00	96.95	96.96	96.83	96.86	3
4	96.94	96.85	96.82 E	96.91	97.85	97.60	96.97	96.99	96.95	96.97	96.82	96.85	4
5	96.93	96.85	96.82 E	96.90	97.79	97.56	97.02	96.99	96.94	96.96	96.82	96.86	5
6	96.93	96.84	96.81 E	96.92	97.72	97.54	97.03	96.97	96.93	96.96	96.81	96.85	6
7	96.94	96.83	96.81 E	96.93	97.66	97.51	97.02	96.96	96.91	96.94	96.80	96.84	7
8	96.93	96.84	96.81 E	96.93	97.65	97.47	96.99	96.95	96.89	96.94	96.80	96.84	8
9	96.92	96.84	96.81 A	96.98	97.65	97.44	96.99	96.93	96.88	96.92	96.79	96.84	9
10	96.92	96.84	96.81 E	97.00 A	97.62	97.40	96.97	96.91	96.87	96.92	96.78	96.83	10
11	96.91	96.83	96.81 E	97.02 E	97.60	97.36	96.95	96.90	96.85	96.91	96.77	96.82	11
12	96.90	96.83	96.82 E	97.03 A	97.58	97.33	96.95	96.89	96.81	96.90	96.78	96.82	12
13	96.90	96.83	96.82 E	97.03 E	97.54	97.29	96.95	96.87	96.83	96.89	96.82	96.82	13
14	96.89	96.83	96.82 E	97.04 E	97.51	97.26	96.98	96.87	96.94	96.89	96.83	96.82	14
15	96.90	96.82	96.82 E	97.04 E	97.46	97.23	96.98	96.89	96.98	96.91	96.82	96.82	15
16	96.90	96.82	96.82 E	97.05 E	97.42	97.21	96.97	96.92	97.01	96.91	96.81	96.82	16
17	96.90	96.83	96.83 E	97.05 A	97.39	97.19	96.97	96.92	97.02	96.90	96.81	96.81	17
18	96.89	96.82	96.83 E	97.15 E	97.37	97.16	97.00	97.00	97.02	96.89	96.80	96.81	18
19	96.89	96.82	96.83 E	97.25 A	97.35	97.13	97.01	97.01	97.02	96.88	96.80	96.82	19
20	96.88	96.82	96.83 E	97.29 A	97.32	97.12	97.02	97.00	97.01	96.87	96.80	96.83	20
21	96.88	96.82	96.83 A	97.37 A	97.29	97.10	97.01	96.98	97.00	96.87	96.80	96.83	21
22	96.87	96.83	96.83	97.46 A	97.27	97.07	96.99	96.97	97.00	96.87	96.81	96.84	22
23	96.88	96.82	96.82	97.63 A	97.29	97.06	97.00	96.95	96.98	96.87	96.82	96.84	23
24	96.87	96.83	96.82	97.85 A	97.27	97.07	97.00	96.94	96.98	96.86	96.82	96.84	24
25	96.88	96.84	96.82	98.00 A	97.25	97.08	96.99	96.94	96.96	96.86	96.83	96.84	25
26	96.87	96.83 A	96.81	98.10 A	97.42	97.07	96.97	96.94	96.94	96.86	96.83	96.83	26
27	96.87	96.83 E	96.81	98.21 A	97.57	97.07	96.94	96.94	96.92	96.86	96.85	96.83	27
28	96.87	96.83 E	96.81	98.26 A	97.56	97.06	96.93	96.97	96.93	96.85	96.86	96.82	28
29	96.86		96.80	98.22 A	97.56	97.04	96.90	96.96	96.98	96.85	96.87	96.84	29
30	96.86		96.80	98.11 A	97.59	97.02	96.90	96.95	96.98	96.84	96.87	96.84	30
31	96.85		96.85		97.58		96.91	96.93		96.84		96.84	31
MEAN	96.90	96.83	96.82	97.31	97.55	97.28	96.98	96.95	96.95	96.90	96.82	96.83	MEAN
MAX	96.95	96.86	96.85	98.26	98.02	97.65	97.03	97.01	97.02	96.98	96.87	96.86	MAX
MIN	96.85	96.82	96.80	96.89	97.25	97.02	96.90	96.87	96.81	96.84	96.77	96.81	MIN

SUMMARY FOR THE YEAR 1978

MEAN WATER LEVEL, 97.01 FT
MAXIMUM DAILY WATER LEVEL, 98.26 FT ON APR 28
MINIMUM DAILY WATER LEVEL, 96.77 FT ON NOV 11

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

TYPE OF GAUGE O RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

East Inflow to Lake 239 Hydrological Data 1971 to 1978

The East inflow to Rawson Lake (239) drains the East Subbasin which is located 1 km (0.6 miles) east of the ELA field station (Fig. 3). A basin topographical map (Fig. 29) with 20 foot contour interval is included. The contours are based on mapping of the ELA produced by Western Photogrammetry Limited in 1970 and are related to an assumed datum.

In 1970, preliminary hydrometric work in the East Subbasin began. This work consisted of 14 discharge measurements which are summarized in Table 113. From 1971, the East inflow streamflows were monitored. Tables 114 and Figures 30 provide mean daily discharges and annual hydrographs from 1971 to 1978.

On June 18, 1971, a 4 foot by 6 foot wooden box flume with staff gauge was installed in the stream to monitor storm runoff events during the open water season. A stage-discharge relationship was developed and the daily discharges for 1971 and 1972 (Tables 114) were determined based on daily manual gauge readings. On May 10, 1973, a Stevens type F weekly water level recorder was added to this station to extend and improve the record. At 05:00 on July 7, 1973, a severe windstorm with winds up to 150 kph, struck the Experimental Lakes Area. Of all the ELA research basins, the East Subbasin was among the worst affected by blowdown (approximately 70%). Almost one year later, at 12:08 on June 26, 1974, a forest fire started, which burned 323 km^2, including the entire East Subbasin. With the expectation of increased runoff, a new and larger 5 foot by 8 foot wooden flume fitted with a shallow V-notch, staff gauge, and Stevens A-71 water level recorder was constructed and in operation August 2, 1974, in time for the first post-fire storm event. Details of the windstrom and forest fire, and their effects on the watershed and receiving waters have been discussed by Schindler et al. (1980).

Service of this station and computation of flow data from 1970 to 1974 were carried out by ELA staff. In the spring of 1975, the operation of this station was turned over to Water Survey of Canada and was included in their regular network of stations. All original charts (1974 to 1978) are on file with WSC.

Flows in this stream during the period of record have ranged from a low flow of 0 cubic feet per second to a maximum of 15.7 cfs (0.444 m^3/sec). Normally the period of flow is from the end of March to the end of November. The stream channel is usually frozen and snow plugged in winter with 0 flow, but on at least one occasion flow persisted at low baseflow levels throughout the entire winter. This flow fluctuated little and was easily estimated by interpolating between twice monthly manual observations.

Problems are usually encountered with this station during the spring runoff period. Stream conditions are less than ideal at this time of year and frequent observations and discharge measurements are required to document the hydrograph and verify recorded data. Valley

and stream channel slopes are low, and the lower channel remains snow and ice choked creating a backwater condition in the weir when spring flows begin. This condition usually lasts for one or two weeks during the rising limb and peak segments of the springmelt hydrograph. From 1971 to 1974, spring runoff records were non-existent to poor. From 1975, the weir recorder was activated in early April to record this runoff but unless manual observations and measurements were made and taken in to account, the interpretation of those water level records may be false and misleading.

In conjunction with the Lake 239 stream sampling program, observations and measurements were made from which reasonable springmelt hydrographs coud be constructed. Snow survey and precipitation data were used to verify that the resulting hydrographs represented realistic basin yields. Consequently the daily discharges for 1975 to 1978 provided here in Tables 114 are different than those published by WSC.

Other instrumentation in the East Subbasin has included 2 standard rain gauges, one recording rain gauge, a V-notch weir halfway up the basin (East upper weir), bedload sampler, suspended net sampler, piezometer nests and recording groundwater table wells.

Table 112. Location and area data for the East Subbasin.

Location:	
Latitude	49 41
Longitude	93 44
Subbasin areas:	
East upper basin	90.78 ha (224.32 acres)
East lower basin	79.50 ha (196.45 acres)
Total East Subbasin	170.28 ha (420.77 acres)

Table 113. Discharge measurements for the East inflow to L.239 for 1970.

Date	Time (cst)	Discharge (cfs)
Jun 2	15:55	0.78
Jun 9	13:30	0.30
Jun 18	10:30	1.42
Jun 22	13:30	0.23
Jun 30	-	0.50
Jul 7	-	0.24
Jul 14	-	0.12
Jul 21	-	0.06
Jul 28	-	0.002
Aug 4	-	0.02
Sep 1	-	0.11
Sep 9	-	2.61
Sep 29	-	0.10
Oct 18	12:30	0.86

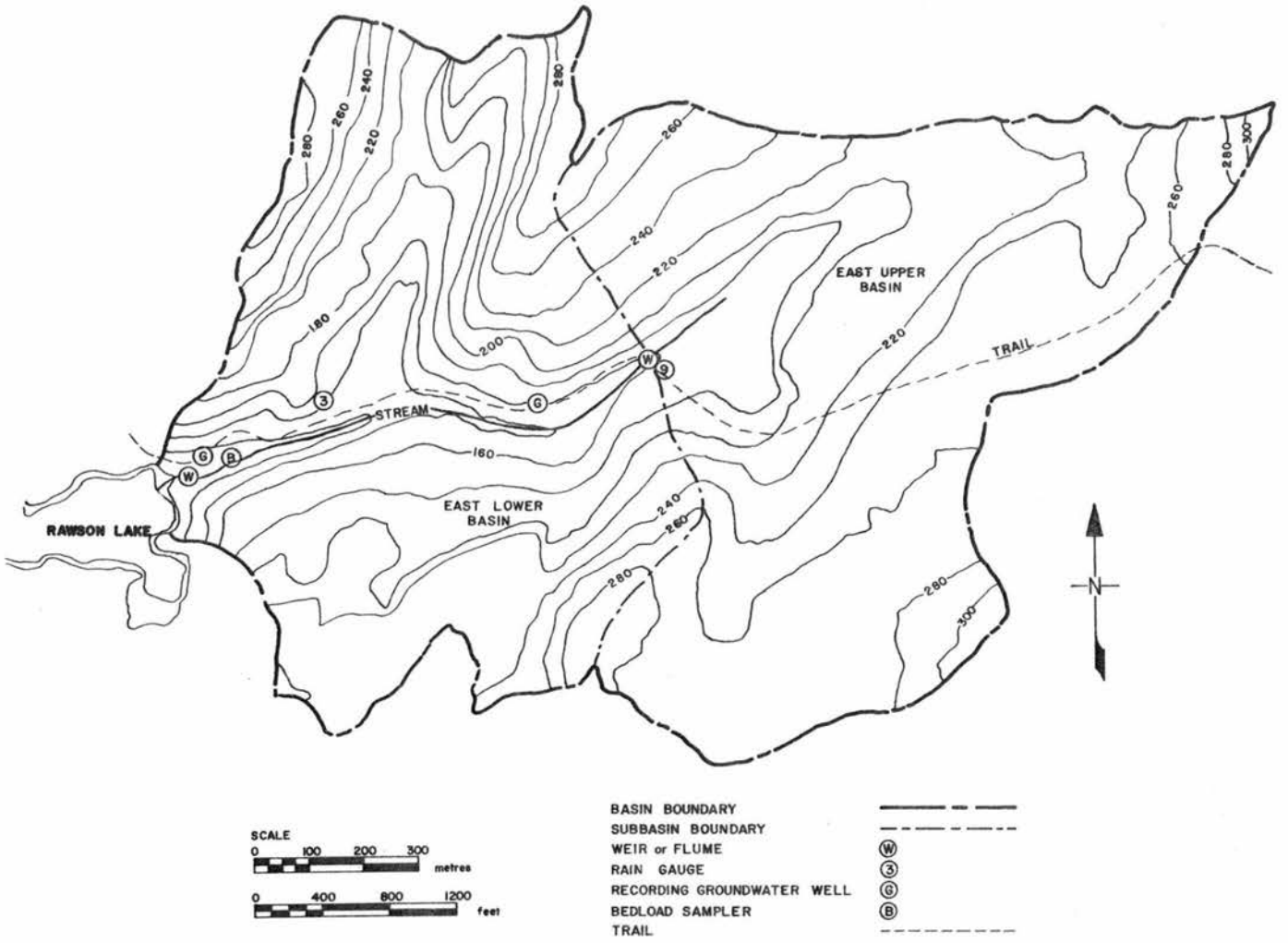


Fig. 29 Topographical map of the East Subbasin. Contours are in feet.

Table 114 Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	9.00	0.35	0.08	7.26	---	---	1
2	---	---	---	---	---	---	4.05	0.28	0.13	2.75	---	---	2
3	---	---	---	---	---	---	1.85	0.22	1.27	2.80	---	---	3
4	---	---	---	---	---	---	1.31	0.19	0.71	2.85	---	---	4
5	---	---	---	---	---	---	0.79	0.16	3.45	1.87	---	---	5
6	---	---	---	---	---	---	0.57	0.15	1.89	1.62	---	---	6
7	---	---	---	---	---	---	0.46	0.13	0.79	1.27	---	---	7
8	---	---	---	---	---	---	0.42	0.12	0.42	1.10	---	---	8
9	---	---	---	---	---	---	0.39	0.10	0.32	0.90	---	---	9
10	---	---	---	---	---	---	0.35	0.08	0.25	0.75	---	---	10
11	---	---	---	---	---	---	0.28	0.07	0.21	0.57	---	---	11
12	---	---	---	---	---	---	1.23	0.08	0.21	0.40	---	---	12
13	---	---	---	---	---	---	1.31	0.03	0.19	0.32	---	---	13
14	---	---	---	---	---	---	0.64	0.00	0.16	0.32	---	---	14
15	---	---	---	---	---	---	0.40	0.00	0.13	0.30	---	---	15
16	---	---	---	---	---	---	0.42	0.02	0.13	0.71	---	---	16
17	---	---	---	---	---	---	0.34	1.36	0.14	1.15	---	---	17
18	---	---	---	---	---	0.42	0.31	0.42	0.14	1.62	---	---	18
19	---	---	---	---	---	0.46	0.22	0.35	0.13	2.17	---	---	19
20	---	---	---	---	---	0.53	0.25	0.28	0.10	1.19	---	---	20
21	---	---	---	---	---	0.35	0.25	0.19	0.10	0.75	---	---	21
22	---	---	---	---	---	0.35	0.19	0.14	0.10	0.64	---	---	22
23	---	---	---	---	---	0.28	0.22	0.10	0.13	0.57	---	---	23
24	---	---	---	---	---	0.25	0.32	0.22	0.10	0.42	---	---	24
25	---	---	---	---	---	0.22	0.42	0.27	0.10	0.35	---	---	25
26	---	---	---	---	---	0.19	0.46	0.22	0.08	0.35	---	---	26
27	---	---	---	---	---	0.19	0.42	0.16	0.16	0.32	---	---	27
28	---	---	---	---	---	0.67	1.68	0.10	0.13	0.32	---	---	28
29	---		---	---	---	0.50	0.81	0.10	0.37	0.32	---	---	29
30	---		---	---	---	0.28	0.46	0.07	0.25	0.32	---	---	30
31	---		---		---		0.35	0.08		---		---	31
TOTAL	---	---	---	---	---	(4.69)	30.17	6.04	12.37	(36.28)	---	---	TOTAL
MEAN	---	---	---	---	---	0.36	0.97	0.19	0.41	1.21	---	---	MEAN
AC-FT	---	---	---	---	---	9.3	59.8	12.0	24.5	72.0	---	---	AC-FT
MAX	---	---	---	---	---	0.67	9.0	1.36	3.45	7.26	---	---	MAX
MIN	---	---	---	---	---	0.19	0.19	0	0.08	0.30	---	---	MIN

SUMMARY FOR THE PERIOD JUN 18 TO OCT 30

MEAN DISCHARGE, 0.66 CFS
TOTAL DISCHARGE, 177.6 AC-FT
MAXIMUM DAILY DISCHARGE, 7.26 CFS ON OCT 1
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 14

TYPE OF GAUGE - STAFF, ALL DAILY DISCHARGES BASED ON DAILY GAUGE READINGS.
STRUCTURE IS 4' x 6' WOODEN FLUME
INSTALLED JUN 18 1971

E-ESTIMATED
( ) TOTAL BASED ON LESS THAN FULL MONTH RECORD

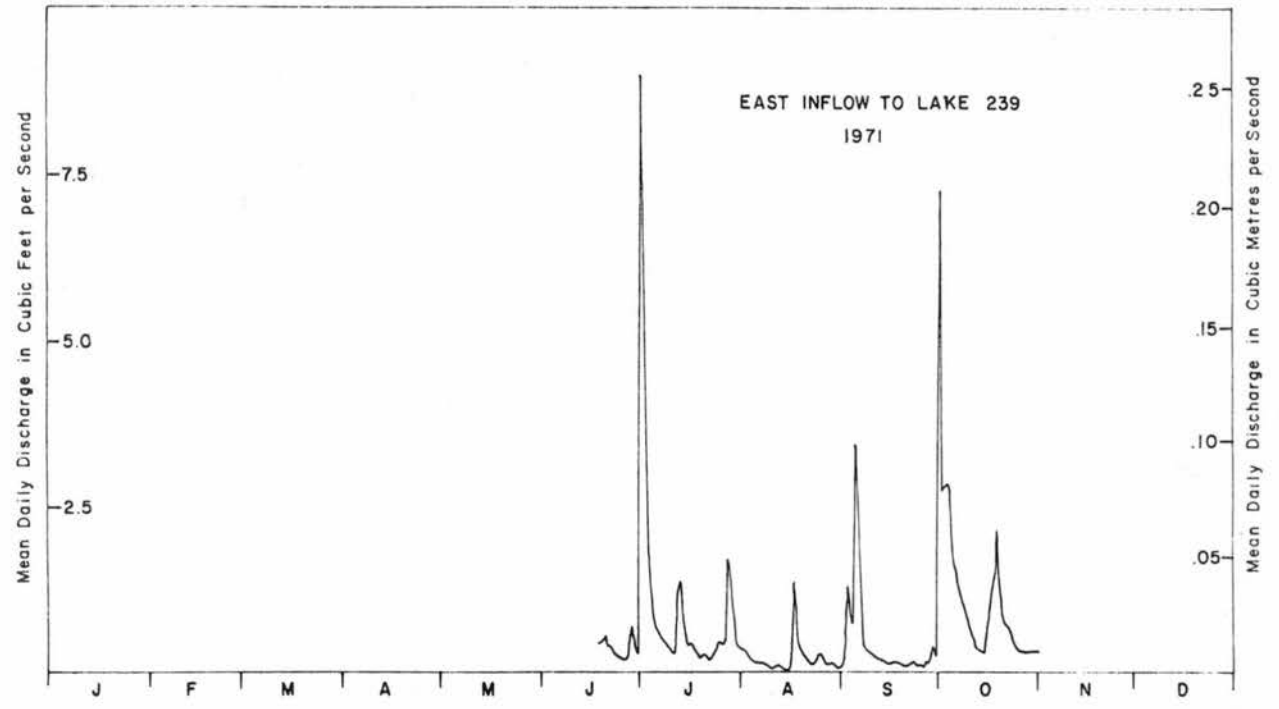


Fig. 30 Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1971.

Table 114 Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	0.37	0.22	0.50	0.28	0.70	---	---	1
2	---	---	---	---	1.58	0.33	0.22	0.55	0.28	0.74	---	---	2
3	---	---	---	---	1.36	0.28	0.18	0.47	0.28	0.67	---	---	3
4	---	---	---	---	1.27	0.28	0.18	0.37	0.43	0.58	---	---	4
5	---	---	---	---	1.05	0.28	0.16	0.33	0.33	0.55	---	---	5
6	---	---	---	---	1.10	0.25	0.14	0.25	1.66	0.50	---	---	6
7	---	---	---	---	0.96	0.22	0.22	0.25	3.00	0.47	---	---	7
8	---	---	---	---	0.87	0.18	0.28	0.33	1.53	0.43	0.55	---	8
9	---	---	---	---	0.74	0.14	0.25	0.25	0.74	0.40	---	---	9
10	---	---	---	---	0.70	0.14	0.22	0.22	0.55	0.40	---	---	10
11	---	---	---	---	0.63	0.37	4.90	0.22	0.43	0.63	---	---	11
12	---	---	---	---	0.58	0.37	2.55	0.25	0.40	0.55	---	---	12
13	---	---	---	---	0.83	0.33	1.45	0.28	0.40	0.50	---	---	13
14	---	---	---	---	1.14	0.33	3.68	0.28	0.37	0.47	---	---	14
15	---	---	---	---	0.79	0.28	2.55	0.70	0.50	0.43	---	---	15
16	---	---	---	---	0.63	0.25	1.53	0.55	0.74	0.40	---	---	16
17	---	---	---	---	0.55	0.22	1.53	0.43	0.43	0.37	---	---	17
18	---	---	---	---	0.50	0.22	1.10	0.37	0.37	0.33	---	---	18
19	---	---	---	---	0.47	2.86	0.79	0.33	0.33	0.33	---	---	19
20	---	---	---	4.25	1.45	0.96	0.79	3.44	0.33	0.33	---	---	20
21	---	---	---	---	0.83	0.63	0.67	5.50	0.28	0.33	---	---	21
22	---	---	---	---	0.63	0.43	0.58	2.86	0.28	0.33	---	---	22
23	---	---	---	12.2	0.58	0.37	0.55	1.66	0.37	0.33	---	---	23
24	---	---	---	---	0.50	0.33	0.50	1.18	1.76 E	0.33	---	---	24
25	---	---	---	7.0	0.40	0.25	0.47	0.83	1.00	0.33	---	---	25
26	---	---	---	---	0.55	0.18	0.40	0.63	0.67	---	---	---	26
27	---	---	---	4.5	0.40	0.18	0.40	0.58	0.67	---	---	---	27
28	---	---	---	---	1.76	0.18	0.37	0.47	1.10	---	---	---	28
29	---		---	---	0.87	0.28	0.37	0.33	0.87	---	---	---	29
30	---		---	---	0.58	0.33	1.18	0.33	0.70	---	---	---	30
31	---		---		0.47		0.74	0.28		---		---	31
TOTAL	---	---	---	---	(24.77)	11.82	29.17	25.02	21.08	(13.41)	---	---	TOTAL
MEAN	---	---	---	---	0.82	0.39	0.94	0.81	0.70	0.54	---	---	MEAN
AC-FT	---	---	---	---	49.1	23.4	57.8	49.6	41.8	26.6	---	---	AC-FT
MAX	---	---	---	---	1.76	2.86	4.9	5.5	3.0	0.74	---	---	MAX
MIN	---	---	---	---	0.40	0.14	0.14	0.22	0.28	0.33	---	---	MIN

SUMMARY FOR THE PERIOD MAY TO OCT

MEAN DAILY DISCHARGE, 0.71 CFS MAY 2 - OCT 25
TOTAL DISCHARGE, 248.4 AC-FT MAY 2 - OCT 25
MAXIMUM DAILY DISCHARGE, 5.5 CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0.14 CFS ON JUN 9

TYPE OF GAUGE - STAFF, MEAN DAILY DISCHARGES ARE BASED ON DAILY GAUGE READINGS

E-ESTIMATED
( ) total is for less than full month

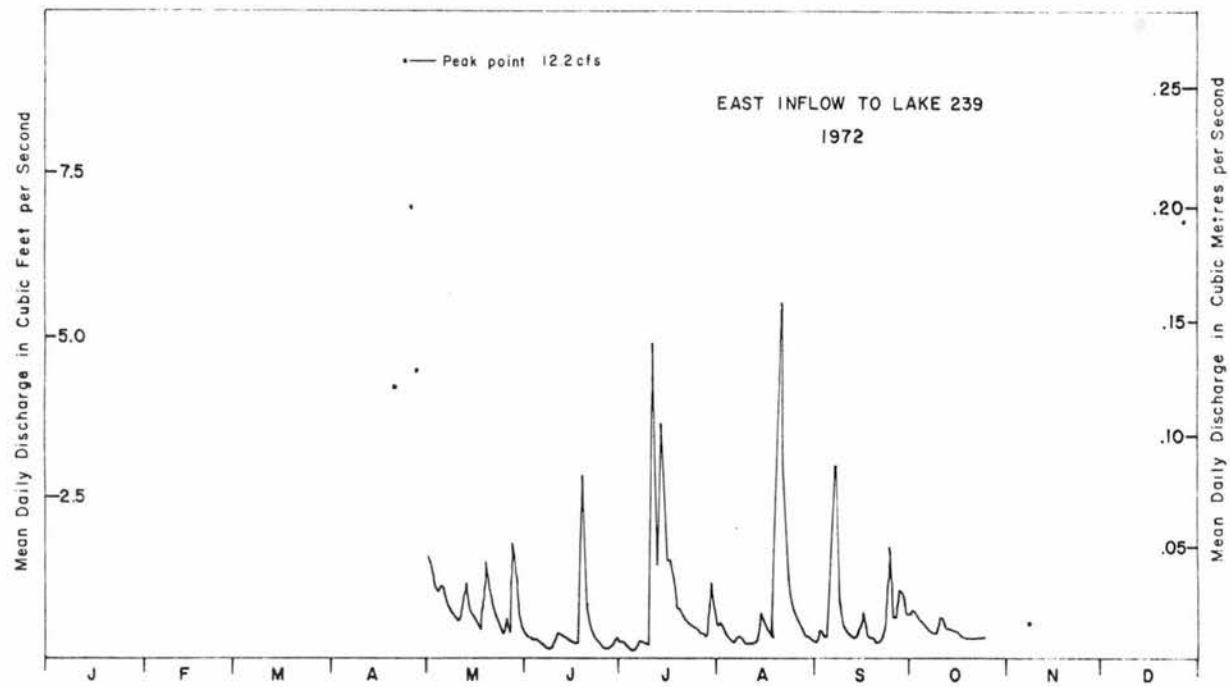


Fig. 30 Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1972.

Table 114 Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	0.30	0.30	0.38	0.70	0.45	0.34	---	1
2	---	---	---	---	---	0.30	0.22	0.26	3.65	0.38	0.30	---	2
3	---	---	---	---	0.42 A	0.34	0.20	0.22	2.76	0.92	0.30	---	3
4	---	---	---	---	0.38 A	0.45	0.18	0.22	3.82	1.40	0.26	---	4
5	---	---	---	---	---	0.38	0.18	0.22	2.67	0.87	0.22	---	5
6	---	---	---	---	---	0.34	0.20	1.30	1.57	0.62	0.20	---	6
7	---	---	---	---	0.75 A	0.30	4.27	0.87	0.92	0.45	0.18	---	7
8	---	---	---	---	0.62 A	0.30	2.80	0.83	0.58	0.42	0.15	---	8
9	---	---	---	---	0.58 A	0.34	1.26	3.14	0.42	1.30	0.15	---	9
10	---	---	---	---	0.83	0.38	0.58	3.00	0.30	1.69	0.12	---	10
11	---	---	---	---	0.70	0.34	0.42	1.73	0.26	2.12	0.15	---	11
12	---	---	---	---	0.54	0.30	0.30	1.00	0.26	6.77	0.15	---	12
13	---	---	---	---	0.45	0.22	0.26	0.66	0.26	4.00	0.15	---	13
14	---	---	---	---	0.38	0.26	0.20	0.42	0.30	3.09	---	---	14
15	---	---	---	---	0.38	0.58	0.18	0.30	0.26	2.37	---	---	15
16	---	---	---	---	0.38	0.45	0.15	0.30	0.26	1.65	---	---	16
17	---	---	---	---	0.34	1.57	0.15	0.22	0.22	1.30	---	---	17
18	---	---	---	---	0.34	1.57	0.18	0.20	0.22	1.13	---	---	18
19	---	---	---	---	0.34	1.48	0.18	0.30	0.22	1.00	---	---	19
20	---	---	---	---	0.34	1.30	0.15	0.26	0.22	0.83	---	---	20
21	---	---	---	---	0.34	0.75	0.12	0.22	0.45	0.75	---	---	21
22	---	---	---	---	0.34	0.54	0.12	0.18	4.00	0.62	---	---	22
23	---	---	---	---	0.50	0.45	0.12	0.18	2.59	0.54	---	---	23
24	---	---	---	---	0.50	0.38	0.18	0.15	1.48	0.50	---	---	24
25	---	---	---	---	0.70	0.42	0.22	0.15	2.12	0.45	---	---	25
26	---	---	---	---	0.75	0.66	0.87	0.15	2.04	0.42	---	---	26
27	---	---	---	---	0.58	1.00	4.57	0.15	1.40	0.42	---	---	27
28	---	---	---	---	0.45	0.58	1.95	0.12	1.00	0.38	---	---	28
29	---		---	---	0.38	0.50	0.96	0.10	0.70	0.34	---	---	29
30	---		---	---	0.34	0.38	0.62	0.10	0.58	0.34	---	---	30
31	---		---		0.34		0.45	0.10		0.34		---	31
TOTAL	---	---	---	---	---	17.16	22.54	17.43	36.23	37.86	---	---	TOTAL
MEAN	---	---	---	---	---	0.57	0.73	0.56	1.21	1.22	---	---	MEAN
AC-FT	---	---	---	---	---	34.0	44.7	34.6	71.9	75.1	---	---	AC-FT
MAX	---	---	---	---	---	1.57	4.57	3.14	4.00	6.77	---	---	MAX
MIN	---	---	---	---	---	0.22	0.12	0.10	0.22	0.34	---	---	MIN

SUMMARY FOR THE MONTHS MAY TO OCT

MEAN DISCHARGE, 0.76 CFS
TOTAL DISCHARGE, 291.3 AC-FT (MAY 2-NOV 13)
MAXIMUM DAILY DISCHARGE,6.77 CFS ON OCT 12
MINIMUM DAILY DISCHARGE, 0.10 CFS ON AUG 29

MAXIMUM INSTANTANEOUS DISCHARGE
8.67 CFS AT 1200 CST ON JUL 7

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

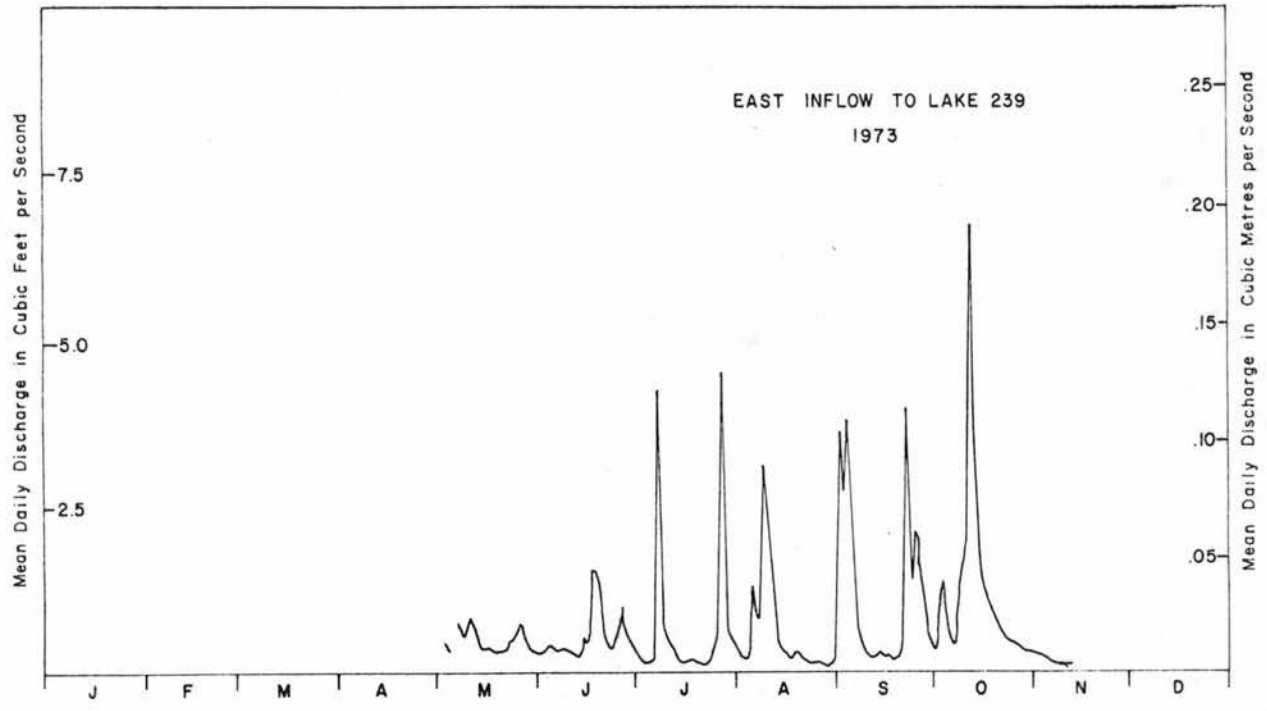


Fig. 30 Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1973.

Table 114 Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	3.14	0.66	0.15	0.26	1.18	0.80	0.43	---	1
2	---	---	---	---	2.46	0.50	0.20	0.34	0.94	0.68	0.43	---	2
3	---	---	---	---	2.20	0.50	0.18	0.26	0.74	0.62	0.47	---	3
4	---	---	---	---	1.94	0.42	0.22	0.26	0.68	0.57	0.43	---	4
5	---	---	---	---	1.52	1.78	0.22	0.23	0.62	1.28	0.43	---	5
6	---	---	---	---	1.35	10.71	0.20	0.23	0.57	1.68	0.43	---	6
7	---	---	---	---	1.09	6.97	0.20	0.16	0.57	1.38	0.43	---	7
8	---	---	---	---	1.09	3.65	0.26	0.16	0.52	1.18	0.52	---	8
9	---	---	---	---	1.09	2.71	0.42	0.16	0.39	1.02	0.52	---	9
10	---	---	---	---	1.00	2.12	0.34	0.34	0.47	0.80	0.47	---	10
11	---	---	---	---	4.22	1.44	0.26	1.68	0.52	0.74	0.43	---	11
12	---	---	---	---	6.65	1.26	0.34	1.48	0.52	0.68	0.43	---	12
13	---	---	---	---	3.45	1.00	0.26	0.94	0.47	0.68	0.34	---	13
14	---	---	---	---	2.92	1.61	0.22	0.87	0.47	0.68	---	---	14
15	---	---	---	---	2.80	1.35	0.20	7.38	0.47	0.74	---	---	15
16	---	---	---	---	2.46	1.00	0.26	2.77	0.74	0.94	---	---	16
17	---	---	---	---	2.71	0.66	0.50	1.58	1.10	1.10	---	---	17
18	---	---	---	---	2.20	0.58	0.38	1.18	1.38	0.87	---	---	18
19	---	---	---	---	2.04	0.42	0.30	0.87	1.18	0.74	---	---	19
20	---	---	---	---	4.70	0.34	0.26	1.78	0.87	0.68	---	---	20
21	---	---	---	---	4.70	0.26	0.22	4.20	0.74	0.62	---	---	21
22	---	---	---	---	3.31	0.26	0.22	2.00	0.68	0.57	---	---	22
23	---	---	---	---	2.63	0.20	0.18	1.48	0.57	0.52	---	---	23
24	---	---	---	---	2.04	0.20	0.20	1.10	0.57	0.52	---	---	24
25	---	---	---	5.48	1.78	0.20	0.20	0.87	0.57	0.47	---	---	25
26	---	---	---	8.67	1.52	0.15	0.20	0.80	0.52	0.47	---	---	26
27	---	---	---	7.99	1.26	0.15	0.20	0.68	0.52	0.43	---	---	27
28	---	---	---	5.48	1.09	0.15	0.20	0.80	0.47	0.43	---	---	28
29	---		---	4.00	0.92	0.15	0.26	1.18	0.57	0.43	---	---	29
30	---		---	3.40	0.75	0.15	0.26	2.13	0.94	0.43	---	---	30
31	---		---		0.75		0.26	1.89		0.43		---	31
TOTAL	---	---	---	---	71.78	41.55	7.77	40.26	20.77	23.28	---	---	TOTAL
MEAN	---	---	---	---	2.32	1.38	0.25	1.30	0.69	0.75	---	---	MEAN
AC-FT	---	---	---	---	142.4	82.4	15.4	79.8	41.2	46.2	---	---	AC-FT
MAX	---	---	---	---	6.65	10.7	0.50	7.38	1.38	1.68	---	---	MAX
MIN	---	---	---	---	0.75	0.15	0.15	0.16	0.39	0.43	---	---	MIN

SUMMARY FOR THE PERIOD APR 25 TO NOV 13

MEAN DISCHARGE, 1.21 CFS
TOTAL DISCHARGE, 488.3 AC-FT
MAXIMUM DAILY DISCHARGE, 10.7 CFS ON JUN 6
MINIMUM DAILY DISCHARGE, 0.15 CFS ON JUN 26

MAXIMUM INSTANTANEOUS DISCHARGE
12.6 CFS AT 1300 ON JUN 6

TYPE OF GAUGE - RECORDING

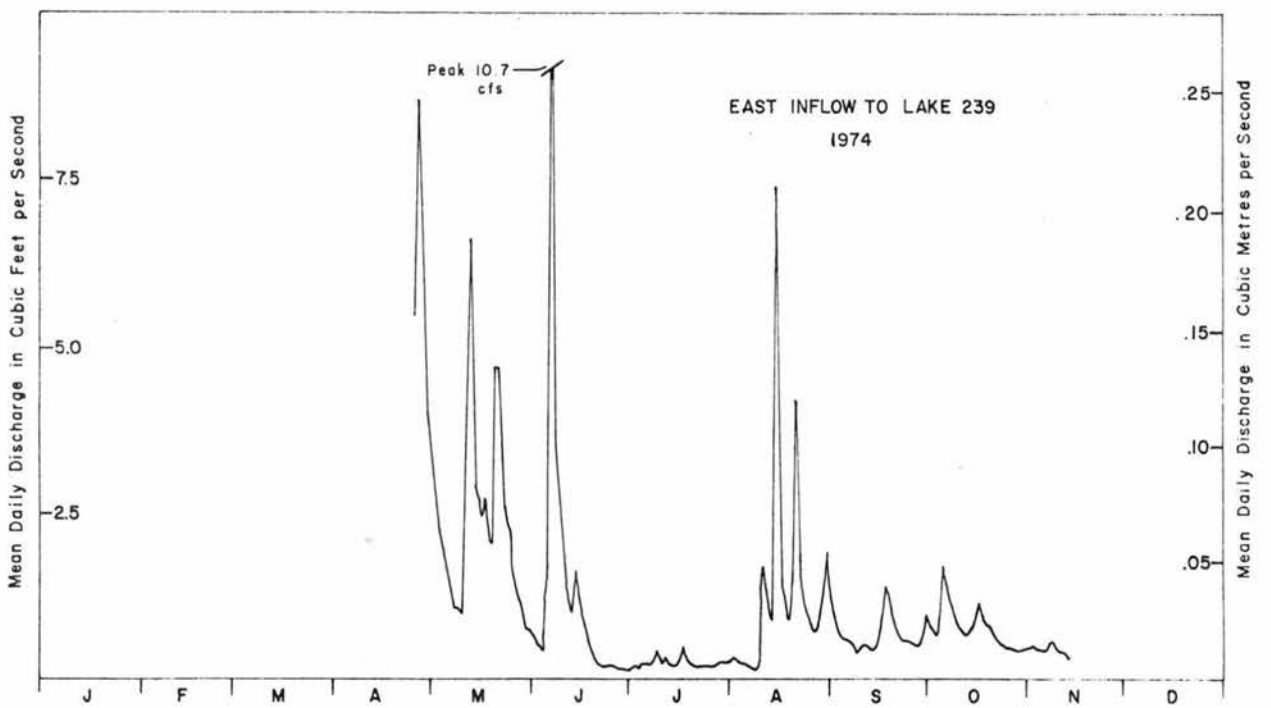


Fig. 30 Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1974.

Table 114. Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1975. The values in this table were computed by ELA hydrologic studies staff and differ from earlier WSC values because of an updated rating curve that was used.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	0 E	0.13 E	2.53 E	0.56 E	2.76	0.16	0.84	0.27	0.76	---	1
2	---	---	---	0.14 E	2.53 E	0.49 E	1.90	0.13	0.48	0.32	0.61	---	2
3	---	---	---	0.14 E	2.53 E	0.49 E	1.22	0.11	0.37	0.27	0.54	---	3
4	---	---	---	0.15 E	2.22 E	0.49 E	0.76	0.06	0.27	0.23	0.42	---	4
5	---	---	---	0.15 E	1.80 E	0.73 E	0.54	0.05	0.23	0.27	0.42	---	5
6	---	---	---	0.16 E	1.60 E	0.80 E	0.48	0.02	0.32	0.23	0.37 A	---	6
7	---	---	---	0.16 E	1.36 E	0.70 E	0.37	0.02	1.90	0.23	0.32 E	---	7
8	---	---	---	0.17 E	1.22 E	0.56 E	0.32	0.05	1.56	0.23	0.27 E	---	8
9	---	---	---	0.17 E	1.04 E	0.48 E	0.32	0.05	0.84	0.23	0.27 A	---	9
10	---	---	---	0.18 E	0.94 E	0.48 E	0.27	0.03	0.93	0.32	0.23 E	---	10
11	---	---	---	0.19 E	0.84 E	0.45 E	0.23	0.08	1.22	0.23	0.23 A	---	11
12	---	---	---	0.19 E	0.73 E	0.42 E	0.16	0.11	0.84	0.27	0.20 A	---	12
13	---	---	---	0.20 E	0.73 E	0.42 E	0.16	0.06	0.61	0.27	0.20 E	---	13
14	---	---	---	0.20 E	0.84 E	0.42 E	0.13	0.06	0.48	0.54	0.20 E	---	14
15	---	---	---	1.00 E	0.80 E	0.38 E	0.11	0.08	0.37	0.93	0.20 E	---	15
16	---	---	---	2.65 E	0.63 E	0.35 E	0.11	0.05	0.32	0.76	0.20 E	---	16
17	---	---	---	4.15 A	0.56 E	0.35 E	0.08	0.03	0.27	0.54	0.20 E	---	17
18	---	---	---	4.45 E	0.56 E	0.35 E	0.08	0.02	0.37	0.42	0.20 A	---	18
19	---	---	---	4.70 E	0.56 E	0.35 E	0.06	0.02	0.84	0.37	---	---	19
20	---	---	0.05 A	4.90 E	0.52 E	0.93	0.08	0.11	1.22	0.27	---	---	20
21	---	---	0.05 E	5.15 A	0.59 E	2.17	0.08	0.84	0.93	0.27	---	---	21
22	---	---	0.06 E	4.95 E	0.52 E	7.82	0.06	0.42	0.68	0.23	---	---	22
23	---	---	0.07 E	4.80 A	3.65 E	5.23	0.06	1.90	0.54	0.27	---	---	23
24	---	---	0.08 E	4.70 E	3.23 E	2.08	0.08	1.44	0.42	0.42	---	---	24
25	---	---	0.09 E	4.10 A	1.87 E	1.32	0.06	0.84	0.42	0.76	---	---	25
26	---	---	0.10 E	2.80 A	1.39 E	0.93	0.06	0.61	0.37	0.68	---	---	26
27	---	---	0.11 E	2.45 A	1.00 E	0.61	0.08	0.42	0.32	0.84	---	---	27
28	---	---	0.12 E	2.30	0.84 E	0.61	0.05	0.37	0.27	1.11	---	---	28
29	---	---	0.12 E	2.00 E	0.70 E	0.61	0.02	0.27	0.27	0.84	---	---	29
30	---		0.13 E	2.00 E	0.59 E	4.58	0.02	0.23	0.27	0.76	---	---	30
31	---		---		0.56 E		0.01	0.37		0.76		---	31
TOTAL	---	---	---	59.43	39.48	36.16	10.72	9.01	18.77	14.14	---	---	TOTAL
MEAN	---	---	---	1.98	1.27	1.20	0.35	0.29	0.62	0.46	---	---	MEAN
AC-FT	---	---	---	117.9	78.3	71.7	21.3	17.9	37.2	28.0	---	---	AC-FT
MAX	---	---	---	5.15	3.65	7.82	2.76	1.90	1.90	1.11	---	---	MAX
MIN	---	---	---	0.13	0.52	0.35	0.01	0.02	0.23	0.23	---	---	MIN

SUMMARY FOR THE PERIOD APR 1 TO NOV 20

MEAN DISCHARGE, 0.83 CFS
TOTAL DISCHARGE, 384 AC-FT
MAXIMUM DAILY DISCHARGE, 7.82 CFS ON JUN 22
MINIMUM DAILY DISCHARGE, 0.01 CFS ON JUL 31

TYPE OF GAUGE-RECORDING — A-MANUAL GAUGE
NATURAL FLOW — E-ESTIMATE

USED STAGE DISCHARGES TABLE #7 (NOV 1976)

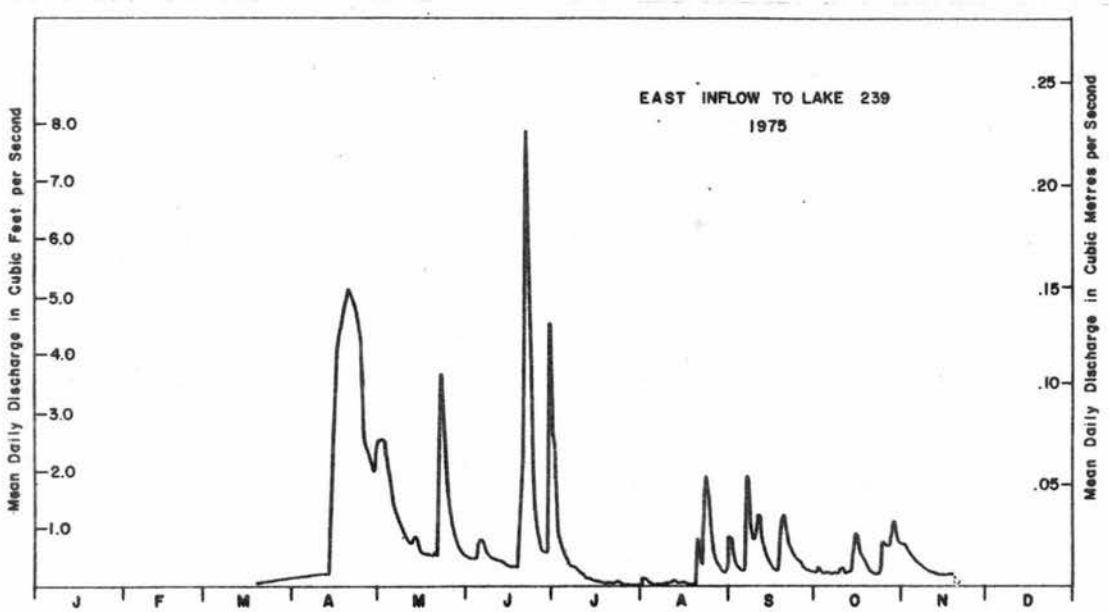


Fig. 30. Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1975.

Table 114. Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1976. The values in this table were computed by ELA hydrologic studies staff and compare closely with values computed by WSC except in early April. Due to backwater and ice conditions, WSC published values from April 1 to 11 are in error.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0 E	0 E	0 E	B	0.68	0.08	0.76	0	0.06	0.05	0.06 E	---	1
2	0 E	0 E	0 E	B	0.61	0.08	0.32	0	0.05	0.03	0.06 E	---	2
3	0 E	0 E	0 E	B	0.48	0.06	0.16	0	0.06	0.03	0.06 E	---	3
4	0 E	0 E	0 E	B	0.48	0.05	0.13	0	0.06	0.08	0.06 E	---	4
5	0 E	0 E	0 E	B	0.37	0.03	0.13	0	0.05	0.11	0.06 E	---	5
6	0 E	0 E	0 E	B	0.32	0.03	0.13	0	0.03	0.06	0.06 E	---	6
7	0 E	0 E	0 E	B	0.27	0.08	0.11	0	0.02	0.05	0.06 E	---	7
8	0 E	0 E	0 E	B	0.27	0.08	0.08	0	0.02	0.08	0.06 E	---	8
9	0 E	0 E	0 E	B	0.23	0.08	0.06	0.31	0.02	0.13	0.05 E	---	9
10	0 E	0 E	0 E	B	0.23	0.23	0.06	2.17	0.02	0.11	0.05 E	---	10
11	0 E	0 E	0 E	B	0.20	0.11	0.05	0.76	0.01	0.08	0.05 E	---	11
12	0 E	0 E	0 E	1.90	0.16	0.37	0.05	0.37	0.01	0.08	0.05 E	---	12
13	0 E	0 E	0 E	1.99	0.32	0.68	0.11	0.27	0.16	0.06	0.05 E	---	13
14	0 E	0 E	0 E	2.56	0.54	1.32	0.11	0.16	0.13	0.11	0.05 E	---	14
15	0 E	0 E	0 E	2.66	0.42	0.76	0.08	0.11	0.11	0.11	0.05 E	---	15
16	0 E	0 E	0 E	7.98	0.37	0.48	0.08	0.08	0.08	0.11	0.03 E	---	16
17	0 E	0 E	0 E	5.63	0.23	0.42	0.06	0.06	0.06	0.08	0.03 E	---	17
18	0 E	0 E	0 E	2.76	0.20	0.68	0.03	0.05	0.05	0.08	0.03 A	---	18
19	0 E	0 E	0 E	1.90	0.16	0.93	0.02	0.23	0.05	0.08	0.03 E	---	19
20	0 E	0 E	0 E	1.44	0.16	0.54	0.02	0.32	0.05	0.11	0.03 E	---	20
21	0 E	0 E	0 E	1.32	0.13	0.32	0	0.23	0.05	0.13	0.03 E	---	21
22	0 E	0 E	0 E	1.22	0.13	0.23	0.01	0.11	0.06	0.11	0.02 E	---	22
23	0 E	0 E	0 E	1.02	0.11	0.16	0.02	0.06	0.06	0.08	0.02 E	---	23
24	0 E	0 E	0 E	0.76	0.11	0.13	0	0.05	0.05	0.08	0.02 E	---	24
25	0 E	0 E	0 E	0.68	0.11	1.81	0.01	0.03	0.05	0.08	0.02 E	---	25
26	0 E	0 E	0 E	0.48	0.11	4.58	0	0.03	0.11	0.08 E	0.02 E	---	26
27	0 E	0 E	0 E	0.48	0.11	2.97	0	0.27	0.08	0.08 E	0.02 E	---	27
28	0 E	0 E	0 E	0.42	0.08	1.81	0.02	0.23	0.06	0.08 E	0.02 E	---	28
29	0 E	0 E	0 E	0.37	0.08	1.11	0.03	0.13	0.06	0.08 E	0.02 E	---	29
30	0 E		0.15 A	0.48	0.08	0.68	0.03	0.08	0.05	0.08 E	0.02 E	---	30
31	0 E		0.23 A		0.08		0.02	0.06		0.08 E		---	31
TOTAL	0 E	0 E	0.38	(36.05)	7.83	20.89	2.69	6.17	1.73	2.59	1.19	---	TOTAL
MEAN	0 E	0 E	0.01	---	0.25	0.70	0.09	0.20	0.06	0.08	0.04	---	MEAN
AC-FT	0 E	0 E	0.75	---	15.53	41.44	5.34	12.24	3.43	5.14	2.36	---	AC-FT
MAX	0 E	0 E	0.23	---	0.68	4.58	0.76	2.17	0.16	0.13	0.06	---	MAX
MIN	0 E	0 E	0 E	---	0.08	0.03	0	0	0.01	0.03	0.02	---	MIN

SUMMARY FOR THE MONTHS JAN TO DEC

MEAN DISCHARGE ---
TOTAL DISCHARGE ---
MAXIMUM DAILY DISCHARGE 7.98 CFS ON APR 16
MINIMUM DAILY DISCHARGE 0 CFS ON AUG 1
MAXIMUM INSTANTANEOUS DISCHARGE 11.3 CFS AT 13:00 CST ON APR 16

TYPE OF GAUGE-RECORDING
NATURAL FLOW

USED RATING TABLE #7 (NOV 1976)

A-MANUAL GAUGE
E-ESTIMATED
B-ICE CONDITIONS

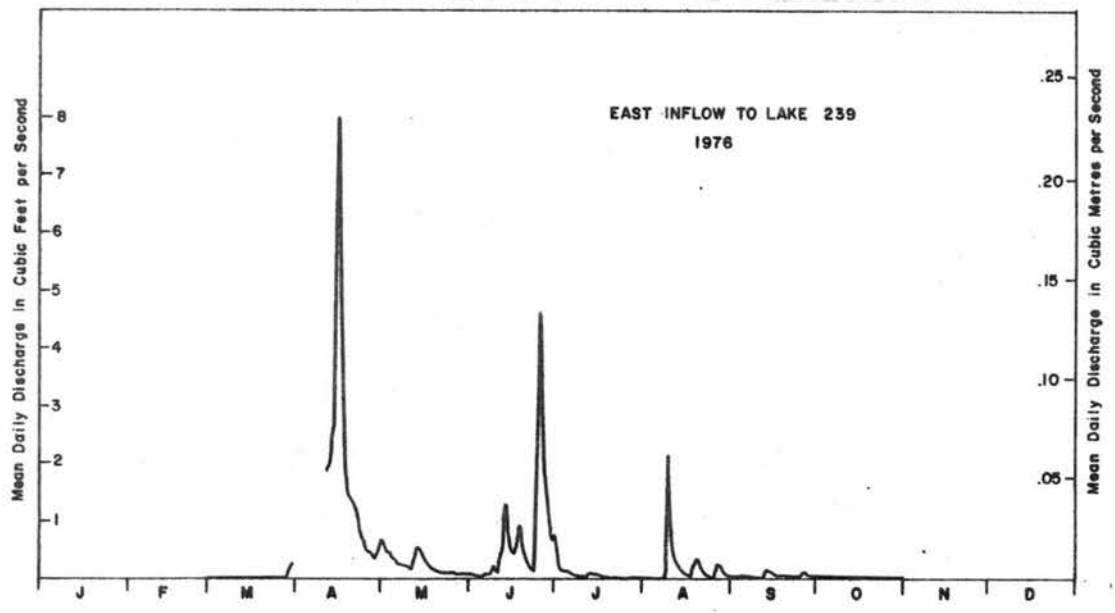


Fig. 30. Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1976.

Table 114. Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1977. The data in this table were computed by ELA hydrologic studies staff. The values for April and November provided here differ greatly from those previously published by WSC but were substantiated by manual gauge observations.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0 E	0 E	0 E	0.22 E	0.41	1.57	1.49	0.62	0.54	0.54	0.30	0.64 E	1
2	0 E	0 E	0 E	0.26 E	0.30	1.11	0.99	0.25	0.48	0.54	0.25	0.62 E	2
3	0 E	0 E	0 E	0.28 E	0.30	0.79	0.79	0.25	0.35	0.54	0.25	0.60 E	3
4	0 E	0 E	0 E	0.30 E	0.35	0.70	0.48	0.25	0.48	0.54	0.17	0.58 E	4
5	0 E	0 E	0 E	0.33 E	1.41	0.88	0.48	0.21	0.48	0.54	0.17	0.55 E	5
6	0 E	0 E	0 E	0.35 A	3.84	0.99	0.48	0.17	0.41	0.41	0.17	0.52 E	6
7	0 E	0 E	0 E	0.35 A	1.82	1.11	0.35	0.11	0.30	0.41	0.17	0.50 E	7
8	0 E	0 E	0 E	0.35 E	1.34	0.99	0.25	0.11	0.41	0.41	0.21	0.48 E	8
9	0 E	0 E	0 E	0.35 E	0.88	0.54	0.14	0.09	4.43	0.41	0.35	0.46 E	9
10	0 E	0 E	0 E	1.30 E	1.34	0.41	0.11	0.06	3.72	0.35	0.35	0.43 E	10
11	0 E	0 E	0 E	2.60 E	1.41	0.54	0.11	0.06	1.82	0.35	0.70	0.40 E	11
12	0 E	0 E	0 E	3.70 E	1.11	0.35	0.25	0.06	1.34	0.35	0.70	0.38 E	12
13	0 E	0 E	0 E	2.80 E	0.88	0.70	0.17	0.06	1.11	0.30	0.62	0.36 E	13
14	0 E	0 E	0 E	1.99 A	0.70	1.99	0.54	0.06	0.88	0.30	0.41	0.33 E	14
15	0 E	0 E	0 E	1.65 A	0.79	3.95	0.30	0.06	0.70	0.25	0.46 E	0.31 E	15
16	0 E	0 E	0 E	1.49	0.79	3.61	0.17	0.09	0.62	0.25	0.49 E	0.29 E	16
17	0 E	0 E	0 E	1.49	0.62	1.91	0.14	0.14	0.54	0.25	0.52 E	0.27 E	17
18	0 E	0 E	0 E	1.49	0.54	4.43	0.09	0.09	0.48	0.25	0.55 E	0.24 E	18
19	0 E	0 E	0 E	1.19	0.79	2.36	0.14	0.06	0.41	0.21	0.59 E	0.21 A	19
20	0 E	0 E	0 E	0.99	2.27	2.27	0.14	0.05	0.35	0.21	0.62 E	0.20 E	20
21	0 E	0 E	0 E	0.70	1.91	1.57	0.09	0.05	0.30	0.21	0.65 E	0.19 E	21
22	0 E	0 E	0 E	0.70	1.49	1.26	0.06	0.09	0.25	0.21	0.68 E	0.18 E	22
23	0 E	0 E	0 E	0.54	1.99	0.99	0.05	0.11	0.25	0.21	0.71 E	0.17 E	23
24	0 E	0 E	0 E	0.48	1.49	0.79	0.05	0.06	0.79	0.17	0.75 E	0.16 E	24
25	0 E	0 E	0 E	0.48	1.11	0.62	0.03	0.06	1.49	0.17	0.79 A	0.16 E	25
26	0 E	0 E	0 E	0.48	0.88	0.48	0.02	0.62	1.41	0.17	0.76 E	0.15 E	26
27	0 E	0 E	0 E	0.41	1.74	0.35	0.01	0.70	1.11	0.14	0.73 E	0.14 E	27
28	0 E	0 E	0 E	0.35	1.26	0.54	0.03	1.11	0.99	0.11	0.71 E	0.13 E	28
29	0 E	0 E	0.40 A	0.30	0.99	0.54	0.11	0.88	0.70	0.11	0.69 E	0.12 E	29
30	0 E		0.20 E	0.35	0.79	1.26	0.41	0.62	0.54	0.11	0.67 E	0.11 E	30
31	0 E		0.21 E		1.41		1.34	0.62		0.25		0.10 E	31
TOTAL	0	0	0.81	28.27	36.97	39.60	9.81	7.77	27.68	9.27	15.19	9.98	TOTAL
MEAN	0	0	0.03	0.94	1.19	1.32	0.32	0.25	0.92	0.30	0.51	0.32	MEAN
AC-FT	0	0	1.61	56.07	73.29	78.55	19.46	15.41	54.90	18.39	30.13	19.80	AC-FT
MAX	0	0	0.40	3.70	3.84	4.43	1.49	1.11	4.43	0.54	0.79	0.64	MAX
MIN	0	0	0.20	0.22	0.30	0.35	0.01	0.05	0.25	0.11	0.17	0.10	MIN

SUMMARY FOR THE MONTHS JAN TO DEC

MEAN DISCHARGE, 0.51 CFS
TOTAL DISCHARGE, 368 AC-FT
MAXIMUM DAILY DISCHARGE 4.43 CFS ON JUN 18 AND SEP 9
MINIMUM DAILY DISCHARGE 0 CFS
MAXIMUM INSTANTANEOUS DISCHARGE 8.80 CFS AT 18:00 CST ON SEP 9

TYPE OF GAUGE-RECORDING
NATURAL FLOW

A-MANUAL GAUGE
E-ESTIMATED

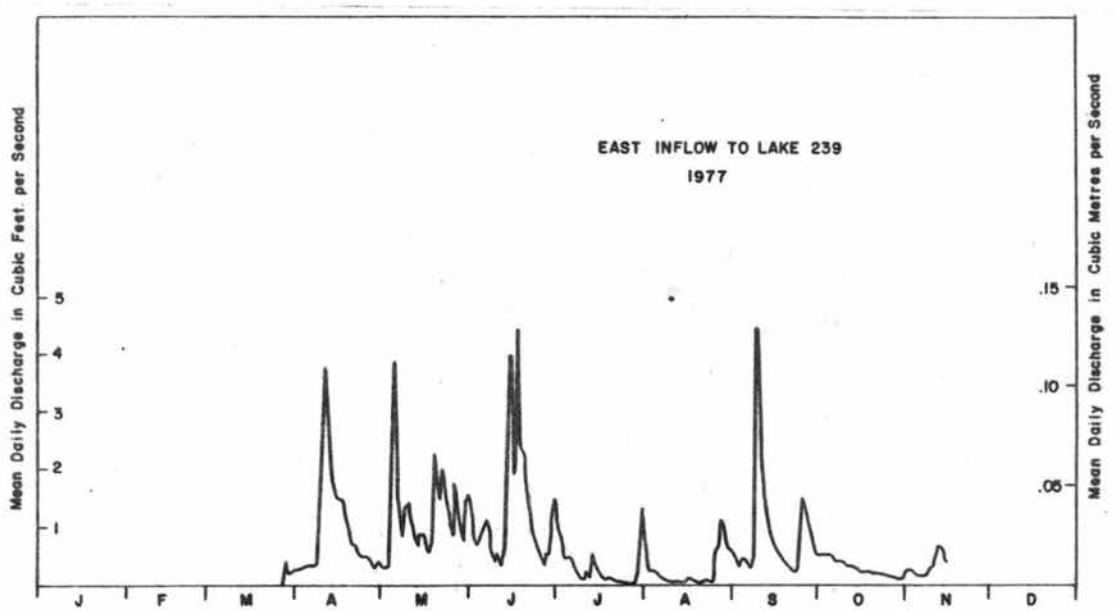


Fig. 30. Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1977.

Table 114. Mean daily discharges in cubic feet per second for the East inflow to Lake 239 for 1978. The data in this table were computed by WSC with the exception of winter "A" readings and portions of the springmelt hydrograph which were made by ELA hydrologic studies staff. Backwater conditions affected the rating from April 17 to 23 and estimates were substantiated with discharge measurements.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.08 E	1.8	3.9	0.10	0.46	0.38	0.43	---	---	1
2	---	---	---	0.09 E	1.5	2.7	0.09	1.3	0.38	0.33	---	---	2
3	---	---	---	0.10 E	1.5	1.6	0.08	1.0	0.29	0.29	---	---	3
4	0.06 A	---	---	0.13 E	1.4	1.2	0.14	0.61	0.25	0.29	---	---	4
5	---	---	---	0.15 E	1.2	0.89	0.86	0.38	0.20	0.33	---	---	5
6	---	---	---	0.17 A	0.99	0.85	0.63	0.24	0.20	0.28	---	---	6
7	---	---	---	0.17 A	0.84	1.0	0.47	0.18	0.19	0.22	---	---	7
8	---	---	---	0.45	1.5	0.79	0.33	0.16	0.18	0.18	---	---	8
9	---	---	---	0.48	1.5	0.71	0.30	0.14	0.17	0.17	---	---	9
10	---	---	---	0.58	1.2	0.61	0.23	0.13	0.15	0.18	---	---	10
11	---	---	---	0.69	1.2	0.50	0.16 A	0.12	0.15	0.18	---	---	11
12	---	---	---	0.71 A	1.0	0.43	0.24	0.09	0.13	0.18	---	---	12
13	---	---	---	0.75	0.86	0.32	0.20	0.10	0.45	0.16	---	---	13
14	---	---	---	0.74	0.69	0.33	0.48	0.11	2.0	0.16	---	---	14
15	---	---	0.02 A	0.76	0.61	0.28	0.29	0.38	1.6	0.49	---	---	15
16	---	---	---	0.75	0.55	0.28	0.17	0.74	1.1	0.42	---	---	16
17	---	---	---	0.99 A	0.50	0.19	0.16	0.54	0.87	0.32	---	---	17
18	---	---	---	1.75 E	0.47	0.18	0.47	1.7	0.65	0.25	---	0.05 A	18
19	---	0.02 A	---	2.45 E	0.48	0.17	0.47	1.0	0.53	0.21	---	---	19
20	---	---	---	3.1 A	0.51	0.19	0.53	0.61	0.45	0.18	---	---	20
21	---	---	---	4.5 E	0.44	0.17	0.31	0.33	0.37	0.18	---	---	21
22	---	---	---	6.4 E	0.48	0.15	0.19	0.27	0.31	0.18	---	---	22
23	---	0.01 A	---	7.2 E	0.76	0.12	0.39	0.23	0.19	0.17	---	---	23
24	---	---	---	10.7	0.64	0.21	0.37	0.20	0.18	0.18	---	---	24
25	---	---	---	10.0	0.57	0.39	0.29	0.18	0.17	0.18	---	---	25
26	---	---	---	9.4	6.5	0.29	0.21	0.18	0.17	0.18	---	---	26
27	0.06 A	---	---	8.3	3.6	0.29	0.18	0.38	0.17	0.19	---	---	27
28	---	---	---	6.1	1.9	0.25	0.17	0.76	0.24	0.18	---	---	28
29	---		0.03 A	4.1	1.7	0.16	0.16	0.50	0.84	0.18	---	---	29
30	---		0.03 A	2.4	2.6	0.12	0.15	0.30	0.57	0.18	---	---	30
31	---		---		2.0		0.22	0.21		0.17		---	31
TOTAL	---	---	---	84.19	41.49	19.27	9.04	13.53	13.53	7.22	---	---	TOTAL
MEAN	---	---	---	2.8	1.3	0.64	0.29	0.44	0.45	0.23	---	---	MEAN
AC-FT	---	---	---	167	82.3	38.2	17.9	26.8	26.8	14.3	---	---	AC-FT
MAX	---	---	---	10.7	6.5	3.9	0.86	1.7	2.0	0.49	---	---	MAX
MIN	---	---	---	0.08	0.44	0.12	0.08	0.09	0.13	0.16	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.88 CFS
TOTAL DISCHARGE, 373 AC-FT
MAXIMUM DAILY DISCHARGE, 10.7 CFS ON APR 24
MINIMUM DAILY DISCHARGE, 0.08 CFS ON JUL 3

MAXIMUM INSTANTANEOUS DISCHARGE
14.6 CFS AT 1934 CST ON APR 24

TYPE OF GAUGE - RECORDING

E-ESTIMATED
A-MANUAL GAUGE
NATURAL FLOW

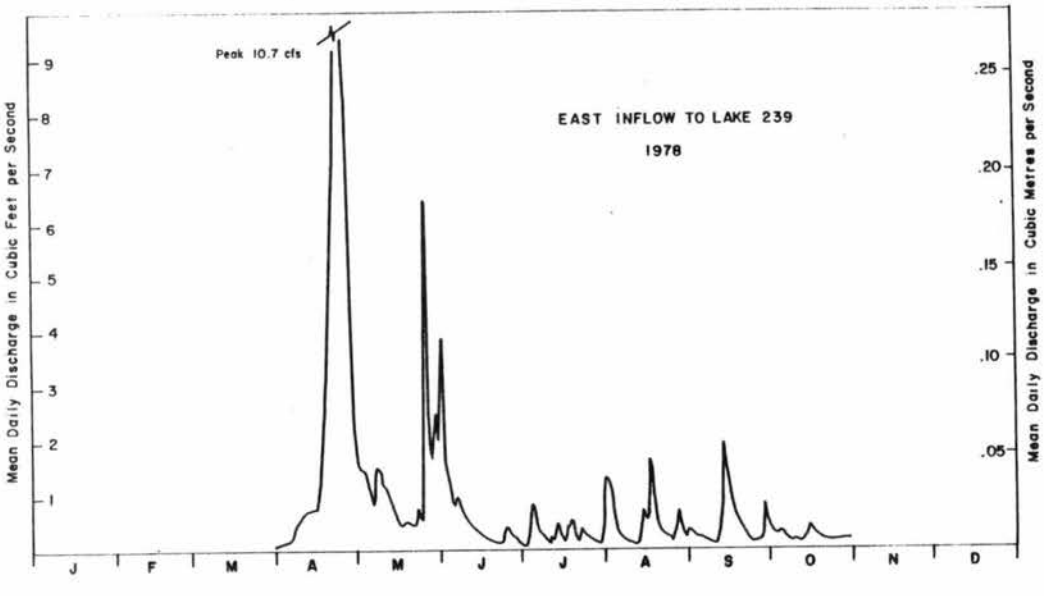


Fig. 30. Annual hydrograph based on mean daily discharges for the East inflow to Lake 239 for 1978.

East Upper Weir Hydrological Data 1973 to 1978

The East Upper weir is located mid-way up the East Subbasin where the stream conveniently flows over exposed bedrock effectively dividing the subbasin into two almost equal parts. The upper basin has an area of 90.78 ha (224.32 acres) or 53.3% of the total East Subbasin. The weir is located at approximately latitude 49 39 50 and longitude 93 42 00. A basin topographical map of the East Subbasin (Fig. 29) includes the east upper basin. The 20 foot contour interval is based on mapping by Western Photogrammetry (1970) and is related to an assumed datum.

Hydrological work at this station began August 22, 1973 when ELA staff constructed a 90° V-notch sharp crested weir. Initial intentions were to operate the station for one year and,therefore, only a temporary structure with sand bag walls was built. In May 1974, high storm runoff washed out the wingwalls and the station was discontinued. Following the June 1974 forest fire, which completely burned the East Subbasin, it was decided to reconstruct the station to monitor post fire runoff through regeneration stages of the forest development. In July 1974, a 120° V-notch sharp crested recording weir set in concrete was constructed by ELA staff. This station has been referred to as the rock lip weir in some early reports. The effects of the fire and the preceding windstorm (1973) have been discussed by Schindler et al. (1980).

Mean daily discharge and annual hydrographs for the period of record from 1973 to 1978 are provided in Tables 115 and Figures 31. Mean daily discharges during the period of record have ranged from a minimum of 0 to a maximum of 4.2 cubic feet per second (0.12 m^3/sec). The maximum instantaneous discharge recorded was 6.6 cubic feet per second (0.19 m^3/sec). This station behaves very well during most of the flow season but is difficult to operate during the rising limb and peak segments of the springmelt hydrograph due to flood ice build-up. For this reason, it is necessary to visit this station shortly before the expected peak. Service and computation of discharges were by ELA staff in 1973 and 1974 but in 1975 responsibility for this weir was transfered to WSC and was included in their regular network of stations. Original charts for 1973 and 1974 are Stevens type F weekly charts and on file with the ELA hydrologic studies office. Original charts for 1975 to 1978 are on file with WSC. A standard rain gauge is located beside the weir and was read weekly since 1976.

Table 115 Mean daily discharges in cubic feet per second for the East Upper Weir for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	0.46	0.38	0.35	---	1
2	---	---	---	---	---	---	---	---	0.80	0.35	0.34	---	2
3	---	---	---	---	---	---	---	---	0.63	0.47	0.33	---	3
4	---	---	---	---	---	---	---	---	0.80	0.53	0.31	---	4
5	---	---	---	---	---	---	---	---	0.68	0.45	0.30	---	5
6	---	---	---	---	---	---	---	---	0.55	0.39	0.28	---	6
7	---	---	---	---	---	---	---	---	0.47	0.37	---	---	7
8	---	---	---	---	---	---	---	---	0.42	0.36	---	---	8
9	---	---	---	---	---	---	---	---	0.39	0.53	---	---	9
10	---	---	---	---	---	---	---	---	0.35	0.59	---	---	10
11	---	---	---	---	---	---	---	---	0.32	0.62	---	---	11
12	---	---	---	---	---	---	---	---	0.31	0.95	---	---	12
13	---	---	---	---	---	---	---	---	0.32	0.75	---	---	13
14	---	---	---	---	---	---	---	---	0.36	0.62	---	---	14
15	---	---	---	---	---	---	---	---	0.35	0.55	---	---	15
16	---	---	---	---	---	---	---	---	0.32	0.48	---	---	16
17	---	---	---	---	---	---	---	---	0.31	0.46	---	---	17
18	---	---	---	---	---	---	---	---	0.28	0.45	---	---	18
19	---	---	---	---	---	---	---	---	0.28	0.43	---	---	19
20	---	---	---	---	---	---	---	---	0.27	0.42	---	---	20
21	---	---	---	---	---	---	---	---	0.35	0.40	---	---	21
22	---	---	---	---	---	---	---	---	0.84	0.39	---	---	22
23	---	---	---	---	---	---	---	0.25	0.64	0.38	---	---	23
24	---	---	---	---	---	---	---	0.23	0.52	0.38	---	---	24
25	---	---	---	---	---	---	---	0.23	0.64	0.38	---	---	25
26	---	---	---	---	---	---	---	0.24	0.60	0.37	---	---	26
27	---	---	---	---	---	---	---	0.23	0.52	0.37	---	---	27
28	---	---	---	---	---	---	---	0.21	0.46	0.36	---	---	28
29	---		---	---	---	---	---	0.20	0.42	0.35	---	---	29
30	---		---	---	---	---	---	0.19	0.40	0.35	---	---	30
31	---		---		---		---	0.20		0.35		---	31
TOTAL	---	---	---	---	---	---	---	---	14.06	14.23	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	---	0.47	0.46	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	---	27.9	28.2	---	---	AC-FT
MAX	---	---	---	---	---	---	---	---	0.84	0.95	---	---	MAX
MIN	---	---	---	---	---	---	---	---	0.27	0.35	---	---	MIN

STATION IS A 90° V NOTCH TEMPORARY WEIR
INSTALLED AUG 22 1973

TYPE OF GAUGE - RECORDING
STEVENS TYPE F, WEEKLY

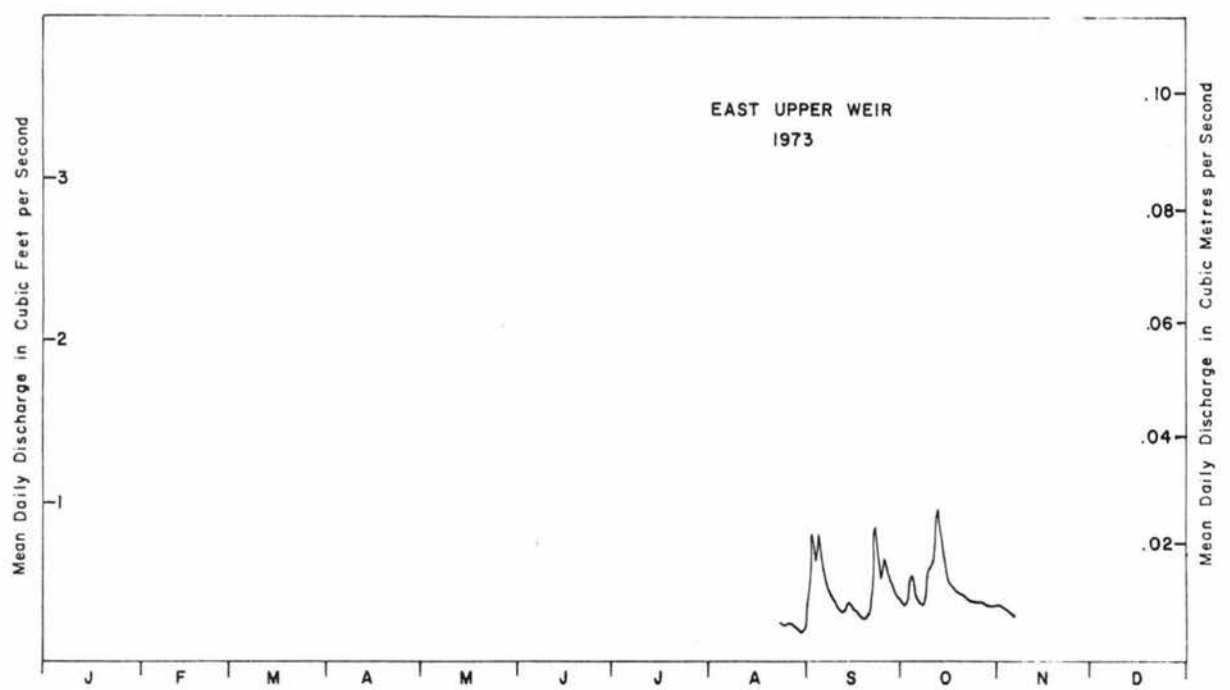


Fig. 31 Annual hydrograph based on mean daily discharges for the East Upper Weir for 1973.

Table 115 Mean daily discharges in cubic feet per second for the East Upper Weir for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.56	---	---	0.14	0.56	0.34	0.16	---	1
2	---	---	---	---	0.64	---	---	0.15	0.42	0.26	0.18	---	2
3	---	---	---	---	0.51	---	---	0.13	0.31	0.24	0.21	---	3
4	---	---	---	---	0.44	---	---	0.11	0.27	0.21	0.18	---	4
5	---	---	---	---	0.38	---	---	0.10	0.24	0.99	0.17	---	5
6	---	---	---	---	0.34	---	---	0.09	0.22	0.64	0.17	---	6
7	---	---	---	---	0.32	---	---	0.08	0.22	0.48	0.18	---	7
8	---	---	---	---	0.32	---	---	0.07	0.21	0.48	0.22	---	8
9	---	---	---	---	0.30	---	---	0.07	0.20	0.34	0.21	---	9
10	---	---	---	---	0.30	---	---	0.17	0.20	0.27	0.18	---	10
11	---	---	---	---	---	---	---	1.12	0.22	0.24	0.16	---	11
12	---	---	---	---	---	---	---	0.64	0.21	0.21	0.15	---	12
13	---	---	---	---	---	---	---	0.34	0.18	0.21	0.15	---	13
14	---	---	---	---	---	---	---	0.48	0.18	0.22	---	---	14
15	---	---	---	---	---	---	---	3.02	0.20	0.24	---	---	15
16	---	---	---	---	---	---	---	1.37	0.31	0.42	---	---	16
17	---	---	---	---	---	---	---	0.64	0.68	0.48	---	---	17
18	---	---	---	---	---	---	---	0.48	0.93	0.34	---	---	18
19	---	---	---	---	---	---	---	0.36	0.56	0.27	---	---	19
20	---	---	---	---	---	---	---	1.06	0.36	0.24	---	---	20
21	---	---	---	---	---	---	---	1.81	0.29	0.22	---	---	21
22	---	---	---	---	---	---	---	0.99	0.24	0.21	---	---	22
23	---	---	---	---	---	---	---	0.60	0.22	0.20	---	---	23
24	---	---	---	---	---	---	0.06	0.45	0.22	0.20	---	---	24
25	---	---	---	---	---	---	0.07	0.39	0.21	0.18	---	---	25
26	---	---	---	---	---	---	0.08	0.31	0.20	0.17	---	---	26
27	---	---	---	---	---	---	0.08	0.27	0.18	0.17	---	---	27
28	---	---	---	---	---	---	0.06	0.36	0.17	0.17	---	---	28
29	---		---	---	---	---	0.10	0.68	0.21	0.17	---	---	29
30	---		---	---	---	---	0.10	1.37	0.45	0.17	---	---	30
31	---		---		---		0.10	1.12		0.17		---	31
TOTAL	---	---	---	---	---	---	---	18.97	9.07	9.15	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	0.61	0.30	0.30	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	37.6	18.0	18.1	---	---	AC-FT
MAX	---	---	---	---	---	---	---	3.02	0.93	0.99	---	---	MAX
MIN	---	---	---	---	---	---	---	0.07	0.17	0.17	---	---	MIN

STATION IS A 120° V NOTCH WEIR OPERATIONAL AUG 1 1974

TYPE OF GAUGE - RECORDING
STEVENS TYPE F, WEEKLY

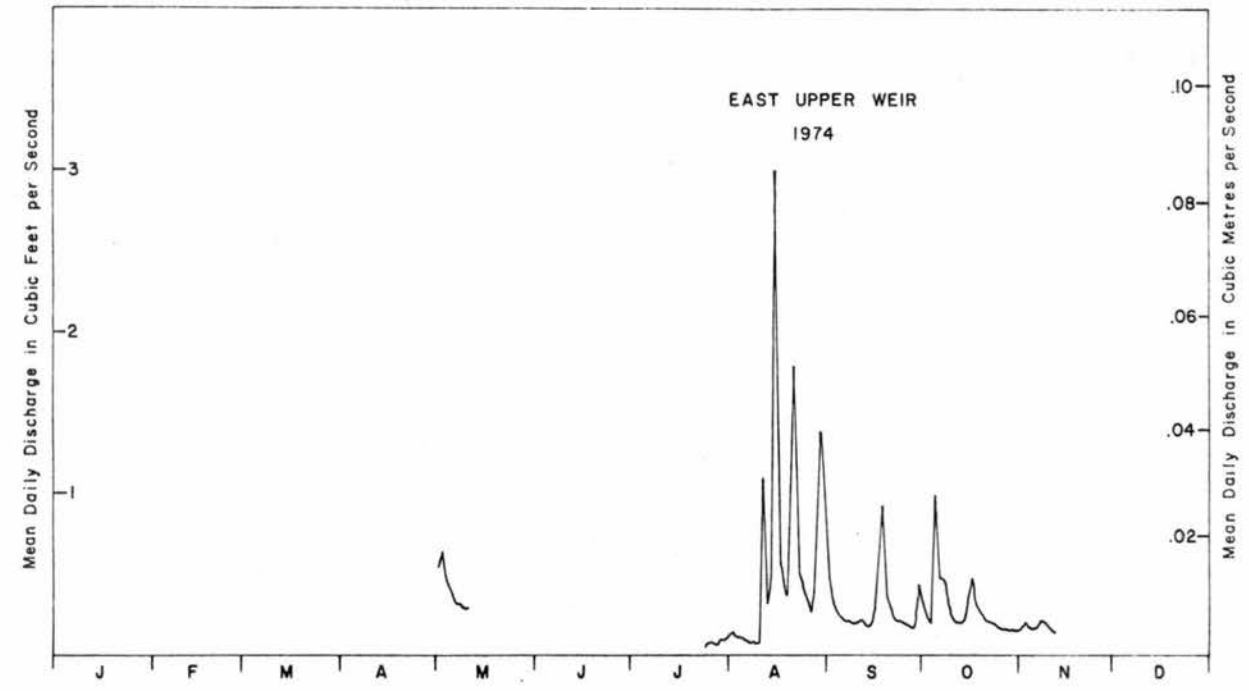


Fig. 31 Annual hydrograph based on mean daily discharges for the East Upper Weir for 1974.

Table 115 Mean daily discharges in cubic feet per second for the East Upper Weir for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.13 E	0.84	0.21	1.0	0.12	0.42	0.15	---	---	1
2	---	---	---	0.13 E	0.92	0.18	0.73	0.10	0.25	0.14	---	---	2
3	---	---	---	0.12 E	0.89	0.21	0.40	0.07	0.18	0.13	---	---	3
4	---	---	---	0.12 E	0.74	0.23	0.26	0.05	0.15	0.13	---	---	4
5	---	---	---	0.12 E	0.59	0.58	0.21	0.04	0.16	0.14	---	---	5
6	---	---	---	0.11 E	0.50	0.53	0.17	0.03	0.16	0.14	---	---	6
7	---	---	---	0.11 E	0.45	0.36	0.12	0.02	0.95	0.12	---	---	7
8	---	---	---	0.11 E	0.42	0.24	0.10	0.07	0.62	0.10	---	---	8
9	---	---	---	0.11 E	0.38	0.20	0.10	0.05	0.36	0.17	---	---	9
10	---	---	---	0.12	0.34	0.24	0.09	0.04	0.51	0.17	---	---	10
11	---	---	---	0.17 E	0.30	0.22	0.08	0.09	0.54	0.15	---	---	11
12	---	---	---	0.23 E	0.27	0.17	0.08	0.07	0.38	0.13	---	---	12
13	---	---	---	0.30 E	0.24	0.17	0.08	0.05	0.31	0.14	---	---	13
14	---	---	---	0.38 E	0.36	0.17	0.07	0.07	0.25	0.35	---	---	14
15	---	---	---	0.46 E	0.30	0.14	0.06	0.07	0.22	0.44	---	---	15
16	---	---	---	0.53 E	0.24	0.13	0.05	0.05	0.20	0.34	---	---	16
17	---	---	---	0.61	0.23	0.09	0.05	0.04	0.19	0.24	---	---	17
18	---	---	---	0.75 E	0.22	0.08	0.05	0.03	0.29	0.22	---	---	18
19	---	---	---	0.90 E	0.21	0.08	0.05	0.02	0.47	0.18	---	---	19
20	---	---	---	1.1 E	0.18	0.45	0.07	0.17	0.62	0.18	---	---	20
21	---	---	---	1.2	0.25	0.90	0.06	0.45	0.43	0.18	---	---	21
22	---	---	---	1.6 E	0.22	2.7	0.04	0.24	0.32	0.12	---	---	22
23	---	---	---	1.9	1.2	1.5	0.06	1.0	0.29	0.19	---	---	23
24	---	---	---	2.1 E	0.76	0.63	0.06	0.67	0.24	0.26	---	---	24
25	---	---	---	1.9	0.43	0.38	0.05	0.40	0.21	0.43	---	---	25
26	---	---	---	1.7 E	0.36	0.28	0.10	0.29	0.19	0.36	---	---	26
27	---	---	---	1.4 E	0.27	0.23	0.06	0.23	0.17	0.43	---	---	27
28	---	---	---	1.2	0.23	0.18	0.04	0.20	0.15	0.51	---	---	28
29	---		---	1.1	0.20	0.18	0.03	0.16	0.15	0.39	---	---	29
30	---		---	0.83	0.20	1.6	0.02	0.13	0.16	0.35	---	---	30
31	---		---		0.22		0.02	0.21		0.38		---	31
TOTAL	---	---	---	21.54	12.96	13.26	4.36	5.23	9.54	7.36	---	---	TOTAL
MEAN	---	---	---	0.72	0.42	0.44	0.14	0.17	0.32	0.24	---	---	MEAN
AC-FT	---	---	---	42.7	25.7	26.3	8.6	10.4	18.9	14.6	---	---	AC-FT
MAX	---	---	---	2.1	1.2	2.7	1.0	1.0	0.95	0.51	---	---	MAX
MIN	---	---	---	0.11	0.18	0.08	0.02	0.02	0.15	0.10	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.35 CFS
TOTAL DISCHARGE, 147 AC-FT
MAXIMUM DAILY DISCHARGE, 2.7 CFS ON JUN 22
MINIMUM DAILY DISCHARGE, 0.02 CFS ON JUL 30

MAXIMUM INSTANTANEOUS DISCHARGE
5.0 CFS AT 1257 CST ON JUN 22

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

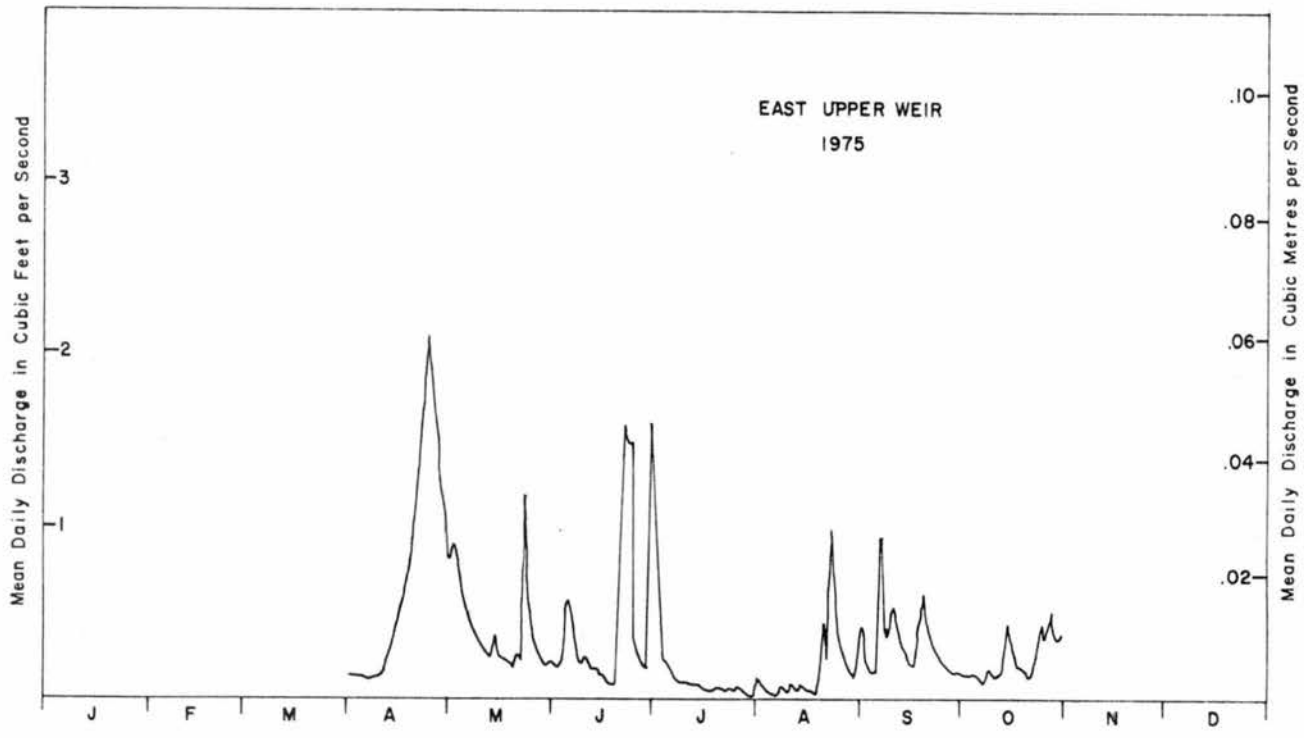


Fig. 31 Annual hydrograph based on mean daily discharges for the East Upper Weir for 1975.

Table 115 Mean daily discharges in cubic feet per second for the East Upper Weir for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.14	0.43	0.09	0.24	0.02	0.08	0.03	---	---	1
2	---	---	---	0.18	0.44	0.08	0.18	0.02	0.07	0.03	---	---	2
3	---	---	---	0.20	0.37	0.07	0.14	0.01	0.08	0.03	---	---	3
4	---	---	---	0.25	0.34	0.06	0.10	0.01	0.08	0.07	---	---	4
5	---	---	---	0.57	0.30	0.06	0.08	0.02	0.07	0.06	---	---	5
6	---	---	---	1.1	0.26	0.05	0.07	0.01	0.06	0.05	---	---	6
7	---	---	---	1.5	0.25	0.09	0.07	0.01	0.05	0.05	---	---	7
8	---	---	---	1.7	0.23	0.08	0.06	0.01	0.04	0.06	---	---	8
9	---	---	---	2.0	0.22	0.09	0.05	0.32	0.04	0.08	---	---	9
10	---	---	---	1.8	0.22	0.18	0.04	1.4	0.03	0.08	---	---	10
11	---	---	---	1.3	0.20	0.09	0.03	0.44	0.03	0.07	---	---	11
12	---	---	---	0.91	0.19	0.29	0.03	0.24	0.03	0.06	---	---	12
13	---	---	---	0.89	0.34	0.47	0.07	0.19	0.20	0.05	---	---	13
14	---	---	---	1.1	0.41	0.70	0.08	0.12	0.13	0.07	---	---	14
15	---	---	---	1.2	0.38	0.39	0.06	0.09	0.10	0.08	---	---	15
16	---	---	---	2.8	0.32	0.25	0.07	0.07	0.09	0.07	---	---	16
17	---	---	---	2.0	0.25	0.25	0.05	0.06	0.07	0.06	---	---	17
18	---	---	---	1.2	0.22	0.38	0.03	0.05	0.07	0.06	---	---	18
19	---	---	---	0.87	0.20	0.46	0.03	0.16	0.07	0.06	---	---	19
20	---	---	---	0.67	0.19	0.27	0.02	0.22	0.06	0.07	---	---	20
21	---	---	---	0.65	0.17	0.20	0.02	0.16	0.05	0.08	---	---	21
22	---	---	---	0.59	0.16	0.15	0.02	0.09	0.09	0.07	---	---	22
23	---	---	---	0.49	0.14	0.10	0.03	0.07	0.07	0.06	---	---	23
24	---	---	---	0.42	0.13	0.08	0.02	0.05	0.04	0.05	---	---	24
25	---	---	---	0.36	0.12	1.0	0.02	0.04	0.04	0.04	---	---	25
26	---	---	---	0.32	0.12	1.6	0.02	0.04	0.07	0.06 A	---	---	26
27	---	---	---	0.26	0.12	1.3	0.02	0.20	0.06	0.06 E	---	---	27
28	---	---	---	0.26	0.12	0.78	0.05	0.18	0.05	0.06 E	---	---	28
29	---	---	---	0.33	0.10	0.49	0.06	0.13	0.04	0.05 E	---	---	29
30	---		0.15	0.40	0.10	0.34	0.05	0.09	0.03	0.05 E	---	---	30
31	---		0.13		0.09		0.03	0.08		0.05 E		---	31
TOTAL	---	---	---	26.46	7.13	10.44	1.84	4.60	1.99	1.82	---	---	TOTAL
MEAN	---	---	---	0.88	0.23	0.35	0.06	0.15	0.07	0.06	---	---	MEAN
AC-FT	---	---	---	52.5	14.1	20.7	3.6	9.1	3.9	3.6	---	---	AC-FT
MAX	---	---	---	2.8	0.44	1.6	0.24	1.4	0.20	0.08	---	---	MAX
MIN	---	---	---	0.14	0.09	0.05	0.02	0.01	0.03	0.03	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.25 CFS
TOTAL DISCHARGE, 108 AC-FT
MAXIMUM DAILY DISCHARGE, 2.8 CFS ON APR 16
MINIMUM DAILY DISCHARGE, 0.01 CFS ON AUG 3

MAXIMUM INSTANTANEOUS DISCHARGE
4.0 CFS AT 1500 CST ON APR 16

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

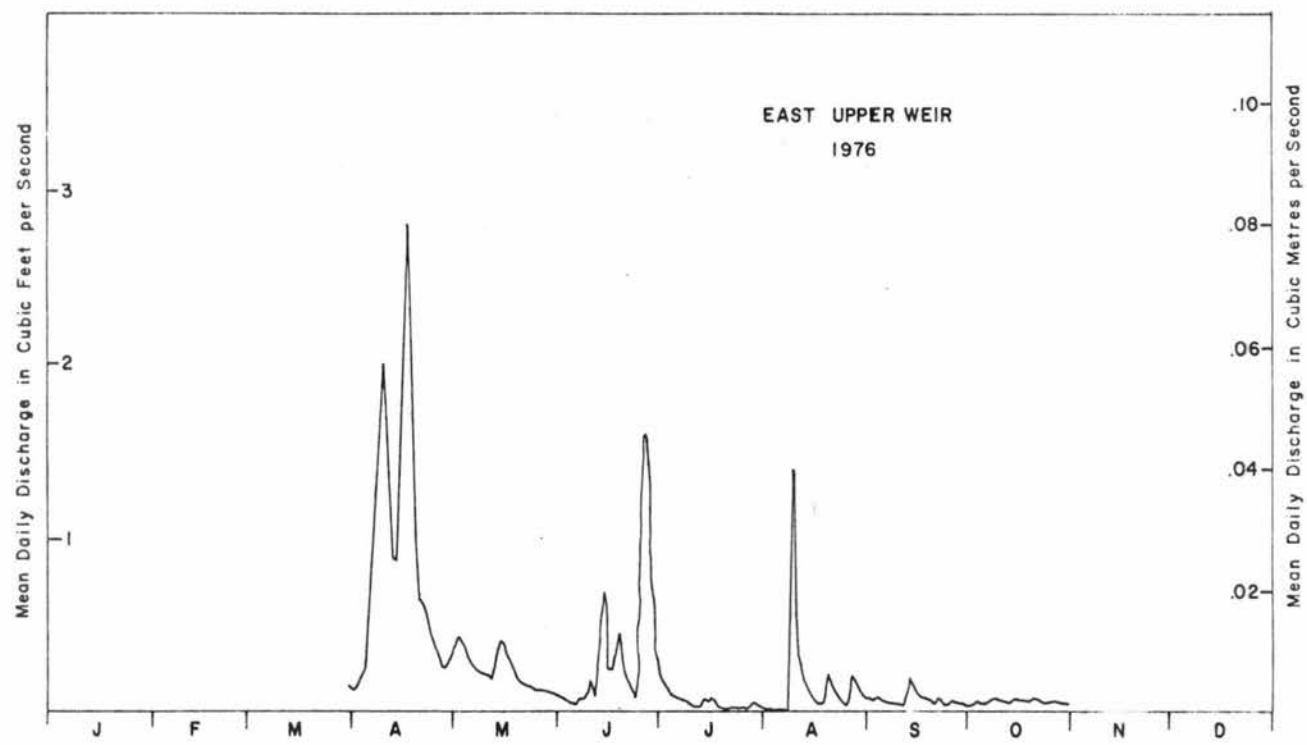


Fig. 31 Annual hydrograph based on mean daily discharges for the East Upper Weir for 1976.

Table 115 Mean daily discharges in cubic feet per second for the East Upper Weir for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.16 E	0.29	0.66	0.75	0.28	0.22	0.22	0.19	---	1
2	---	---	---	0.17 E	0.22	0.39	0.41	0.16	0.17	0.20	0.18	---	2
3	---	---	---	0.21 E	0.20	0.26	0.34	0.12	0.14	0.16	0.14	---	3
4	---	---	---	0.22 E	0.20	0.20	0.23	0.10	0.19	0.16	---	---	4
5	---	---	---	0.15 E	0.81	0.34	0.21	0.09	0.20	0.17	---	---	5
6	---	---	---	0.08 E	1.6	0.58	0.23	0.08	0.18	0.17	---	---	6
7	---	---	---	0.48 E	0.76	0.36	0.20	0.07	0.16	0.15	---	---	7
8	---	---	---	0.88 E	0.46	0.36	0.16	0.08	0.19	0.16	---	---	8
9	---	---	---	1.3 E	0.36	0.26	0.12	0.07	2.0	0.15	---	---	9
10	---	---	---	1.7 E	0.61	0.23	0.09	0.06	1.3	0.15	---	---	10
11	---	---	---	2.1	0.63	0.26	0.09	0.05	0.73	0.15	---	---	11
12	---	---	---	1.3	0.43	0.22	0.16	0.05	0.46	0.15	---	---	12
13	---	---	---	1.1	0.36	0.47	0.14	0.05	0.37	0.14	---	---	13
14	---	---	---	1.0	0.30	0.96	0.29	0.05	0.31	0.13	---	---	14
15	---	---	---	0.95	0.36	1.9	0.21	0.05	0.26	0.13	---	---	15
16	---	---	---	0.85	0.38	1.4	0.13	0.07	0.22	0.12	---	---	16
17	---	---	---	0.88	0.25	0.83	0.09	0.08	0.20	0.11	---	---	17
18	---	---	---	0.84	0.23	2.0	0.07	0.06	0.19	0.12	---	---	18
19	---	---	---	0.57	0.31	1.1	0.08	0.05	0.18	0.11	---	---	19
20	---	---	---	0.50	1.1	1.0	0.09	0.05	0.19	0.11	---	---	20
21	---	---	---	0.45	0.80	0.61	0.07	0.05	0.16	0.11	---	---	21
22	---	---	---	0.36	0.57	0.46	0.05	0.07	0.14	0.09	---	---	22
23	---	---	---	0.32	0.97	0.37	0.04	0.07	0.13	0.09	---	---	23
24	---	---	---	0.30	0.54	0.31	0.04	0.06	0.47	0.09	---	---	24
25	---	---	---	0.26	0.37	0.25	0.03	0.10	0.74	0.10	---	---	25
26	---	---	---	0.26	0.27	0.19	0.02	0.31	0.62	0.10	---	---	26
27	---	---	---	0.26	0.66	0.15	0.02	0.31	0.48	0.09	---	---	27
28	---	---	---	0.24	0.43	0.18	0.02	0.44	0.41	0.09	---	---	28
29	---		0.63	0.21	0.31	0.23	0.05	0.32	0.32	0.09	---	---	29
30	---		0.50 E	0.23	0.27	0.57	0.37	0.26	0.26	0.09	---	---	30
31	---		0.20 E		0.61		0.58	0.25		0.15		---	31
TOTAL	---	---	---	18.33	15.62	17.10	5.38	3.91	11.59	4.05	---	---	TOTAL
MEAN	---	---	---	0.61	0.50	0.57	0.17	0.13	0.39	0.13	---	---	MEAN
AC-FT	---	---	---	36.4	31.0	33.9	10.7	7.8	23.0	8.0	---	---	AC-FT
MAX	---	---	---	2.1	1.6	2.0	0.75	0.44	2.0	0.22	---	---	MAX
MIN	---	---	---	0.08	0.20	0.15	0.02	0.05	0.13	0.09	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.36 CFS
TOTAL DISCHARGE, 151 AC-FT
MAXIMUM DAILY DISCHARGE, 2.1 CFS ON APR 11
MINIMUM DAILY DISCHARGE, 0.02 CFS ON JUL 26

MAXIMUM INSTANTANEOUS DISCHARGE
3.3 CFS AT 1535 CST ON SEP 9

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

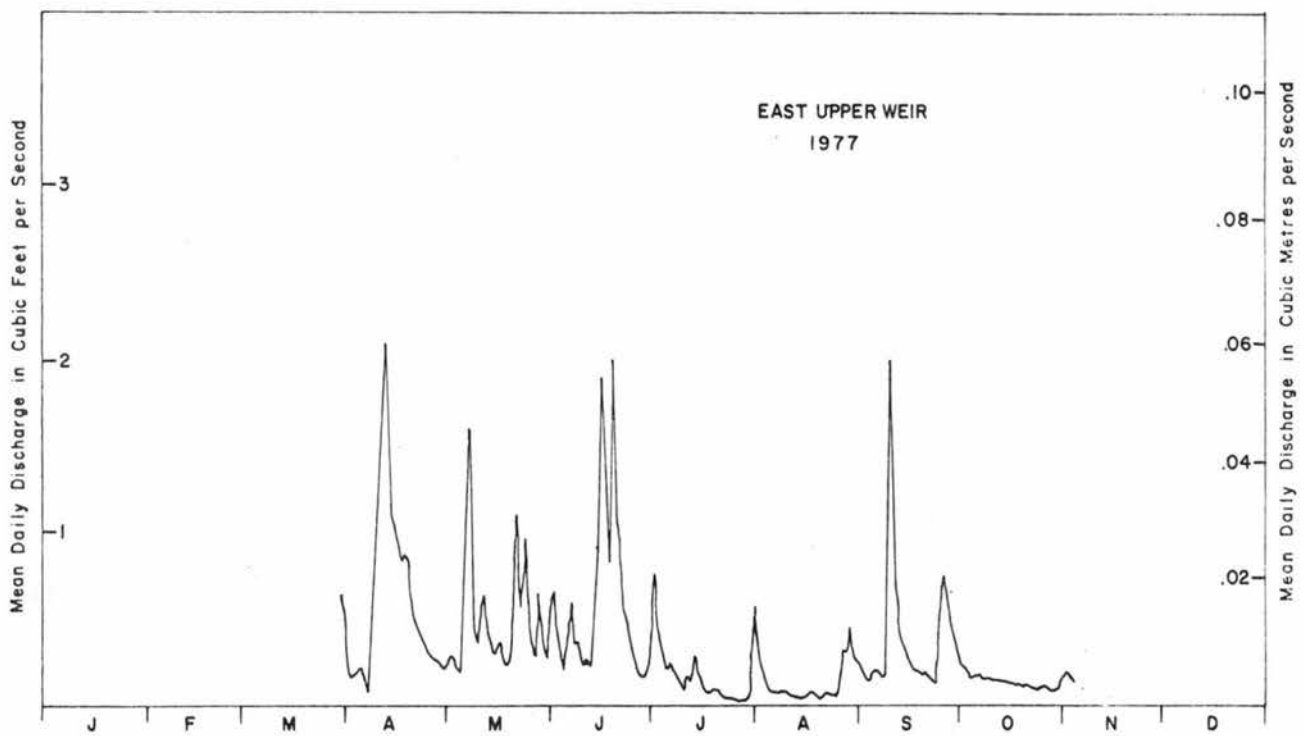


Fig. 31 Annual hydrograph based on mean daily discharges for the East Upper Weir for 1977.

Table 115 Mean daily discharges in cubic feet per second for the East Upper Weir for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.10 E	0.96	1.8	0.07	0.27	0.18	0.19	---	---	1
2	---	---	---	0.13 E	0.82	1.2	0.06	0.72	0.19	0.14	---	---	2
3	---	---	---	0.13 E	0.76	0.71	0.06	0.52	0.14	0.14	---	---	3
4	---	---	---	0.15 E	0.70	0.49	0.07	0.31	0.11	0.14	---	---	4
5	---	---	---	0.15 E	0.63	0.40	0.46	0.20	0.10	0.17	---	---	5
6	---	---	---	0.18 A	0.50	0.44	0.34	0.13	0.10	0.14	---	---	6
7	---	---	---	0.21 A	0.44	0.52	0.20	0.10	0.09	0.12	---	---	7
8	---	---	---	0.24 E	0.74	0.39	0.12	0.08	0.09	0.10	---	---	8
9	---	---	---	0.24 E	0.79	0.34	0.10	0.08	0.09	0.10	---	---	9
10	---	---	---	0.26 E	0.61	0.30	0.10	0.07	0.08	0.10	---	---	10
11	---	---	---	0.26 E	0.58	0.25	0.09	0.06	0.07	0.10	---	---	11
12	---	---	---	0.26 E	0.50	0.22	0.13	0.04	0.06	0.10	---	---	12
13	---	---	---	0.28 E	0.41	0.18	0.16	0.04	0.22	0.09	---	---	13
14	---	---	---	0.28 E	0.33	0.17	0.33	0.03	1.1	0.09	---	---	14
15	---	---	---	0.28 E	0.28	0.17	0.24	0.17	0.63	0.26	---	---	15
16	---	---	---	0.31 E	0.27	0.15	0.17	0.36	0.42	0.21	---	---	16
17	---	---	---	0.41 E	0.25	0.12	0.16	0.22	0.35	0.18	---	---	17
18	---	---	---	0.75 E	0.24	0.09	0.39	0.70	0.24	0.15	---	---	18
19	---	---	---	1.2 A	0.24	0.09	0.35	0.35	0.21	0.13	---	---	19
20	---	---	---	1.0 A	0.26	0.10	0.38	0.20	0.16	0.11	---	---	20
21	---	---	---	1.3 A	0.25	0.10	0.23	0.08	0.14	0.11	---	---	21
22	---	---	---	2.0	0.26	0.08	0.17	0.08	0.12	0.13	---	---	22
23	---	---	---	2.6	0.45	0.07	0.23	0.08	0.08	0.10	---	---	23
24	---	---	---	3.4	0.34	0.14	0.21	0.08	0.08	0.10	---	---	24
25	---	---	---	3.7	0.25	0.24	0.15	0.09	0.08	0.10	---	---	25
26	---	---	---	4.2	3.2	0.19	0.11	0.09	0.08	0.09	---	---	26
27	---	---	---	3.6	1.5	0.20	0.09	0.22	0.08	0.10	---	---	27
28	---	---	---	2.7	0.79	0.18	0.08	0.43	0.15	0.10	---	---	28
29	---		---	1.8	0.75	0.12	0.08	0.25	0.43	0.10	---	---	29
30	---		---	1.2	1.4	0.09	0.08	0.18	0.25	0.10	---	---	30
31	---		---		1.0		0.12	0.14		0.10		---	31
TOTAL	---	---	---	33.32	20.50	9.54	5.53	6.37	6.12	3.89	---	---	TOTAL
MEAN	---	---	---	1.1	0.66	0.32	0.18	0.21	0.20	0.13	---	---	MEAN
AC-FT	---	---	---	66.1	40.7	18.9	11.0	12.6	12.1	7.7	---	---	AC-FT
MAX	---	---	---	4.2	3.2	1.8	0.46	0.72	1.1	0.26	---	---	MAX
MIN	---	---	---	0.10	0.24	0.07	0.06	0.03	0.06	0.09	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.40 CFS
TOTAL DISCHARGE, 169 AC-FT
MAXIMUM DAILY DISCHARGE, 4.2 CFS ON APR 26
MINIMUM DAILY DISCHARGE, 0.03 CFS ON AUG 14

MAXIMUM INSTANTANEOUS DISCHARGE
6.6 CFS AT 1709 CST ON APR 26

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

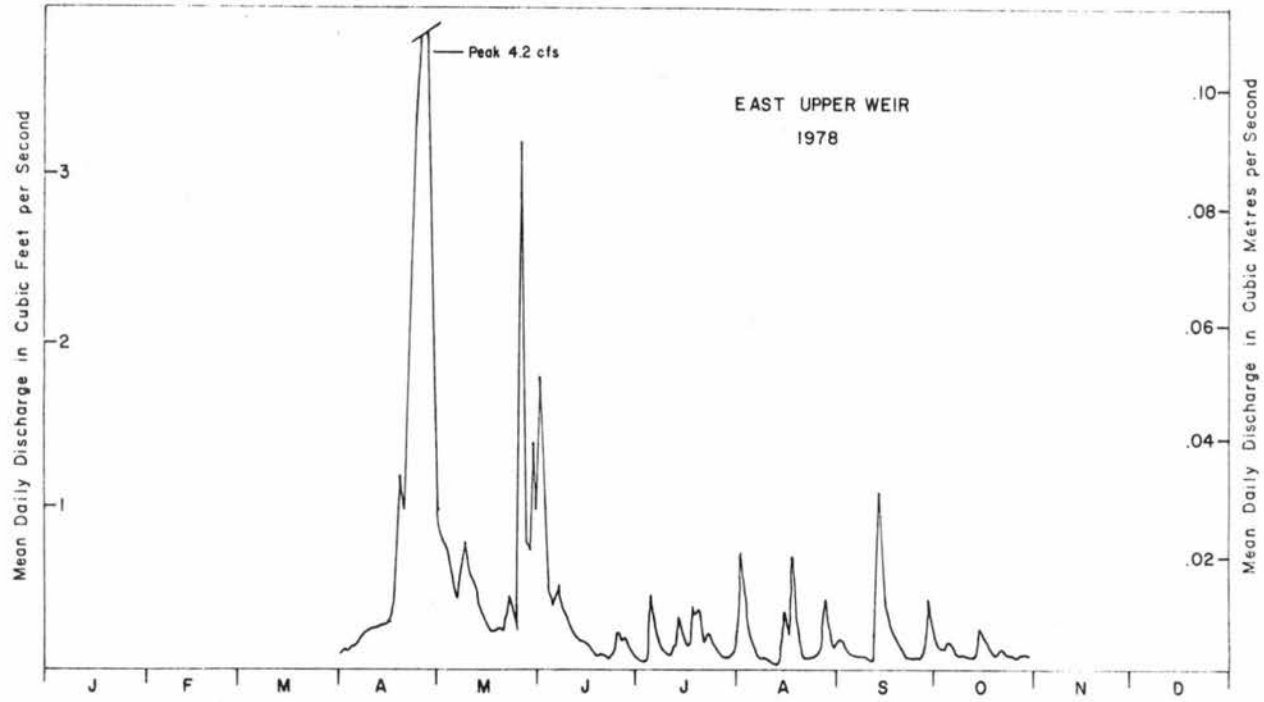


Fig. 31 Annual hydrograph based on mean daily discharges for the East Upper Weir for 1978.

Northwest Inflow to Lake 239 Hydrological Data 1970 to 1978

The northwest inflow to Rawson Lake (239) drains the Northwest Subbasin and is located at latitude 49 40 00 and longitude 93 43 36. A basin topographical map (Fig. 32) with 10 foot contour interval is included. The contours are based on mapping by Western Photogrammetry in 1970 using an assumed datum.

The NW Subbasin has been previously described by Bottomley (1974), Kennedy (1974), Schindler et al. (1976), Newbury and Beaty (1977), Newbury et al. (1979), and Schindler et al. (1980). It drains 16.8% of the terrestrial part of the Rawson Lake basin and has a drainage area of 56.38 hectares (139.32 acres). This value is 11% less than the previously reported value of 62.78 hectares (155.13 acres), and was changed in 1979 after a reanalysis of the basin boundary using more recent air photographs.

Hydrometric work in the Northwest Subbasin actually began in 1969 but consisted only of a few discharge measurements that year. On June 24, 1970, Water Survey of Canada constructed a 120° V-notch sharp crested recording weir to provide continuous record of stream discharge. A severe wind storm which struck the ELA area with 150 kph winds on July 7, 1973 affected no more than 20% of the subbasin (Schindler et al. 1980). The 1974 forest fire did not reach the NW Subbasin and therefore its use as a control runoff area was not affected. By 1974, deterioration in the weir structure began to be a problem and, on August 28, 1976, after several major repair attempts, a new 120° V-notch sharp crested recording weir was constructed by WSC. Service of this station and computation of flow data from 1970 to 1978, with the exception of 1974, was by WSC. In 1974, this work was carried out by ELA hydrologic studies staff. All original recorder charts are on file with WSC.

Tables 116 and Figures 33 show mean daily discharges and annual hydrographs from 1970 to 1978. Mean daily discharges in this stream have ranged from 0 to 5.9 cfs during the period record (maximum instantaneous values are slightly higher). The recorder on this stream was activated in early April and closed down in early November. During the November to April winter period, continuous records do not exist but flows are normally 0. Occasional observations are made each winter to confirm whether or not flow exists, and to serve as a basis for estimates in Rawson Lake water budgets.

Other instrumentation in the subbasin consisted of a standard and recording rain gauge at station 8, and a dense network of groundwater wells and piezometer nests in the low lying swamp area. Groundwater investigations were carried out from 1969 to 1973 by J. Cherry of the University of Waterloo. This groundwater work is explained in detail in Appendix 10, Part III of this report. Other nearby instrumentation are located at the Rawson Lake meteorological station on the south drainage basin boundary.

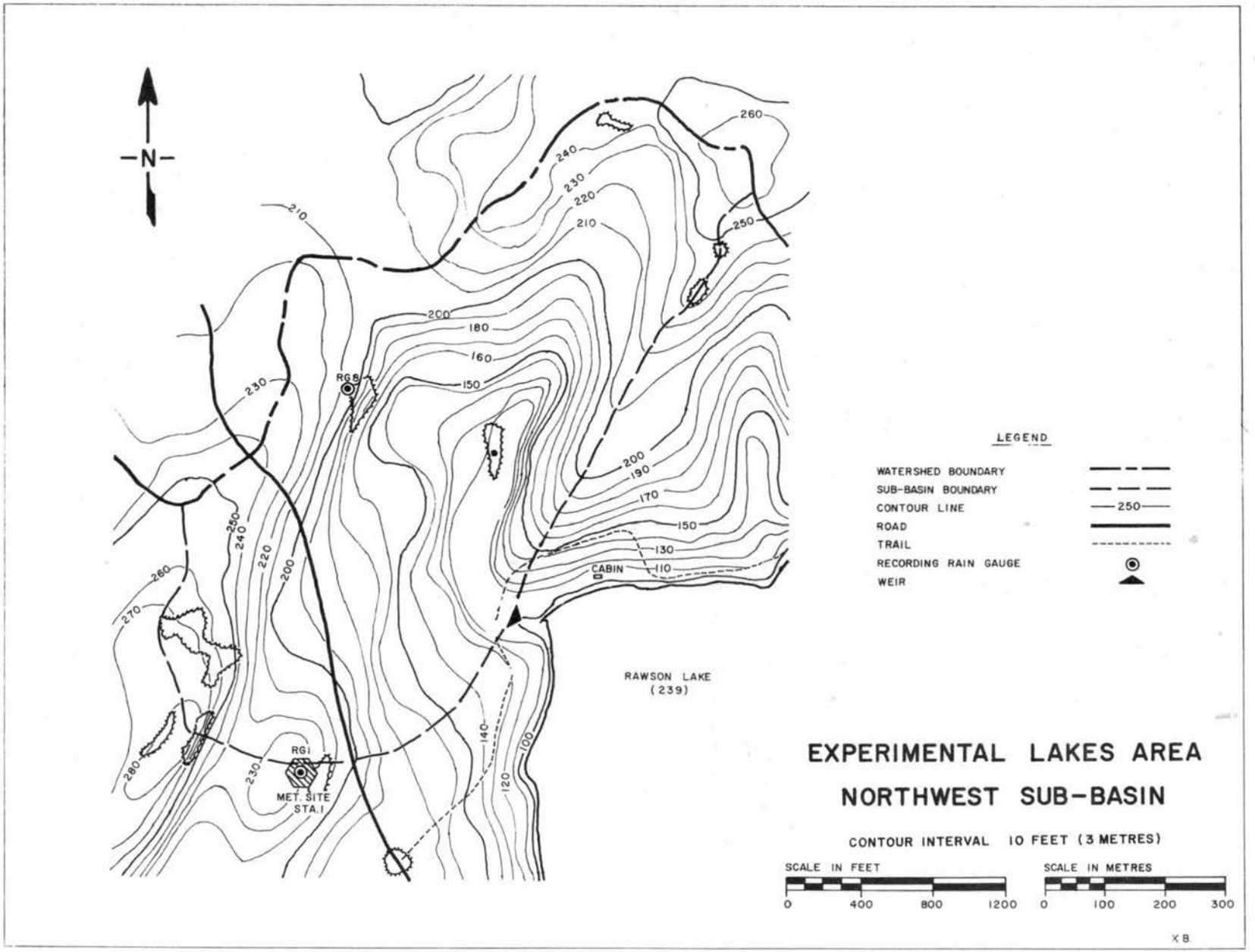


Fig. 32 Topographical map of the Northwest Subbasin. Contours are in feet.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	0.13	0.01	0.01	0.07	1.4	0.04	1
2	---	---	---	---	---	---	0.10	0.01	0.03	0.09	1.0	0.04	2
3	---	---	---	---	---	---	0.13	0.01	0.03	0.07	0.64	0.04	3
4	---	---	---	---	---	---	0.09	0.01	0.03	0.05	0.46	0.04	4
5	---	---	---	---	---	---	0.05	0.01	0.02	0.04	0.42	0.03	5
6	---	---	---	---	---	---	0.09	0.01	0.01	0.05	0.34	0.03	6
7	---	---	---	---	---	---	0.07	0.01	0.32	0.04	0.28	0.03	7
8	---	---	---	---	---	---	0.04	0	1.0	0.04	0.25	0.03	8
9	---	---	---	---	---	---	0.03	0.01	0.74	0.05	0.23	0.03	9
10	---	---	---	---	---	---	0.03	0.01	0.46	0.07	0.22	0.03	10
11	---	---	---	---	---	---	0.03	0	0.34	0.05	0.18	0.03 A	11
12	---	---	---	---	---	---	0.04	0	1.9	0.09	0.15	0.03	12
13	---	---	---	---	---	---	0.04	0	1.3	0.18	0.12	0.02	13
14	---	---	---	---	---	---	0.03 A	0	0.64	0.32	0.10	0.02	14
15	---	---	---	---	---	---	0.03	0	0.49	0.28	0.10	0.02	15
16	---	---	---	---	---	---	0.02 A	0	0.64	0.30	0.10	0.02	16
17	---	---	---	---	---	---	0.01	0	0.44	0.34	0.09	0.02	17
18	---	---	---	---	---	---	0.03	0.01	0.37	0.44 A	0.09	0.02	18
19	---	---	---	---	---	---	0.04	0.01	0.28	0.49 A	0.09	0.01	19
20	---	---	---	---	---	---	0.02	0	0.23	0.53	0.07	0.01	20
21	---	---	---	---	---	---	0.02	0.01	0.20	0.51	0.07	0.01	21
22	---	---	---	---	---	---	0.01	0.02	0.20	0.42	0.05	0.01	22
23	---	---	---	---	---	---	0.01	0.01	0.18	0.34	0.05	0.01	23
24	---	---	---	---	---	0.07	0.01	0.01	0.15	0.26	0.04	0.01	24
25	---	---	---	---	---	0.11	0.01	0	0.13	0.25	0.04	0.01	25
26	---	---	---	---	---	0.20	0.01	0	0.13	0.25	0.04	0.01	26
27	---	---	---	---	---	0.12	0.01	0	0.11	1.4	0.04 A	0.01	27
28	---	---	---	---	---	0.10	0	0	0.10	1.9	0.04	0	28
29	---		---	---	---	0.10	0.02	0.01	0.09	1.5	0.04	0	29
30	---		---	---	---	0.09	0.08	0.07	0.08	0.95	0.04	0	30
31	---		---		---		0.02	0.02		1.1		0	31
TOTAL	---	---	---	---	---	---	1.25	0.26	10.65	12.47	6.78	0.61	TOTAL
MEAN	---	---	---	---	---	---	0.04	0.01	0.36	0.40	0.23	0.02	MEAN
AC-FT	---	---	---	---	---	---	2.5	0.52	21.1	24.7	13.4	1.2	AC-FT
MAX	---	---	---	---	---	---	0.13	0.07	1.9	1.9	1.4	0.04	MAX
MIN	---	---	---	---	---	---	0	0	0.01	0.04	0.04	0	MIN

SUMMARY FOR THE MONTHS JUL TO DEC

MEAN DISCHARGE, 0.17 CFS
TOTAL DISCHARGE, 63.4 AC-FT
MAXIMUM DAILY DISCHARGE, 1.9 CFS ON SEP 12
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

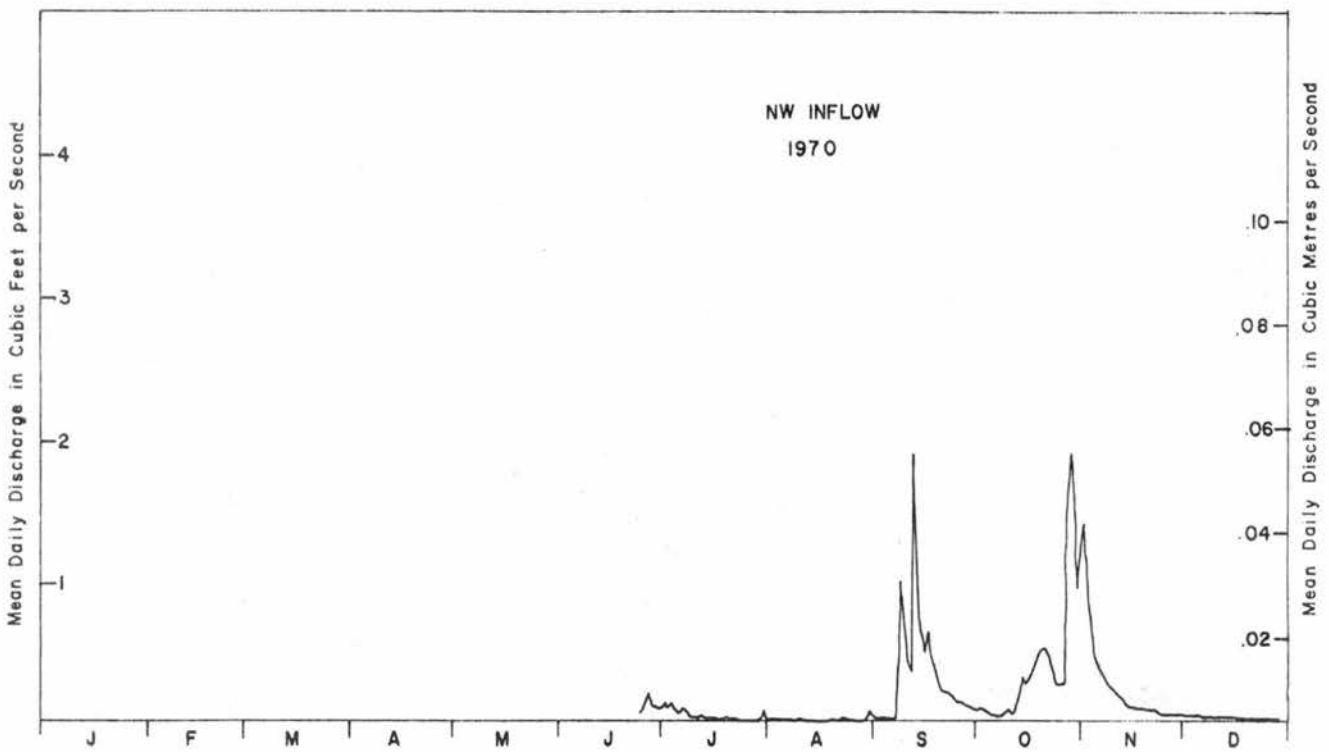


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1970.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.36	0.16	4.4	0.13	0.05	3.5	---	---	1
2	---	---	---	0 E	0.51	0.14	1.0	0.12	0.06	1.1	---	---	2
3	---	---	---	0 E	0.39	0.12	0.53	0.10	0.19	0.88	---	---	3
4	---	---	---	0 E	0.32	0.11	0.38	0.07	0.17	1.5	---	---	4
5	---	---	---	0 E	0.27	0.49	0.26	0.06	0.32	0.86	---	---	5
6	---	---	---	0 E	0.23	0.85	0.17	0.06	0.35	0.71	---	---	6
7	---	---	---	0 E	0.25	0.48	0.14	0.05	0.28	0.58	---	---	7
8	---	---	---	0 E	0.24	0.32	0.11	0.05	0.20	0.55	---	---	8
9	---	---	---	0 E	0.22	0.23	0.08	0.04	0.14	0.45	---	---	9
10	---	---	---	0 E	0.20	0.19	0.07	0.04	0.13	0.37	---	---	10
11	---	---	---	0 E	0.19	0.16	0.06	0.04	0.12	0.31	---	---	11
12	---	---	---	0 E	0.17	0.16	0.29	0.04	0.10	0.27	---	---	12
13	---	---	---	1.8 A	0.15	0.13	0.30	0.03	0.09	0.24	---	---	13
14	---	---	---	1.9 E	0.13	0.11	0.17	0.03	0.08	0.22	---	---	14
15	---	---	---	1.8 A	0.13	0.09	0.12	0.03	0.07	0.20	---	---	15
16	---	---	---	2.2 E	0.13	0.26	0.13	0.03	0.07	0.20	---	---	16
17	---	---	---	2.4 E	0.24	0.27	0.08	0.27	0.08	0.57	---	---	17
18	---	---	---	1.9 E	0.24	0.18	0.07	0.11	0.06	1.1	---	---	18
19	---	---	---	1.6 A	0.18	0.16	0.06	0.10	0.06	0.92	---	---	19
20	---	---	---	0.99	0.18	0.18	0.05	0.09	0.06	0.61	---	---	20
21	---	---	---	0.65	0.15	0.13	0.05	0.06	0.05	0.46	---	---	21
22	---	---	---	0.45	0.18	0.12	0.04	0.05	0.05	0.37	---	---	22
23	---	---	---	0.35	0.48	0.11	0.04	0.05	0.05	0.30	---	---	23
24	---	---	---	0.28	0.90	0.09	0.06	0.10	0.05	0.26	---	---	24
25	---	---	---	0.25	1.8	0.08	0.11	0.09	0.04	0.25	---	---	25
26	---	---	---	0.21	0.72	0.07	0.11	0.06	0.04	0.24	---	---	26
27	---	---	---	0.17	0.47	0.15	0.14	0.05	0.06	0.23	---	---	27
28	---	---	---	0.16	0.35	0.17	0.31	0.04	0.10	0.20	---	---	28
29	---		---	0.15	0.30	0.14	0.28	0.04	0.11	0.16	---	---	29
30	---		---	0.15	0.25	0.53	0.19	0.04	0.64	0.30	---	---	30
31	---		---		0.21		0.15	0.04		2.3		---	31
TOTAL	---	---	---	17.41	10.54	6.38	9.95	2.11	3.87	20.21	---	---	TOTAL
MEAN	---	---	---	0.58	0.34	0.21	0.32	0.07	0.13	0.65	---	---	MEAN
AC-FT	---	---	---	34.5	20.9	12.7	19.7	4.2	7.7	40.1	---	---	AC-FT
MAX	---	---	---	2.4	1.8	0.85	4.4	0.27	0.64	3.5	---	---	MAX
MIN	---	---	---	0	0.13	0.07	0.04	0.03	0.04	0.16	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.33 CFS
TOTAL DISCHARGE, 140 AC-FT
MAXIMUM DAILY DISCHARGE, 4.4 CFS ON JUL 1
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
6.6 CFS AT 0415 CST ON JUL 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

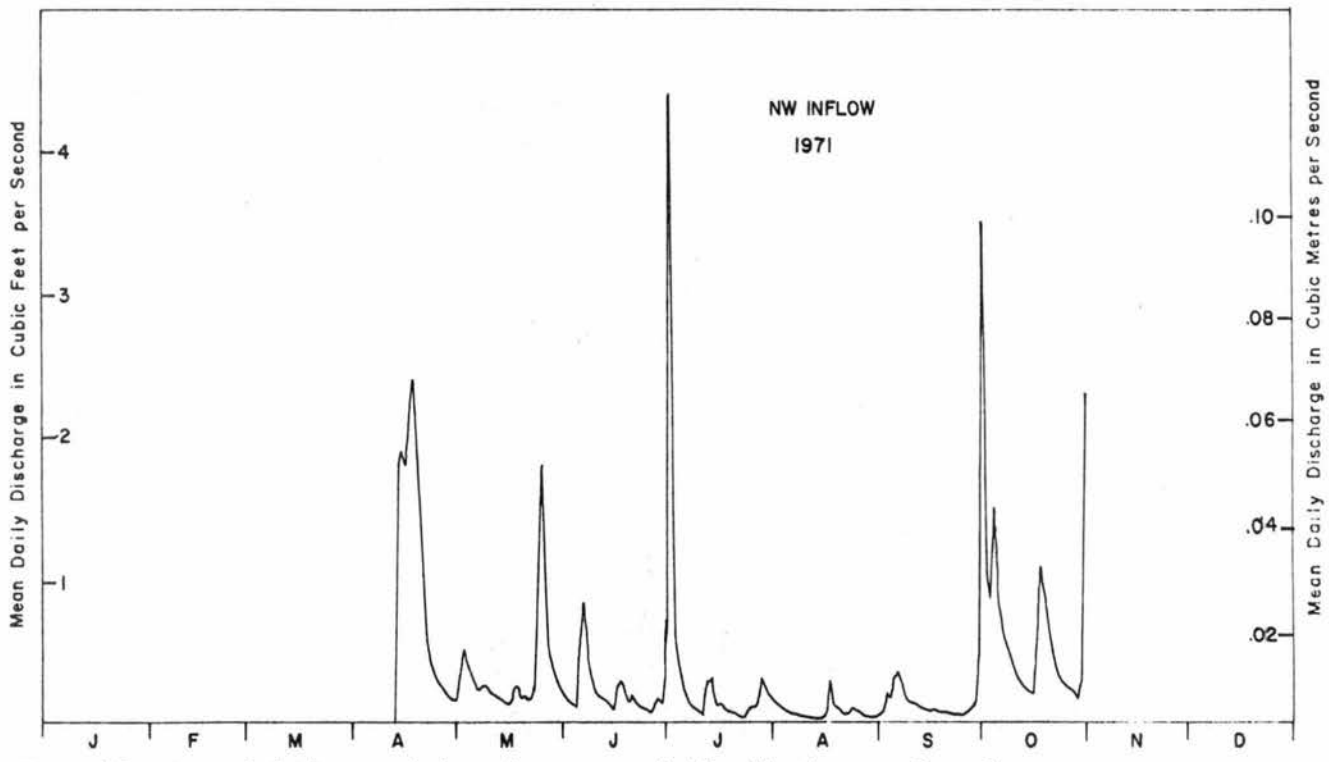


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1971.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.02 E	0.49	0.08	0.02	0.07	0.05	0.34	---	---	1
2	---	---	---	0.02 E	0.37	0.07	0.02	0.10	0.05	0.33	---	---	2
3	---	---	---	0.02 E	0.29	0.06	0.02	0.07	0.04	0.36	---	---	3
4	---	---	---	0.03 E	0.26	0.05	0.02	0.06	0.11	0.32	---	---	4
5	---	---	---	0.03 E	0.22	0.06	0.01	0.05	0.06	0.27	---	---	5
6	---	---	---	0.03 E	0.22	0.05	0.01	0.04	0.37	0.23	---	---	6
7	---	---	---	0.04 E	0.19	0.03	0.03	0.04	0.77	0.21	---	---	7
8	---	---	---	0.04 E	0.18	0.02	0.05	0.04	0.43	0.19	---	---	8
9	---	---	---	0.04 E	0.16	0.02	0.04	0.02	0.29	0.18	---	---	9
10	---	---	---	0.05 E	0.14	0.02	0.14	0.02	0.21	0.17	---	---	10
11	---	---	---	0.05 E	0.14	0.05	1.1	0.02	0.17	0.29	---	---	11
12	---	---	---	0.05 E	0.14	0.05	0.82	0.03	0.13	0.27	---	---	12
13	---	---	---	0.06 E	0.26	0.04	0.50	0.03	0.12	0.25	---	---	13
14	---	---	---	0.06 E	0.40	0.04	1.7	0.02	0.10	0.21	---	---	14
15	---	---	---	0.06 E	0.31	0.03	0.95	0.16	0.08	0.19	---	---	15
16	---	---	---	0.07 E	0.23	0.02	0.56	0.11	0.12	0.18	---	---	16
17	---	---	---	0.07	0.20	0.02	0.63	0.08	0.11	0.17	---	---	17
18	---	---	---	0.10	0.18	0.22	0.40	0.06	0.09	0.16	---	---	18
19	---	---	---	0.19	0.17	0.70	0.31	0.05	0.07	0.15	---	---	19
20	---	---	---	0.47	0.51	0.42	0.28	**2.5**	0.07	0.15	---	---	20
21	---	---	---	0.88	0.38	0.27	0.20	**2.5**	0.06	0.15	---	---	21
22	---	---	---	1.0	0.29	0.18	0.15	0.88	0.06	0.14	---	---	22
23	---	---	---	1.0	0.28	0.12	0.12	0.57	0.07	0.06	---	---	23
24	---	---	---	1.1	0.21	0.09	0.08	0.43	0.22	0.06	---	---	24
25	---	---	---	1.3	0.17	0.07	0.07	0.29	0.24	0.06	---	---	25
26	---	---	---	1.1	0.17	0.06	0.07	0.20	0.28	0.06	---	---	26
27	---	---	---	1.1	0.15	0.05	0.05	0.13	0.29	0.10 E	---	---	27
28	---	---	---	1.0	0.21	0.05	0.04	0.10	0.42	0.10 E	---	---	28
29	---	---	---	0.79	0.19	0.05	0.04	0.08	0.48	0.10 E	---	---	29
30	---		---	0.64	0.14	0.03	0.16	0.07	0.40	0.09 E	---	---	30
31	---		---		0.11		0.10	0.06		0.10 E		---	31
TOTAL	---	---	---	11.41	7.36	3.02	8.69	**8.88**	5.96	5.64	---	---	TOTAL
MEAN	---	---	---	0.38	0.24	0.10	0.28	**0.29**	0.20	0.18	---	---	MEAN
AC-FT	---	---	---	22.6	14.6	6.0	17.2	**17.6**	11.8	11.2	---	---	AC-FT
MAX	---	---	---	1.3	0.51	0.70	1.7	**2.5**	0.77	0.36	---	---	MAX
MIN	---	---	---	0.02	0.11	0.02	0.01	**0.02**	0.04	0.06	---	---	MIN

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY DISCHARGE 2.5 CFS ON AUG 20

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

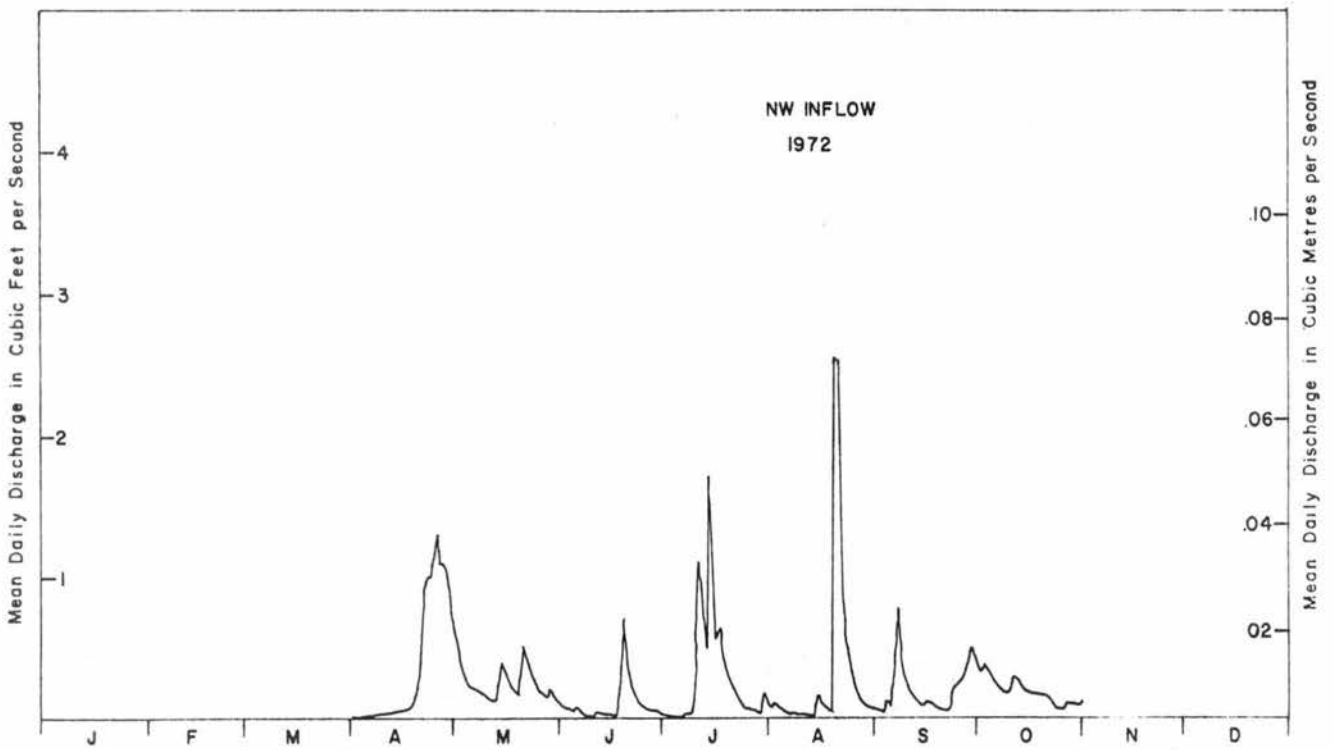


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1972.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.14	0.05	0.07	0.14	0.16	0.13	---	---	1
2	---	---	---	0.01 E	0.12	0.03	0.05	0.10	0.92	0.11	---	---	2
3	---	---	---	0.03 E	0.11	0.03	0.04	0.08	0.69	0.22	---	---	3
4	---	---	---	0.04 E	0.09	0.07	0.05	0.07	1.2	0.36	---	---	4
5	---	---	---	0.06 E	0.13	0.04	0.03	0.07	0.91	0.26	---	---	5
6	---	---	---	0.07 E	0.45	0.03	0.04	0.19	0.53	0.19	---	---	6
7	---	---	---	0.08 E	0.36	0.02	1.2	0.15	0.34	0.15	---	---	7
8	---	---	---	0.09 E	0.29	0.03	0.80	0.19	0.22	0.14	---	---	8
9	---	---	---	0.11 E	0.25	0.04	0.39	1.1	0.16	0.19	---	---	9
10	---	---	---	0.13 E	0.33	0.05	0.22	0.87	0.12	0.25	---	---	10
11	---	---	---	0.14 E	0.35	0.03	0.15	0.53	0.08	0.42	---	---	11
12	---	---	---	0.14	0.26	0.01	0.11	0.33	0.07	1.5	---	---	12
13	---	---	---	0.16	0.20	0.01	0.07	0.21	0.07	1.0	---	---	13
14	---	---	---	0.26	0.17	0.01	0.06	0.14	0.07	0.61	---	---	14
15	---	---	---	0.41	0.15	0.11	0.05	0.10	0.06	0.41	---	---	15
16	---	---	---	0.40	0.13	0.06	0.05	0.08	0.05	0.30	---	---	16
17	---	---	---	0.37	0.11	0.25	0.04	0.07	0.05	0.23	---	---	17
18	---	---	---	0.31	0.10	0.35	0.05	0.05	0.04	0.21	---	---	18
19	---	---	---	0.39	0.09	0.30	0.04	0.06	0.04	0.18	---	---	19
20	---	---	---	1.8	0.07	0.31	0.03	0.05	0.04	0.16	---	---	20
21	---	---	---	2.6	0.06	0.25	0.02	0.04	0.10	0.14	---	---	21
22	---	---	---	1.1	0.07	0.18	0.01	0.03	0.79	0.13	---	---	22
23	---	---	---	0.67	0.11	0.14	0.01	0.03	0.68	0.11	---	---	23
24	---	---	---	0.46	0.11	0.09	0.04	0.02	0.42	0.10	---	---	24
25	---	---	---	0.39	0.16	0.11	0.05	0.02	0.60	0.10	---	---	25
26	---	---	---	0.31	0.19	0.12	0.20	0.02	0.62	0.09	---	---	26
27	---	---	---	0.27	0.14	0.20	0.79	0.02	0.42	0.09	---	---	27
28	---	---	---	0.21	0.10	0.16	0.56	0.01	0.29	0.08	---	---	28
29	---		---	0.19	0.07	0.13	0.34	0	0.21	0.07	---	---	29
30	---		---	0.17	0.06	0.08	0.26	0	0.16	0.07	---	---	30
31	---		---		0.06		0.19	0		0.06 E		---	31
TOTAL	---	---	---	11.37	5.03	3.29	6.01	4.77	10.11	8.06	---	---	TOTAL
MEAN	---	---	---	0.38	0.16	0.11	0.19	0.15	0.34	0.26	---	---	MEAN
AC-FT	---	---	---	22.6	10.0	6.5	11.9	9.5	20.1	16.0	---	---	AC-FT
MAX	---	---	---	2.6	0.45	0.35	1.2	1.1	1.2	1.5	---	---	MAX
MIN	---	---	---	0	0.06	0.01	0.01	0	0.04	0.06	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.23 CFS
TOTAL DISCHARGE, 96.6 AC-FT
MAXIMUM DAILY DISCHARGE, 2.6 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
4.8 CFS AT 2352 CST ON APR 20

TYPE OF GAUGE - RECORDING

E-ESTIMATED
NATURAL FLOW

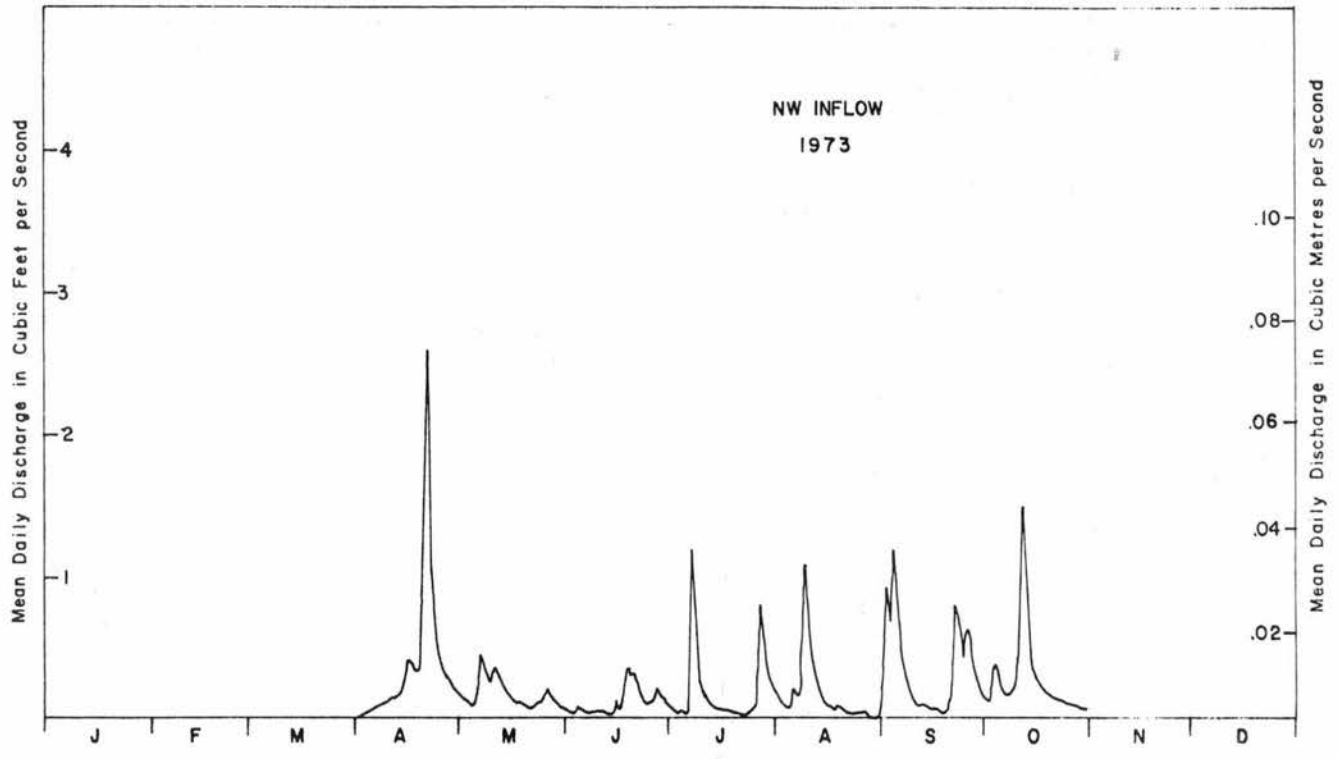


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1973.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.51	0.14 E	0.01 E	0	0.26	0.07	0.03	---	1
2	---	---	---	0 E	0.43	0.14 E	0.01	0	0.18	0.06	0.04	---	2
3	---	---	---	0 E	0.38	0.14 E	0.01 E	0	0.14	0.06	0.05	---	3
4	---	---	---	0 E	0.34	0.14 E	0.01	0	0.08	0.06	0.04	---	4
5	---	---	---	0 E	0.29	0.42 E	0.01 E	0	0.06	0.21	0.04	---	5
6	---	---	---	0 E	0.26	2.76 E	0.01 E	0	0.05	0.26	0.04	---	6
7	---	---	---	0 E	0.21	2.45 E	0.01 E	0	0.04	0.22	0.04	---	7
8	---	---	---	0 E	0.19	1.38 E	0.01 E	0	0.04	0.22	0.05	---	8
9	---	---	---	0 E	0.19	0.94 E	0.01 E	0	0.03	0.18	0.04	---	9
10	---	---	---	0 A	0.18	0.69 E	0.01 E	0	0.03	0.14	0.04	---	10
11	---	---	---	0	1.40	0.40 E	0.01	0	0.04	0.11	0.04	---	11
12	---	---	---	0	1.80	0.25 E	0.01 E	0	0.03	0.07	0.04	---	12
13	---	---	---	0	0.77	0.11	0.01 E	0.01	0.03	0.07	0.04	---	13
14	---	---	---	0	0.56	0.18	0.01 E	0.04 E	0.03	0.07	---	---	14
15	---	---	---	0	0.51	0.16 E	0.01 E	1.96 E	0.03	0.07	---	---	15
16	---	---	---	0.01	0.43	0.13 E	0.01 E	0.68 E	0.05	0.12	---	---	16
17	---	---	---	0.03	0.51	0.11 E	0.01 E	0.29 E	0.06	0.18	---	---	17
18	---	---	---	0.18	0.38	0.09 E	0	0.16 E	0.11	0.15	---	---	18
19	---	---	---	0.67	0.32	0.07 E	0	0.06	0.12	0.14	---	---	19
20	---	---	---	1.70	0.87	0.05 E	0	0.12	0.09	0.09	---	---	20
21	---	---	---	5.90	0.83	0.03 E	0	0.41	0.07	0.08	---	---	21
22	---	---	---	1.05	0.53	0.03 E	0	0.33	0.06	0.07	---	---	22
23	---	---	---	0.80	0.40	0.03 E	0	0.22	0.06	0.07	---	---	23
24	---	---	---	0.80	0.32	0.02 E	0	0.15	0.06	0.06	---	---	24
25	---	---	---	1.50	0.25	0.02 E	0	0.12	0.05	0.06	---	---	25
26	---	---	---	2.10	0.21	0.02 E	0	0.08	0.05	0.05	---	---	26
27	---	---	---	1.60	0.17	0.02 E	0	0.07	0.04	0.05	---	---	27
28	---	---	---	1.10	0.17	0.01 E	0	0.07	0.03	0.05	---	---	28
29	---		---	0.87	0.16	0.01 E	0	0.16	0.05	0.04	---	---	29
30	---		---	0.59	0.14	0.01 E	0	0.33	0.07	0.04	---	---	30
31	---		---		0.14		0	0.43		0.04		---	31
TOTAL	---	---	---	18.90	13.85	10.95	0.17	5.69	2.04	3.16	---	---	TOTAL
MEAN	---	---	---	0.62	0.45	0.36	0.005	0.18	0.07	0.10	---	---	MEAN
AC-FT	---	---	---	37.49	27.47	21.72	0.34	11.29	4.04	6.27	---	---	AC-FT
MAX	---	---	---	5.90	1.80	2.76	0.01	1.96	0.26	0.26	---	---	MAX
MIN	---	---	---	0	0.14	0.01	0	0	0.03	0.04	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.24 CFS
TOTAL DISCHARGE, 109.67 AC-FT APR 1 TO NOV 13
MAXIMUM DAILY DISCHARGE, 5.9 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 ON APR 10

MAXIMUM INSTANTANEOUS DISCHARGE
6.0 CFS AT 1130 CST ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED

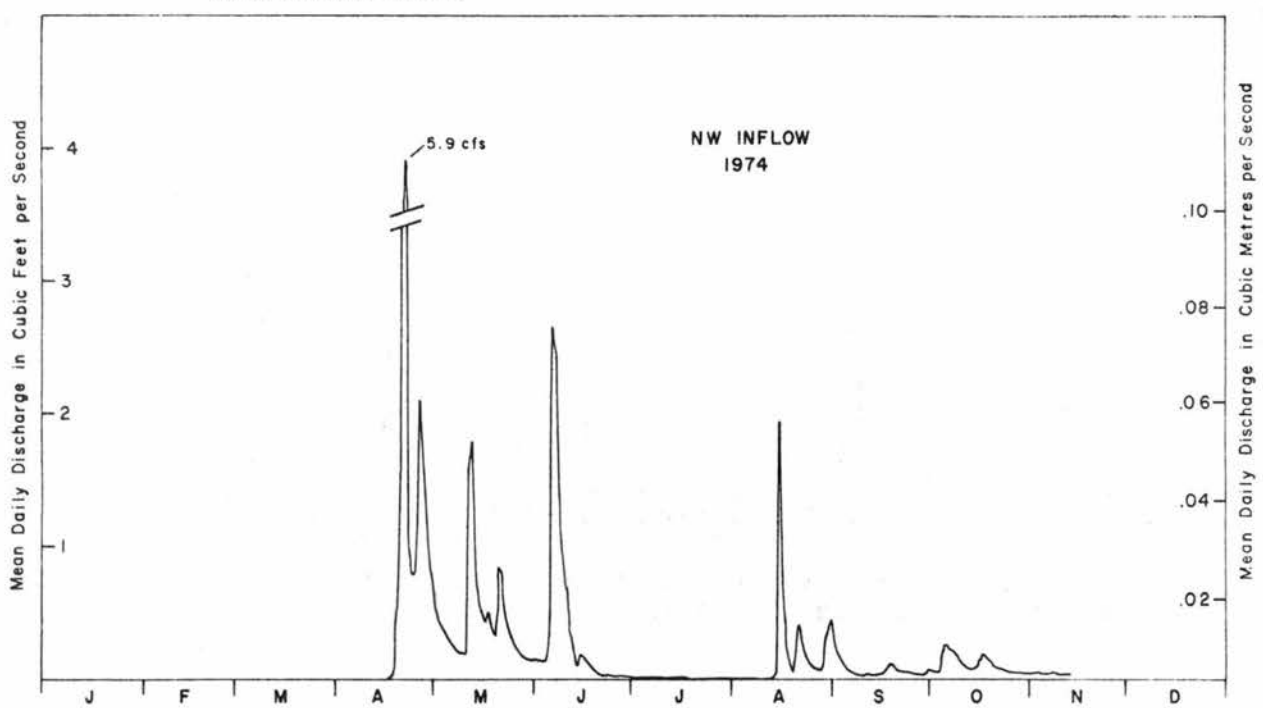


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1974.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.70	0.12	0.57	0.01	0.05	0.06	---	---	1
2	---	---	---	0 E	0.71	0.08	0.47	0.01	0.03	0.05	---	---	2
3	---	---	---	0 E	0.70	0.08	0.29	0.01	0.02	0.05	---	---	3
4	---	---	---	0 E	0.60	0.08	0.19	0.01	0.02	0.04	---	---	4
5	---	---	---	0 E	0.47	0.16	0.14	0.01	0.02	0.04	---	---	5
6	---	---	---	0 E	0.40	0.16	0.10	0	0.02	0.04	---	---	6
7	---	---	---	0 E	0.33	0.14	0.07	0	0.16	0.03	---	---	7
8	---	---	---	0 E	0.29	0.10	0.06	0	0.12	0.03	---	---	8
9	---	---	---	0 E	0.23	0.08	0.06	0	0.10	0.04	---	---	9
10	---	---	---	0.01	0.20	0.08	0.05	0	0.15	0.05	---	---	10
11	---	---	---	0 E	0.18	0.07	0.04	0.01	0.21	0.04	---	---	11
12	---	---	---	0 E	0.16	0.06	0.03	0.01	0.19	0.04	---	---	12
13	---	---	---	0 E	0.14	0.06	0.03	0	0.16	0.03	---	---	13
14	---	---	---	0 E	0.18	0.07	0.02	0	0.12	0.08	---	---	14
15	---	---	---	0	0.16	0.05	0.02	0	0.08	0.13	---	---	15
16	---	---	---	0.02	0.12	0.05	0.01	0	0.07	0.10	---	---	16
17	---	---	---	0.47	0.10	0.04	0.01	0	0.06	0.09	---	---	17
18	---	---	---	1.1	0.09	0.03	0.01	0	0.08	0.08	---	---	18
19	---	---	---	0.94	0.08	0.03	0.01	0	0.14	0.07	---	---	19
20	---	---	---	0.55	0.07	0.18	0.01	0.02	0.26	0.07	---	---	20
21	---	---	---	0.40	0.10	0.44	0.01	0.05	0.29	0.06	---	---	21
22	---	---	---	0.39	0.09	2.3	0.01	0.02	0.21	0.06	---	---	22
23	---	---	---	0.45	1.2	1.6	0.01	0.13	0.19	0.07	---	---	23
24	---	---	---	0.44	0.86	0.72	0.01	0.06	0.15	0.09	---	---	24
25	---	---	---	0.75	0.47	0.42	0.01	0.03	0.11	0.12	---	---	25
26	---	---	---	1.5	0.34	0.29	0.01	0.03	0.09	0.14	---	---	26
27	---	---	---	1.4	0.24	0.20	0.01	0.02	0.08	0.18	---	---	27
28	---	---	---	1.6	0.19	0.14	0	0.02	0.07	0.26	---	---	28
29	---		---	1.2	0.15	0.12	0	0.01	0.07	0.24	---	---	29
30	---		---	0.81	0.13	0.62	0	0.01	0.06	0.23	---	---	30
31	---		---		0.13		0	0.02		0.24		---	31
TOTAL	---	---	---	12.03	9.81	8.57	2.26	0.49	3.38	2.85	---	---	TOTAL
MEAN	---	---	---	0.40	0.32	0.29	0.07	0.02	0.11	0.09	---	---	MEAN
AC-FT	---	---	---	23.9	19.5	17.0	4.5	0.97	6.7	5.7	---	---	AC-FT
MAX	---	---	---	1.6	1.2	2.3	0.57	0.13	0.29	0.26	---	---	MAX
MIN	---	---	---	0	0.07	0.03	0	0	0.02	0.03	---	---	MIN

SUMMARY FOR THE YEAR 1975

MAXIMUM DAILY DISCHARGE, 2.3 CFS ON JUN 22
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
4.3 CFS AT 1402 CST ON JUN 22

TYPE OF GAUGE - RECORDING

E-ESTIMATED
NATURAL FLOW

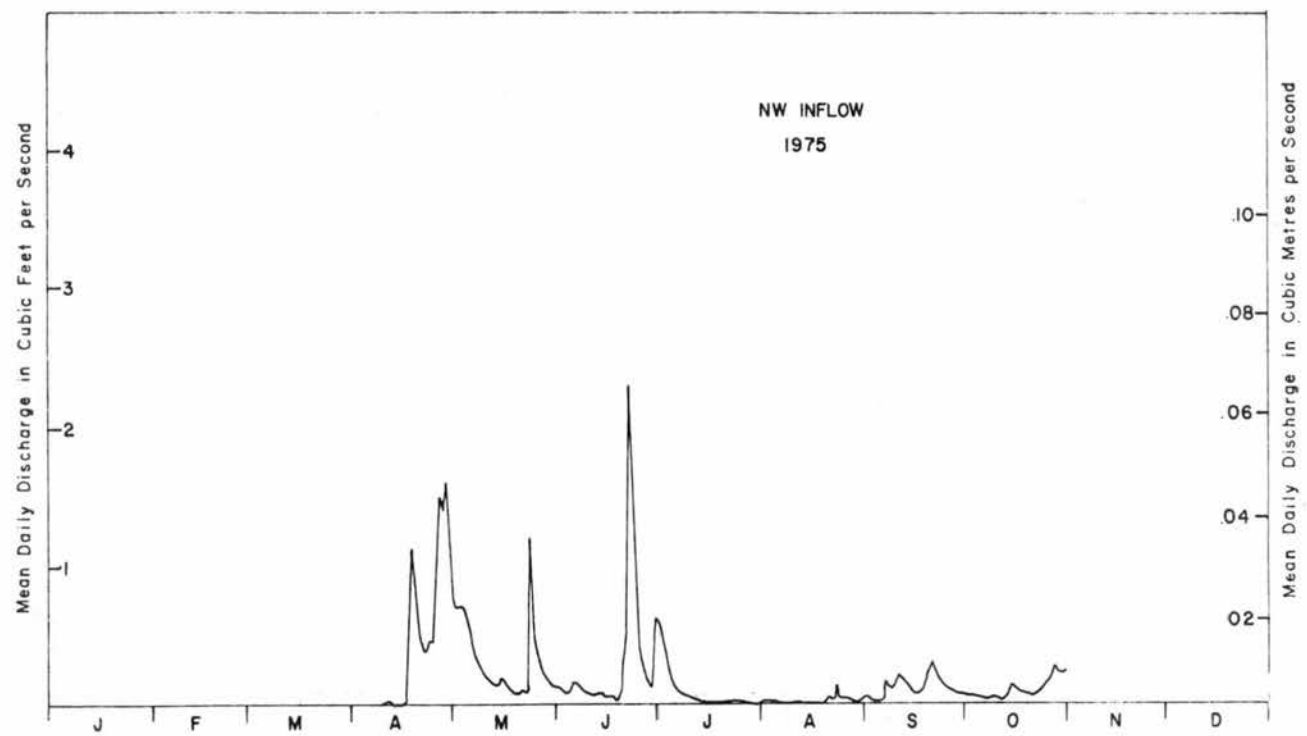


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1975.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.13	0.01	0.11	0	0	0	---	---	1
2	---	---	---	0	0.13	0.01	0.07	0	0	0	---	---	2
3	---	---	---	0	0.11	0.01	0.06	0	0	0	---	---	3
4	---	---	---	0.05	0.09	0.01	0.04	0	0.01	0	---	---	4
5	---	---	---	0.14	0.08	0.01	0.03	0	0	0	---	---	5
6	---	---	---	0.35	0.07	0.01	0.02	0	0	0	---	---	6
7	---	---	---	0.72	0.07	0.02	0.02	0	0	0.01	---	---	7
8	---	---	---	0.95	0.06	0.01	0.01	0	0	0.01	---	---	8
9	---	---	---	1.4	0.05	0.02	0.01	0.09	0	0.01	---	---	9
10	---	---	---	1.8	0.05	0.05	0.01	0.02	0	0.01	---	---	10
11	---	---	---	1.3	0.05	0.02	0.01	0.01	0	0.01	---	---	11
12	---	---	---	0.82	0.04	0.08	0	0.01	0	0	---	---	12
13	---	---	---	0.78	0.08	0.10	0.02	0.01	0.01	0	---	---	13
14	---	---	---	1.3	0.11	0.12	0.01	0.01	0.01	0 A	---	---	14
15	---	---	---	1.4	0.11	0.07	0.01	0	0.01	0 E	---	---	15
16	---	---	---	2.7	0.10	0.06	0.01	0	0	0 E	---	---	16
17	---	---	---	1.7	0.07	0.06	0	0	0	0 E	---	---	17
18	---	---	---	0.92	0.06	0.08	0	0	0	0 E	---	---	18
19	---	---	---	0.62	0.05	0.08	0	0.01	0	0 E	---	---	19
20	---	---	---	0.46	0.05	0.06	0	0.01	0	0 E	---	---	20
21	---	---	---	0.39	0.04	0.05	0	0.01	0	0 E	---	---	21
22	---	---	---	0.34	0.03	0.04	0	0	0	0 E	---	---	22
23	---	---	---	0.27	0.03	0.02	0	0 A	0.01	0 E	---	---	23
24	---	---	---	0.20	0.02	0.02	0	0 E	0.01	0 E	---	---	24
25	---	---	---	0.17	0.02	0.28	0	0 E	0.01	0 E	---	---	25
26	---	---	---	0.15	0.02	0.82	0	0 E	0.01	0 E	---	---	26
27	---	---	---	0.12	0.02	0.68	0	0 E	0.01	0 E	---	---	27
28	---	---	---	0.11	0.02	0.44	0	0 A	0	0 E	---	---	28
29	---	---	---	0.10	0.01	0.29	0	0	0	0 E	---	---	29
30	---		0	0.12	0.01	0.18	0	0	0	0 E	---	---	30
31	---		0		0.01		0	0		0 E		---	31
TOTAL	---	---	---	19.38	1.79	3.71	0.44	0.18	0.09	0.05	---	---	TOTAL
MEAN	---	---	---	0.65	0.06	0.12	0.01	0.01	0	0	---	---	MEAN
AC-FT	---	---	---	38.4	3.6	7.4	0.87	0.36	0.18	0.10	---	---	AC-FT
MAX	---	---	---	2.7	0.13	0.82	0.11	0.09	0.01	0.01	---	---	MAX
MIN	---	---	---	0	0.01	0.01	0	0	0	0	---	---	MIN

SUMMARY FOR THE YEAR 1976

MAXIMUM DAILY DISCHARGE, 2.7 CFS ON APR 16
MINIMUM DAILY DISCHARGE, 0 CFS ON MAR 30

MAXIMUM INSTANTANEOUS DISCHARGE
3.5 CFS AT 1420 CST ON APR 16

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

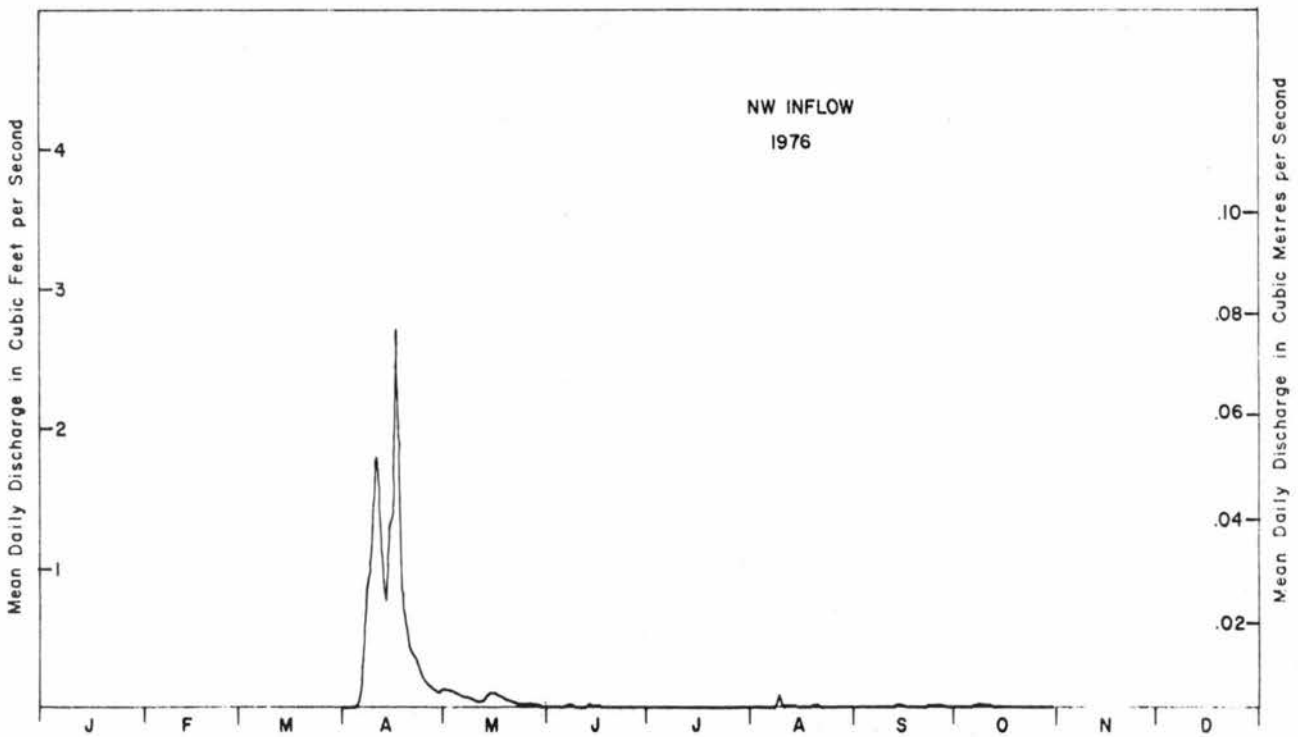


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1976.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	0 E	0	0.06	0.36	0.27	0.02	0.02	0.11	0.05	---	1
2	---	---	0 E	0	0.05	0.25	0.19	0.01	0.02	0.09	0.05	---	2
3	---	---	0 E	0	0.05	0.19	0.17	0.01	0.02	0.08	0.04	---	3
4	---	---	0 E	0	0.04	0.14	0.12	0.01	0.03	0.08	0.05	---	4
5	---	---	0 E	0	0.20	0.19	0.11	0.01	0.03	0.08	0.04	---	5
6	---	---	0 E	0	0.62	0.26	0.10	0.01	0.02	0.07	0.05	---	6
7	---	---	0 E	0	0.41	0.21	0.08	0.01	0.02	0.07	0.04	---	7
8	---	---	0 E	0	0.30	0.23	0.06	0.01	0.03	0.05 A	0.05	---	8
9	---	---	0 E	0	0.21	0.18	0.06	0.01	0.37	0.05 E	0.11	---	9
10	---	---	0 E	0.02	0.29	0.17	0.05	0.01	0.68	0.05 E	---	---	10
11	---	---	0	0.17	0.32	0.16	0.07	0.01	0.42	0.05 E	---	---	11
12	---	---	0	0.39	0.23	0.13	0.10	0.01	0.28	0.05 E	---	---	12
13	---	---	0	0.65	0.18	0.21	0.07	0.01	0.21	0.05 A	---	---	13
14	---	---	0	0.74	0.14	0.44	0.10	0	0.17	0.04	---	---	14
15	---	---	0	0.73	0.15	1.4	0.06	0	0.13	0.04	---	---	15
16	---	---	0	0.62	0.11	1.5	0.05	0.01	0.10	0.03	---	---	16
17	---	---	0	0.56	0.09	0.83	0.03	0.01	0.08	0.04	---	---	17
18	---	---	0	0.46	0.07	1.4	0.03	0.01	0.07	0.04	---	---	18
19	---	---	0	0.35	0.09	0.94	0.02	0.01	0.07	0.03	---	---	19
20	---	---	0	0.28	0.28	0.79	0.02	0.01	0.06	0.03	---	---	20
21	---	---	0	0.22	0.26	0.51	0.01	0.01	0.06	0.03	---	---	21
22	---	---	0	0.18	0.23	0.35	0.01	0.01	0.05	0.03	---	---	22
23	---	---	0	0.15	0.38	0.27	0.01	0.01	0.05	0.03	---	---	23
24	---	---	0	0.13	0.31	0.21	0.01	0.01	0.12	0.03	0.11 A	---	24
25	---	---	0	0.10	0.22	0.16	0.01	0.02	0.19	0.03	---	---	25
26	---	---	0	0.08	0.17	0.16	0.01	0.04	0.21	0.03 A	---	---	26
27	---	---	0	0.07	0.31	0.11	0.01	0.04	0.19	0.03 A	---	---	27
28	---	---	0	0.06	0.22	0.14	0.01	0.06	0.17	0.02	---	---	28
29	---		0	0.06	0.21	0.12	0.01	0.03	0.16	0.02	---	---	29
30	---		0	0.06	0.18	0.23	0.05	0.03	0.13	0.03	---	---	30
31	---		0		0.29		0.06	0.03		0.06		---	31
TOTAL	---	---	0	6.08	6.67	12.24	1.96	0.48	4.16	1.47	---	---	TOTAL
MEAN	---	---	0	0.20	0.22	0.41	0.06	0.02	0.14	0.05	---	---	MEAN
AC-FT	---	---	0	12.1	13.2	24.3	3.9	0.95	8.3	2.9	---	---	AC-FT
MAX	---	---	0	0.74	0.62	1.5	0.27	0.06	0.68	0.11	---	---	MAX
MIN	---	---	0	0	0.04	0.11	0.01	0	0.02	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.15 CFS
TOTAL DISCHARGE, 65.7 AC-FT
MAXIMUM DAILY DISCHARGE, 1.5 CFS ON JUN 16
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.5 CFS AT 1948 CST ON JUN 15

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

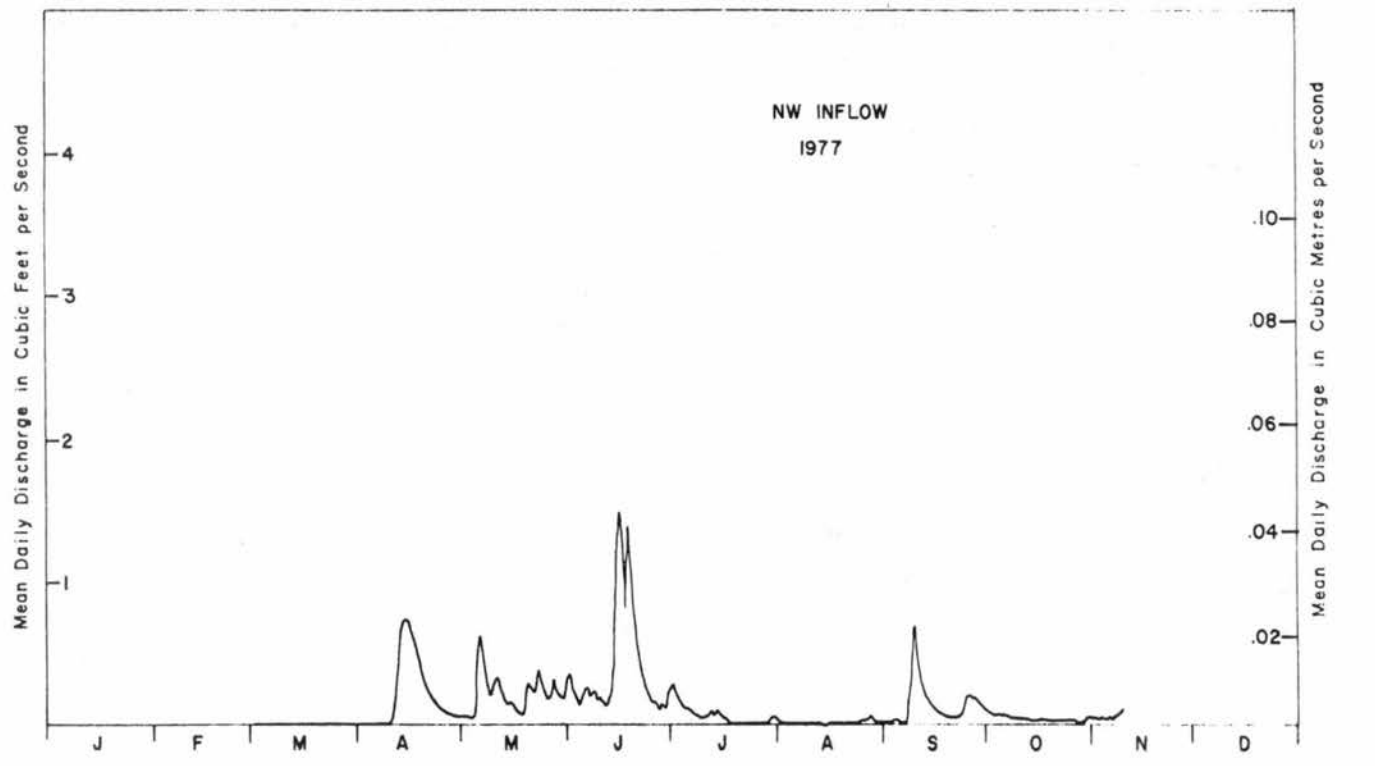


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1977.

Table 116 Mean daily discharges in cubic feet per second for the NW inflow to Lake 239 for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.01	0.77	0.91	0.02	0.08	0.07	0.07	---	---	1
2	---	---	---	0.01	0.63	0.83	0.02	0.14	0.06	0.06	---	---	2
3	---	---	---	0.01	0.60	0.50	0.02	0.10	0.05	0.06	---	---	3
4	---	---	---	0.01	0.62	0.35	0.02	0.07	0.04	0.06	---	---	4
5	---	---	---	0.01	0.54	0.26	0.10	0.06	0.04	0.06	---	---	5
6	---	---	---	0.01	0.39	0.25	0.06	0.05	0.03	0.05	---	---	6
7	---	---	---	0.01	0.30	0.26	0.04	0.04	0.03	0.05	---	---	7
8	---	---	---	0.02	0.46	0.21	0.02	0.03	0.02	0.04	---	---	8
9	---	---	---	0.01	0.50	0.18	0.03	0.02	0.02	0.04	---	---	9
10	---	---	---	0.02	0.38	0.15	0.02	0.02	0.02	0.04	---	---	10
11	---	---	---	0.05	0.36	0.12	0.02	0.02	0.02	0.04	---	---	11
12	---	---	---	0.10	0.31	0.10	0.05	0.01	0.02	0.04	---	---	12
13	---	---	---	0.14	0.26	0.08	0.04	0.01	0.06	0.03	---	---	13
14	---	---	---	0.14	0.22	0.07	0.07	0.02	0.25	0.03	---	---	14
15	---	---	---	0.14	0.19	0.07	0.05	0.06	0.26	0.06	---	---	15
16	---	---	---	0.15	0.17	0.07	0.04	0.08	0.23	0.05	---	---	16
17	---	---	---	0.22	0.15	0.06	0.04	0.05	0.21	0.04	---	---	17
18	---	---	---	0.42	0.14	0.05	0.07	0.19	0.17	0.04	---	---	18
19	---	---	---	0.88	0.14	0.05	0.07	0.14	0.14	0.03	---	---	19
20	---	---	---	1.0	0.14	0.05	0.07	0.10	0.11	0.03	---	---	20
21	---	---	---	0.97	0.11	0.05	0.05	0.07	0.08	0.03	---	---	21
22	---	---	---	1.3	0.13	0.04	0.04	0.07	0.07	0.03	---	---	22
23	---	---	---	1.9	0.27	0.03	0.07	0.06	0.06	0.02	---	---	23
24	---	---	---	2.5	0.21	0.08	0.06	0.06	0.06	0.02	---	---	24
25	---	---	---	2.8	0.17	0.08	0.04	0.05	0.05	0.03	---	---	25
26	---	---	---	2.7	1.3	0.06	0.02	0.05	0.05	0.03	---	---	26
27	---	---	---	2.6	1.1	0.06	0.02	0.07	0.05	0.03	---	---	27
28	---	---	---	2.3	0.57	0.05	0.02	0.11	0.06	0.02	---	---	28
29	---		---	1.6	0.43	0.04	0.02	0.07	0.12	0.03	---	---	29
30	---		---	1.1	0.63	0.02	0.02	0.06	0.08	0.03	---	---	30
31	---		---		0.49		0.04	0.05		0.02		---	31
TOTAL	---	---	---	23.13	12.68	5.13	1.27	2.01	2.53	1.21	---	---	TOTAL
MEAN	---	---	---	0.77	0.41	0.17	0.04	0.06	0.08	0.04	---	---	MEAN
AC-FT	---	---	---	45.9	25.2	10.2	2.5	4.0	5.0	2.4	---	---	AC-FT
MAX	---	---	---	2.8	1.3	0.91	0.10	0.19	0.26	0.07	---	---	MAX
MIN	---	---	---	0.01	0.11	0.02	0.02	0.01	0.02	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.22 CFS
TOTAL DISCHARGE, 95.2 AC-FT
MAXIMUM DAILY DISCHARGE, 2.8 CFS ON APR 25
MINIMUM DAILY DISCHARGE, 0.01 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
3.6 CFS AT 1722 CST ON APR 26

TYPE OF GAUGE - RECORDING

NATURAL FLOW

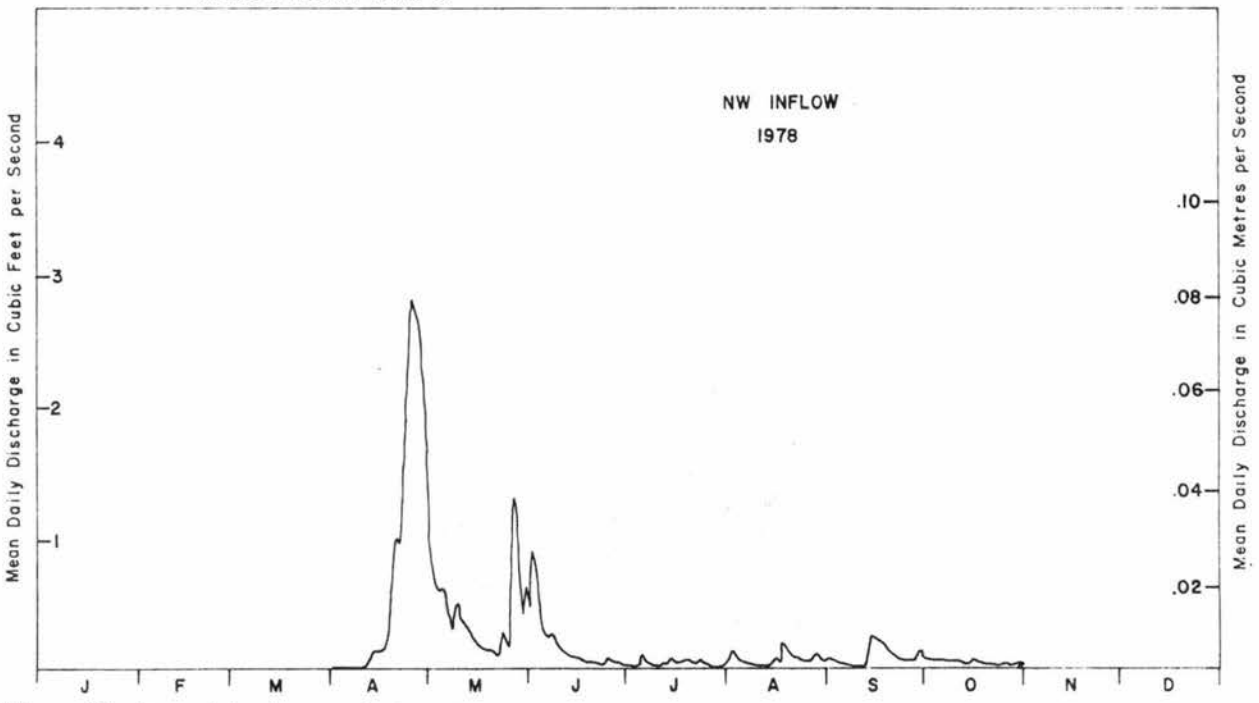


Fig. 33 Annual hydrograph based on mean daily discharges for the NW inflow to Lake 239 for 1978.

Northeast Inflow to Lake 239 Hydrological Data 1971 to 1978

The northeast inflow to Rawson Lake (239) drains the Northeast Subbasin which is located 1.3 kilometres (0.8 miles) northeast of the ELA field station at latitutde 49 40 10 and longitude 93 43 00. It was the smallest basin and stream studied at ELA during the 1969 to 1978 period with a drainage area of 23.60 acres (9.55 hectares). A basin topographical map with 10 foot contour interval is included (Fig. 34). The contours are based on mapping of the ELA by Western Photogrammetry Limited in 1970 and are related to an assumed datum.

Hydrometric work on this stream began in July 1971 when a small metering section and staff gauge were set up. A stage discharge curve was developed for the stream and in 1971, 1972 and 1973 mean daily discharges were calculated based on daily manual gauge readings. In 1974 a Stevens type F weekly recorder was placed on this stream to improve the period of record. On June 26, 1974, the entire NE Subbasin was burnt by forest fire. Tables 117 and Figures 35 present mean daily discharges and annual hydrographs. Normally this stream freezes up by mid to late November and starts to run by the last week of March or first week of April. Often it will dry up for several weeks during the summer. Flows have ranged from 0 to a high of 1.9 cfs (0.054 m^3/sec). Service and computation of flows in all years was by ELA hydrologic studies staff. A standard rain gauge located next to the stream was read on a weekly basis each open water season (see Appendix 1, Part I).

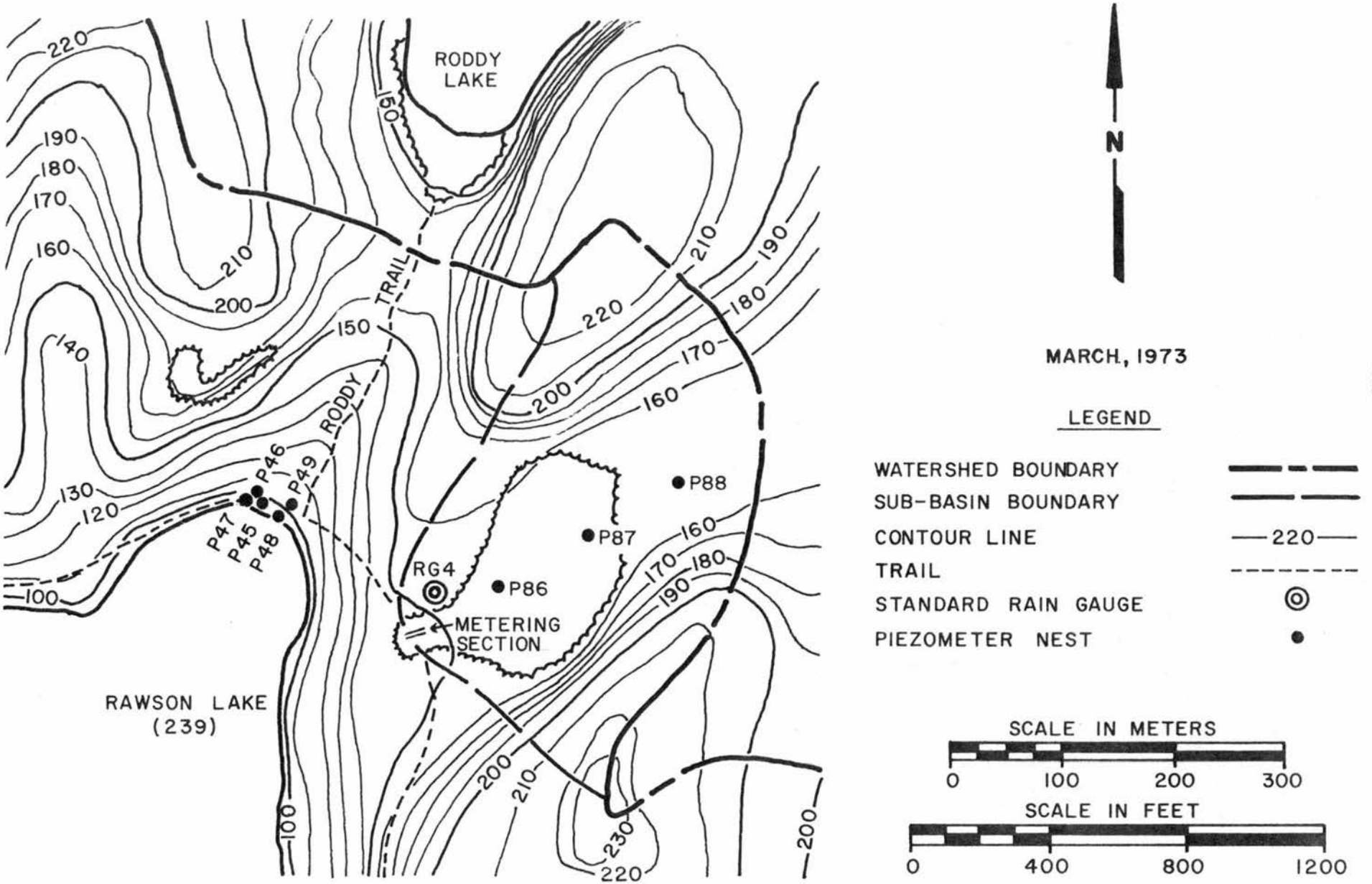


Fig. 34 Topographical map of the Northeast Subbasin. Contours are in feet.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	0.565	0.025	0.005	0.390	---	---	1
2	---	---	---	---	---	---	---	0.019	0.010	0.193 E	---	---	2
3	---	---	---	---	---	---	---	0.014	0.070	0.211 E	---	---	3
4	---	---	---	---	---	---	---	0.010	0.043	0.230	---	---	4
5	---	---	---	---	---	---	---	0.004	0.193	0.185	---	---	5
6	---	---	---	---	---	---	0.039	0.004	0.089	0.157	---	---	6
7	---	---	---	---	---	---	0.034	0.004	0.051	0.120	---	---	7
8	---	---	---	---	---	---	---	0.003	0.028	0.103 E	---	---	8
9	---	---	---	---	---	---	0.016	0.001	0.025	0.082 E	---	---	9
10	---	---	---	---	---	---	---	0.001	0.017	0.067 E	---	---	10
11	---	---	---	---	---	---	0.010	0	0.013	0.055 E	---	---	11
12	---	---	---	---	---	---	0.194	0	0.014	0.047	---	---	12
13	---	---	---	---	---	---	---	0	0.010	0.032	---	---	13
14	---	---	---	---	---	---	---	0	0.012	0.032 E	---	---	14
15	---	---	---	---	---	---	0.039	0	0.012	0.032	---	---	15
16	---	---	---	---	---	---	0.025	0	0.013	0.055 E	---	---	16
17	---	---	---	---	---	---	0.014	0.103	0.014	0.089 E	---	---	17
18	---	---	---	---	---	---	0.010	0.032	0.014	0.139 E	---	---	18
19	---	---	---	---	---	---	0.006	0.039	0.013	0.194	---	---	19
20	---	---	---	---	---	---	0.006	0.027	0.013	0.120	---	---	20
21	---	---	---	---	---	---	0	0.014	0.012	0.089	---	---	21
22	---	---	---	---	---	---	0.002	0.010	0.012	0.076 E	---	---	22
23	---	---	---	---	---	---	0.003	0.003	0.012	0.065 E	---	---	23
24	---	---	---	---	---	---	0.003	0.032	0.010	0.047 E	---	---	24
25	---	---	---	---	---	---	0.039	0.028	0.008	0.039	---	---	25
26	---	---	---	---	---	---	0.032	0.014	0.006	0.039	---	---	26
27	---	---	---	---	---	---	0.039	0.010	0.010	0.039	---	---	27
28	---	---	---	---	---	---	0.130	0.006	0.010	0.039	---	---	28
29	---	---	---	---	---	---	0.076	0.006	0.019	0.039 E	---	---	29
30	---	---	---	---	---	---	0.039	0.003	0.019	0.039 E	---	---	30
31	---	---	---	---	---	---	0.025	0	---	M	---	---	31
TOTAL	---	---	---	---	---	---	---	0.412	0.777	---	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	0.013	0.026	---	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	0.82	1.54	---	---	---	AC-FT
MAX	---	---	---	---	---	---	0.565	0.103	0.193	0.390	---	---	MAX
MIN	---	---	---	---	---	---	0	0	0.005	0.032	---	---	MIN

STATION STARTED JUL 1, 1971
TYPE OF GAUGE - NON RECORDING, VALUES ARE BASED ON MANUAL DAILY READINGS

E-ESTIMATED
M-MISSING

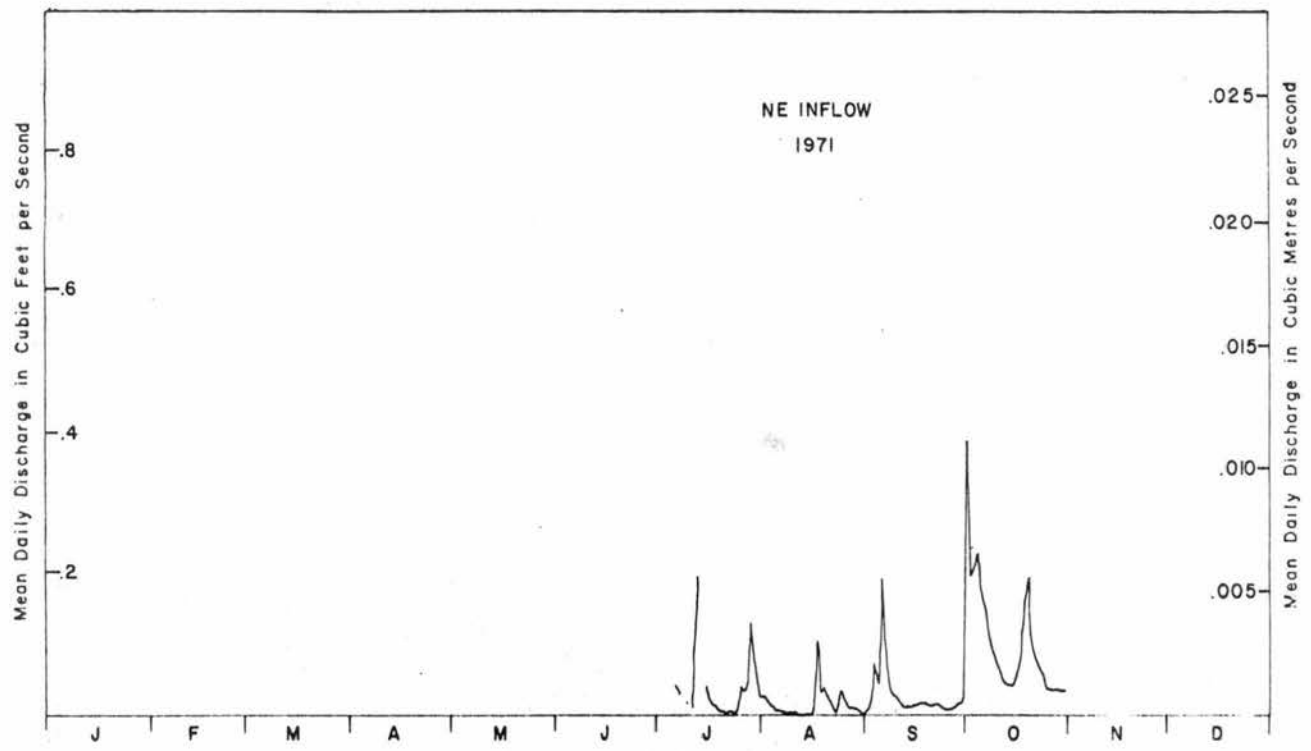


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1971.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.211 E	0.017	0	0.026	0.014	0.071 E	---	---	1
2	---	---	---	---	0.211	0.014	0	0.060	0.014 E	0.093 E	---	---	2
3	---	---	---	---	0.105	0.014	0	0.033	0.014 E	0.071	---	---	3
4	---	---	---	---	0.082	0.010	0	0.026	0.060	0.051	---	---	4
5	---	---	---	---	0.060	0.013	0	0.020	0.033	0.051	---	---	5
6	---	---	---	---	0.071	0.008	0	0.014	0.135	0.042	---	---	6
7	---	---	---	---	0.051	0.006	0.006	0.014	0.254	0.042 E	---	---	7
8	---	---	---	---	0.042	0.004	0.002	0.020	0.135	0.042 E	---	---	8
9	---	---	---	---	0.033	0.002	0.002	0.014	0.082	0.033 E	---	---	9
10	---	---	---	---	0.026	0.002	0.004	0.010	0.060	0.033	---	---	10
11	---	---	---	---	0.020	0.017	0.535	0.014	0.042	0.082	---	---	11
12	---	---	---	---	0.026	0.014	0.361	0.020	0.033	0.042	---	---	12
13	---	---	---	---	0.065	0.012	0.211	0.014	0.033	0.033	---	---	13
14	---	---	---	---	0.082	0.010	0.491	0.014	0.026	0.033	---	---	14
15	---	---	---	---	0.060	0.008	0.265	0.119	0.042 E	0.026 E	---	---	15
16	---	---	---	---	0.055	0.006	0.151	0.060	0.071 E	0.020 E	---	---	16
17	---	---	---	---	0.055	0.004	0.151	0.060	0.051 E	0.014	---	---	17
18	---	---	---	---	0.033	0.006	0.082	0.026	0.033 E	0.010	---	---	18
19	---	---	---	---	0.030	0.275	0.051	0.020	0.026	0.010	---	---	19
20	---	---	---	---	0.135	0.105	0.065	0.383	0.026	0.010 E	---	---	20
21	---	---	---	---	0.087	0.065	0.042	0.513	0.026	0.010 E	---	---	21
22	---	---	---	---	0.065	0.029	0.033	0.361	0.020	0.010 E	---	---	22
23	---	---	---	---	0.087	0.020	0.033	0.211	0.033 E	0.010 E	---	---	23
24	---	---	---	---	0.060	0.012	0.026	0.105	0.093 E	0.010	---	---	24
25	---	---	---	---	0.033	0.006	0.026	0.071	0.093	0.014	---	---	25
26	---	---	---	---	0.046	0	0.026	0.051	0.082	---	---	---	26
27	---	---	---	---	0.033	0.002	0.026	0.033	0.071	---	---	---	27
28	---	---	---	---	0.093	0.002	0.021	0.026	0.135	---	---	---	28
29	---	---	---	---	0.060	0.006	0.014	0.020	0.093	---	---	---	29
30	---	---	---	---	0.046	0.006	0.151	0.105	0.071	---	---	---	30
31	---	---	---	---	0.030		0.033	0.105		---		---	31
TOTAL	---	---	---	---	2.09	0.695	2.81	2.57	1.90	---	---	---	TOTAL
MEAN	---	---	---	---	0.068	0.023	0.090	0.083	0.063	---	---	---	MEAN
AC-FT	---	---	---	---	4.15	1.38	5.67	5.09	3.77	---	---	---	AC-FT
MAX	---	---	---	---	0.211	0.275	0.535	0.513	0.254	---	---	---	MAX
MIN	---	---	---	---	0.020	0	0	0.010	0.014	---	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.05 E CFS
TOTAL DISCHARGE, 26.6 E AC-FT
(from 1972 weekly water budget estimate)
MAXIMUM DAILY DISCHARGE, 0.535 CFS ON JUL 11
MINIMUM DAILY DISCHARGE, 0 CFS ON JUN 26

TYPE OF GAUGE - NON RECORDING
ALL VALUES BASED ON MANUAL READINGS

E-ESTIMATED

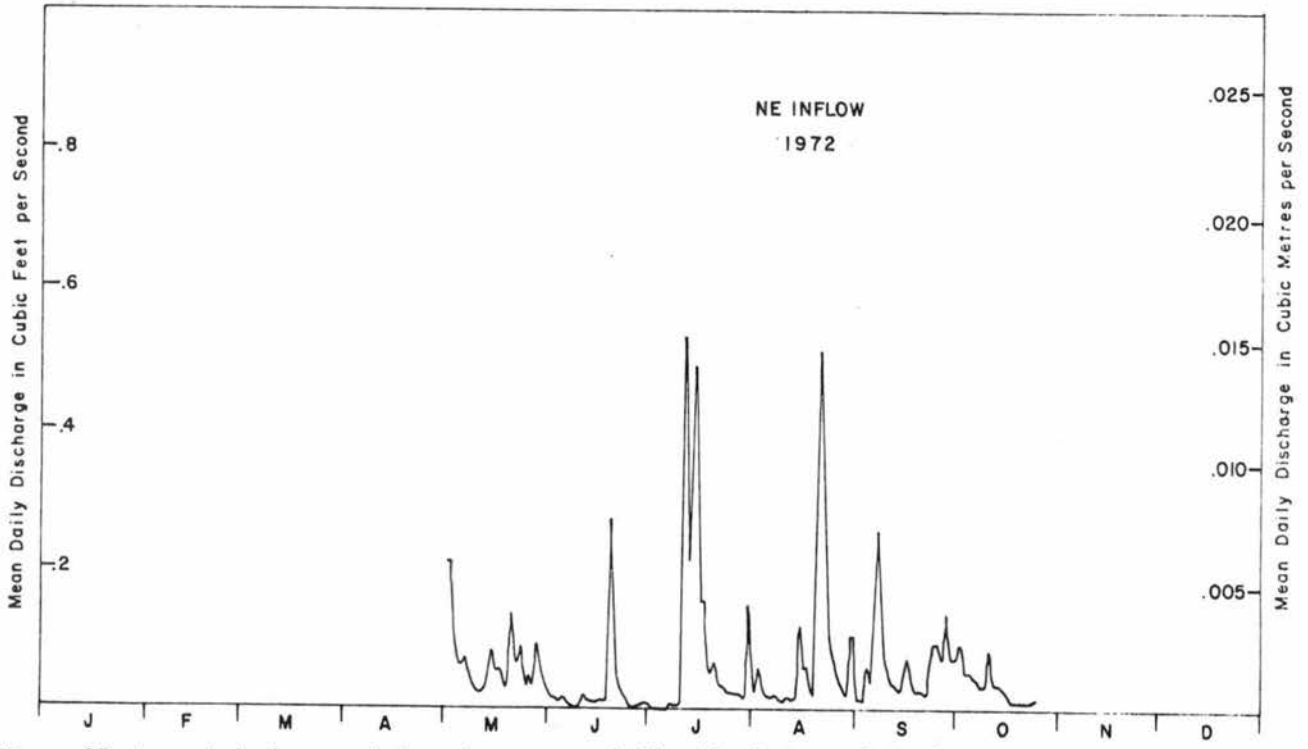


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1972.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.014	0.026	0.026	0.033	---	0.026	0.033	---	1
2	---	---	---	---	0.014	0.020	0.014	0.026	---	0.026	0.026	---	2
3	---	---	---	---	0.014	0.033	0.010	0.020	---	---	0.020	---	3
4	---	---	---	---	0.020	0.026	0.010	0.026	---	---	0.020	---	4
5	---	---	---	0.01 A	0.020	0.020	0.014	0.020	---	---	0.014	---	5
6	---	---	---	---	0.033	0.014	0.020	0.135	---	---	0.014	---	6
7	---	---	---	---	0.060	0.020	0.599	0.082	---	---	---	---	7
8	---	---	---	---	0.060	0.020	0.318	0.082	---	---	---	---	8
9	---	---	---	---	0.051	0.020	0.151	0.254	---	0.082	---	---	9
10	---	---	---	---	0.071	0.033	0.093	0.254	---	---	---	---	10
11	---	---	---	---	0.082	0.026	0.051	0.170	---	---	---	---	11
12	---	---	---	---	0.060	0.014	0.033	0.105	---	---	---	---	12
13	---	---	---	---	0.042	0.010	0.020	0.082	---	---	---	---	13
14	---	---	---	---	0.033	0.020	0.014	0.060	---	---	---	---	14
15	---	---	---	---	0.026	0.082	0.010	0.033	---	---	---	---	15
16	---	---	---	---	0.033	0.042	0.002	0.033	---	0.105	---	---	16
17	---	---	---	---	0.026	0.211	0.006	0.033	---	0.093	---	---	17
18	---	---	---	---	0.026	0.082	0.014	0.026	0.033	0.082	---	---	18
19	---	---	---	---	0.026	0.135	0.010	0.051	---	0.071	---	---	19
20	---	---	---	---	0.020	0.119	0.006	0.033	---	0.060	---	---	20
21	---	---	---	---	0.020	0.093	0.002	0.020	---	0.051	---	---	21
22	---	---	---	---	0.014	0.071	0	0.006	---	0.042	---	---	22
23	---	---	---	---	0.042	0.051	0	0.006	---	0.042	---	---	23
24	---	---	---	---	0.042	0.033	0.014	0.002	---	0.042	---	---	24
25	---	---	---	0.082	0.060	0.042	0.014	0.002	0.296	0.042	---	---	25
26	---	---	---	---	0.071	0.033	0.033	0.002	---	0.051	---	---	26
27	---	---	---	---	0.051	0.135	0.361	0.002	---	0.051	---	---	27
28	---	---	---	---	0.042	0.082	0.232	0	---	0.042	---	---	28
29	---	---	---	---	0.033	0.060	0.135	0	---	0.042	---	---	29
30	---	---	---	---	0.026	0.042	0.105	0	0.033	0.042	---	---	30
31	---	---	---	---	0.026		0.071	0		0.042		---	31
TOTAL	---	---	---	---	1.16	1.62	2.39	1.60	---	---	---	---	TOTAL
MEAN	---	---	---	---	0.037	0.053	0.077	0.051	---	---	---	---	MEAN
AC-FT	---	---	---	---	2.30	3.20	4.74	3.17	---	---	---	---	AC-FT
MAX	---	---	---	---	0.082	0.211	0.599	0.254	---	---	---	---	MAX
MIN	---	---	---	---	0.014	0.010	0	0	---	---	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.07 E CFS
TOTAL DISCHARGE, 32.6 E AC-FT
(from 1973 weekly water budget estimate)
MAXIMUM DAILY DISCHARGE, M CFS ON APR 20 or 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JUN 22

TYPE OF GAUGE - NON RECORDING
ALL VALUES BASED ON MANUAL READINGS

E-ESTIMATED
M-MISSING

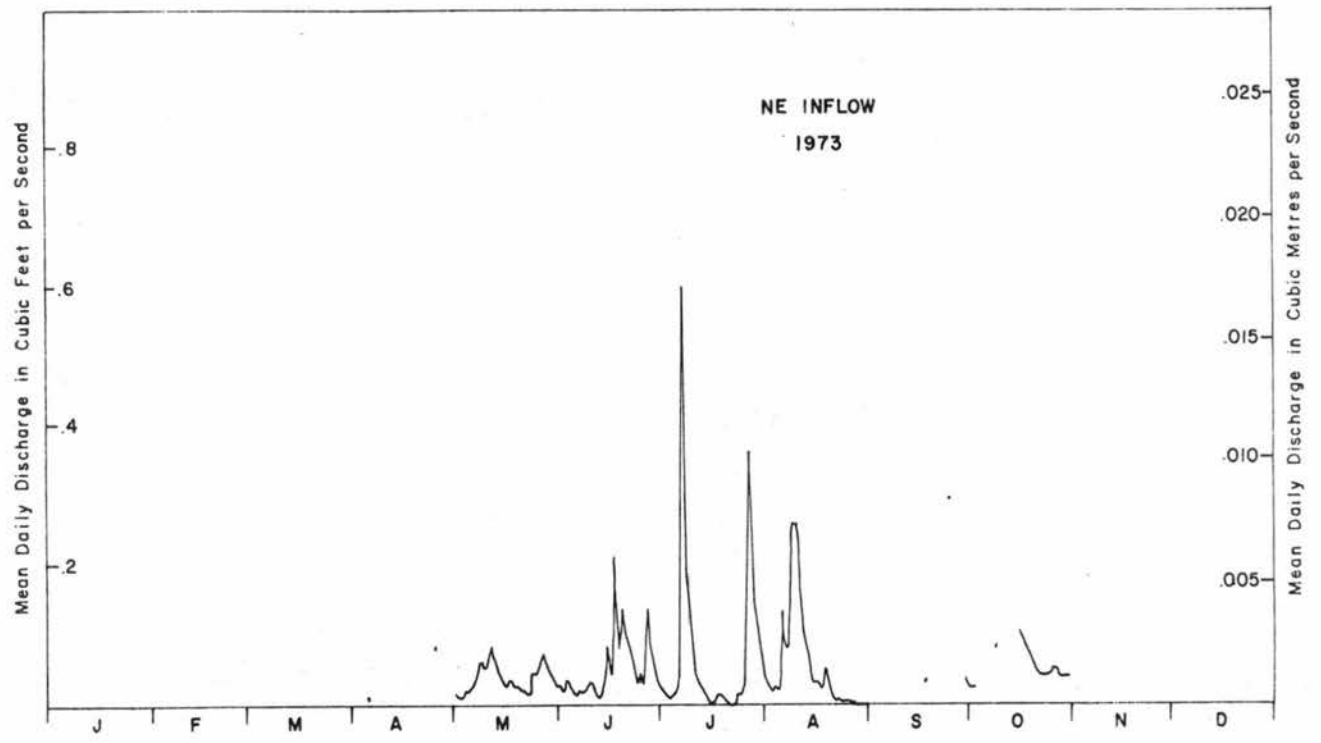


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1973.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	0.026	0.002	0.002 E	0.134	0.068	0.020	---	1
2	---	---	---	---	0.134 A	0.026	0.002	0.001 E	0.092	0.058	0.026	---	2
3	---	---	---	---	---	0.020	0.007	0.001 E	0.068	0.049	0.033	---	3
4	---	---	---	---	---	0.020	0.010	0 E	0.058	0.041	0.026	---	4
5	---	---	---	---	---	0.092	0.010	0 E	0.049	0.170	0.026	---	5
6	---	---	---	---	---	0.675	0.007	0	0.049	0.104	0.026	---	6
7	---	---	---	---	---	0.750	0.004	0	0.041	0.104	0.026	---	7
8	---	---	---	---	---	0.447	0.015	0	0.033	0.104	0.033	---	8
9	---	---	---	---	0.041 A	0.299	0.026	0	0.026	0.080	0.033	---	9
10	---	---	---	---	---	0.188	0.015	0.040 E	0.020	0.068	0.020	---	10
11	---	---	---	---	---	0.068	0.010	0.210 E	0.033	0.058	0.020	---	11
12	---	---	---	---	---	0.049	0.015	0.180 E	0.020 E	0.049	0.015	---	12
13	---	---	---	---	---	0.033	0.010	0.040 E	0.020 E	0.041	0.015	---	13
14	---	---	---	---	---	0.080	0.010	0.049	0.020 E	0.049	---	---	14
15	---	---	---	---	0.188 A	0.058	0.010	0.507	0.020 E	0.049	---	---	15
16	---	---	---	---	---	0.049	0.015	0.376	0.060 E	0.092	---	---	16
17	---	---	---	---	---	0.033	0.020	0.244	0.100 E	0.092	---	---	17
18	---	---	---	---	---	0.026	0.010	0.152	0.140 E	0.068	---	---	18
19	---	---	---	---	---	0.020	0.007	0.092	0.100 E	0.058	---	---	19
20	---	---	---	---	---	0.015	0.007	0.188	0.080	0.049	---	---	20
21	---	---	---	---	---	0.010	0.004	0.336	0.058	0.049	---	---	21
22	---	---	---	---	---	0.010	0.004	0.262	0.049	0.041	---	---	22
23	---	---	---	---	---	0.007	0.002	0.170	0.049	0.033	---	---	23
24	---	---	---	---	0.118 A	0.007	0.002	0.118	0.049	0.026	---	---	24
25	---	---	---	---	0.092 E	0.004	0.001	0.080	0.049	0.026	---	---	25
26	---	---	---	---	0.068 E	0.004	0.001	0.068	0.041	0.020	---	---	26
27	---	---	---	---	0.058 E	0.004	0	0.049	0.041	0.020	---	---	27
28	---	---	---	---	0.049 E	0.004	0.001	0.058	0.033	0.020	---	---	28
29	---		---	---	0.033 E	0.007	0.001	0.104	0.049	0.020	---	---	29
30	---		---	---	0.026	0.004	0.001	0.188	0.104	0.020	---	---	30
31	---		---		0.033		0.001	0.188		0.020		---	31
TOTAL	---	---	---	---	---	3.04	0.230	3.71	1.68	1.75	---	---	TOTAL
MEAN	---	---	---	---	---	0.101	0.008	0.119	0.056	0.058	---	---	MEAN
AC-FT	---	---	---	---	---	6.02	0.456	7.36	3.33	3.46	---	---	AC-FT
MAX	---	---	---	---	---	0.750	0.026	0.507	0.140	0.170	---	---	MAX
MIN	---	---	---	---	---	0.004	0.001	0	0.020	0.020	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.090 E CFS
TOTAL DISCHARGE, 44.04 E AC-FT
(from 1974 weekly water budget estimate)
MAXIMUM DAILY DISCHARGE, M CFS ON APR 20 or 21
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 4

TYPE OF GAUGE - RECORDING

A-MANUAL
E-ESTIMATED
M-MISSING

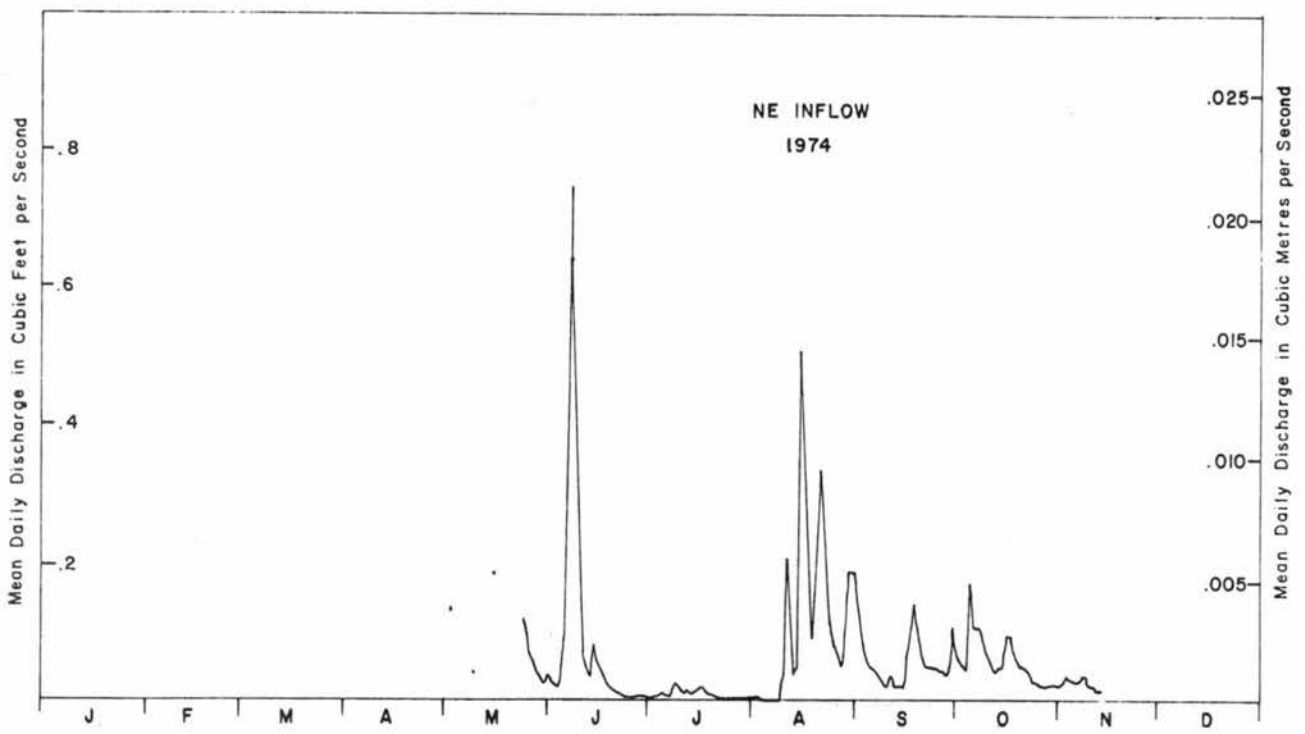


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1974.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.188 E	0.026	0.244	0.004	0.068	0.058	0.111	---	1
2	---	---	---	---	0.188 E	0.020	0.207	0.006	0.041	0.049	0.092	---	2
3	---	---	---	---	0.170 E	0.026	0.092	0.003	0.033	0.045	0.080	---	3
4	---	---	---	---	0.170 E	0.026	0.041	0.002	0.033	0.041	0.080	---	4
5	---	---	---	---	0.152 E	0.080	0.033	0	0.033	0.041	0.068 E	---	5
6	---	---	---	---	0.104 E	0.068	0.020	0	0.041	0.033 E	0.058 E	---	6
7	---	---	---	---	0.058	0.049	0.010	0	0.225	0.026	0.049 E	---	7
8	---	---	---	---	0.049	0.033	0.010	0	0.134	0.020	0.041 E	---	8
9	---	---	---	---	0.041	0.026	0.010	0.001	0.104	0.037	0.033 A	---	9
10	---	---	---	---	0.033	0.033	0.007	0	0.161	0.049	0.033 E	---	10
11	---	---	---	---	0.033	0.026	0.004	0.001	0.179	0.037	---	---	11
12	---	---	---	---	0.026	0.020	0.004	0.002	0.134	0.033	---	---	12
13	---	---	---	---	0.020	0.020	0.004	0.001	0.118	0.026	---	---	13
14	---	---	---	---	0.041	0.020	0.004	0	0.092	0.098	---	---	14
15	---	---	---	---	0.026	0.015	0.004	0.002	0.080	0.143	---	---	15
16	---	---	---	---	0.020	0.015	0.004	0	0.068	0.104 E	---	---	16
17	---	---	---	---	0.015	0.010	0.004	0	0.068	0.080	---	---	17
18	---	---	---	---	0.015	0.010	0.004	0	0.092	0.074	0.010 A	---	18
19	---	---	---	---	0.015	0.010	0.004	0	0.170	0.068	---	---	19
20	---	---	---	---	0.010	0.010	0.007	0.010	0.207	0.058	---	---	20
21	---	---	---	---	0.020	0.244	0.004	0.041	0.161	0.049	---	---	21
22	---	---	---	---	0.020	1.050	0.004	0.013	0.134	0.049	---	---	22
23	---	---	---	---	0.318	0.975	0.004	0.134	0.126	0.058	---	---	23
24	---	---	---	---	0.225	0.376	0.004	0.075	0.104	0.086	---	---	24
25	---	---	---	---	0.118	0.188	0.004	0.054	0.086	0.134	---	---	25
26	---	---	---	---	0.092	0.092	0.010	0.049	0.074	0.126	---	---	26
27	---	---	---	---	0.058	0.068	0.004	0.033	0.068	0.152 E	---	---	27
28	---	---	---	---	0.041	0.041	0.001	0.026	0.058	0.152	---	---	28
29	---		---	---	0.033	0.041	0	0.020	0.058 E	0.126	---	---	29
30	---		---	---	0.026	0.299	0	0.018	0.058 E	0.118	---	---	30
31	---		---		0.026		0	0.030		0.134		---	31
TOTAL	---	---	---	---	2.351	3.907	0.752	0.525	3.008	2.304	---	---	TOTAL
MEAN	---	---	---	---	0.076	0.130	0.024	0.017	0.100	0.074	---	---	MEAN
AC-FT	---	---	---	---	4.66	7.75	1.49	1.04	5.97	4.57	---	---	AC-FT
MAX	---	---	---	---	0.318	1.05	0.244	0.134	0.225	0.152	---	---	MAX
MIN	---	---	---	---	0.010	0.010	0	0	0.033	0.026	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.07 E CFS
TOTAL DISCHARGE, 34.7 E AC-FT
(from 1975 weekly water budget estimate)
MAXIMUM DAILY DISCHARGE, 1.05 CFS ON JUN 22
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 29

MAXIMUM INSTANTANEOUS DISCHARGE
1.88 CFS AT 14:00 CST ON JUN 22

TYPE OF GAUGE - RECORDING

A-MANUAL
E-ESTIMATED

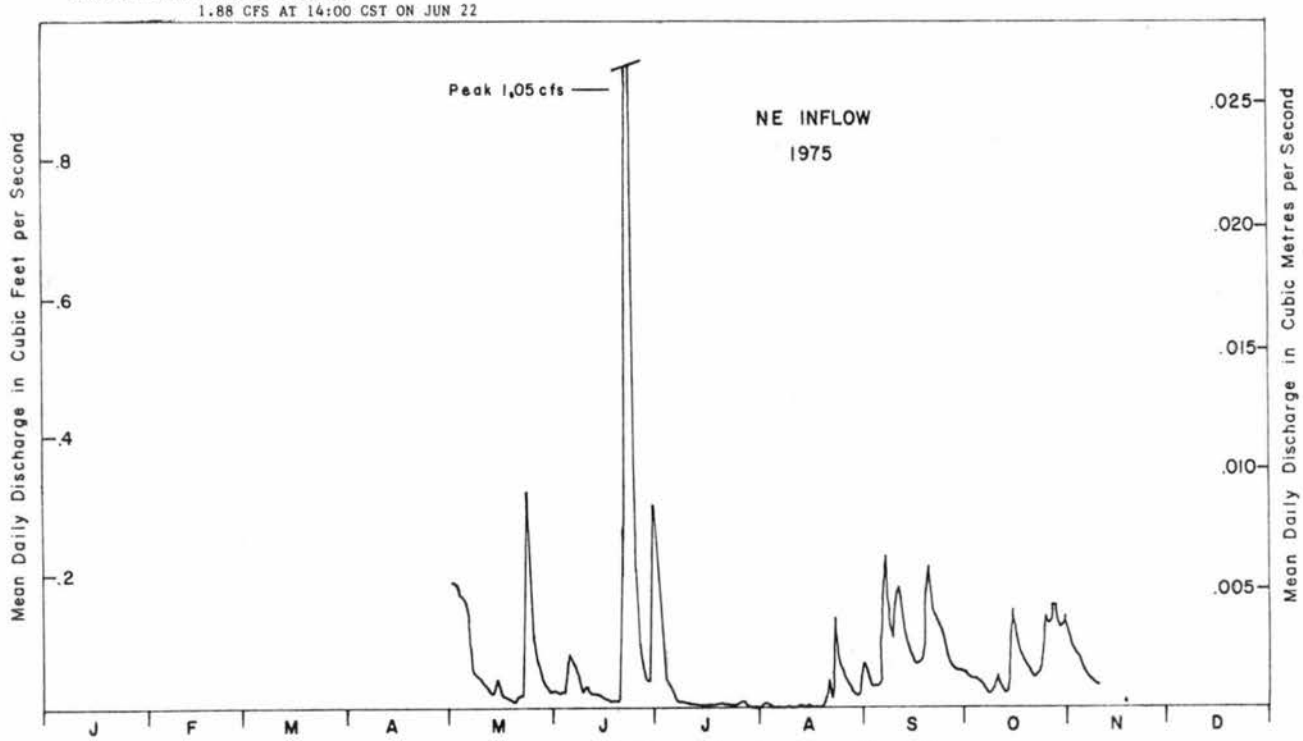


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1975.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.049	0	0.058	0	0.001	0	---	---	1
2	---	---	---	---	0.049	0	0.045	0	0	0	---	---	2
3	---	---	---	---	0.037	0	0.038	0	0	0	---	---	3
4	---	---	---	---	0.029	0	0.033	0	0.001	0.001	---	---	4
5	---	---	---	---	0.026	0	0.033	0	0	0.002	---	---	5
6	---	---	---	---	0.020	0	0.023	0	0	0.002	---	---	6
7	---	---	---	---	0.018	0	0.020	0	0	0.001	---	---	7
8	---	---	---	0.475 A	0.015	0	0.015	0	0	0.002	---	---	8
9	---	---	---	---	0.013	0	0.007	0.004	0	0.005	---	---	9
10	---	---	---	---	0.010	0.002	0	0.086	0	0.006	---	---	10
11	---	---	---	---	0.010	0.002	0	0.023	0	0.004	---	---	11
12	---	---	---	0.280 A	0.008	0.020	0	0.015	0	0.004	---	---	12
13	---	---	---	---	0.026	0.041	0.002	0.010	0.003	0.004	---	---	13
14	---	---	---	---	0.033	0.068	0.003	0.007	0.002	0.006	---	---	14
15	---	---	---	---	0.029	0.029	0	0.004	0.002	0.007	---	---	15
16	---	---	---	---	0.023	0.018	0.001	0.002	0.001	0.004	---	---	16
17	---	---	---	---	0.015	0.026	0	0.001	0.001	0.004	---	---	17
18	---	---	---	---	0.010	0.049	0	0.001	0.001	0.004	---	---	18
19	---	---	---	---	0.010	0.068	0	0.004	0	0.004	---	---	19
20	---	---	---	---	0.008	0.033	0	0.009	0	0.005	---	---	20
21	---	---	---	---	0.007	0.026	0	0.004	0	0.007	---	---	21
22	---	---	---	---	0.006	0.020	0	0.002	0	0.007	---	---	22
23	---	---	---	---	0.004	0.013	0	0.002	0	0.005	---	---	23
24	---	---	---	---	0.004	0.010	0	0	0	0.004	---	---	24
25	---	---	---	---	0.002	0.188	0	0	0	0.004	---	---	25
26	---	---	---	---	0.002	0.336	0	0	0.001	0.003 E	---	---	26
27	---	---	---	0.033	0.001	0.336	0	0.002	0.001	0.003 E	---	---	27
28	---	---	---	0.029	0	0.225	0	0.004	0	0.003 E	---	---	28
29	---		---	0.026	0	0.143	0	0.002	0	0.003 E	---	---	29
30	---		<0.010 A	0.041	0	0.086	0	0.001	0	0.003 E	---	---	30
31	---		---		0		0	0.001		0.003 E		---	31
TOTAL	---	---	---	---	0.464	1.74	0.278	0.184	0.014	0.110	---	---	TOTAL
MEAN	---	---	---	---	0.015	0.058	0.009	0.006	0	0.004	---	---	MEAN
AC-FT	---	---	---	---	0.920	3.45	0.551	0.365	0.028	0.218	---	---	AC-FT
MAX	---	---	---	---	0.049	0.336	0.058	0.086	0.003	0.007	---	---	MAX
MIN	---	---	---	---	0	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.06 E CFS
TOTAL DISCHARGE, 13.7 E AC-FT
(from 1976 weekly water budget)
MAXIMUM DAILY DISCHARGE, M CFS ON APR 15 OR 16
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 28

MAXIMUM INSTANTANEOUS DISCHARGE
M CFS AT M ON APR 15 OR 16

TYPE OF GAUGE - RECORDING

A-MANUAL
E-ESTIMATED
M-MISSING

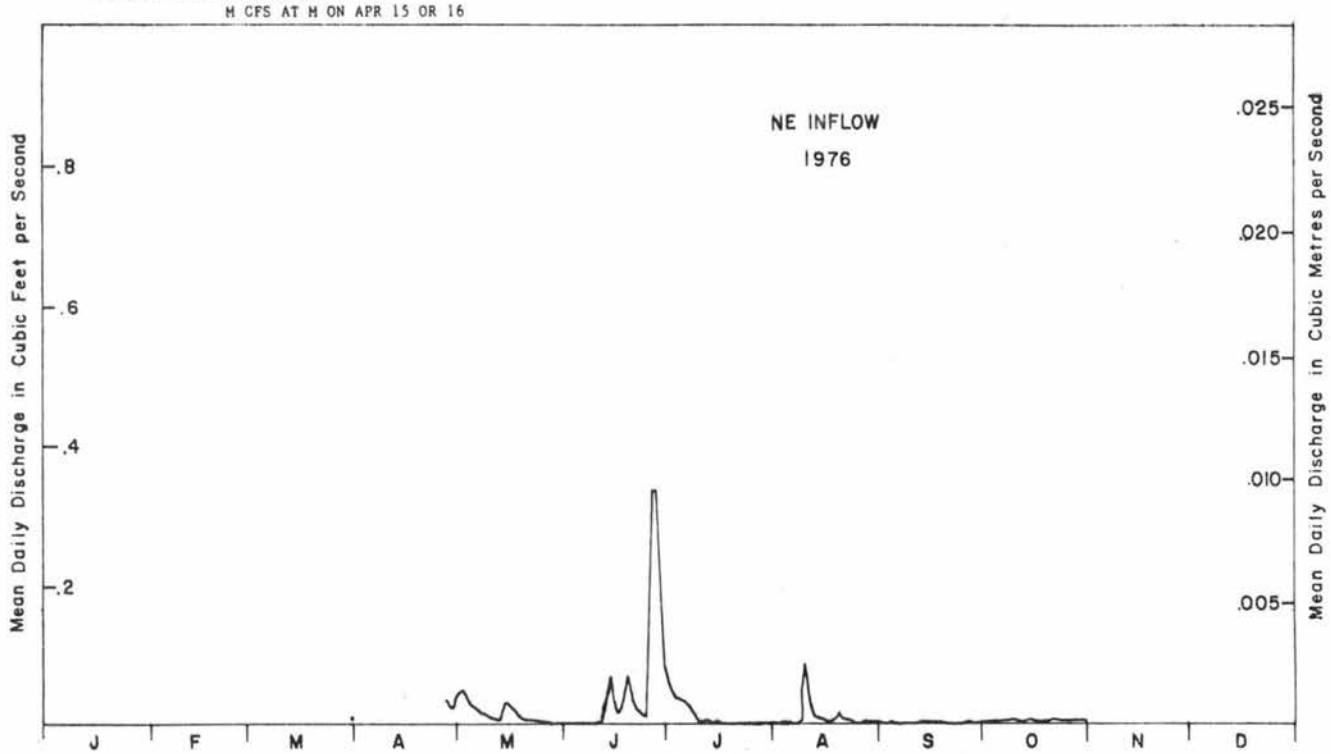


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1976.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.041	0.207	0.118	M	0.041	0.058 E	0.026	---	1
2	---	---	---	---	0.030	0.143	0.073	0.026 A	0.033	0.049 E	0.026	---	2
3	---	---	---	---	0.026	0.104	0.080	0.020	0.030	0.041 E	0.026	---	3
4	---	---	---	---	0.023	0.086	0.063	0.010	0.049	0.041 E	---	---	4
5	---	---	---	---	0.134	0.170	0.037	0.010	0.041 E	0.033 E	---	---	5
6	---	---	---	---	0.376	0.207	0.041	0.010	0.041 E	0.033 E	---	---	6
7	---	---	---	---	0.262 E	0.143	0.033	0.010	0.041 E	0.030 E	---	---	7
8	---	---	---	---	0.207 E	0.179	0.020	0.010	M	0.033	---	---	8
9	---	---	---	---	0.170 E	0.134	0.020	0.010	M	0.033	---	---	9
10	---	---	---	---	0.188	0.134	0.020	0.010	M	0.033	---	---	10
11	---	---	---	---	0.118	0.170	0.026	0.010	M	0.033	---	---	11
12	---	---	---	---	0.080	0.134	0.045	0.007	M	0.033	---	---	12
13	---	---	---	---	0.068	0.244	0.030	0.007	M	0.026	---	---	13
14	---	---	---	0.299	0.054	0.356	0.049	0.007	M	0.023	---	---	14
15	---	---	---	0.271	M	0.900	0.026	0.007	0.058	0.020 E	---	---	15
16	---	---	---	0.230	M	0.900	0.020	0.007	M	0.020 E	---	---	16
17	---	---	---	0.225	0.049	0.507	0.015	0.010	M	0.017 E	---	---	17
18	---	---	---	0.207	M	M	0.013	0.010	M	0.015 E	---	---	18
19	---	---	---	0.143	M	M	0.013	0.007	M	0.015 E	---	0.020 A	19
20	---	---	---	0.126	M	M	0.010	0.007 E	M	0.013 E	---		20
21	---	---	---	0.098	M	0.170	0.007	0.010 E	M	0.010	---	---	21
22	---	---	---	M	M	0.104	0.004	0.010 E	0.026	0.010	---	---	22
23	---	---	---	M	M	0.080	0.003	0.010	M	0.010	---	---	23
24	---	---	---	M	0.170	0.068	0.003	0.007	M	0.010	---	---	24
25	---	---	---	M	0.118	0.058	0.002	0.009	M	0.013	---	---	25
26	---	---	---	0.041	0.092	0.058	0	0.041	M	0.013	---	---	26
27	---	---	---	0.041	M	0.054	0	0.041	M	0.009	---	---	27
28	---	---	---	0.033	M	0.033	0	0.080	M	0.009	---	---	28
29	---		---	0.030	M	0.041	M	0.049	0.068	0.009	---	---	29
30	---		---	0.033	M	0.118	M	0.058	0.058	0.009	---	---	30
31	---		---		0.244		M	0.049		0.026		---	31
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	TOTAL
MEAN	---	---	---	---	---	---	---	---	---	---	---	---	MEAN
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---	AC-FT
MAX	---	---	---	---	---	---	---	---	---	---	---	---	MAX
MIN	---	---	---	---	---	---	---	---	---	---	---	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.07 E CFS
TOTAL DISCHARGE, 36.47 E AC-FT
(from 1977 weekly water budget)
MAXIMUM DAILY DISCHARGE, 0.90 CFS ON JUN 15
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 26

MAXIMUM INSTANTANEOUS DISCHARGE
0.866 CFS AT 17:00 CST ON JUN 15

TYPE OF GAUGE - RECORDING

MISSING DATA DUE TO STOPPED CLOCKS AND ALGAE BUILD UP IN CONTROL

A-MANUAL
E-ESTIMATED
M-MISSING

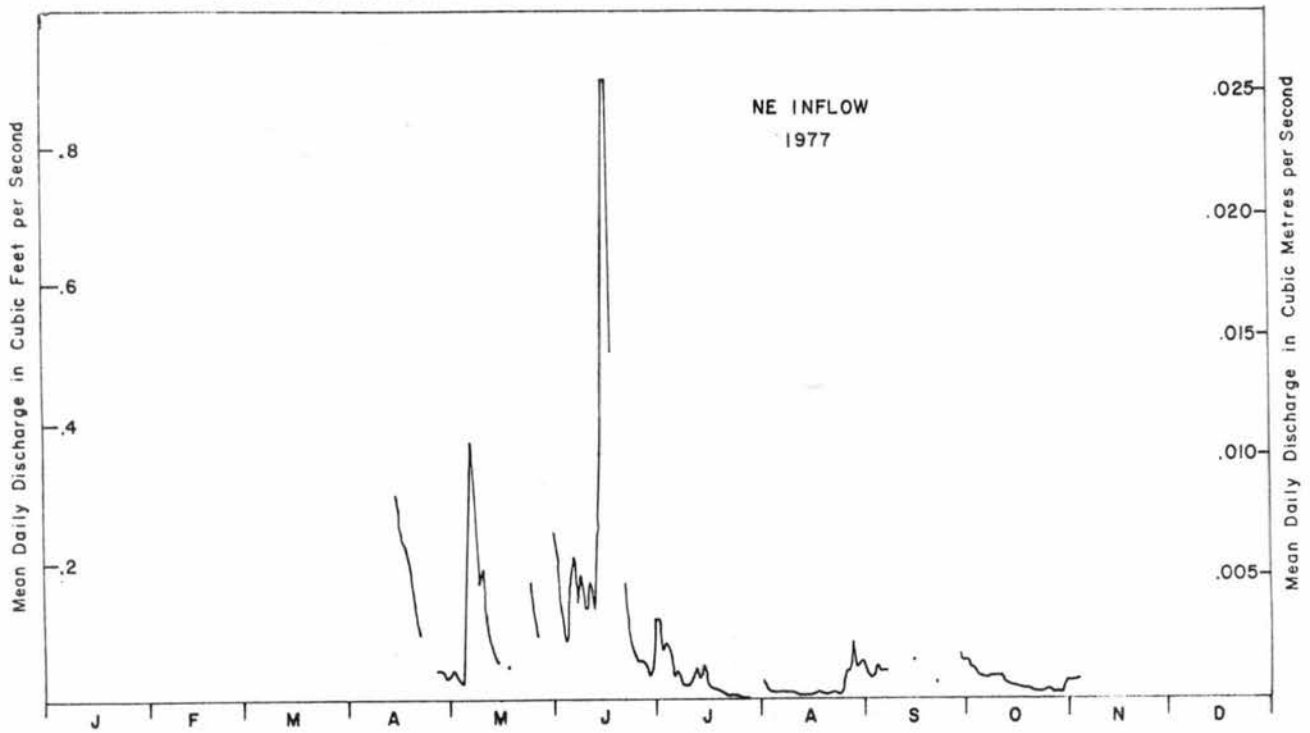


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1977.

Table 117 Mean daily discharges in cubic feet per second for the NE inflow to Lake 239 for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.010 E	0.170	0.337	0.010	0.020	0.008	0.020	0.007	---	1
2	---	---	---	0.010 E	0.138	0.272	0.010	0.080	0.010	0.015	0.007	---	2
3	---	---	---	0.010 E	0.110	0.195	0.007	0.050	0.007	0.015	0.007	---	3
4	0 A	---	---	0.010 E	0.104	0.146	0.004	0.030	0.005	0.015	0.007	---	4
5	---	---	---	0.010 E	0.092	0.124	0.050	0.017	0.007	0.017	0.007	---	5
6	---	---	---	0.010 E	0.080	0.117	0.030	0.010	0.007	0.015	0.007	---	6
7	---	---	---	0.020 A	0.064	0.117	0.017	0.007	0.007	0.013	0.005	---	7
8	---	---	---	0.020 E	0.110	0.075	0.010	0.007	0.007	0.013	0.005 E	---	8
9	---	---	---	0.020 E	0.117	0.059	0.017	0.007	0.005	0.013	0.005 E	---	9
10	---	---	---	0.020 E	0.098	0.050	0.015	0.004	0.004	0.008	0.005 E	---	10
11	---	---	---	0.020 E	0.104	0.037	0.010	0.002	0.004	0.007	0.005 E	---	11
12	---	---	---	0.020 E	0.092	0.033	0.026	0.001	0.004	0.008	0.005 E	---	12
13	---	---	---	0.023	0.080	0.026	0.020	0.001	0.017	0.007	0.005 E	---	13
14	---	---	---	0.023	0.064	0.026	0.041	0.002	0.131	0.007	0.005 E	---	14
15	---	---	---	0.020	0.050	0.020	0.033	0.010	0.080	0.023	0.005 E	---	15
16	---	---	---	0.033	0.050	0.020	0.020	0.037	0.059	0.020	0.005 A	---	16
17	---	---	---	0.069	0.045	0.015	0.023	0.015	0.055	0.015	0.005 E	---	17
18	---	---	---	0.146	0.033	0.015	0.050	0.080	0.041	0.013	0.005 E	0 A	18
19	---	---	---	0.251	0.030	0.015	0.045	0.041	0.026	0.010	0.005 E	---	19
20	---	---	---	0.337	0.037	0.010	0.041	0.020	0.023	0.010	0.005 E	---	20
21	---	---	---	0.409	0.033	0.010	0.020	0.013	0.017	0.008	0 E	---	21
22	---	---	---	0.574	0.041	0.007	0.015	0.010	0.015	0.008	0 E	---	22
23	---	0 A	---	0.834	0.080	0.005	0.020	0.010	0.013	0.007	0 E	---	23
24	---	---	---	1.26	0.045	0.020	0.020	0.010	0.010	0.007	0 E	---	24
25	---	---	---	1.21	0.033	0.041	0.010	0.010	0.008	0.007	0 E	---	25
26	---	---	---	1.12	0.314	0.033	0.007	0.008	0.007	0.007	0 E	---	26
27	---	---	---	0.877	0.314	0.026	0.005	0.013	0.007	0.008	0 E	---	27
28	---	---	---	0.545	0.222	0.026	0.004	0.020	0.010	0.007	0 E	---	28
29	---	---	0 A	0.314	0.222	0.015	0.004	0.013	0.041	0.007	0 E	---	29
30	---		---	0.213	0.251	0.010	0.004	0.007	0.026	0.007	0 E	---	30
31	---		---		0.186		0.010	0.005		0.007		---	31
TOTAL	---	---	---	9.32	3.41	1.90	0.60	0.56	0.66	0.34	0.11	---	TOTAL
MEAN	---	---	---	0.31	0.11	0.060	0.020	0.020	0.020	0.010	0.004	---	MEAN
AC-FT	---	---	---	18.48	6.76	3.77	1.19	1.11	1.31	0.68	0.22	---	AC-FT
MAX	---	---	---	1.26	0.31	0.34	0.050	0.080	0.13	0.023	0.007	---	MAX
MIN	---	---	---	0.010	0.30	0.005	0.004	0.001	0.004	0.007	0.0	---	MIN

SUMMARY FOR THE MONTHS APR TO NOV

MEAN DISCHARGE, 0.069 CFS
TOTAL DISCHARGE, 33.52 AC-FT
MAXIMUM DAILY DISCHARGE, 1.26 CFS ON APR 24
MINIMUM DAILY DISCHARGE, 0 CFS ON MAR 29

MAXIMUM INSTANTANEOUS DISCHARGE
1.71 CFS AT 18:00 CST ON APR 24

TYPE OF GAUGE - RECORDING

A-MANUAL
E-ESTIMATED

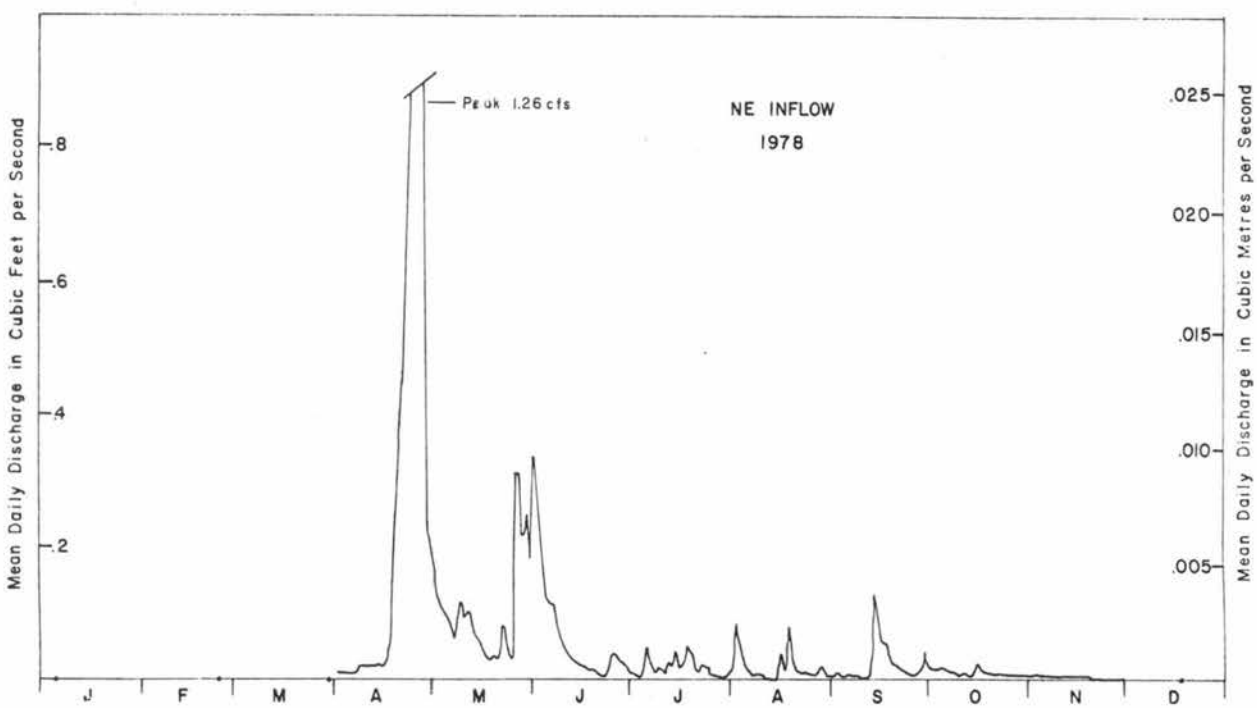


Fig. 35 Annual hydrograph based on mean daily discharges for the NE inflow to Lake 239 for 1978.

Lake 240 Outflow Hydrological Data for 1969 to 1978

Hayes Lake (240) is located immediately south of the ELA field station. Its watershed is the largest of the ELA study lakes and includes the drainage of Lakes 239, 470, 661, 303 and 304. The Rawson Lake (239) drainage basin makes up 54% of the total Hayes Lake watershed and enters by a short well defined stream which usually flows all year. The other lake basins (470, 303, 304, 661) together equal 23% of the total Hayes Lake watershed and enter by a well defined stream from Lake 470 which also usually flows all year. The remainder of contributing drainage area is from the terrestrial areas surrounding the lake. This inflow is in the form of direct runoff, both by overland flow and by small poorly defined intermittent streams. Figures 36 and 37 show the Lake 240 watershed including and excluding tributary lake drainage. Table 118 includes basin area data. The contours are based on mapping of the ELA area by Western Photogrammetry Limited in 1970 and are related to an assumed datum. A bathymetric map with 1 metre contours is also included (Fig. 38).

Hydrological work on Lake 240 began March 27, 1969 when a 120° V-notch recording weir in concrete was constructed by Water Survey of Canada on the well defined outflow stream at the south end of the lake. Because the stream is bedrock controlled, the problem of groundwater seepage does not exist here. A propane gas heater was used to heat the concrete stilling well and shelter building in winter. Monitoring of the two inflow streams from Lake 239 and Lake 470 also began in 1969 (see L. 239 and L. 470 hydrological data in this report). Tables 120 and Figures 39 include mean daily discharge values and annual hydrographs. Service of this station and computation of flow data was by WSC in all years except 1974 when this was carried out by ELA hydrologic studies staff.

June 26, 1974 a major forest fire swept much of the ELA area. It burned 323 km^2 in total including 37% of the Hayes Lake drainage basin. The portion of the basin affected by the fire was 100% of the terrestrial area east of a line running from the northeast corner of Lake 239 (Roddy trail) through the Lake 239 outflow to the Lake 240 outflow. The effects of the fire on the watersheds and receiving streams have been discussed by Schindler et al. (1980).

Other hydrometeorological instrumentation has included a Class A reporting meteorological site at station 1 and nine rain gauge sites.

Table 118. Location and morphometric data for the Hayes Lake (240) watershed.

		Acres	Hectares
Location:			
Latitude	49°39'00"N		
Longitude	93°43'40"W		
Lake 240 drainage basin area (includes lake surface)			
total basin area including all tributary drainage		1779.59[d]	720.17[d]
basin area excluding tributary drainage		400.32	162.00
Tributary drainage basin areas (includes lake surface)			
	L. 239	964.85[a,d]	390.46[a,d]
	L. 470	104.46[b]	42.27[b]
	L. 303	133.77[d]	54.14[d]
	L. 304	65.30[d]	26.42[d]
	L. 661	110.89[c]	44.88[c]
Surface area of lakes in the Hayes Lake watershed			
	L. 240	109.16[e]	44.18[e]
	L. 239	134.13[e]	54.28[e]
	L. 303	23.40[e]	9.47[e]
	L. 470	14.03[e]	5.68[e]
	L. 304	8.37[e]	3.39[e]
	L. 661	2.86	1.56
Lake 240 volume		267.0×10^4 metre^3	
Lake 240 mean depth		6.0 metres	

[a] slightly different from previously reported values due to an adjustment to the NW Subbasin area in 1979.

[b] does not include L. 303, L. 661, L. 304.

[c] does not include L. 303, L. 304.

[d] drainage basin areas are different and supercede values reported by Brunskill and Schindler (1971).

[e] surface area values are based on topographical basin maps rather than bathymetric maps and are different than values reported by Brunskill and Schindler (1971).

Table 119 Surface temperature and lake level readings from Lake 240 for 1978.

Date	Time (cst)	Lake Temp. (°C)	Lake Level (ft.)
May 4	15:00	-	3.10[E] (submerged approx .10 ft.)
May 16	16:00	-	2.90
May 22	10:00	-	2.72
May 25	09:00	18.8	-
May 30	-	-	too wavy
May 31	24:00	-	2.97[E]
June 1	09:00	14.5	3.03[E] (submerged approx. .03 ft.
June 7	10:30	-	2.98
June 8	08:45	15.2	2.95
June 12	20:00	-	2.80
June 15	10:30	16.0	-
June 18	11:30	19.0	-
June 19	20:00	-	2.55
June 25	14:00	-	2.53
June 27	08:00	-	2.53
June 29	08:50	21.8	-
June 30	18:30	25.0	2.48
July 3	17:00	-	2.40
July 6	08:40	24.0	-
July 17	13:00	-	2.35
July 31	21:30	-	2.31
Aug. 3	09:00	19.0	-
Aug. 30	08:30	-	2.36
Aug. 31	08:00	18.2	-
Sept. 5	09:00	-	2.33
Sept. 14	08:45	16.0	2.34
Sept. 21	08:25	13.9	-
Sept. 26	07:30	-	2.35
Sept. 28	a.m.	12.5	-
Oct. 5	06:35	11.7	2.38
Oct. 9	10:00	-	2.34
Oct. 12	06:15	10.8	-
Oct. 17	12:00	-	2.30
Oct. 19	06:30	8.0	-
Oct. 26	07:30	6.5	-
Nov. 1	11:00	-	2.22

Note: - indicates no reading taken.

E indicates that due to conditions, value should be treated as an estimated approximation.

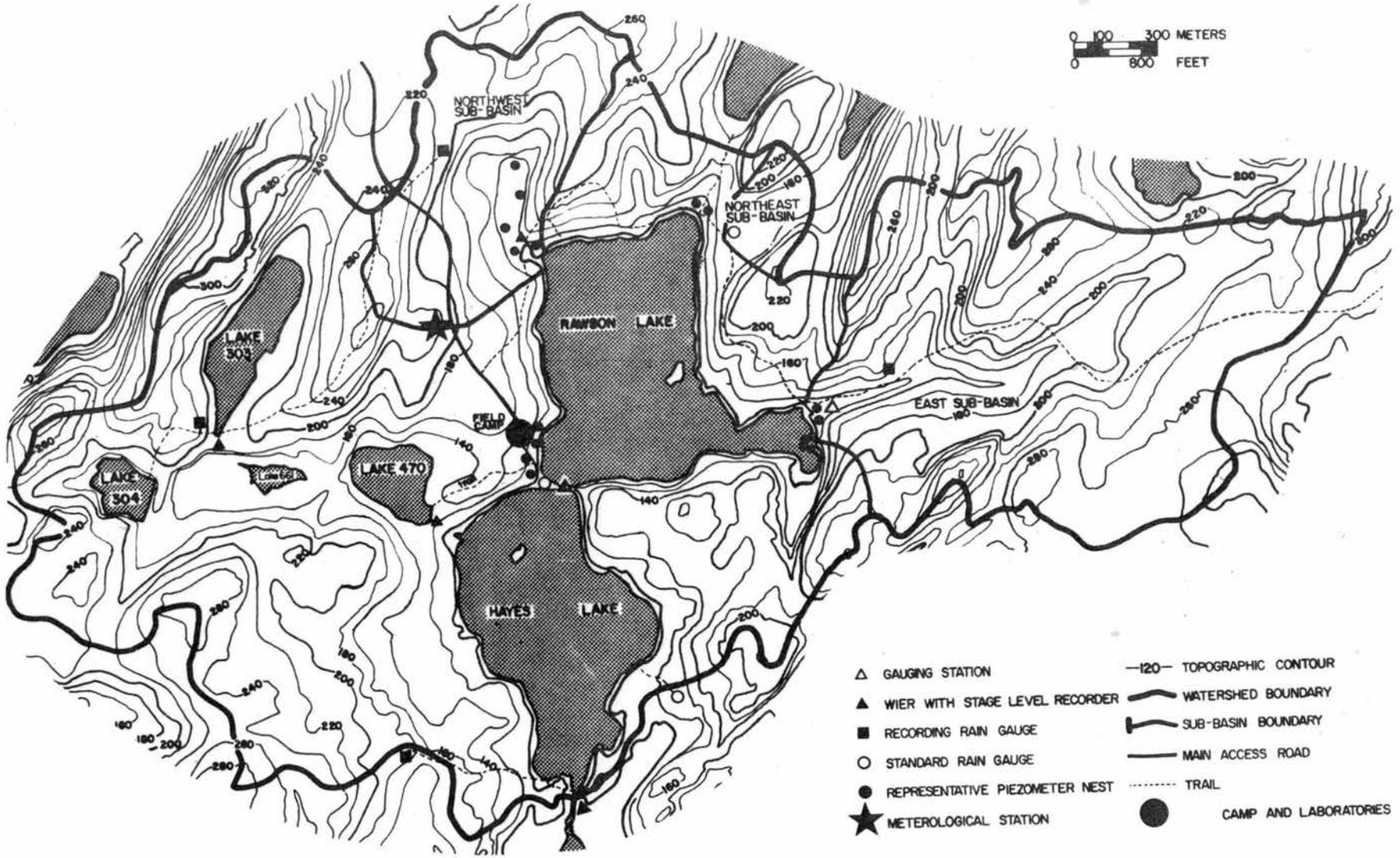


Fig. 36 Topographic map of Hayes Lake drainage basin. Contours are in feet.

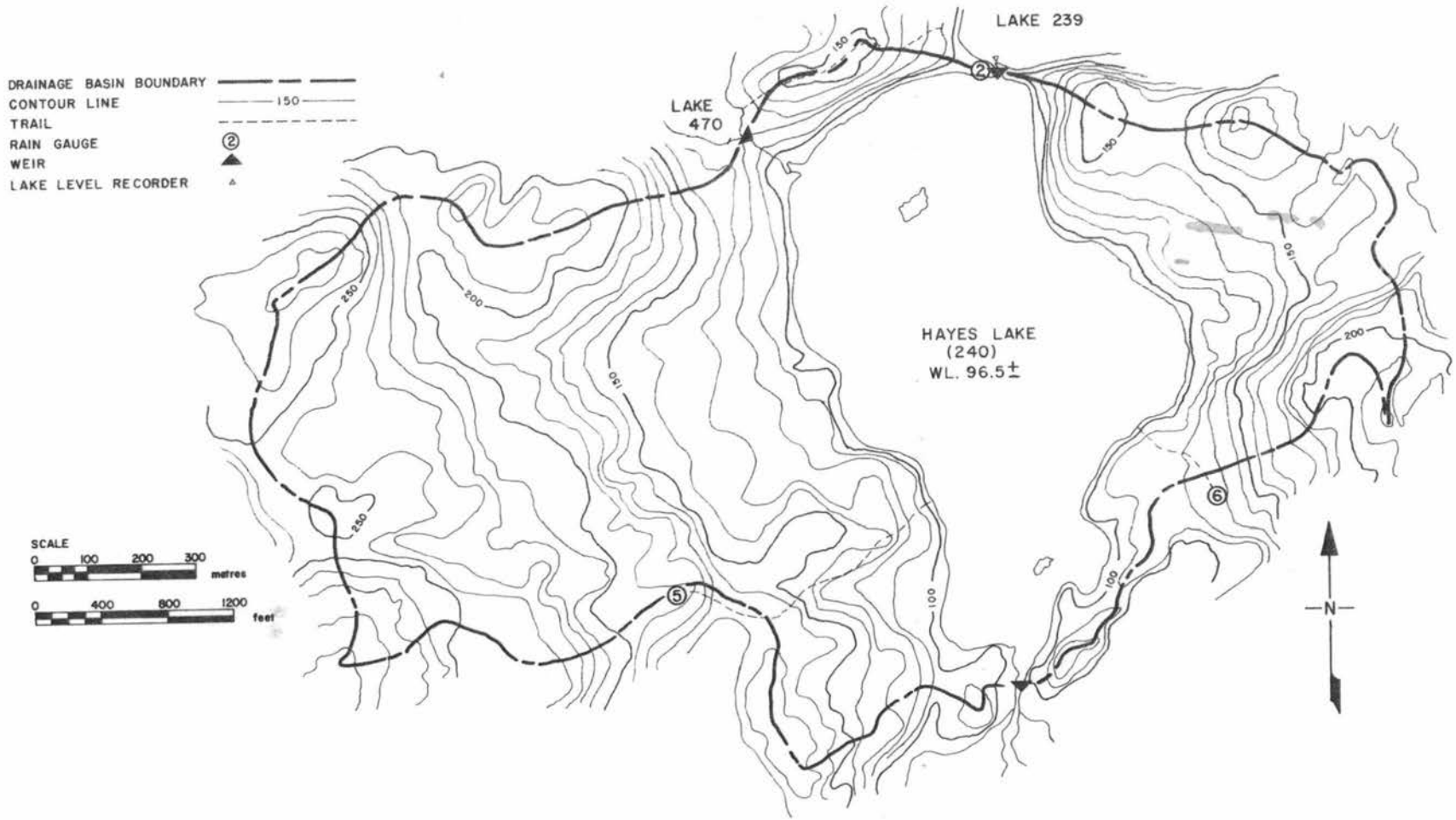
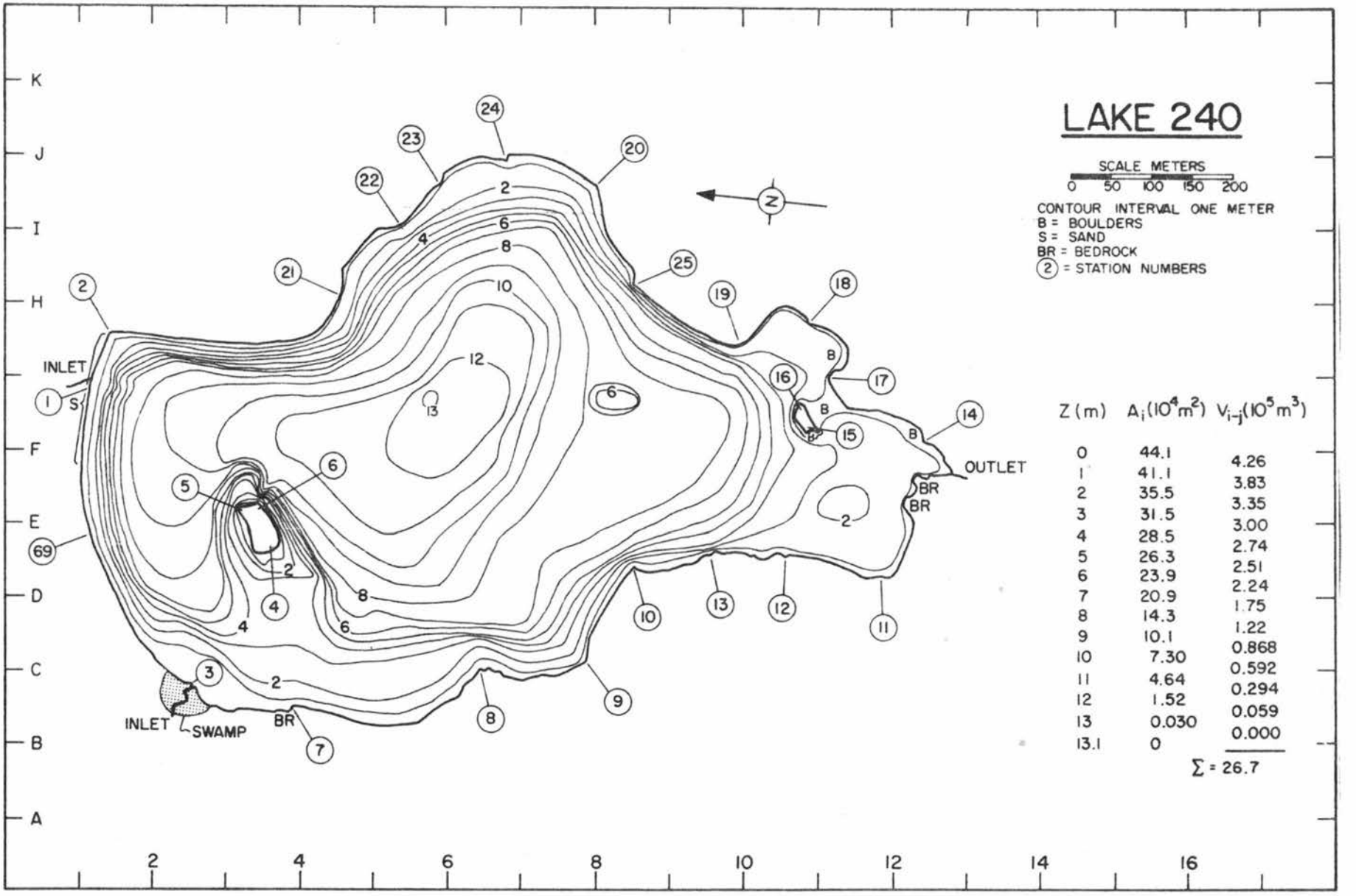


Fig. 37 Topographic map for Hayes Lake drainage basin. Contours are in feet.



Z (m)	$A_i (10^4 m^2)$	$V_{i-j} (10^5 m^3)$
0	44.1	
		4.26
1	41.1	
		3.83
2	35.5	
		3.35
3	31.5	
		3.00
4	28.5	
		2.74
5	26.3	
		2.51
6	23.9	
		2.24
7	20.9	
		1.75
8	14.3	
		1.22
9	10.1	
		0.868
10	7.30	
		0.592
11	4.64	
		0.294
12	1.52	
		0.059
13	0.030	
		0.000
13.1	0	

$\Sigma = 26.7$

Fig. 38 Bathymetric chart of Lake 240.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1969.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	6.6	4.1	3.0	3.8	2.6	3.8 E	2.0	1.1	1
2	---	---	---	---	6.2	4.6	2.8	4.1	2.5	3.8 A	2.0	1.1	2
3	---	---	---	---	6.4	4.9	2.6	4.1	2.3	3.9	1.9	1.1	3
4	---	---	---	---	6.4	5.4	3.0	4.6	2.1	4.1	1.8	1.0	4
5	---	---	---	---	6.7	6.2	3.5	4.6	2.2	5.9	1.8	1.0	5
6	---	---	---	---	7.1	6.7	3.4	5.0	2.4	7.6	1.7	1.0	6
7	---	---	---	---	7.2	6.7	3.3	7.4	2.2	8.7	1.6	1.0	7
8	---	---	---	---	7.1	6.4	3.2	9.6	2.0	9.0	1.6	1.1	8
9	---	---	---	---	6.7	6.1	3.1	10.0	1.9 A	8.7	1.5	1.1	9
10	---	---	---	---	6.4	5.9	3.2	10.0	1.9 E	8.5	1.5	1.1	10
11	---	---	---	0.78 A	5.9	5.4	3.1	9.6	2.0 E	7.6	1.5	1.1	11
12	---	---	---	---	5.4	4.9	2.9	8.7	2.0 E	7.1	1.5	1.1	12
13	---	---	---	---	5.0	4.5	3.0	10.0	2.0 E	6.6	1.3	1.2	13
14	---	---	---	---	4.9	4.1	2.9	10.8	2.1 E	5.9	1.1 E	1.2 E	14
15	---	---	---	---	5.4	3.8	2.8	10.4	2.1 A	5.7	1.5 E	1.2 E	15
16	---	---	---	---	5.7	3.4	2.6	9.3	2.1 E	5.3	1.5 E	1.2 E	16
17	---	---	---	---	5.6	3.2	2.3	8.2	2.2 E	4.9	1.6 E	1.1 E	17
18	---	---	---	---	5.4	3.5	2.0	7.2	2.2 E	4.6	1.6 E	1.1 E	18
19	---	---	---	---	5.6	3.5	1.8	6.6	2.3 E	4.3	1.6 E	1.1 E	19
20	---	---	---	---	5.3	3.2	1.6	5.9	2.1 E	4.0	1.5 E	1.0 E	20
21	---	---	---	12.3	5.0	3.0	1.4	5.3	2.1 E	3.7	1.5 E	1.0 E	21
22	---	---	---	11.3	4.6	2.8	1.6	4.6	2.1 E	3.3	1.5 E	1.0 E	22
23	---	---	---	10.0	4.5	2.6	2.0	4.2	2.1 E	3.1	1.5 E	1.0 E	23
24	---	---	---	9.0	4.5	2.6	2.0	3.8	2.1 E	2.9	1.4 E	0.97 E	24
25	---	---	---	8.2	4.1	2.6	2.0	3.2	2.8 E	2.7	1.4 E	0.97 E	25
26	---	---	---	8.7	3.8	3.2	1.9	2.8	3.9 E	2.6	1.4 E	0.97 E	26
27	---	---	0.63 A	8.2	3.7	3.4	2.3	2.6	3.9 E	2.5	1.3 E	0.94 E	27
28	---	---	---	7.6	3.5	3.3	2.3	2.2	3.8 E	2.3	1.3 E	0.94 E	28
29	---		---	7.1	3.2	3.3	3.0	2.0	3.8 E	2.1	1.2 E	0.91 E	29
30	---		---	6.6	2.9	3.2	3.0	2.7	3.8 E	2.0	1.2 E	0.91	30
31	---		---		3.2		1.7	2.7		2.0		0.91	31
TOTAL	---	---	---	---	164.0	126.5	79.3	186.0	73.6	149.2	45.8	32.40	TOTAL
MEAN	---	---	---	---	5.3	4.2	2.6	6.0	2.5	4.8	1.5	1.0	MEAN
AC-FT	---	---	---	---	325	251	157	369	146	296	90.8	64.3	AC-FT
MAX	---	---	---	---	7.2	6.7	3.5	10.8	3.9	9.0	2.0	1.2	MAX
MIN	---	---	---	---	2.9	2.6	1.4	2.0	1.9	2.0	1.1	0.91	MIN

SUMMARY FOR THE PERIOD APR 21 TO DEC 31

MEAN DISCHARGE, 3.68 CFS
TOTAL DISCHARGES, 1879 AC-FT
MAXIMUM DAILY DISCHARGE, 12.3 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0.63 CFS ON MAR 27

TYPE OF GAUGE - RECORDING

E-ESTIMATED BY COMPARISON WITH LAKE 227 AND LAKE 470 OUTFLOWS
A-MANUAL GAUGE

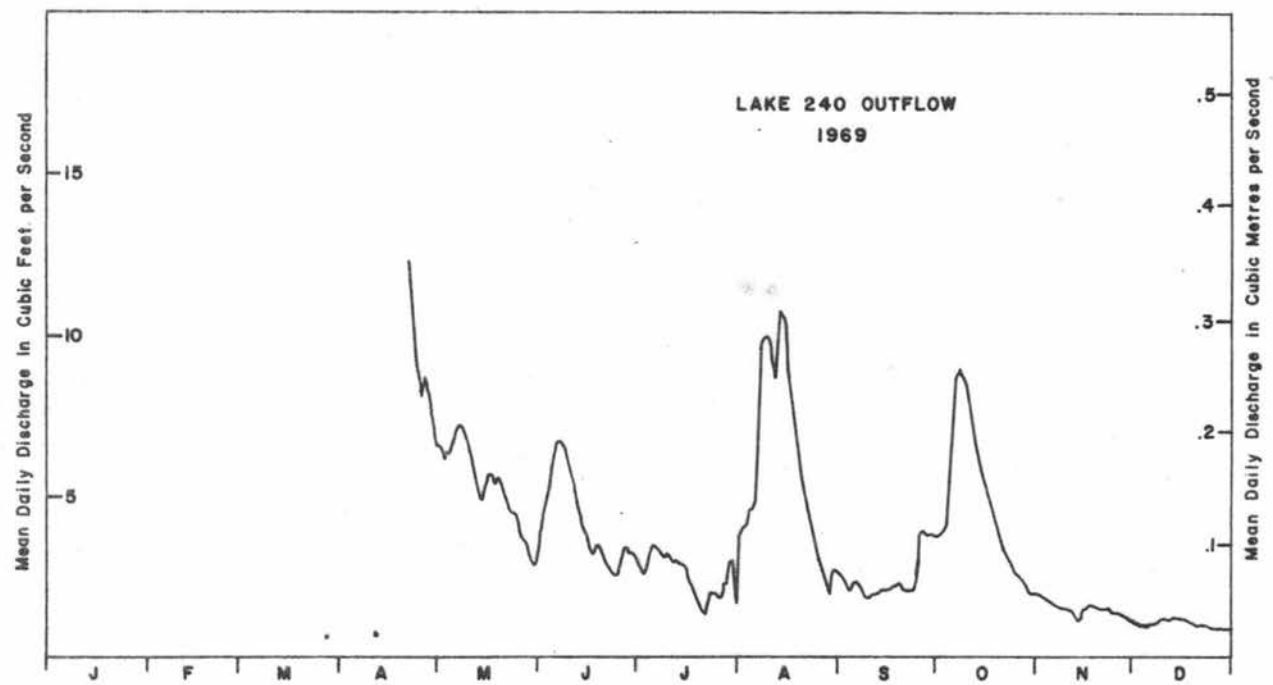


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1969.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.85 E	0.62	0.51	0.62 E	22.0 A	8.8	3.0	0.46	0.01	3.1	10.1	1.8	1
2	0.79 E	0.59	0.51	0.62 A	20.8 E	8.4	2.8	0.38	0.04	2.9	10.1	1.8 A	2
3	0.72 E	0.56	0.78	0.62	19.5 E	7.9	3.0	0.31	0.03	2.8	10.1	1.9 E	3
4	0.65 E	0.56 A	0.96	0.59	18.2 A	7.5	2.8	0.23	0.04	2.6	9.5	2.0 E	4
5	0.56 A	0.56 E	0.90	0.59	17.0 A	6.9	2.6	0.21	0.03	2.3	9.1	2.0 E	5
6	0.59	0.55 E	0.96	0.56	16.1	6.4	2.6	0.16	0.03	2.3	8.9 A	2.1 E	6
7	0.78	0.54 E	0.96	0.56	15.4	5.8	2.5	0.15	0.33 E	2.2	7.9 E	2.0 E	7
8	0.78	0.54 E	0.96	0.56	15.4	5.3	2.3	0.12	0.62	1.9	6.8 E	2.2 E	8
9	0.78	0.53 A	0.96	0.56	15.4	5.0	2.0	0.09	0.96	2.5	5.8 E	2.3 E	9
10	0.78	0.52	0.96	0.56	14.8	5.0	1.9	0.10	1.3	2.7	4.7 A	2.3 A	10
11	0.78	0.51	0.96	0.53	13.9	4.6	1.8	0.08	1.4	2.6	4.4	2.1	11
12	0.78	0.51	0.96 A	0.53	13.4	4.2	1.7	0.04	3.0	2.6	4.1	2.0	12
13	0.74 A	0.48	0.94 E	0.53	12.3	3.7	1.7	0.03	4.6	2.8	3.7	1.9	13
14	0.73 E	0.48	0.91 E	0.53	11.0	3.4	1.6	0.03	5.3 E	2.8	3.4	1.9	14
15	0.71 E	0.48	0.89 E	0.56	11.5	3.2	1.4	0.02	6.0	2.6	3.3	1.8	15
16	0.70 E	0.48	0.86 E	0.65	11.6	3.4	1.2	0.01	7.3 A	2.4	3.1	1.8	16
17	0.68 E	0.48	0.84 E	0.78	11.3	5.0	0.96	0.01 E	7.3	2.5	3.0	1.8	17
18	0.67 E	0.48	0.81 E	0.82	10.8	5.3	0.96	0.02	7.2	2.6	3.1	1.8	18
19	0.65 E	0.46	0.79 E	0.96	10.4	5.0	0.90	0.01	6.9	2.6	2.9	1.8	19
20	0.64 E	0.46	0.76 E	1.4	9.7	4.8	0.86	0 A	6.6	2.7	2.8	1.8	20
21	0.62 E	0.48	0.74 E	1.8	9.5	4.4	0.71	0	6.3	3.0	2.6	1.7	21
22	0.61 E	0.48	0.71 E	2.0	9.1	4.1	0.68	0	6.1	3.1	2.5	1.7	22
23	0.59 A	0.51	0.71 A	2.4	8.6	3.5	0.56	0	5.7	3.3	2.1	1.7	23
24	0.59	0.48	0.68	2.7	7.9	3.2	0.51	0	5.1	3.4	1.9	1.6	24
25	0.62	0.46	0.68	3.0	8.8	3.0	0.48	0	4.7	3.5	2.1	1.5	25
26	0.62	0.51	0.71	3.5	9.2	3.2	0.43	0	4.6	3.5	2.0	1.5	26
27	0.62	0.51	0.68	5.4	9.2	3.0	0.41	0	4.3	5.0	1.9	1.4 A	27
28	0.62	0.51	0.68 A	8.9	9.1	2.8	0.38	0	3.8	6.9	1.8	1.4 E	28
29	0.62		0.62 A	14.2	9.2	2.9	0.41	0	3.4	8.1	1.7	1.3 E	29
30	0.62 A		0.62 E	20.8 A	9.1	2.8	0.53	0.01	3.3	9.1	1.6	1.3 E	30
31	0.62 A		0.62 E		8.9		0.51	0.02		9.7		1.3 E	31
TOTAL	21.11	14.33	24.63	77.83	389.1	142.5	44.19	2.49	106.29	110.1	137.0	55.5	TOTAL
MEAN	0.68	0.51	0.79	2.6	12.6	4.8	1.4	0.08	3.5	3.6	4.6	1.8	MEAN
AC-FT	41.9	28.4	48.9	154	772	283	87.7	4.9	211	218	272	110	AC-FT
MAX	0.85	0.62	0.96	20.8	22.0	8.8	3.0	0.46	7.3	9.7	10.1	2.3	MAX
MIN	0.56	0.46	0.51	0.53	7.9	2.8	0.38	0	0.01	1.9	1.6	1.3	MIN

SUMMARY FOR THE YEAR 1970

MEAN DISCHARGE, 3.1 CFS
TOTAL DISCHARGE, 2230 AC-FT
MAXIMUM DAILY DISCHARGE, 22.0 CFS ON MAY 1
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 20

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

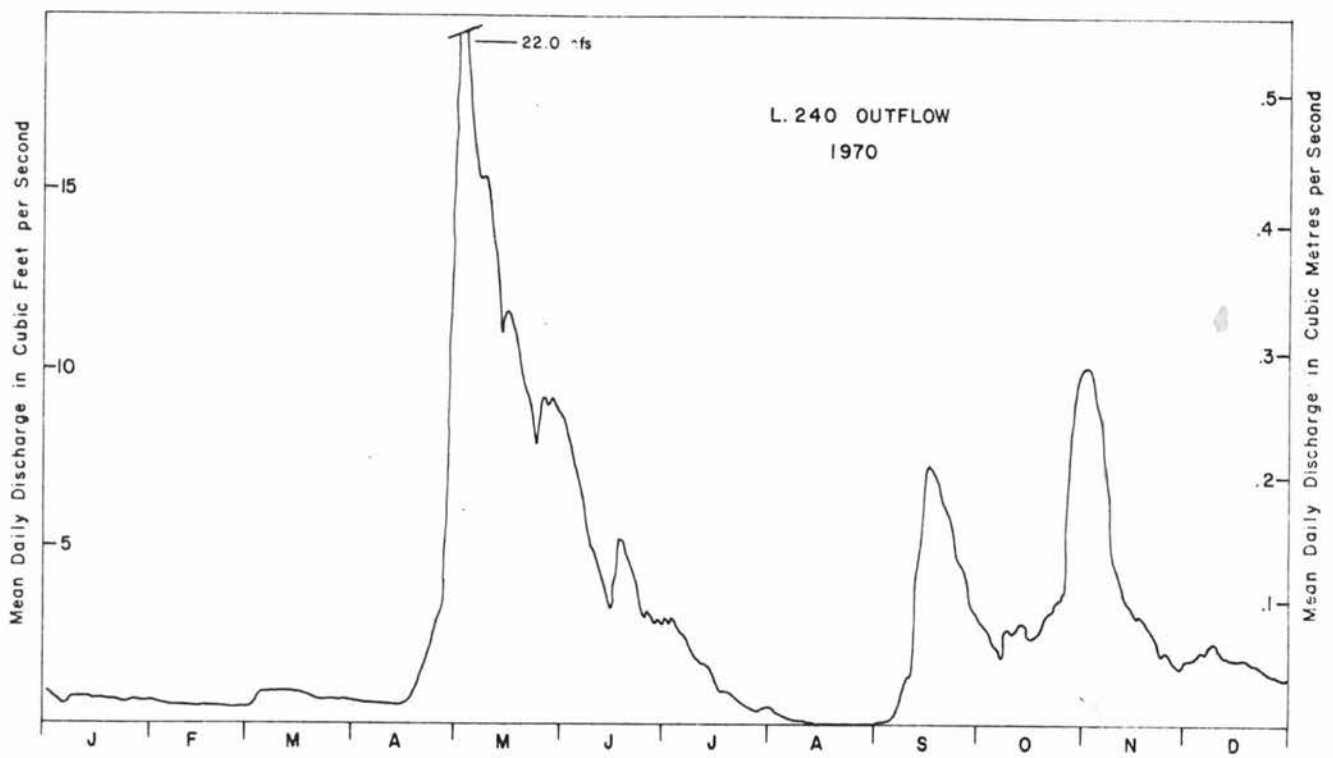


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1970.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	1.2 E	0.59 E	0.49	0.50	6.6	4.4	6.9	2.3	0.58	3.3	6.3	2.7	1
2	1.2 E	0.58 E	0.49	0.59 A	6.4	4.0	9.5	2.1	0.60	4.8	6.8	2.6	2
3	1.1 E	0.57 E	0.48	0.69 A	6.2	3.7	9.9	2.0	0.86	6.3	7.2	2.5	3
4	1.1 E	0.57 E	0.47	0.63 A	5.9	3.4	8.9	1.9	1.1	8.0	7.2	2.4	4
5	1.0 E	0.56 E	0.46	0.60 A	5.5	4.0	8.1	1.8	1.6	8.7	7.3	2.3	5
6	1.0 E	0.56 E	0.41 A	0.61 A	5.2	5.0	7.4	1.7	1.9	8.9	7.2	2.3	6
7	0.96 A	0.55 E	0.42 E	0.64 A	5.0	5.0	6.4	1.6	2.1	8.5	6.8	2.3	7
8	0.85	0.54 E	0.43 E	0.64 A	4.7	4.8	5.5	1.5	2.2	8.4	6.5	2.2	8
9	0.84	0.54 E	0.45 E	0.64 A	4.4	4.4	4.9	1.4	2.2	7.9	5.8	2.1	9
10	0.83	0.53 A	0.46 E	0.69 A	4.2	4.1	4.5	1.3	2.3	7.2	5.4	2.1	10
11	0.79	0.58	0.47 E	0.75	3.8	3.9	4.0	1.1	2.2	6.4	5.0	2.1	11
12	0.78	0.56	0.48 E	1.2	3.7	3.8	4.3	0.98	2.1	5.9	4.8	2.0	12
13	0.78	0.55	0.49 E	1.9	3.8	3.6	4.5	0.86	1.9	5.3	4.6	1.9	13
14	0.80	0.56	0.51 E	2.5	3.6	3.3	4.5	0.79	1.8	5.0	4.4	1.9	14
15	0.90 A	0.55	0.52 E	3.0	3.2	3.0	4.4	0.70	1.6	4.7	4.3	1.9	15
16	0.89 E	0.54	0.53 A	4.0	3.0	3.4	4.2	0.65	1.5	4.5	4.1	1.8	16
17	0.88 E	0.55	0.52	7.5	3.2	3.3	3.7	1.1	1.3	4.9	4.1	1.7	17
18	0.88 E	0.55	0.51	10.8	3.0	3.1	3.4	1.1	1.2	5.8	4.2	1.7	18
19	0.87 E	0.54	0.51	14.0	2.9	3.1	3.0	1.1	1.1	6.5	4.1	1.7	19
20	0.86 A	0.52	0.50	16.1	2.8	3.0	2.8	1.1	0.95	6.9	4.1	1.6	20
21	0.80	0.50	0.48	15.7	2.7	3.0	2.6	1.0	0.87	6.7	3.9	1.6	21
22	0.76	0.49	0.47	14.3	2.7	3.0	2.4	0.97	0.80	6.5	3.8	1.5	22
23	0.78 A	0.49	0.48	12.7	3.1	2.9	2.2	0.86	0.77	6.1	3.7	1.5	23
24	0.74 E	0.48	0.47	10.9	3.8	2.8	2.1	0.95	0.73	5.7	3.6	1.5	24
25	0.70 E	0.48	0.47	9.7	4.9	2.7	2.1	1.0	0.70	5.1	3.5	1.4	25
26	0.66 E	0.48	0.52	8.6	5.6	2.4	2.0	0.89	0.68	4.7	3.4	1.4	26
27	0.62 A	0.47	0.54	7.9	5.9	2.4	2.1	0.81	0.74	4.5	3.2	1.3	27
28	0.61 E	0.47	0.54	7.7	5.8	2.6	2.5	0.76	0.85	4.2	3.1	1.3	28
29	0.61 E		0.54	6.9	5.5	2.5	2.5	0.72	0.37	3.9	2.9	1.2	29
30	0.60 E		0.55	6.6	5.0	3.0	2.5	0.67	0.76	3.8	2.8	1.2	30
31	0.59 E		0.55		4.7		2.4	0.60		5.3		1.1	31
TOTAL	25.98	14.95	15.21	168.98	136.8	103.6	136.2	36.31	38.36	184.4	144.1	56.8	TOTAL
MEAN	0.84	0.53	0.49	5.6	4.4	3.5	4.4	1.2	1.3	5.9	4.8	1.8	MEAN
AC-FT	51.5	29.7	30.2	335	271	205	270	72.0	76.1	366	286	113	AC-FT
MAX	1.2	0.59	0.55	16.1	6.6	5.0	9.9	2.3	2.3	8.9	7.3	2.7	MAX
MIN	0.59	0.47	0.41	0.50	2.7	2.4	2.0	0.60	0.37	3.3	2.8	1.1	MIN

SUMMARY FOR THE YEAR 1971

MEAN DISCHARGE, 2.9 CFS
TOTAL DISCHARGE, 2110 AC-FT
MAXIMUM DAILY DISCHARGE, 16.1 CFS ON APR 20
MINIMUM DAILY DISCHARGE, 0.37 CFS ON SEP 29

MAXIMUM INSTANTANEOUS DISCHARGE
16.5 CFS AT 1921 CST ON APR 20

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

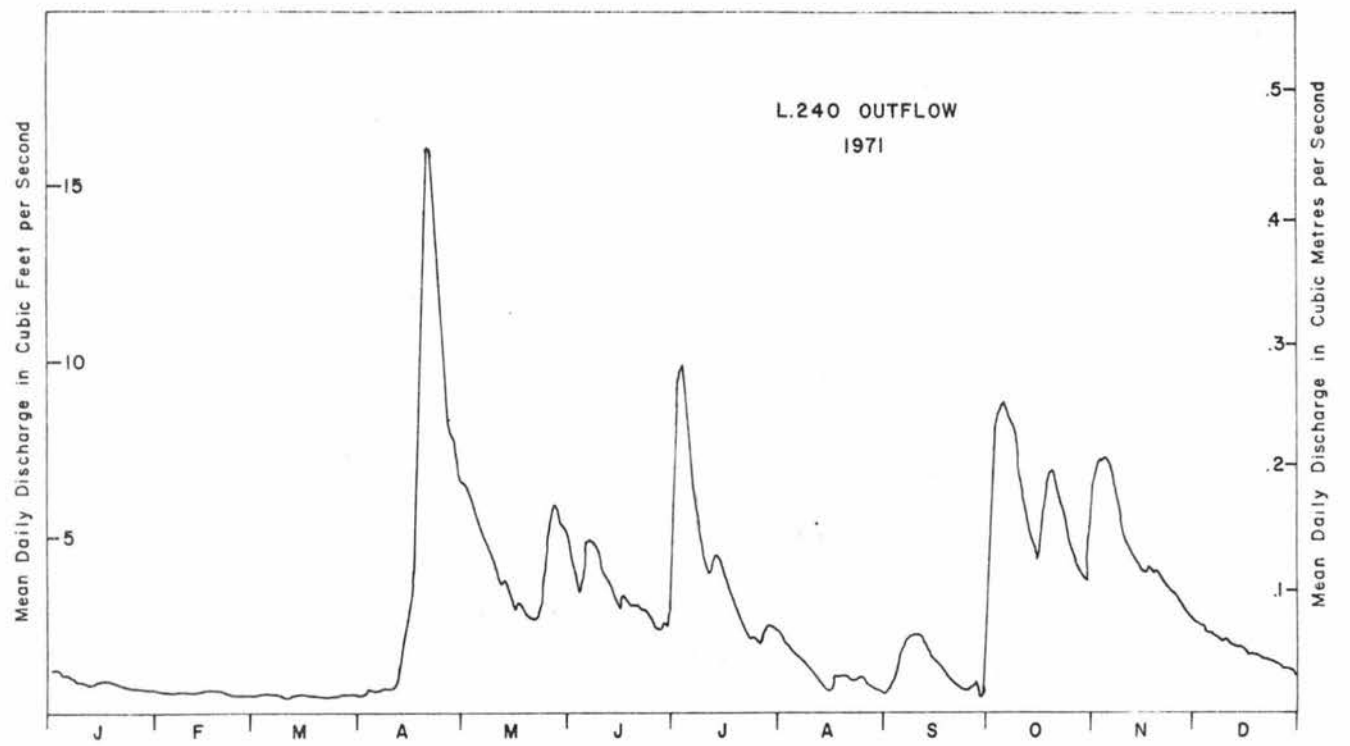


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1971.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	1.3	0.82 E	0.58	0.65	10.4	3.0	0.63	2.8	3.1	2.9	1.5	1.8	1
2	1.3	0.80 E	0.56	0.63	10.4	2.7	0.54	2.8	2.7	3.0	1.4	1.7	2
3	1.2	0.79 E	0.55	0.57	9.8	2.3	0.49	2.7	2.4	3.1	1.3	1.7	3
4	1.2	0.78 E	0.54	0.60	9.3	2.1	0.43	2.4	2.5	3.1	1.3	1.6	4
5	1.2	0.76 E	0.53	0.59 E	8.6	1.8	0.38	2.3	2.3	3.0	1.3	1.5	5
6	1.1	0.75 E	0.57 E	0.58 E	8.3	1.5	0.33	2.2	2.7	2.9	1.5	1.4	6
7	1.1	0.73 E	0.60 E	0.57 E	7.5	1.2	0.37	2.0	3.6	2.7	1.6	1.4	7
8	1.1	0.72	0.64 E	0.56 E	7.0	1.1	0.37	2.0	3.7	2.6	1.6	1.3	8
9	1.1	0.60	0.68	0.56 E	6.3	0.94	0.40	1.8	3.9	2.4	1.7	1.3	9
10	1.1	0.57	0.74	0.55 E	5.8	0.77	0.45	1.7	3.9	2.3	1.8	1.2	10
11	1.0	0.72	0.71	0.54 E	5.4	0.77	1.9	1.6	3.7	2.5	2.0	1.1	11
12	1.0	0.76	0.71	0.53	5.0	0.78	2.6	1.7	3.5	2.5	2.0	1.1	12
13	1.0	0.74	0.70	0.56	5.2	0.74	2.9	1.7	3.5	2.5	2.1	1.0	13
14	0.98 E	0.75	0.73	0.51	5.3	0.69	4.4	1.5	3.3	2.4	2.1	1.0	14
15	0.96 E	0.71	0.73	0.52	5.2	0.65	5.3	1.8	3.1	2.3	2.1	1.0	15
16	0.94 E	0.69	0.71	0.55	5.0	0.57	5.6	1.9	2.9	2.3	2.2	1.0	16
17	0.92 E	0.72	0.76	0.61	4.9	0.50	6.2	1.8	2.9	2.2	2.1	1.0	17
18	0.90	0.68	0.76	0.67	4.8	0.59	6.2	1.8	2.7	2.0	2.1	1.0	18
19	0.93	0.67	0.74 E	0.73	4.7	1.1	5.9	1.7	2.6	1.9	2.0	1.0	19
20	0.91	0.66	0.72 E	0.79	5.0	1.2	5.5	2.7	2.5	1.8	2.0	1.0	20
21	0.94	0.62	0.70 E	0.97	4.9	1.3	5.3	5.6	2.2	1.7	2.0	1.0	21
22	0.96	0.59	0.68 E	1.6	4.8	1.3	5.0	7.7	2.1	1.7	1.9	0.96	22
23	0.94	0.58	0.67 E	2.4	4.8	1.3	4.6	8.3	2.1	1.7	1.9	0.94	23
24	0.93 E	0.57	0.65 E	3.3	4.7	1.2	4.1	7.8	2.4	1.6	1.9	0.94	24
25	0.91 E	0.55	0.63 E	4.4	4.4	1.1	4.0	7.1	2.5	1.6	1.9	0.85	25
26	0.90 E	0.55	0.61 E	5.3	4.4	0.99	3.6	6.5	2.5	1.6	1.9	0.90	26
27	0.88 E	0.55	0.59 E	6.6	4.1	0.94	3.2	5.9	2.5	1.6	1.9	0.89	27
28	0.87 E	0.57	0.57	8.3	4.5	0.89	3.0	5.2	2.7	1.6	1.8	0.91	28
29	0.86 E	0.56	0.58	9.6	4.3	0.86	2.7	4.7	2.8	1.6	1.8	0.89	29
30	0.84 E		0.60	10.1	3.9	0.76	3.1	4.3	2.8	1.6	1.8	0.89	30
31	0.83 E		0.65		3.4		3.1	3.6		1.5		0.80	31
TOTAL	31.10	19.56	20.19	64.44	182.1	35.64	92.59	107.6	86.1	68.2	54.5	35.07	TOTAL
MEAN	1.0	0.67	0.65	2.1	5.9	1.2	3.0	3.5	2.9	2.2	1.8	1.1	MEAN
AC-FT	61.7	38.8	40.0	128	361	70.7	184	213	171	135	108	69.6	AC-FT
MAX	1.3	0.82	0.76	10.1	10.4	3.0	6.2	8.3	3.9	3.1	2.2	1.8	MAX
MIN	0.83	0.55	0.53	0.51	3.4	0.50	0.33	1.5	2.1	1.5	1.3	0.80	MIN

SUMMARY FOR THE YEAR 1972

MEAN DISCHARGE, 2.2 CFS
TOTAL DISCHARGE, 1580 AC-FT
MAXIMUM DAILY DISCHARGE, 10.4 CFS ON MAY 1
MINIMUM DAILY DISCHARGE, 0.33 CFS ON JUL 6

MAXIMUM INSTANTANEOUS DISCHARGE
10.8 CFS AT 0123 CST ON MAY 2

TYPE OF GAUGE - RECORDING

E-ESTIMATED
NATURAL FLOW

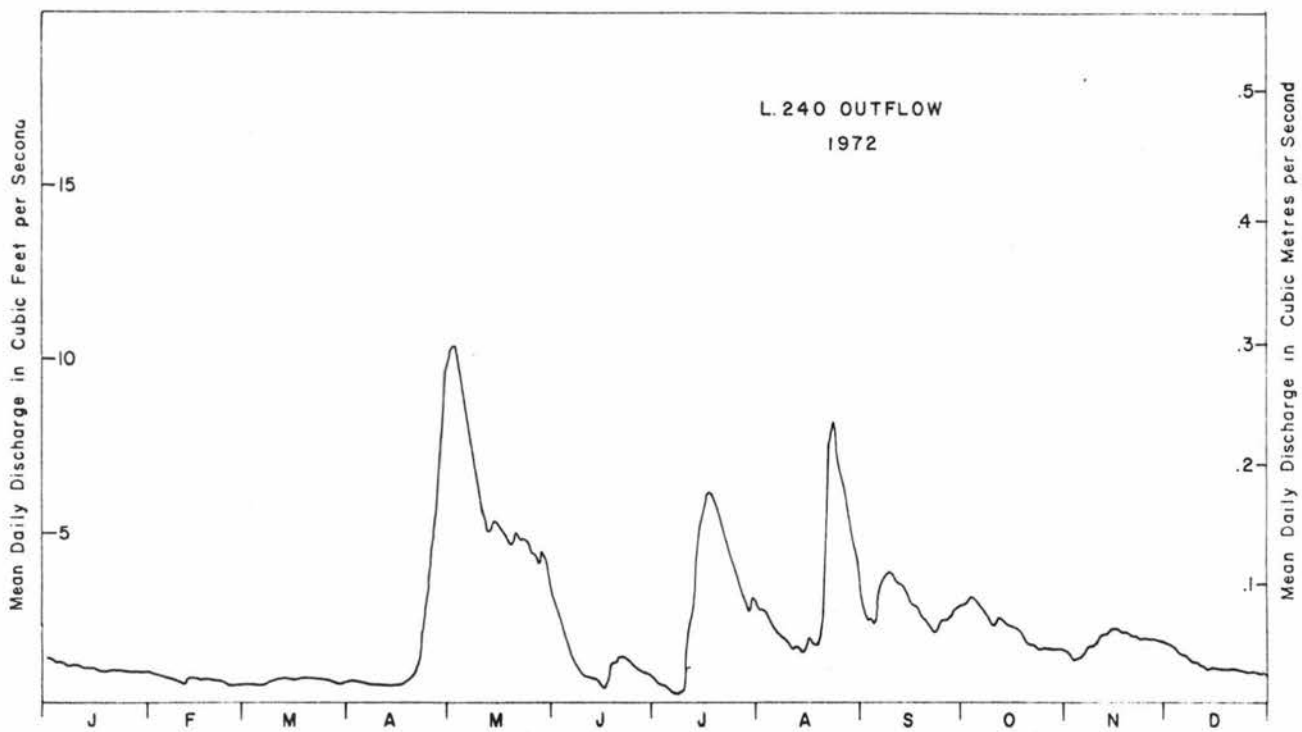


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1972.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.80	0.57	0.43	0.77	5.5	2.1	2.6	4.0	2.1	5.1	3.3	2.0	1
2	0.79	0.56	0.46	0.81	5.1	1.9	2.3	3.8	3.0	4.9	3.1	2.0	2
3	0.79	0.55	0.54	0.82	4.7	1.8	2.1	3.5	3.4	4.8	2.9	2.0	3
4	0.80	0.53	0.43	0.88	4.5	1.9	2.1	3.4	4.7	5.0	2.8	1.9	4
5	0.82	0.51	0.40	0.93	4.5	1.7	2.0	3.4	5.6	5.0	2.5	1.9	5
6	0.85	0.52	0.42	1.1	4.8	1.6	1.9	3.6	6.2	4.8	2.4	1.8	6
7	0.84	0.50	0.49	1.1	4.8	1.5	3.1	3.5	6.2	4.6	2.3	1.7	7
8	0.85	0.48	0.42	1.2	4.8	1.4	3.7	3.7	6.1	4.4	2.2	1.7	8
9	0.85	0.47	0.40	1.3	4.7	1.4	4.0	5.0	5.7	4.5	2.2	1.8	9
10	0.84	0.45	0.41	1.4	4.8	1.4	4.1	5.5	5.3	4.6	2.1	1.8	10
11	0.82	0.43	0.43	1.5	4.8	1.3	4.1	5.8	4.9	4.7	2.0	1.8	11
12	0.81	0.41 E	0.42	1.5	4.7	1.2	4.0	5.8	4.6	6.2	1.9	1.7	12
13	0.80	0.37 E	0.45	1.5	4.5	1.2	3.6	5.7	4.2	7.5	1.9	1.7	13
14	0.80	0.33 E	0.50	1.5	4.2	1.1	3.3	5.4	3.8	8.2	2.0	1.6	14
15	0.78	0.29 E	0.58	1.6	4.0	1.4	3.0	5.1	3.6 E	8.0	1.9	1.6	15
16	0.77	0.26 E	0.58	1.9	3.7	1.5	2.8	4.8	3.3 E	7.6	1.9	1.5	16
17	0.75	0.22 E	0.55	2.0	3.4	1.8	2.6	4.5	3.1 E	7.4	1.8	1.5	17
18	0.75	0.18 E	0.53	2.0	3.2	2.2	2.5	4.2	2.8 E	7.2	1.7	1.4	18
19	0.74	0.14 E	0.53	2.1	3.2	2.4	2.4	4.0	2.6	6.8	1.7	1.3	19
20	0.72	0.10 E	0.53	2.5	3.1	2.7	2.2	3.6	2.3	6.4	1.7	1.3	20
21	0.72	0.06	0.52	5.0	2.8	2.9	2.0	3.2	2.3	6.0	2.0	1.2	21
22	0.72	0.08	0.50	7.6	2.7	2.9	1.9	2.9	3.3	5.7	2.1	1.2	22
23	0.69	0.25	0.49	9.2	2.8	2.8	1.7	2.7	4.0	5.3	2.1	1.1	23
24	0.66	0.40	0.49	9.7	2.8	2.7	1.8	2.4	4.3	5.1	2.1	1.1	24
25	0.65	0.40	0.43	9.6	2.9	2.7	1.8	2.3	5.0	4.8	2.1	1.0	25
26	0.66	0.39	0.38	8.6	3.0	3.0	2.2	2.2	5.4	4.6	2.1	1.0	26
27	0.62	0.39	0.45	8.0	3.0	3.2	3.3	2.1	5.5	4.4	2.2	1.0	27
28	0.57	0.41	0.58	7.2	2.9	3.0	3.6	2.0	5.6	4.1	2.2	1.0	28
29	0.55		0.68	6.5	2.6	2.9	3.9	1.8	5.6	3.9	2.1	0.97	29
30	0.55		0.72	6.0	2.2	2.7	4.2	1.6	5.3	3.7	2.1	0.95	30
31	0.56		0.73		2.1		4.1	1.5		3.5		0.92	31
TOTAL	22.92	10.27	15.47	105.81	116.8	62.3	88.9	113.0	129.8	168.8	65.4	45.44	TOTAL
MEAN	0.74	0.37	0.50	3.5	3.8	2.1	2.9	3.6	4.3	5.4	2.2	1.5	MEAN
AC-FT	45.5	20.4	30.7	210	232	124	176	224	257	335	130	90.1	AC-FT
MAX	0.85	0.57	0.73	9.7	5.5	3.2	4.2	5.8	6.2	8.2	3.3	2.0	MAX
MIN	0.55	0.06	0.38	0.77	2.1	1.1	1.7	1.5	2.1	3.5	1.7	0.92	MIN

SUMMARY FOR THE YEAR 1973

MEAN DISCHARGE, 2.6 CFS
TOTAL DISCHARGE, 1870 AC-FT
MAXIMUM DAILY DISCHARGE, 9.7 CFS ON APR 24
MINIMUM DAILY DISCHARGE, 0.06 CFS ON FEB 21

MAXIMUM INSTANTANEOUS DISCHARGE
9.8 CFS AT 1124 CST ON APR 24

TYPE OF GAUGE - RECORDING

E-ESTIMATED
NATURAL FLOW

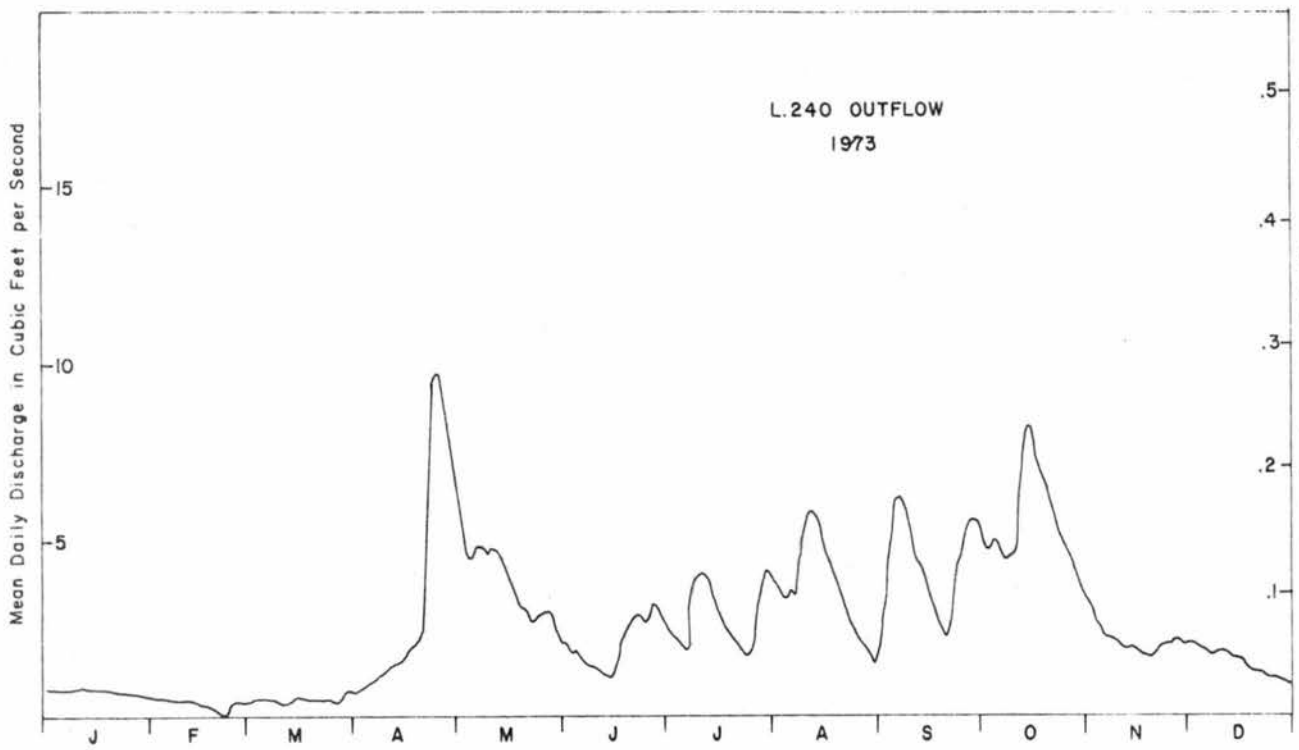


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1973.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.91	0.78	0.54	0.54	15.4	6.0 E	1.9 E	0	4.3	2.4	2.2	1.4	1
2	0.91	0.82	0.57	0.54	13.8	5.4 E	1.7 E	0	4.5	2.3	2.2	1.4	2
3	0.91	0.82	0.57	0.54	12.7	5.0 E	1.5	0	4.5	2.2	2.1	1.3	3
4	0.91	0.82	0.54	0.54	11.6	4.5 E	1.4	0	4.4	2.2	2.0	1.3	4
5	0.86	0.82	0.54	0.54	10.3	4.6 E	1.2	0	4.3	2.7	1.9	1.2	5
6	0.86	0.82	0.51	0.54	9.3	5.0 E	1.2	0	4.1	2.8	1.8	1.2	6
7	0.82	0.82	0.54	0.51	8.2	7.0 E	1.1	0	3.9	2.8	2.0	1.2	7
8	0.82	0.82	0.54	0.48	7.1	8.0 E	1.1	0	3.6	2.8	2.0	1.1	8
9	0.78	0.82	0.54	0.48	6.3	9.6 E	1.1	0	3.5	2.8	2.0	1.1	9
10	0.74	0.82	0.51	0.48	6.0	9.8 E	1.1	0	3.2	2.7	1.9	1.1	10
11	0.74	0.78	0.51	0.48	8.0	9.8	0.91	0	3.2	2.7	1.9	0.99	11
12	0.70	0.74	0.48	0.57	12.7	9.1	0.86	0.04	3.0	2.6	1.8	0.95	12
13	0.65	0.70	0.45	0.61	13.3	8.2	0.82	0.02	2.8	2.5	1.6	0.95	13
14	0.65	0.65	0.45	0.61	13.5	8.0	0.74	0.02	2.7	2.5	1.6	0.95	14
15	0.78	0.65	0.45	0.61	12.1	7.5	0.65	0.43	2.5	2.6	1.7	0.95	15
16	0.78	0.70	0.45	0.61	11.6 E	6.6	0.61	0.54	2.6	2.8	1.7	0.95	16
17	0.82	0.70	0.45	0.61	11.2 E	6.0	0.70	0.65	2.7	2.9	1.6	0.95	17
18	0.82	0.70	0.48	0.61	10.8 E	5.5	0.65	0.78	2.8	2.9	1.5	0.95	18
19	0.78	0.65	0.48	0.61	10.6 E	5.1	0.57	0.82	2.8	2.9	1.6	0.99	19
20	0.82	0.57	0.48	0.86	10.2 E	4.9	0.48	1.2	2.8	2.8	1.7	1.1	20
21	0.82	0.54	0.45	3.6	9.8 E	4.5	0.43	1.7	2.8	2.8	1.6	1.1	21
22	0.78	0.51	0.45	12.4	9.4 E	4.1	0.34	2.1	2.6	2.7	1.6	1.1	22
23	0.78	0.48	0.45	20.8	9.1 E	3.6	0.28	2.3	2.4	2.7	1.5	1.1	23
24	0.78	0.48	0.48	20.0	8.8 E	3.3	0.23	2.5	2.4	2.6	1.5	1.1	24
25	0.78	0.45	0.48	18.5	8.6 E	3.0	0.19	2.6	2.3	2.4	1.5	1.1	25
26	0.78	0.48	0.45	18.9	8.4 E	2.8	0.15	2.7	2.4	2.4	1.4	0.99	26
27	0.78	0.48	0.45	20.8	8.1 E	2.6 E	0.08	2.7	2.4	2.4	1.5	0.99	27
28	0.78	0.51	0.45	21.1	8.0 E	2.3 E	0.02	2.9	2.3	2.3	1.5	0.95	28
29	0.82		0.51	19.6	7.6 E	2.2 E	0.01	3.1	2.3	2.2	1.4	0.95	29
30	0.86		0.51	17.1	7.2 E	2.0 E	0	3.6	2.4	2.2	1.4	0.95	30
31	0.82		0.51		6.6 E		0	4.1		2.2		0.91	31
TOTAL	24.84	18.93	15.27	184.17	306.30	166.00	22.02	34.80	92.50	79.80	51.70	33.27	TOTAL
MEAN	0.80	0.68	0.49	6.14	9.88	5.53	0.71	1.12	3.08	2.57	1.72	1.07	MEAN
AC-FT	49.27	37.55	30.29	365.30	607.55	329.26	43.68	69.03	183.47	158.28	102.55	65.99	AC-FT
MAX	0.91	0.82	0.57	21.10	15.40	9.8	1.9	4.10	4.5	2.9	2.2	1.4	MAX
MIN	0.65	0.45	0.45	0.48	6.0	2.0	0	0	2.3	2.2	1.4	0.91	MIN

SUMMARY FOR THE YEAR 1974

MEAN DISCHARGE, 2.81 CFS
TOTAL DISCHARGE, 2042 AC-FT
MAXIMUM DAILY DISCHARGE, 21.10 ON APR 28
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 30

MAXIMUM INSTANTANEOUS DISCHARGE
21.5 CFS AT 0100 ON APR 28

TYPE OF GAUGE - RECORDING

E-ESTIMATED

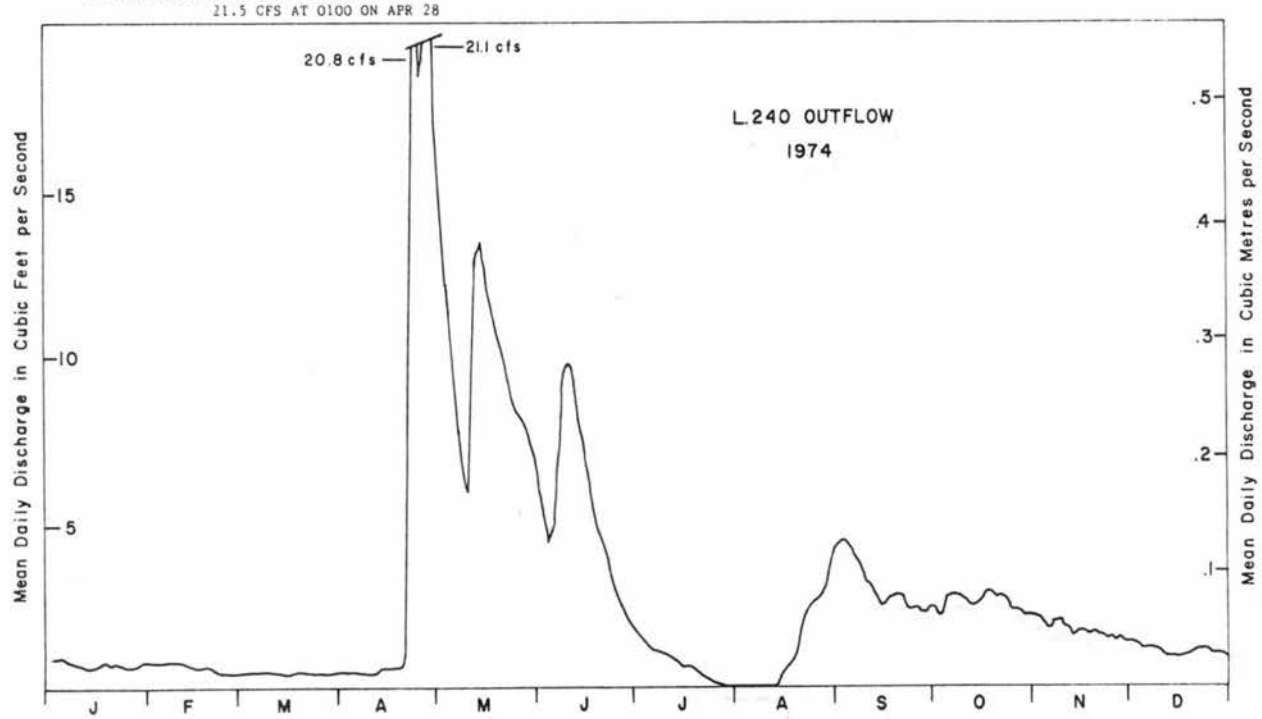


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1974.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.86	1.1	0.88	0.79	14.4	2.8	9.3	0.75	0.55	1.6	2.0	1.1	1
2	0.86 A	1.1	0.86	0.82	13.8	3.0	9.5	0.72	0.51	1.5	2.0	1.1	2
3	0.86 A	1.1	0.83	0.78	13.3	3.7	8.9	0.64	0.48	1.4	2.1	1.1	3
4	0.86 A	1.2	0.81	0.74	12.4	3.5	8.0	0.56	0.47	1.4	2.1	0.93	4
5	0.86 A	1.2	0.84	0.74	11.6	3.8	7.2	0.48	0.48	1.4	2.1	0.90	5
6	0.86 A	1.1	0.84	0.74 E	11.1 E	3.9	6.5	0.39	0.49	1.5	2.1	0.90	6
7	0.86 A	1.1	0.83	0.74 E	10.7 E	3.7	5.9	0.32	0.76	1.4	2.1	0.92	7
8	0.86 A	1.1	0.80	0.74 E	10.3 E	3.4	5.1	0.32	0.86	1.3	2.0	0.94	8
9	0.86 A	1.0	0.75	0.74 E	9.9 E	3.3	4.5	0.28	0.87	1.3	1.9	0.95	9
10	0.95	1.0	0.74	0.74 E	9.5 E	3.3	3.9	0.26	0.92	1.3	1.9	0.99	10
11	1.2	1.0	0.74	0.77 E	9.0 E	3.0	3.4	0.27	0.98	1.2	1.8	1.0	11
12	1.4	1.0	0.73	0.85 E	8.6 E	2.9	3.0	0.25	0.97	1.1	1.7	1.1	12
13	1.4	0.99	0.73	0.96 E	8.2	2.8	2.8	0.21	0.98	1.1	1.5	1.1	13
14	1.4	0.97	0.73	1.1 E	8.0	2.7	2.6	0.21	0.97	1.2	1.4	1.2	14
15	1.4	0.95	0.73	1.4 E	6.8	2.5	2.4	0.21	1.0	1.5	1.3	1.3	15
16	1.3	0.92	0.72	1.8 E	6.0	2.2	2.3	0.18	0.95	1.5	1.3	1.4	16
17	1.3	0.91	0.71	2.4 E	5.4	2.0	2.2	0.11	0.95	1.5	1.2	1.4	17
18	1.3	0.93	0.70	3.3 E	5.1	1.9	2.0	0.06	1.0	1.5	1.1	1.4	18
19	1.3	0.93	0.70	4.6 E	4.8 E	1.8	1.8	0.02	1.2	1.5	1.4	1.5	19
20	1.3	0.92	0.67 E	5.9 E	4.5	2.2	1.7	0.06	1.5	1.5	1.4	1.5	20
21	1.3	0.92	0.63 E	6.5	4.4	3.0	1.6	0.21	1.6	1.4	1.3	1.4	21
22	1.2	0.92	0.60 E	7.3	4.2	6.1	1.4	0.18	1.6	1.4	1.2	1.4	22
23	1.2	0.94	0.56 E	9.3	5.5	11.0	1.3	0.31	1.6	1.5	1.2	1.4	23
24	1.3	0.94	0.53 E	12.7	6.4	12.1	1.2	0.40	1.5	1.6	1.2	1.3	24
25	1.4	0.96	0.49 E	16.7	6.6	11.4	1.0	0.40	1.6	1.9	1.2	1.3	25
26	1.4	1.0	0.45	17.8	6.4	10.3	1.0	0.44	1.6	1.9	1.1	1.3	26
27	1.3	0.96	0.39	18.1	5.7	9.2	0.92	0.43	1.6	1.9	1.1	1.2	27
28	1.3	0.92	0.55	18.1	5.1	8.1	0.85	0.44	1.5	1.9	1.1	1.2	28
29	1.3		0.59	17.4	4.7	7.2	0.76	0.44	1.6	2.0	1.2	1.2	29
30	1.2		0.68	16.4	3.8	8.5	0.70	0.43	1.7	2.0	1.1	1.2	30
31	1.2		0.74		3.3		0.65	0.45		2.0		1.2	31
TOTAL	36.09	28.08	21.55	170.95	239.5	145.3	104.38	10.43	32.79	47.2	46.1	36.83	TOTAL
MEAN	1.2	1.0	0.70	5.7	7.7	4.8	3.4	0.34	1.1	1.5	1.5	1.2	MEAN
AC-FT	71.6	55.7	42.7	339	475	288	207	20.7	65.0	93.6	91.4	73.1	AC-FT
MAX	1.4	1.2	0.88	18.1	14.4	12.1	9.5	0.75	1.7	2.0	2.1	1.5	MAX
MIN	0.86	0.91	0.39	0.74	3.3	1.8	0.65	0.02	0.47	1.1	1.1	0.90	MIN

SUMMARY FOR THE YEAR 1975

MEAN DISCHARGE, 2.5 CFS
TOTAL DISCHARGE, 1820 AC-FT
MAXIMUM DAILY DISCHARGE, 18.1 CFS ON APR 27
MINIMUM DAILY DISCHARGE, 0.02 CFS ON AUG 19

MAXIMUM INSTANTANEOUS DISCHARGE
19.2 CFS AT 1258 CST ON APR 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

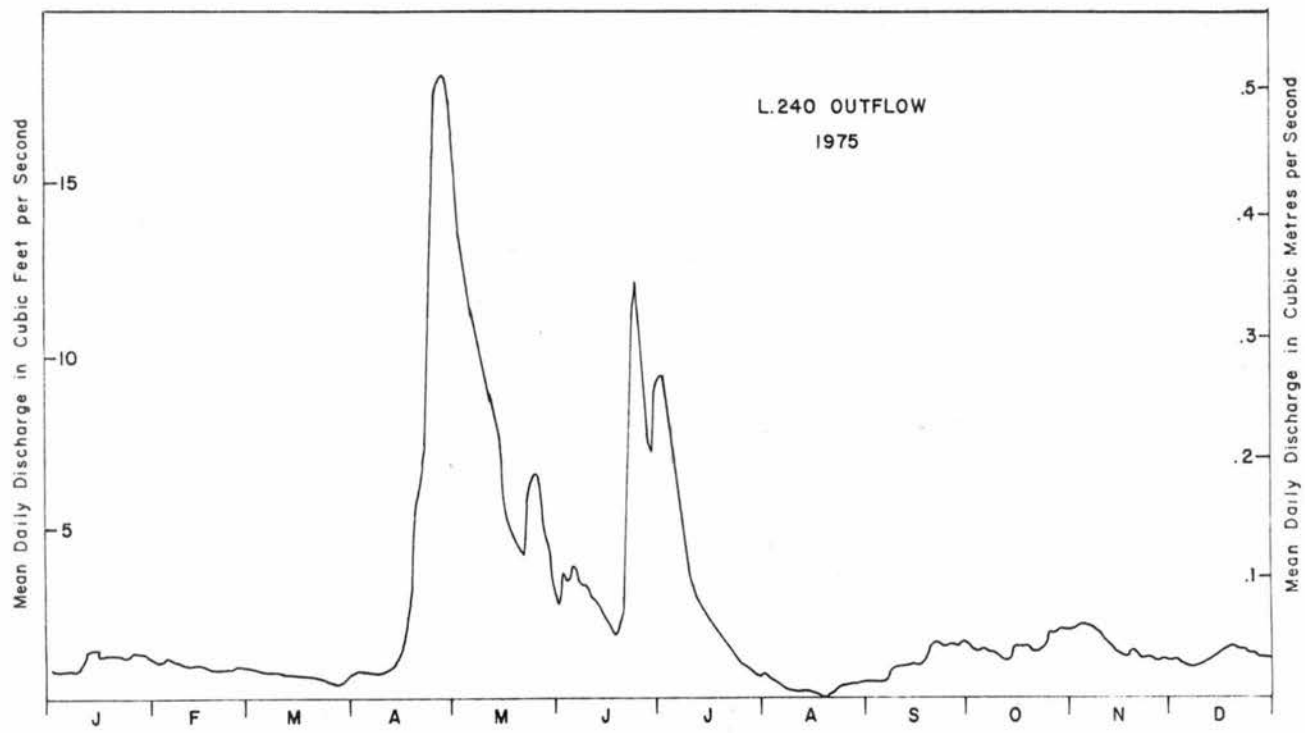


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1975.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	1.1	0.83	0.68	0.93	7.0	0.98	3.2	0.08	0	0	0	0	1
2	1.1	0.83	0.69	0.88	7.5	0.91	3.1	0.02	0	0	0	0	2
3	1.1	0.84	0.69	0.90	7.5	0.84	2.9	0	0	0	0	0	3
4	1.0	0.82	0.72	0.93	7.2	0.75	2.7	0	0	0	0	0	4
5	0.98	0.80	0.81	1.0	6.4	0.64	2.5	0	0	0	0	0	5
6	0.96	0.79	0.82	1.3	5.7	0.57	2.3	0	0	0	0	0	6
7	0.97	0.78	0.81	1.7	5.2	0.60	2.2	0	0	0	0	0	7
8	0.94	0.79	0.81	2.3	4.9	0.57	2.1	0	0	0	0	0	8
9	0.91	0.84	0.81	3.2	4.5	0.55	1.9	0.01	0	0	0	0	9
10	0.89	0.88	0.80	4.8	4.2	0.62	1.7	0.19	0	0	0	0	10
11	0.90	0.87	0.78	6.3	3.8	0.53	1.5	0.17	0	0	0	0	11
12	0.89	0.87	0.75	7.5	3.6	0.59	1.3	0.16	0	0	0	0	12
13	0.86	0.84	0.75	8.4	3.6	0.72	1.2	0.12	0	0	0	0	13
14	0.84	0.83	0.78	9.5	3.7	0.84	1.1	0.08	0	0	0	0	14
15	0.82	0.82	0.77	11.6	3.7	0.86	1.0	0.05	0	0	0	0	15
16	0.83	0.80	0.77	17.2	3.7	0.76	0.90	0.02	0	0	0	0	16
17	0.81	0.78	0.78	21.9	3.4	0.78	0.80	0	0	0	0	0	17
18	0.79	0.82	0.77	20.9	3.2	0.86	0.73	0	0	0	0	0	18
19	0.79	0.80	0.77	18.9	3.0	0.90	0.69	0.06	0	0	0	0	19
20	0.78	0.79	0.77	16.9	2.9	0.88	0.60	0.09	0	0	0	0	20
21	0.77	0.76	0.77	15.3	2.7	0.88	0.52	0.07	0	0	0	0	21
22	0.76	0.74	0.78	13.7	2.5	0.85	0.46	0.03	0	0	0	0	22
23	0.77	0.72	0.77	12.2	2.3	0.82	0.43	0.01	0	0	0	0	23
24	0.76	0.71	0.77	11.0	2.1	0.76	0.37	0	0	0	0	0	24
25	0.75	0.68	0.78	10.0	1.8	1.1	0.32	0	0	0	0	0	25
26	0.72	0.66	0.81	9.0	1.5	2.0	0.28	0	0	0	0	0	26
27	0.71	0.67	0.85	8.1	1.3	2.7	0.23	0.01	0	0	0	0	27
28	0.73	0.68	0.86	7.4	1.3	3.2	0.23	0	0	0	0	0	28
29	0.79	0.67	0.89	6.8	1.2	3.4	0.21	0	0	0	0	0	29
30	0.85		0.92	6.6	1.2	3.4	0.19	0	0	0	0	0	30
31	0.88		0.93		1.1		0.13	0		0		0	31
TOTAL	26.75	22.71	24.46	257.14	113.7	33.86	37.79	1.17	0	0	0	0	TOTAL
MEAN	0.86	0.78	0.79	8.6	3.7	1.1	1.2	0.04	0	0	0	0	MEAN
AC-FT	53.1	45.0	48.5	510	226	67.2	75.0	2.3	0	0	0	0	AC-FT
MAX	1.1	0.88	0.93	21.9	7.5	3.4	3.2	0.19	0	0	0	0	MAX
MIN	0.71	0.66	0.68	0.88	1.1	0.53	0.13	0	0	0	0	0	MIN

SUMMARY FOR THE YEAR 1976

MEAN DISCHARGE, 1.4 CFS
TOTAL DISCHARGE, 1030 AC-FT
MAXIMUM DAILY DISCHARGE, 21.9 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 3

MAXIMUM INSTANTANEOUS DISCHARGE
22.2 CFS AT 1710 CST ON APR 17

TYPE OF GAUGE - RECORDING

NATURAL FLOW

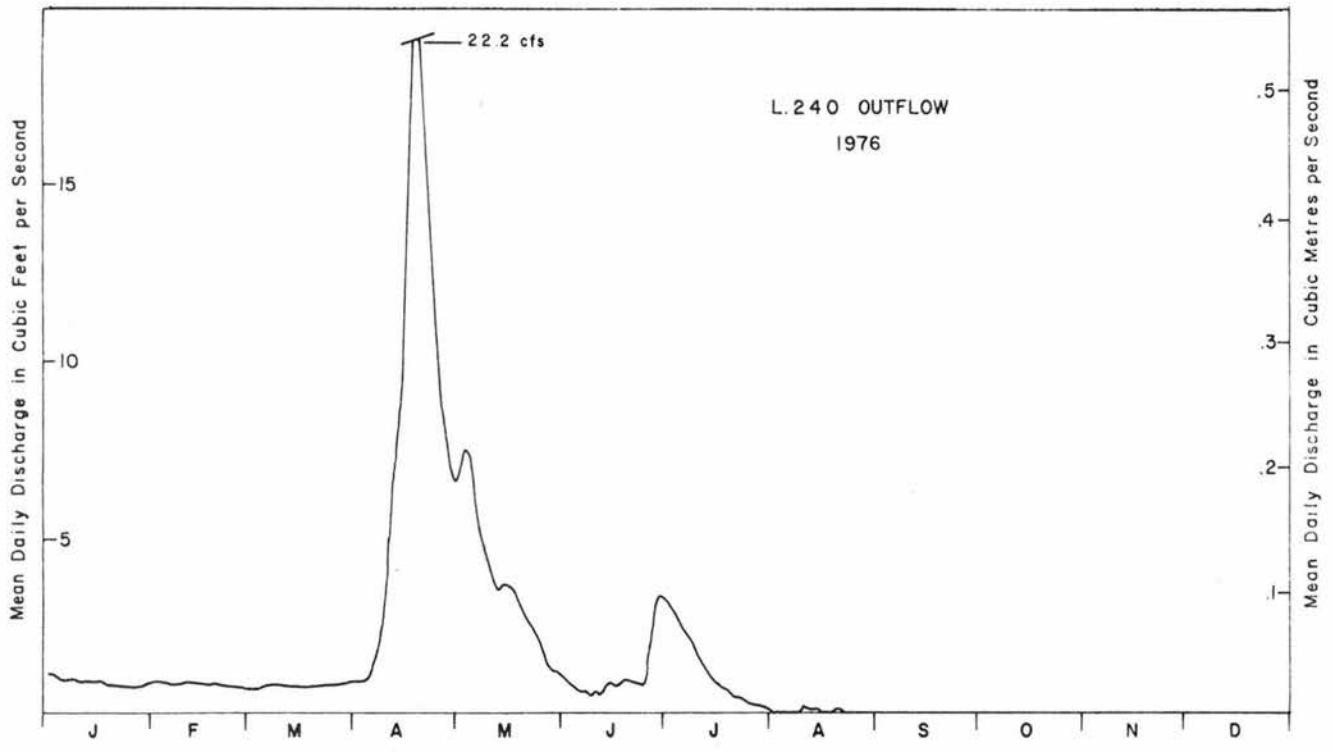


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1976.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0	0	0	0.05	3.2	6.1	6.1	1.1	0.80	2.9	1.0	3.3	1
2	0	0	0	0.04	3.0	5.8	5.8	1.0	0.78	2.8	1.0	3.2	2
3	0	0	0	0.02	2.8	5.4	5.4	1.0	0.77	2.7	0.99	3.1	3
4	0	0	0	0.02	2.7	5.0	5.2	0.96	0.84	2.6	0.97	3.0	4
5	0	0	0	0.02	3.1	5.0	5.0	0.94	0.83	2.6	0.96	3.1	5
6	0	0	0	0.01	4.1	5.1	4.8	0.87	0.81	2.5	0.93	3.1	6
7	0	0	0	0.01	4.2	4.9	4.5	0.85	0.80	2.3	0.92	3.0	7
8	0	0	0	0.01	4.2	4.9	4.0	0.83	0.85	2.2	1.0	3.0	8
9	0	0	0	0.01	4.1	4.5	3.6	0.77	1.6	2.1	2.4	2.9	9
10	0	0	0	0.01	4.4	4.2	3.2	0.69	2.3	2.1	2.8	2.8	10
11	0	0	0	0.04	4.5	4.3	3.0	0.60	2.7	2.1	2.5	2.8	11
12	0	0	0.01	2.2	4.5	3.9	3.1	0.58	2.9	1.8	2.6	2.8	12
13	0	0	0.13	3.0	4.5	4.0	3.0	0.55	3.1	1.7	2.6	2.8	13
14	0	0	0.38	3.3	4.4	4.5	2.9	0.52	3.3	1.7	2.6	2.7	14
15	0	0	1.2	3.6	4.4	5.9	2.6	0.49	3.3	1.6	2.7	2.6	15
16	0	0	1.7	4.0	4.3	9.0	2.4	0.49	3.3	1.5	2.9	2.4	16
17	0	0	1.7	4.5	4.1	10.4	2.2	0.48	3.2	1.5	3.1	2.4	17
18	0	0	0.96	4.7	4.0	13.3	2.1	0.44	3.1	1.4	3.2 E	2.5	18
19	0	0	0.86	4.7	4.1	14.3	2.1	0.42	3.0	1.4	3.4 E	2.4	19
20	0	0	1.2	4.7	4.7	14.4	2.0	0.41	2.8	1.3	3.5 E	2.3 E	20
21	0	0	1.3	4.6	4.9	13.0	1.8	0.37	2.6	1.3	3.8 E	2.2 E	21
22	0	0	1.8	4.4	5.0	11.5	1.6	0.37	2.5	1.2 A	3.9 E	2.2 E	22
23	0	0	1.5	4.3	5.6	10.4	1.5	0.33	2.3	1.2 E	4.1 E	2.2 E	23
24	0	0	1.3	4.2	5.7	9.4	1.4	0.30	2.5	1.1 E	4.2 A	2.1 E	24
25	0	0	1.3	4.0	5.6	8.2	1.2	0.30	2.9	1.1 E	4.1	2.0 E	25
26	0	0	0.40	3.8	5.4	7.3	1.1	0.45	3.0	1.1 E	4.0 E	2.0 E	26
27	0	0	0.24	3.7	6.0	6.5	0.95	0.51	3.1	0.99 A	3.9 E	1.9 E	27
28	0	0	0.19	3.5	5.9	6.2	0.90	0.65	3.1	0.94	3.6 E	1.9 E	28
29	0		0.10	3.3	5.8	5.7	0.91	0.67	3.1	0.93	3.5 E	1.8 E	29
30	0		0.04	3.2	5.6	6.1	1.0	0.73	3.0	0.91	3.4 A	1.7 E	30
31	0		0.05		5.9		1.2	0.79		1.0		1.7 E	31
TOTAL	0	0	16.36	73.94	140.7	219.2	86.56	19.46	69.18	52.57	80.57	77.9	TOTAL
MEAN	0	0	0.53	2.5	4.5	7.3	2.8	0.63	2.3	1.7	2.7	2.5	MEAN
AC-FT	0	0	32.5	147	279	435	172	38.6	137	104	160	155	AC-FT
MAX	0	0	1.8	4.7	6.0	14.4	6.1	1.1	3.3	2.9	4.2	3.3	MAX
MIN	0	0	0	0.01	2.7	3.9	0.90	0.30	0.77	0.91	0.92	1.7	MIN

SUMMARY FOR THE YEAR 1977

MEAN DISCHARGE, 2.3 CFS
TOTAL DISCHARGE, 1660 AC-FT
MAXIMUM DAILY DISCHARGE, 14.4 CFS ON JUN 20
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 1

MAXIMUM INSTANTANEOUS DISCHARGE
15.0 CFS AT 2057 CST ON JUN 19

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

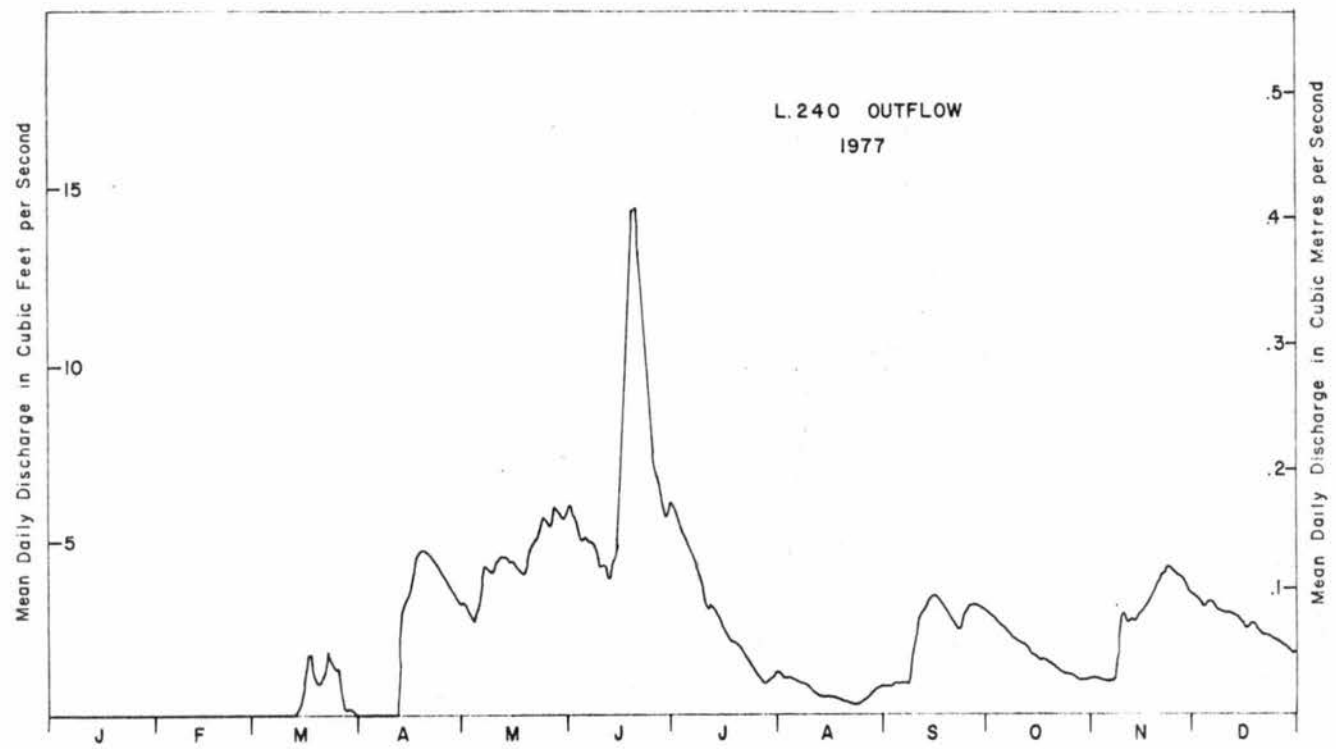


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1977.

Table 120 Mean daily discharges in cubic feet per second for the Lake 240 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	1.6 E	0.82	0.52	0.92	21.9	11.5	2.2	1.2	1.5	1.5	0.64	0.65	1
2	1.6 E	0.81	0.51	0.90	19.1	12.2	2.0	1.6	1.5	1.5	0.64	0.67	2
3	1.5 E	0.76	0.49	0.89	17.2	11.8	1.8	1.6	1.5	1.4	0.62	0.66	3
4	1.5 A	0.77	0.48	0.88	16.0	11.0	1.8	1.6	1.5	1.5	0.58	0.70	4
5	1.5	0.77	0.49	0.87	14.7	9.9	2.1	1.5	1.5	1.5	0.55	0.70	5
6	1.5	0.74	0.44	0.88	13.6	9.5	2.2	1.4	1.4	1.4	0.53	0.74 A	6
7	1.5	0.72	0.40	0.90	12.2	9.0	2.1	1.3	1.3	1.3	0.52	0.78 A	7
8	1.5	0.71	0.43	0.90	12.3	8.4	1.8	1.3	1.2	1.2	0.51	0.78 E	8
9	1.4	0.71	0.41	1.2	12.3	7.6	1.8	1.2	1.1	1.2	0.49	0.78 E	9
10	1.4	0.70	0.43	1.4	11.6	6.9	1.6	1.1	1.1	1.1	0.47	0.78 E	10
11	1.4	0.69	0.43	1.5	11.3	6.4	1.4	1.1	0.96	1.1	0.34	0.78 A	11
12	1.4	0.68	0.43	1.8	10.6	5.7	1.5	0.97	0.80	1.1	0.38	0.78 E	12
13	1.3	0.66	0.43	1.9	9.8	5.2	1.5	0.96	0.89	0.99	0.51	0.78 E	13
14	1.3	0.64	0.43	2.0	9.0	4.9	1.6	0.93	1.3	0.95	0.58	0.78 E	14
15	1.2	0.65	0.43	2.0	8.2	4.5	1.6	1.1	1.5	1.1	0.58	0.78 E	15
16	1.2	0.63	0.43	2.1	7.6	4.3	1.5	1.2	1.6	1.1	0.58	0.78 E	16
17	1.2	0.61	0.43	2.2	6.9	4.1	1.5	1.2	1.6	1.0	0.57	0.78 E	17
18	1.2	0.60	0.43	2.3	6.5	3.7	1.7	1.7	1.6	0.96	0.54	0.78 E	18
19	1.1	0.58	0.43	3.1	6.1	3.3	1.8	1.7	1.7	0.92	0.54	0.78 A	19
20	1.1	0.57	0.44	3.6	5.7	3.2	1.8	1.7	1.7	0.90	0.54	0.78 A	20
21	1.0	0.55	0.45	4.6	5.3	3.0	1.7	1.7	1.7	0.89	0.55	0.78 A	21
22	0.97	0.53	0.44	6.0	5.0	2.8	1.6	1.6	1.6	0.91	0.55	0.91 A	22
23	0.95	0.53	0.42	8.8	5.1	2.6	1.7	1.5	1.5	0.86	0.54	0.91 A	23
24	0.96	0.54	0.40	12.9	4.9	2.7	1.6	1.5	1.5	0.81	0.56	0.86 E	24
25	0.94	0.54	0.38	18.7	4.7	2.8	1.6	1.5	1.4	0.82	0.59	0.86 E	25
26	0.88	0.54	0.38	23.6	7.3	2.7	1.5	1.5	1.4	0.80	0.60	0.86 E	26
27	0.85	0.54	0.37	27.7	9.7	2.7	1.4	1.5	1.3	0.79	0.60	0.86 E	27
28	0.86	0.52	0.36	29.3	9.9	2.6	1.2	1.6	1.3	0.76	0.61	0.82 E	28
29	0.86		0.37	28.2	10.0	2.5	1.1	1.5	1.5	0.73	0.62	0.82 E	29
30	0.86		0.37	25.1	10.6	2.4	1.1	1.5	1.5	0.71	0.64	0.82 E	30
31	0.85		0.67		10.3		1.1	1.4		0.68		0.78 E	31
TOTAL	37.38	18.11	13.52	217.14	315.4	169.9	50.9	43.16	41.95	32.48	16.57	24.32	TOTAL
MEAN	1.2	0.65	.44	7.24	10.2	5.7	1.6	1.4	1.4	1.0	0.55	0.78	MEAN
AC-FT	74.1	35.9	26.8	431	626	337	101	85.6	83.2	64.4	32.9	48.2	AC-FT
MAX	1.6	0.82	0.67	29.3	21.9	12.2	2.2	1.7	1.7	1.5	0.64	0.91	MAX
MIN	0.85	0.52	0.36	0.87	4.7	2.4	1.1	0.93	0.80	0.68	0.34	0.65	MIN

SUMMARY FOR THE YEAR 1978

MEAN DISCHARGE, 2.7 CFS
TOTAL DISCHARGE, 1946 AC-FT
MAXIMUM DAILY DISCHARGE, 29.3 CFS ON APR 28
MINIMUM DAILY DISCHARGE, 0.34 CFS ON NOV 11

MAXIMUM INSTANTANEOUS DISCHARGE
29.6 CFS AT 0554 CST ON APR 28

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

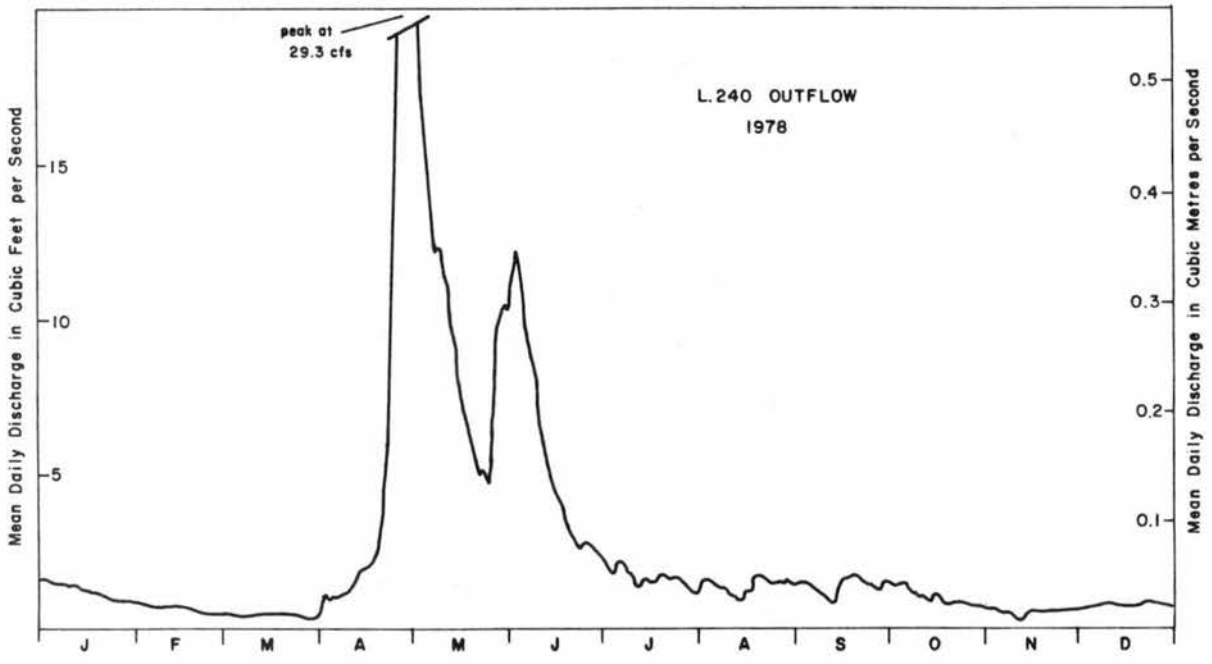


Fig. 39 Annual hydrograph based on mean daily discharges for the Lake 240 outflow for 1978.

Lake 261 Hydrological Data for 1971 to 1978

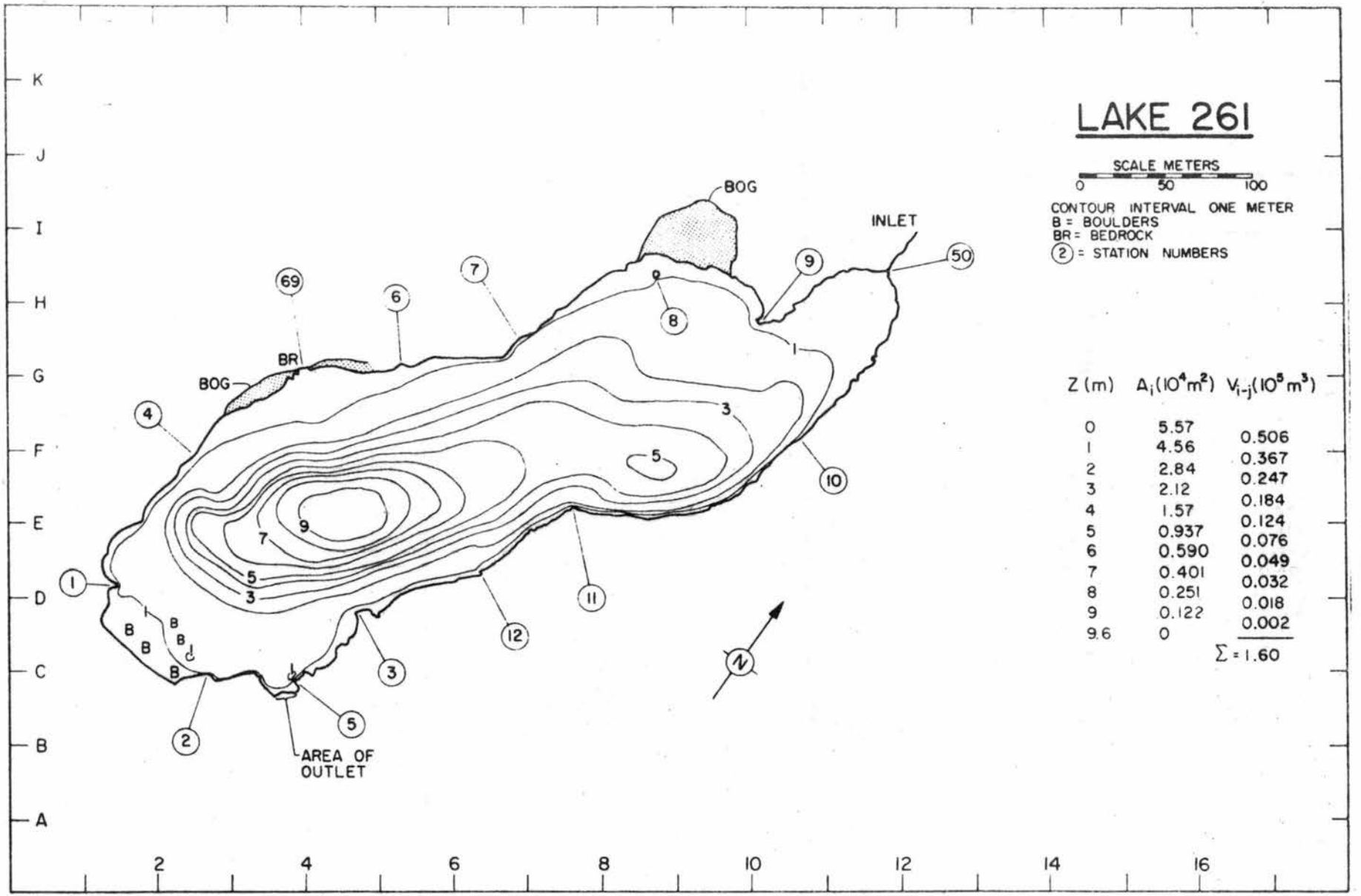
Lake 261 is located 3.8 miles (6.1 kilometres) north of the ELA field station (Fig. 3). Table 121 shows location and morphometric data for the lake and a bathymetric map with one metre contour interval is included (Fig. 40). The drainage basin area is based on airphoto interpretation using the 1976 photography.

On October 27, 1970 a 60°, steel, V-notch, sharp crested, recording weir was installed by Water Survey of Canada on the outflow stream. The station was operated from early April to the end of October. Flow data for the November to April winter period is little to non existent, however, flows were probably 0 to very low. Service of the weir and computation of the flow data was by WSC in all years except 1974 when this was carried out by ELA hydrologic studies staff. All original water level charts are on file with WSC.

Table 121. Location and morphometric data for Lake 261 drainage basin.

Location:		
Latitude	49 42 40 N	
Longitude	93 42 00 W	
Morphometric data		
Basin terrestrial area		42.01[a] ha
Lake surface area		5.57
Total basin area		47.58[a]
Lake volume	1.60×10^5 metre^3	
Mean depth	2.9 metres	

[a]Basin area determined from aerial photographs and supercedes value reported by Brunskill and Schindler (1971).



Z (m)	A_i ($10^4 m^2$)	V_{i-j} ($10^5 m^3$)
0	5.57	
1	4.56	0.506
2	2.84	0.367
3	2.12	0.247
4	1.57	0.184
5	0.937	0.124
6	0.590	0.076
7	0.401	0.049
8	0.251	0.032
9	0.122	0.018
9.6	0	0.002
		$\Sigma = 1.60$

Fig. 40 Bathymetric chart of Lake 261.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.26	0.18	0.26	0.08	0.01	0.47	0.64	---	1
2	---	---	---	0 E	0.29	0.14	0.29	0.07	0.01	0.62	0.60	---	2
3	---	---	---	0 E	0.30	0.12	0.30	0.06	0.03	0.68	0.61	---	3
4	---	---	---	0 E	0.29	0.10	0.29	0.05	0.02	0.78	0.53	---	4
5	---	---	---	0 E	0.26	0.20	0.22	0.04	0.04	0.73	0.51	---	5
6	---	---	---	0 E	0.24	0.26	0.17	0.03	0.05	0.64	---	---	6
7	---	---	---	0 E	0.23	0.24	0.13	0.02	0.06	0.55	---	---	7
8	---	---	---	0 E	0.21	0.21	0.10	0.02	0.08	0.50	---	---	8
9	---	---	---	0 E	0.20	0.18	0.07	0.01	0.07	0.42	0.26	---	9
10	---	---	---	0 E	0.18	0.15	0.06	0 A	0.06	0.35	0.24	---	10
11	---	---	---	0 E	0.17	0.14	0.04	0 E	0.06	0.30	0.22	---	11
12	---	---	---	0.34 E	0.15	0.16	0.16	0 E	0.05	0.26	0.21	---	12
13	---	---	---	0.68 A	0.14	0.14	0.26	0.01 E	0.04	0.21	0.19	---	13
14	---	---	---	0.65 E	0.13	0.13	0.23	0.01 E	0.04	0.19	0.13	---	14
15	---	---	---	0.54 E	0.12	0.11	0.21	0.01 E	0.03	0.14	0.08	---	15
16	---	---	---	0.70 E	0.10	0.14	0.19	0.01 E	0.02	0.07	0.08	---	16
17	---	---	---	1.3 E	0.12	0.14	0.16	0.02 A	0.02	0.28	0.16	---	17
18	---	---	---	1.4 E	0.14	0.12	0.12	0.01 A	0.01	0.51	0.19	---	18
19	---	---	---	1.4 E	0.14	0.11	0.09	0.01 A	0	0.63	---	---	19
20	---	---	---	1.3 E	0.14	0.09	0.07	0.02 A	0	0.61	---	---	20
21	---	---	---	1.1 E	0.13	0.07	0.05	0.01 A	0	0.47	---	---	21
22	---	---	---	0.90 E	0.13	0.06	0.04	0 A	0	0.33	---	---	22
23	---	---	---	0.59 E	0.19	0.04	0.05	0 E	0	0.28	---	---	23
24	---	---	---	0.44 E	0.31	0.02	0.05	0 A	0	0.24	---	---	24
25	---	---	---	0.35 E	0.49	0.02	0.08	0 A	0	0.22	---	---	25
26	---	---	---	0.30 E	0.59	0.01	0.08	0 A	0	0.20	---	---	26
27	---	---	---	0.26 E	0.49	0.04	0.09	0.03	0	0.19	---	---	27
28	---	---	---	0.23 E	0.40	0.08	0.13	0.02	0	0.09	---	---	28
29	---		---	0.21	0.32	0.08	0.12	0.02	0	0.05	---	---	29
30	---		---	0.23	0.27	0.10	0.11	0.02	0.07	0.10	---	---	30
31	---		---		0.22		0.10	0.01		0.52		---	31
TOTAL	---	---	---	12.92	7.35	3.58	4.32	0.59	0.77	11.63	---	---	TOTAL
MEAN	---	---	---	0.43	0.24	0.12	0.14	0.02	0.03	0.38	---	---	MEAN
AC-FT	---	---	---	25.6	14.6	7.1	8.6	1.2	1.5	23.1	---	---	AC-FT
MAX	---	---	---	1.4	0.59	0.26	0.30	0.08	0.08	0.78	---	---	MAX
MIN	---	---	---	0	0.10	0.01	0.04	0	0	0.05	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.19 CFS
TOTAL DISCHARGE, 81.7 AC-FT
MAXIMUM DAILY DISCHARGE, 1.4 CFS ON APR 18
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.7 CFS AT 2240 CST ON APR 18

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

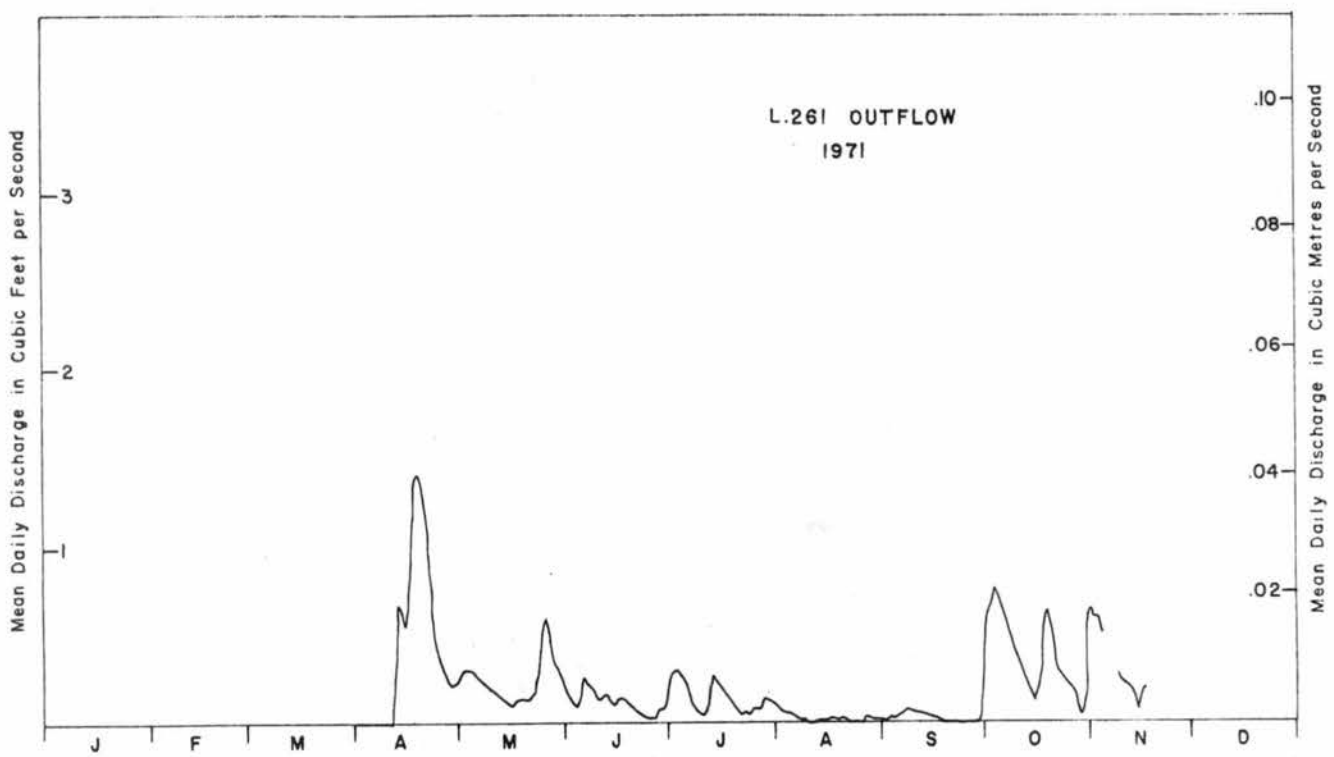


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1971.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	1.1	0.15	0.03	0.06	0.06	0.23	---	---	1
2	---	---	---	0	0.79	0.12	0.01	0.06	0.04	0.23	---	---	2
3	---	---	---	0	0.55	0.07	0	0.06	0.02	0.23	---	---	3
4	---	---	---	0	0.45	0.06	0	0.04	0.05	0.21	---	---	4
5	---	---	---	0	0.39	0.05	0	0.02	0.04	0.19	---	---	5
6	---	---	---	0	0.33	0.04	0	0.01	0.12	0.15	---	---	6
7	---	---	---	0	0.30	0.02	0	0	0.29	0.13	---	---	7
8	---	---	---	0	0.26	0.01	0	0	0.32	0.12	---	---	8
9	---	---	---	0	0.23	0	0	0	0.30	0.11	---	---	9
10	---	---	---	0	0.19	0	0	0	0.27	0.09	---	---	10
11	---	---	---	0	0.16	0	0.06	0	0.24	0.13	---	---	11
12	---	---	---	0	0.13	0	0.10	0	0.20	0.13	---	---	12
13	---	---	---	0	0.15	0	0.11	0.01	0.18	0.12	---	---	13
14	---	---	---	0	0.17	0	0.43	0	0.15	0.11	---	---	14
15	---	---	---	0	0.15	0	0.45	0.11	0.12	0.10	---	---	15
16	---	---	---	0	0.14	0	0.47	0.21	0.13	0.08	---	---	16
17	---	---	---	0	0.13	0	0.64	0.19	0.12	0.07	---	---	17
18	---	---	---	0	0.12	0.03	0.48	0.16	0.10	0.06	---	---	18
19	---	---	---	0	0.10	0.31	0.44	0.14	0.10	0.06	---	---	19
20	---	---	---	0	0.19	0.38	0.52	1.1	0.10	0.05	---	---	20
21	---	---	---	1.4	0.19	0.37	0.37	2.9	0.08	0.05	---	---	21
22	---	---	---	1.3	0.18	0.33	0.31	2.2	0.06	0.05	---	---	22
23	---	---	---	1.3	0.21	0.23	0.24	1.6	0.05	0.03	---	---	23
24	---	---	---	1.2	0.18	0.13	0.14	1.1	0.19	0.03 E	---	---	24
25	---	---	---	1.1	0.15	0.11	0.12	0.73	0.15	0.05 E	---	---	25
26	---	---	---	1.2	0.15	0.06	0.10	0.44	0.14	0.05 E	---	---	26
27	---	---	---	1.4	0.09	0.04	0.07	0.26	0.16	0.04 E	---	---	27
28	---	---	---	1.5	0.16	0.06	0.05	0.21	0.22	0.04 E	---	---	28
29	---	---	---	1.4	0.21	0.07	0.05	0.17	0.25	0.04 E	---	---	29
30	---		---	1.2	0.20	0.06	0.09	0.13	0.25	0.05 E	---	---	30
31	---		---		0.15		0.08	0.10		0.05 E		---	31
TOTAL	---	---	---	13.0	7.90	2.70	5.36	12.01	4.50	3.08	---	---	TOTAL
MEAN	---	---	---	0.43	0.25	0.09	0.17	0.39	0.15	0.10	---	---	MEAN
AC-FT	---	---	---	25.8	15.7	5.4	10.6	23.8	8.9	6.1	---	---	AC-FT
MAX	---	---	---	1.5	1.1	0.38	0.64	2.9	0.32	0.23	---	---	MAX
MIN	---	---	---	0	0.09	0	0	0	0.02	0.03	---	---	MIN

SUMMARY FOR THE YEAR 1972 .

MAXIMUM DAILY DISCHARGE, 2.9 CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
3.2 CFS AT 0828 CST ON AUG 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

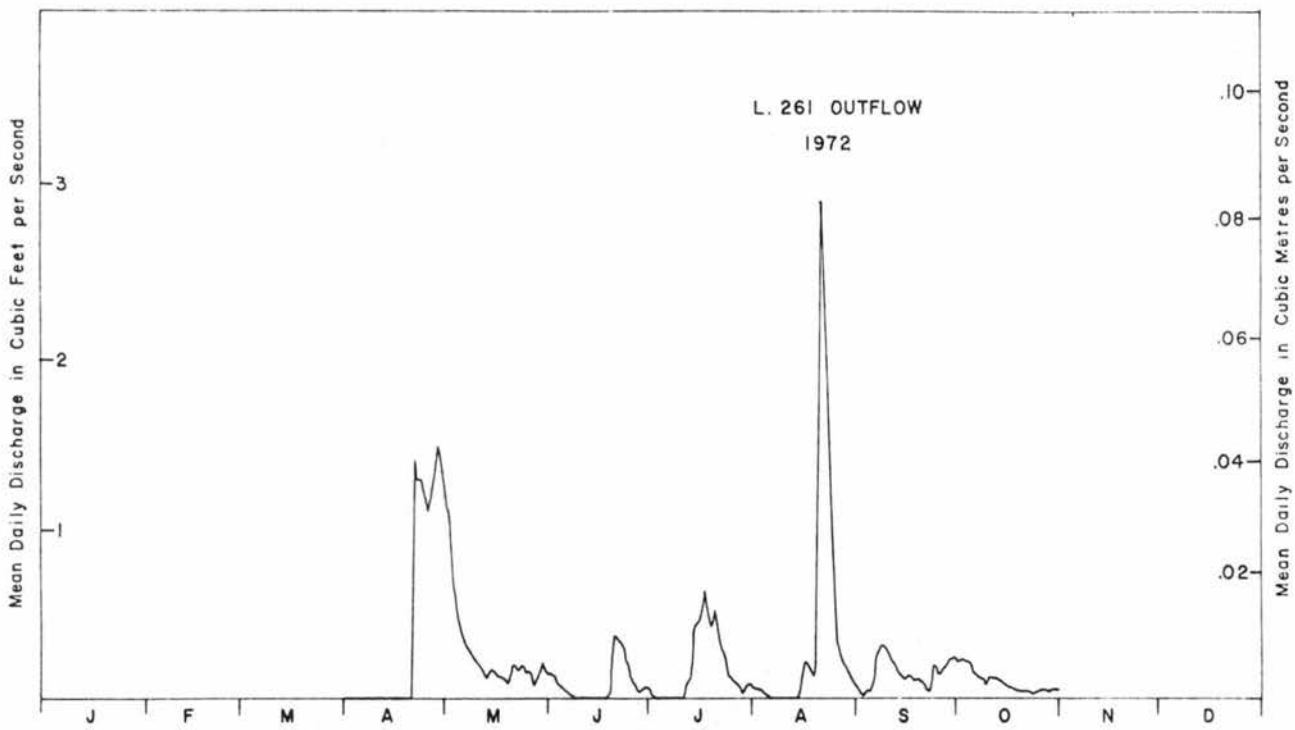


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1972.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	1.3 E	0.18	0	0	0.75	0.03	0.11	---	---	1
2	---	---	---	1.3 E	0.15	0	0	0.51	0.07	0.13	---	---	2
3	---	---	---	1.2 E	0.12	0	0.14	0.35	0.18	0.13	---	---	3
4	---	---	---	1.0 A	0.08	0	0.07	0.17	0.94	0.15	---	---	4
5	---	---	---	0.90	0.07	0	0.02	0.15	1.3	0.19	---	---	5
6	---	---	---	0.68	0.12 A	0	0.10	0.18	0.94	0.13	---	---	6
7	---	---	---	0.53	0.14 A	0	0.49	0.24	0.78	0.12	---	---	7
8	---	---	---	0.43	0.16 A	0	1.2	0.29	0.83	0.11	---	---	8
9	---	---	---	0.37	0.18 A	0	0.54	0.31	0.35	0.09	---	---	9
10	---	---	---	0.32	0.34 A	0	0.34	0.33	0.21	0.13	---	---	10
11	---	---	---	0.29	0.39	0	0.26	0.32	0.25	0.32	---	---	11
12	---	---	---	0.25	0.35	0	0.18	0.32	0.36	1.7	---	---	12
13	---	---	---	0.23	0.39	0	0.07	0.29	0.62	1.8	---	---	13
14	---	---	---	0.23	0.43	0	0.06	0.31	0.56	1.5	---	---	14
15	---	---	---	0.27	0.10	0	0.06	0.32	0.57	1.4	---	---	15
16	---	---	---	0.30	0.14	0	0.14	0.14	0.50	1.0	---	---	16
17	---	---	---	0.29	0.18	0	0.40	0.13	0.33	0.69	---	---	17
18	---	---	---	0.27	0.12	0	0.55	0.08	0.24	0.50	---	---	18
19	---	---	---	0.29	0.01	0	0.60	0.05	0.14	0.51	---	---	19
20	---	---	---	0.65	0.01	0	0.50	0.02	0.05	0.46	---	---	20
21	---	---	---	1.7	0.11	0	0.33	0.01	0.05	0.43	---	---	21
22	---	---	---	1.8	0.36	0	0.15	0.01	0.27	0.43	---	---	22
23	---	---	---	1.5	0	0	0.01	0	0.32	0.50	---	---	23
24	---	---	---	1.2	0	0	0.02	0	0.28	0.28	---	---	24
25	---	---	---	0.91	0	0	0.08	0	0.33	0.25	---	---	25
26	---	---	---	0.70	0	0	0.37	0	0.45	0.20	---	---	26
27	---	---	---	0.49	0	0	3.0	0	0.36	0.14	---	---	27
28	---	---	---	0.38	0	0	1.3	0	0.24	0.10	---	---	28
29	---		---	0.27	0	0	0.94	0	0.18	0.10	---	---	29
30	---		---	0.19	0	0	0.64	0	0.12	0.15	---	---	30
31	---		---		0		0.76	0		0.12		---	31
TOTAL	---	---	---	20.24	4.13	0	13.32	5.28	11.85	13.87	---	---	TOTAL
MEAN	---	---	---	0.67	0.13	0	0.43	0.17	0.40	0.45	---	---	MEAN
AC-FT	---	---	---	40.1	8.2	0	26.4	10.5	23.5	27.5	---	---	AC-FT
MAX	---	---	---	1.8	0.43	0	3.0	0.75	1.3	1.8	---	---	MAX
MIN	---	---	---	0.19	0	0	0	0	0.03	0.09	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.32 CFS
TOTAL DISCHARGE, 136 AC-FT
MAXIMUM DAILY DISCHARGE, 3.0 CFS ON JUL 27
MINIMUM DAILY DISCHARGE, 0 CFS ON MAY 23

MAXIMUM INSTANTANEOUS DISCHARGE
3.4 CFS AT 1042 CST ON JUL 27

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

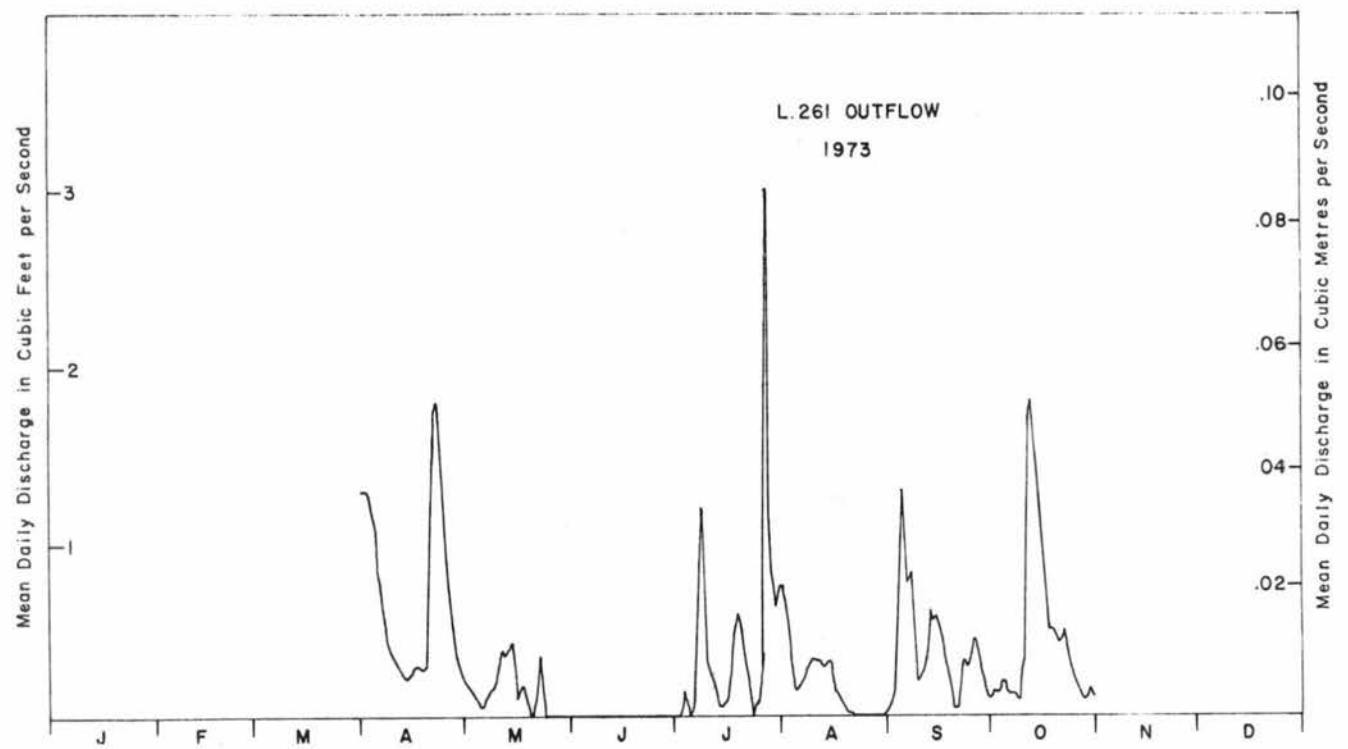


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1973.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	1.4	0.22	0.04	0.01	0.38	0.07	0.07	---	1
2	---	---	---	0 E	1.2	0.21	0.04	0.02	0.37	0.05	0.09	---	2
3	---	---	---	0 E	1.0	0.18	0.04	0.01	0.29	0.09	0.16	---	3
4	---	---	---	0 E	0.92	0.18	0.03	0.01	0.25	0.06	0.17	---	4
5	---	---	---	0.03 E	0.82	0.23	0.03	0.01	0.22	0.07	0.17	---	5
6	---	---	---	0.06 E	0.77	0.94	0.03	0	0.17	0.10	0.16	---	6
7	---	---	---	0.09 E	0.62	1.7	0.03	0	0.16	0.17	0.15	---	7
8	---	---	---	0.11 E	0.58	1.6	0.03	0	0.14	0.18	0.15	---	8
9	---	---	---	0.13	0.52	1.4	0.05	0	0.13	0.16	0.16	---	9
10	---	---	---	0.35	0.51	1.1	0.05	0	0.12	0.13	0.16	---	10
11	---	---	---	0.24	0.89	0.89	0.05	0.01	0.12	0.15	0.16	---	11
12	---	---	---	0.12	1.6	0.60	0.05	0.02	0.10	0.13	0.15 E	---	12
13	---	---	---	0.04	1.7	0.40	0.05	0.02	0.10	0.13	0.14 E	---	13
14	---	---	---	0.04	1.1	0.29	0.04	0.02	0.09	0.12	0.13 E	---	14
15	---	---	---	0.04	0.97	0.23	0.04	0.06	0.08	0.13	0.12 E	---	15
16	---	---	---	0.03	0.82	0.21	0.04	0.12	0.10	0.18	0.10 E	---	16
17	---	---	---	0.05	0.74	0.17	0.04	0.16	0.13	0.17	0.09 E	---	17
18	---	---	---	1.2	0.06	0.13	0.04	0.17	0.17	0.23	0.09 E	---	18
19	---	---	---	1.0	0.51	0.12	0.04	0.17	0.18	0.26	0.07 E	---	19
20	---	---	---	1.2	0.65	0.10	0.03	0.25	0.18	0.25	0.07 E	---	20
21	---	---	---	4.4	0.79	0.08	0.03	0.56	0.16	0.18	0.06 A	---	21
22	---	---	---	5.3	0.72	0.07	0.03	0.65	0.15	0.15	---	---	22
23	---	---	---	3.2	0.65	0.06	0.02	0.65	0.14	0.12	---	---	23
24	---	---	---	2.4	0.58	0.06	0.02	0.56	0.14	0.14	---	---	24
25	---	---	---	2.1	0.49	0.05	0.02	0.43	0.11	0.15	---	---	25
26	---	---	---	2.0	0.40	0.05	0.02	0.38	0.09	0.14	---	---	26
27	---	---	---	2.0	0.34	0.05	0.02	0.31	0.09	0.14	---	---	27
28	---	---	0 A	2.0	0.31	0.05	0.01	0.28	0.08	0.13	---	---	28
29	---		0 E	1.8	0.28	0.05	0.01	0.29	0.09	0.13	---	---	29
30	---		0 E	1.7	0.25	0.04	0.01	0.34	0.08	0.12	---	---	30
31	---		0 E		0.23		0.01	0.40		0.12		---	31
TOTAL	---	---	---	31.63	22.96	11.64	0.99	5.91	4.61	4.35	---	---	TOTAL
MEAN	---	---	---	1.05	0.74	0.39	0.03	0.19	0.15	0.14	---	---	MEAN
AC-FT	---	---	---	62.74	45.54	23.09	1.96	11.72	9.14	8.63	---	---	AC-FT
MAX	---	---	---	5.3	1.7	1.7	0.05	0.65	0.38	0.26	---	---	MAX
MIN	---	---	---	0	0.23	0.04	0.01	0	0.08	0.05	---	---	MIN

SUMMARY FOR THE PERIOD MAR 28 TO NOV 21

MEAN DISCHARGE, 0.35 CFS
TOTAL DISCHARGE, 168.0 AC-FT
MAXIMUM DAILY DISCHARGE, 5.3 CFS ON APR 22
MINIMUM DAILY DISCHARGE, 0 CFS ON MAR 28

MAXIMUM INSTANTANEOUS DISCHARGE
7.0 CFS AT 19:00 CST ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED

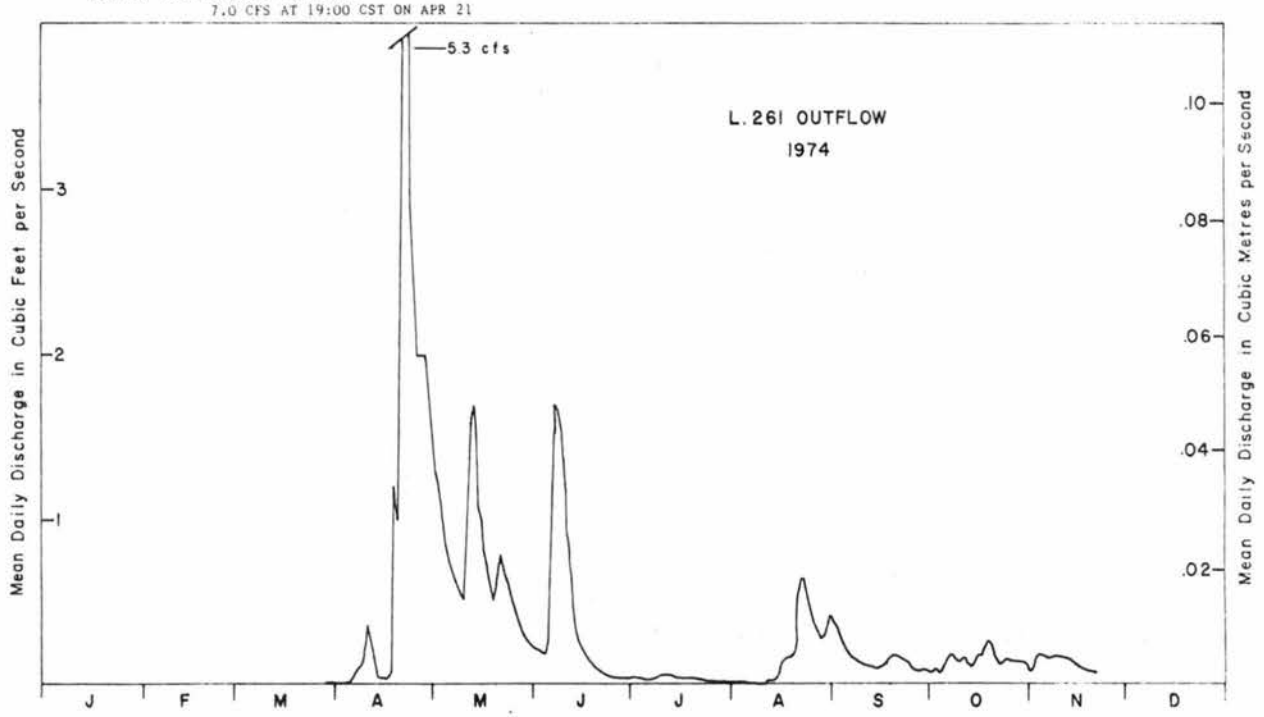


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1974.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.02 E	1.6	0.27	0.66	0.01 E	0.02	0.07	---	---	1
2	---	---	---	0.02 E	1.5	0.23	0.65	0.01 E	0.01	0.06	---	---	2
3	---	---	---	0.02	1.3	0.21	0.54	0.01 E	0.01	0.05	---	---	3
4	---	---	---	0.02 E	1.2	0.19	0.43	0.01 E	0.01	0.05	---	---	4
5	---	---	---	0.02 E	1.0	0.26	0.36	0.01 E	0.01	0.04	---	---	5
6	---	---	---	0.03 E	0.95	0.31	0.29	0.01 E	0.01	0.03	---	---	6
7	---	---	---	0.05 E	0.89	0.30	0.23	0.01	0.02	0.03	---	---	7
8	---	---	---	0.08 E	0.81	0.27	0.18	0.01	0.02	0.03	---	---	8
9	---	---	---	0.13 E	0.72	0.24	0.15	0.01	0.02	0.03	---	---	9
10	---	---	---	0.15 E	0.57	0.23	0.12	0.01	0.02	0.02	---	---	10
11	---	---	---	0.18 E	0.43	0.22	0.10	0.01	0.05	0.02	---	---	11
12	---	---	---	0.21 E	0.43	0.15	0.08	0.01	0.06	0.02	---	---	12
13	---	---	---	0.24 E	0.38	0.11	0.07	0	0.06	0.02	---	---	13
14	---	---	---	0.28 E	0.45	0.12	0.07	0	0.06	0.03	---	---	14
15	---	---	---	0.32 E	0.28	0.11	0.06	0	0.06	0.03	---	---	15
16	---	---	---	0.37	0.22	0.09	0.05	0	0.05	0.04	---	---	16
17	---	---	---	0.49	0.19	0.07	0.05	0	0.05	0.04	---	---	17
18	---	---	---	0.65	0.16	0.06	0.05	0	0.05	0.04	---	---	18
19	---	---	---	0.72	0.14	0.05	0.04	0	0.08	0.03	---	---	19
20	---	---	---	0.76	0.14	0.07	0.04	0	0.16	0.03	---	---	20
21	---	---	---	0.78	0.15	0.17	0.03	0.01	0.21	0.03	---	---	21
22	---	---	---	0.80	0.13	0.78	0.03	0	0.21	0.02	---	---	22
23	---	---	---	0.86	0.52	1.3	0.03	0.01	0.21	0.02	---	---	23
24	---	---	---	1.1	0.86	1.3	0.02	0.02	0.19	0.03	---	---	24
25	---	---	---	2.3	0.95	1.1	0.02	0.01	0.17	0.07	---	---	25
26	---	---	---	2.7	0.87	0.87	0.02	0.01	0.15	0.06	---	---	26
27	---	---	---	2.4	0.76	0.61	0.02	0.01	0.13	0.06	---	---	27
28	---	---	---	2.2	0.66	0.43	0.02	0.01	0.11	0.07	---	---	28
29	---		---	2.0	0.43	0.29	0.01	0.01	0.10	0.07	---	---	29
30	---		---	1.9	0.33	0.48	0.01	0.01	0.09	0.07	---	---	30
31	---		---		0.32		0.01	0.01		0.07		---	31
TOTAL	---	---	---	21.80	19.34	10.89	4.44	0.23	2.40	1.28	---	---	TOTAL
MEAN	---	---	---	0.73	0.62	0.36	0.14	0.01	0.08	0.04	---	---	MEAN
AC-FT	---	---	---	43.2	38.4	21.6	8.8	0.46	4.8	2.5	---	---	AC-FT
MAX	---	---	---	2.7	1.6	1.3	0.66	0.02	0.21	0.07	---	---	MAX
MIN	---	---	---	0.02	0.13	0.05	0.01	0	0.01	0.02	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.28 CFS
TOTAL DISCHARGE, 120 AC-FT
MAXIMUM DAILY DISCHARGE, 2.7 CFS ON APR 26
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 13

MAXIMUM INSTANTANEOUS DISCHARGE
3.2 CFS AT 1734 CST ON APR 25

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

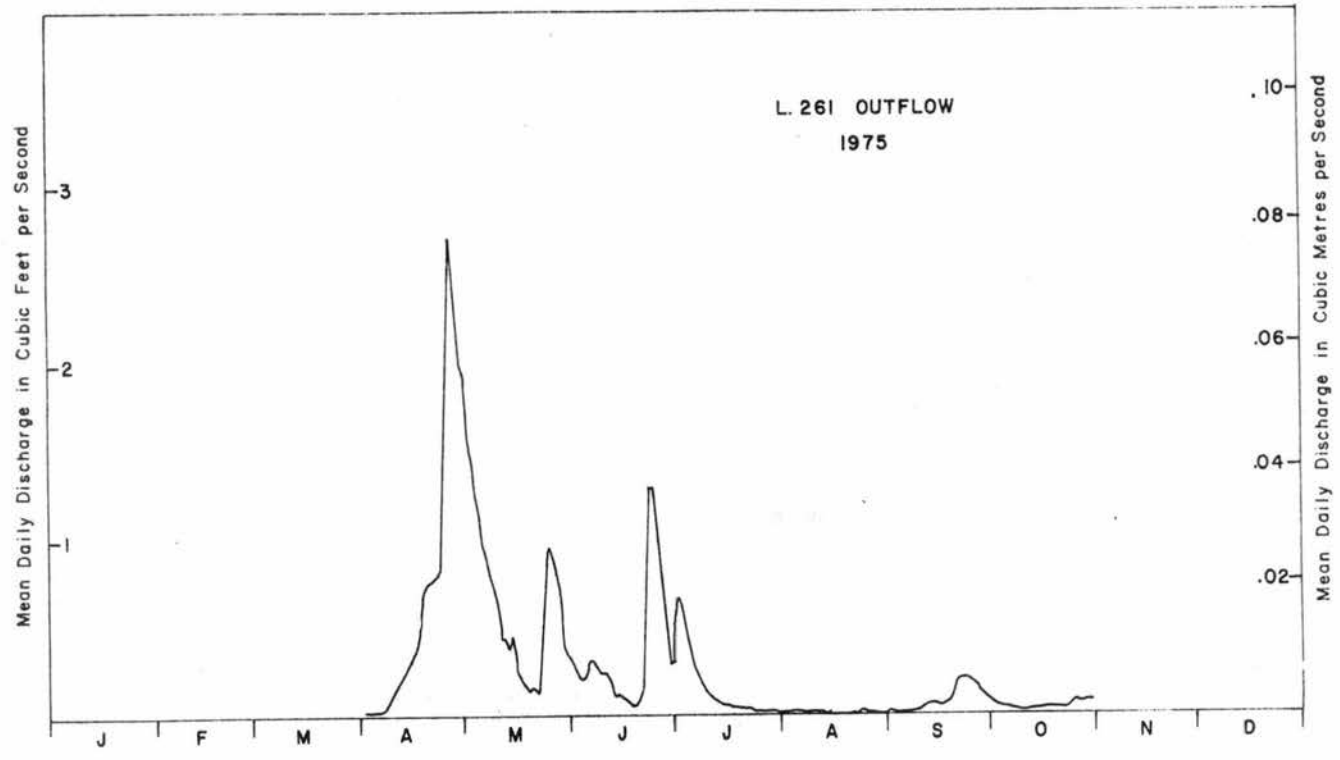


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1975.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0	0.36	0	0.03	0	0	0	---	---	1
2	---	---	---	0	0.30	0	0.02	0	0	0	---	---	2
3	---	---	---	0	0.24	0	0.01	0	0	0	---	---	3
4	---	---	---	0	0.19	0	0.01	0	0	0	---	---	4
5	---	---	---	0	0.14	0	0.01	0	0	0	---	---	5
6	---	---	---	0.87	0.10	0	0.01	0	0	0	---	---	6
7	---	---	---	1.4	0.07	0	0.01	0	0	0	---	---	7
8	---	---	---	1.3	0.06	0	0	0	0	0	---	---	8
9	---	---	---	1.3	0.04	0	0	0	0	0	---	---	9
10	---	---	---	1.6	0.01	0	0	0	0	0	---	---	10
11	---	---	---	1.6	0.02	0	0	0	0	0	---	---	11
12	---	---	---	1.5	0.01	0	0	0	0	0	---	---	12
13	---	---	---	1.4	0.01	0	0	0	0	0	---	---	13
14	---	---	---	1.5	0.02	0	0	0	0	0	---	---	14
15	---	---	---	1.8	0.02	0	0	0	0	0	---	---	15
16	---	---	---	2.2	0.02	0	0	0	0	0	---	---	16
17	---	---	---	2.6	0.02	0	0	0	0	0	---	---	17
18	---	---	---	2.3	0.01	0	0	0	0	0	---	---	18
19	---	---	---	1.9	0	0	0	0	0	0	---	---	19
20	---	---	---	1.6	0	0	0	0.01	0	0	---	---	20
21	---	---	---	1.3	0	0	0	0.01	0	0	---	---	21
22	---	---	---	1.1	0	0	0	0.01	0	0	---	---	22
23	---	---	---	0.93	0	0	0	0.01	0	0	---	---	23
24	---	---	---	0.83	0	0	0	0	0	0	---	---	24
25	---	---	---	0.76	0	0	0	0	0	0	---	---	25
26	---	---	---	0.70	0	0.01	0	0	0	0	---	---	26
27	---	---	---	0.66	0	0.02	0	0.01	0	0	---	---	27
28	---	---	---	0.58	0	0.04	0	0	0	0	---	---	28
29	---	---	---	0.53	0	0.04	0	0	0	0	---	---	29
30	---		---	0.45	0	0.04	0	0	0	0	---	---	30
31	---		---		0		0	0		0		---	31
TOTAL	---	---	---	32.71	1.64	0.15	0.10	0.05	0	0	---	---	TOTAL
MEAN	---	---	---	1.1	0.05	0.01	0	0	0	0	---	---	MEAN
AC-FT	---	---	---	64.9	3.3	0.30	0.20	0.10	0	0	---	---	AC-FT
MAX	---	---	---	2.6	0.36	0.04	0.03	0.01	0	0	---	---	MAX
MIN	---	---	---	0	0	0	0	0	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.16 CFS
TOTAL DISCHARGE, 68.8 AC-FT
MAXIMUM DAILY DISCHARGE, 2.6 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.7 CFS AT 0330 CST ON APR 17

TYPE OF GAUGE - RECORDING

NATURAL FLOW

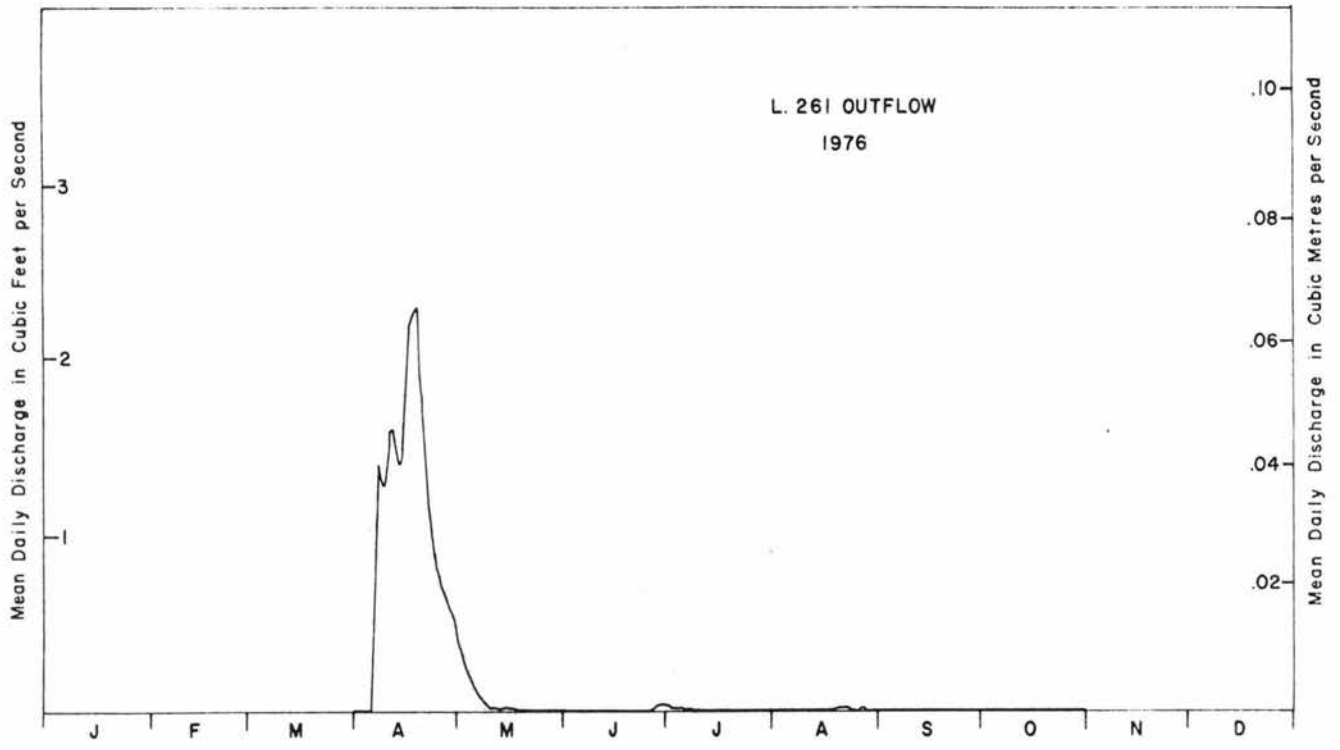


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1976.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.04	0.22	0.21	0.07	0.07	0.13	0.02	---	1
2	---	---	---	0 E	0.04	0.16	0.20	0.07	0.06	0.11	---	---	2
3	---	---	---	0 E	0.03	0.11	0.20	0.06	0.06	0.10	---	---	3
4	---	---	---	0 E	0.02	0.12	0.17	0.04	0.09	0.10	---	---	4
5	---	---	---	0 E	0.05	0.15	0.15	0.05	0.12	0.09	---	---	5
6	---	---	---	0 E	0.22	0.19	0.14	0.03	0.13	0.07	---	---	6
7	---	---	---	0 E	0.30	0.18	0.11	0.03	0.13	0.07	---	---	7
8	---	---	---	0 E	0.34	0.18	0.09	0.03	0.13	0.06	---	---	8
9	---	---	---	0 E	0.29	0.17	0.08	0.02	0.34	0.05	---	---	9
10	---	---	---	0 E	0.31	0.14	0.06	0.01	0.82	0.05	---	---	10
11	---	---	---	0 E	0.31	0.14	0.06	0.01	0.80	0.04	---	---	11
12	---	---	---	0 E	0.27	0.12	0.10	0.01	0.74	0.04	---	---	12
13	---	---	---	0.01 E	0.21	0.12	0.10	0.01	0.62	0.02	---	---	13
14	---	---	---	0.02 E	0.20	0.18	0.17	0.01	0.52	0.02	---	---	14
15	---	---	---	0.07 E	0.22	0.37	0.16	0	0.41	0.02	---	---	15
16	---	---	---	0.19 E	0.18	0.66	0.12	0.01	0.34	0.02	---	---	16
17	---	---	---	0.38 E	0.14	0.71	0.11	0.01	0.28	0.02	---	---	17
18	---	---	---	0.65 E	0.14	0.98	0.10	0.01	0.24	0.02	---	---	18
19	---	---	---	0.58 E	0.16	1.1	0.10	0.01	0.20	0.02	---	---	19
20	---	---	---	0.51 E	0.21	0.99	0.09	0.01	0.17	0.02	---	---	20
21	---	---	---	0.45 E	0.23	0.84	0.06	0.01	0.14	0.02	---	---	21
22	---	---	---	0.38 E	0.24	0.68	0.05	0.01	0.11	0.02	---	---	22
23	---	---	---	0.34 E	0.30	0.51	0.04	0.01	0.09	0.02	---	---	23
24	---	---	---	0.28 E	0.31	0.38	0.03	0	0.11	0.01	---	---	24
25	---	---	---	0.23 E	0.30	0.30	0.03	0	0.16	0.01	---	---	25
26	---	---	---	0.19 E	0.27	0.24	0.02	0.01	0.17	0.01	---	---	26
27	---	---	---	0.15 A	0.33	0.20	0.01	0.02	0.18	0.01	---	---	27
28	---	---	0 E	0.07	0.28	0.18	0	0.04	0.19	0.01	---	---	28
29	---		0 E	0.04	0.24	0.17	0.02	0.05	0.17	0.01	---	---	29
30	---		0 E	0.05	0.21	0.20	0.04	0.07	0.15	0.01	---	---	30
31	---		0 E		0.21		0.07	0.07		0.01		---	31
TOTAL	---	---	---	4.59	6.60	10.69	2.89	0.79	7.74	1.21	---	---	TOTAL
MEAN	---	---	---	0.15	0.21	0.36	0.09	0.03	0.26	0.04	---	---	MEAN
AC-FT	---	---	---	9.1	13.1	21.2	5.7	1.6	15.4	2.4	---	---	AC-FT
MAX	---	---	---	0.65	0.34	1.1	0.21	0.07	0.82	0.13	---	---	MAX
MIN	---	---	---	0	0.02	0.11	0	0	0.06	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.16 CFS
TOTAL DISCHARGE, 68.5 AC-FT
MAXIMUM DAILY DISCHARGE, 1.1 CFS ON JUN 19
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
1.2 CFS AT 0059 CST ON JUN 19

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

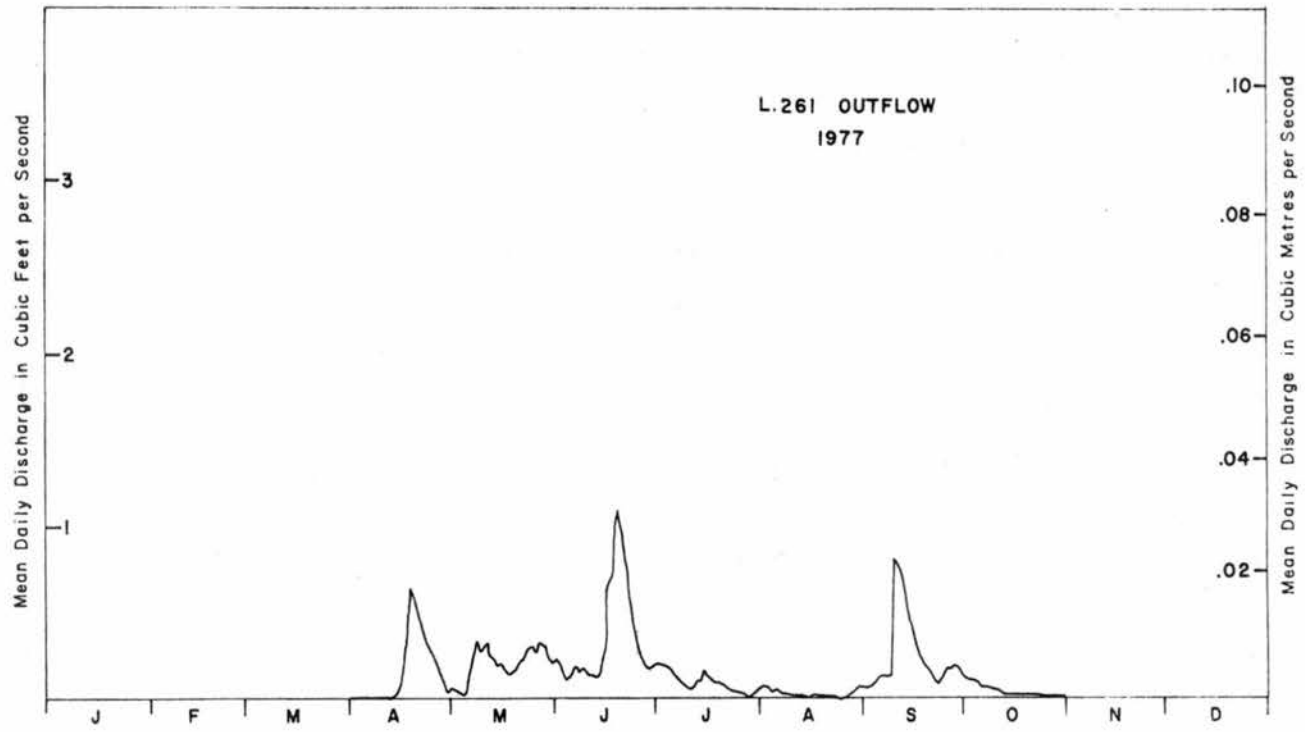


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1977.

Table 122 Mean daily discharges in cubic feet per second for the Lake 261 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	1.2 E	0.79	0.05	0.01	0.07	0.08	---	---	1
2	---	---	---	0.01 E	1.2 A	0.84	0.04	0.01	0.07	0.08	---	---	2
3	---	---	---	0.02 E	1.1	0.79	0.03	0.01	0.07	0.08	---	---	3
4	---	---	---	0.02 E	0.97	0.69	0.03	0.01	0.07	0.08	---	---	4
5	---	---	---	0.03 E	0.86	0.59	0.04	0	0.06	0.07	---	---	5
6	---	---	---	0.02 E	0.71	0.55	0.04	0	0.05	0.07	---	---	6
7	---	---	---	0.02 E	0.64	0.50	0.03	0	0.03	0.07	---	---	7
8	---	---	---	0.02 E	0.61	0.44	0.03	0	0.03	0.07	---	---	8
9	---	---	---	0.02 E	0.60	0.39	0.02	0	0.02	0.06	---	---	9
10	---	---	---	0.02 E	0.56	0.36	0.02	0	0.02	0.06	---	---	10
11	---	---	---	0.01 A	0.53	0.33	0.01	0	0.02	0.05	---	---	11
12	---	---	---	0.02 E	0.51	0.27	0.02	0	0.01	0.05	---	---	12
13	---	---	---	0.03 E	0.46	0.22	0.02	0	0.02	0.05	---	---	13
14	---	---	---	0.05 E	0.39	0.20	0.02	0	0.08	0.05	---	---	14
15	---	---	---	0.10 E	0.35	0.18	0.03	0	0.13	0.05	---	---	15
16	---	---	---	0.20 E	0.34	0.15	0.03	0	0.17	0.05	---	---	16
17	---	---	---	0.40 E	0.31	0.02	0.03	0	0.18	0.05	---	---	17
18	---	---	---	0.75 E	0.29	0.09	0.05	0.02	0.19	0.05	---	---	18
19	---	---	---	0.95 E	0.27	0.07	0.05	0.02	0.17	0.05	---	---	19
20	---	---	---	1.0 E	0.25	0.06	0.06	0.02	0.13	0.05	---	---	20
21	---	---	---	0.80 E	0.23	0.05	0.06	0.01	0.12	0.05	---	---	21
22	---	---	---	0.60 E	0.22	0.05	0.05	0.01	0.11	0.05	---	---	22
23	---	---	---	0.80 E	0.21	0.04	0.05	0.01	0.10	0.04	---	---	23
24	---	---	---	0.90 E	0.20	0.05	0.05	0.01	0.09	0.04	---	---	24
25	---	---	---	1.0 E	0.19	0.06	0.05	0.01	0.08	0.03	---	---	25
26	---	---	---	1.6 E	0.44	0.06	0.04	0.01	0.07	0.03	---	---	26
27	---	---	---	1.6 E	0.70	0.06	0.03	0.02	0.07	0.03	---	---	27
28	---	---	---	1.5 E	0.70	0.07	0.02	0.06	0.06	0.02	---	---	28
29	---		---	1.4 E	0.66	0.06	0.01	0.07	0.07	0.02	---	---	29
30	---		---	1.3 E	0.71	0.06	0.01	0.06	0.08	0.02	---	---	30
31	---		---		0.73		0.01	0.06		0.01		---	31
TOTAL	---	---	---	15.19	17.14	8.19	1.03	0.43	2.44	1.56	---	---	TOTAL
MEAN	---	---	---	0.51	0.55	0.27	0.03	0.01	0.08	0.05	---	---	MEAN
AC-FT	---	---	---	30.1	34.0	16.2	2.0	0.85	4.8	3.1	---	---	AC-FT
MAX	---	---	---	1.6	1.2	0.84	0.06	0.07	0.19	0.08	---	---	MAX
MIN	---	---	---	0	0.19	0.04	0.01	0	0.01	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.21 CFS
TOTAL DISCHARGE, 91.1 AC-FT
MAXIMUM DAILY DISCHARGE, 1.6 CFS ON APR 26
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

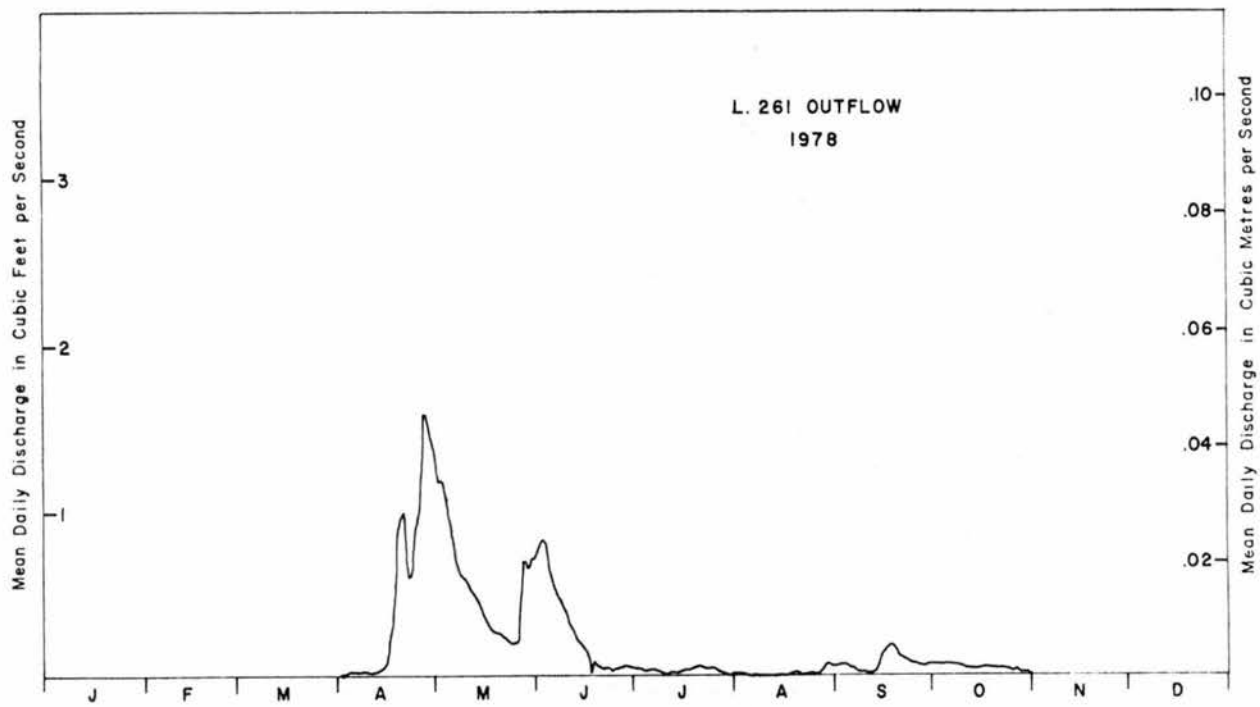


Fig. 41 Annual hydrograph based on mean daily discharges for the Lake 261 outflow for 1978.

Lake 265 Hydrological Data for 1971 to 1978

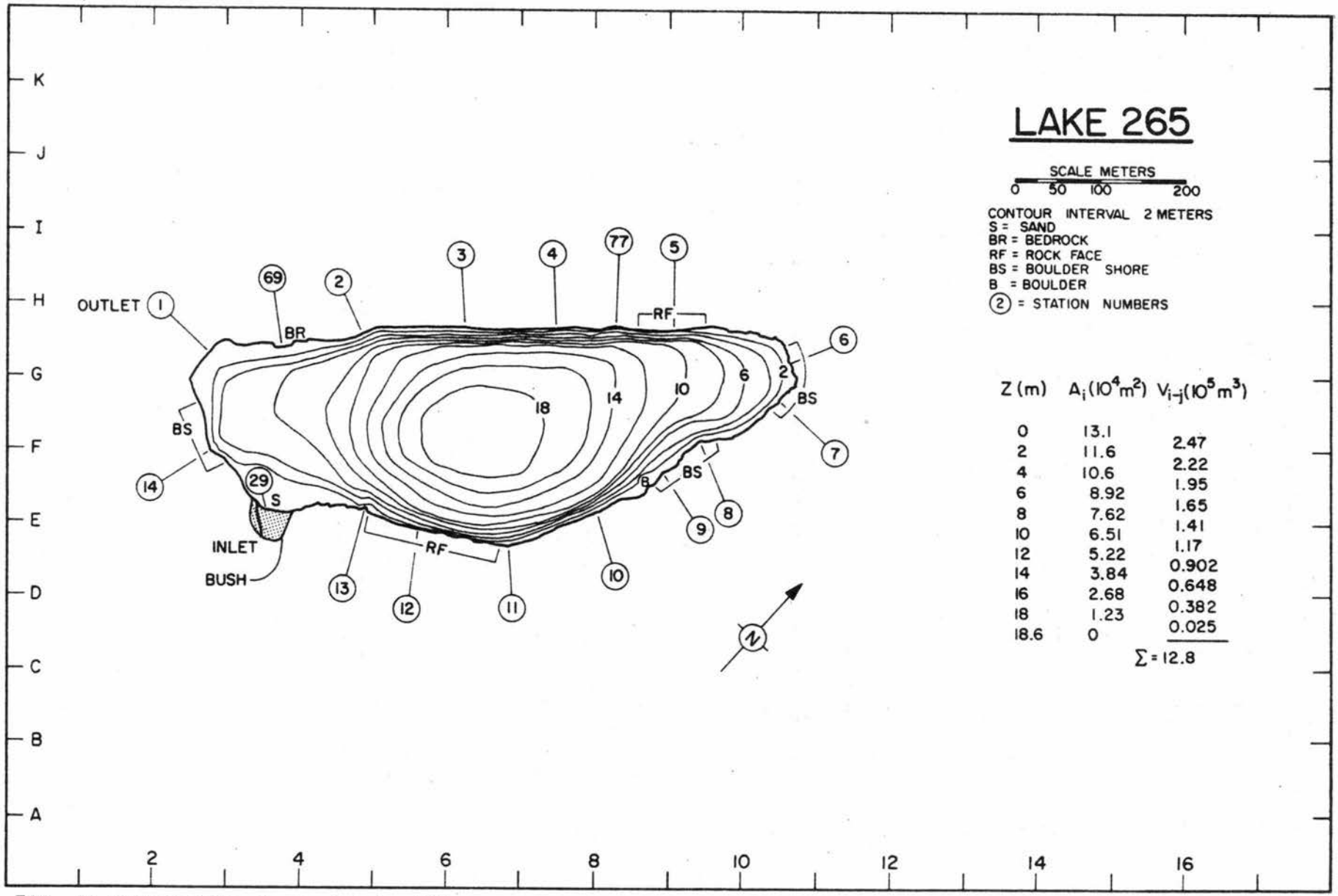
Lake 265 is located 6.3 miles (10.1 kilometres) northeast of the ELA field station (Fig. 3). Table 123 shows location and morphometric data for the lake and a bathymetric map with one metre contour interval is included (Fig. 42). The drainage area is based on airphoto interpretation using 1976 photography.

On October 29, 1970 a sharp crested V-notch recording weir was constructed by Water Survey of Canada on the outflow stream. The station was operated from early April to the end of October each year. Flow data for the November to April winter period is non-existent, however, discharges were probably 0 to very low. Service of the weir and computation of the flow data was by WSC in all years except 1974, when this was carried out by ELA hydrologic studies staff. All original water level charts are on file with WSC.

Table 123. Location and morphometric data for the Lake 265 drainage basin.

Location:		
Latitude	49 43 30 N	
Longitude	93 38 00 W	
Morphometric data		
Basin terrestrial area	57.9[a]	ha
Lake surface area	13.1	
Total lake basin	71.0[a]	
Lake volume	12.8×10^5 metres^3	
Mean depth	9.8 metres	

[a]Total lake drainage basin area determined from aerial photographs and supercedes value reported by Brunskill and Schindler (1971).



Z (m)	A_i ($10^4 m^2$)	V_{i-j} ($10^5 m^3$)
0	13.1	
		2.47
2	11.6	
		2.22
4	10.6	
		1.95
6	8.92	
		1.65
8	7.62	
		1.41
10	6.51	
		1.17
12	5.22	
		0.902
14	3.84	
		0.648
16	2.68	
		0.382
18	1.23	
		0.025
18.6	0	

$\Sigma = 12.8$

Fig. 42 Bathymetric chart of Lake 265.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.56	0.38	0.37	0.14	0.03	0.19	0.62	---	1
2	---	---	---	0 E	0.59	0.34	0.33	0.13	0.03	0.20	0.64	---	2
3	---	---	---	0 E	0.60	0.31	0.32	0.12	0.04	0.24	0.66	---	3
4	---	---	---	0 E	0.58	0.29	0.33	0.11	0.04	0.28	0.66	---	4
5	---	---	---	0 E	0.55	0.33	0.28	0.11	0.07	0.29	0.69	---	5
6	---	---	---	0 E	0.52	0.33	0.26	0.10	0.07	0.29	0.65	---	6
7	---	---	---	0 E	0.48	0.30	0.24	0.09	0.07	0.31	0.59	---	7
8	---	---	---	0 E	0.45	0.28	0.22	0.08	0.06	0.32	0.51	---	8
9	---	---	---	0 E	0.42	0.26	0.20	0.07	0.05	0.31	0.44	---	9
10	---	---	---	0 E	0.41	0.24	0.19	0.06	0.04	0.29	0.41	---	10
11	---	---	---	0 E	0.39	0.23	0.18	0.05	0.04	0.27	---	---	11
12	---	---	---	0 E	0.37	0.24	0.24	0.04	0.04	0.26	---	---	12
13	---	---	---	0.19 A	0.34	0.24	0.24	0.04	0.03	0.24	---	---	13
14	---	---	---	0.54 E	0.31	0.23	0.23	0.03	0.05	0.23	---	---	14
15	---	---	---	0.88 E	0.29	0.22	0.21	0.03	0.06	0.22	---	---	15
16	---	---	---	1.2 E	0.28	0.25	0.21	0.04	0.06	0.22	---	---	16
17	---	---	---	1.6 E	0.31	0.25	0.19	0.07	0.07	0.28	---	---	17
18	---	---	---	1.9 E	0.31	0.25	0.17	0.06	0.06	0.38	---	---	18
19	---	---	---	1.9 E	0.29	0.24	0.17	0.05	0.06	0.41	---	---	19
20	---	---	---	1.8 E	0.29	0.24	0.16	0.05	0.05	0.40	---	---	20
21	---	---	---	1.6 A	0.28	0.23	0.15	0.05	0.04	0.39	---	---	21
22	---	---	---	1.3	0.28	0.22	0.15	0.04	0.04	0.37	---	---	22
23	---	---	---	1.1	0.37	0.20	0.14	0.04	0.03	0.36	---	---	23
24	---	---	---	0.88	0.57	0.20	0.14	0.04	0.02	0.32	---	---	24
25	---	---	---	0.75	0.97	0.19	0.15	0.04	0.02	0.30	---	---	25
26	---	---	---	0.67	0.97	0.18	0.15	0.04	0.02	0.30	---	---	26
27	---	---	---	0.57	0.82	0.20	0.16	0.03	0.04	0.29	---	---	27
28	---	---	---	0.50	0.69	0.21	0.18	0.03	0.05	0.28	---	---	28
29	---		---	0.45	0.59	0.20	0.16	0.03	0.05	0.26	---	---	29
30	---		---	0.46	0.51	0.23	0.15	0.02	0.15	0.33	---	---	30
31	---		---		0.44		0.15	0.02		0.59		---	31
TOTAL	---	---	---	18.29	14.83	7.51	6.42	1.85	1.48	9.42	---	---	TOTAL
MEAN	---	---	---	0.61	0.48	0.25	0.21	0.06	0.05	0.30	---	---	MEAN
AC-FT	---	---	---	36.3	29.4	14.9	12.7	3.7	2.9	18.7	---	---	AC-FT
MAX	---	---	---	1.9	0.97	0.38	0.37	0.14	0.15	0.59	---	---	MAX
MIN	---	---	---	0	0.28	0.18	0.14	0.02	0.02	0.19	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.28 CFS
TOTAL DISCHARGE, 119 AC-FT
MAXIMUM DAILY DISCHARGE, 1.9 CFS ON APR 18
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

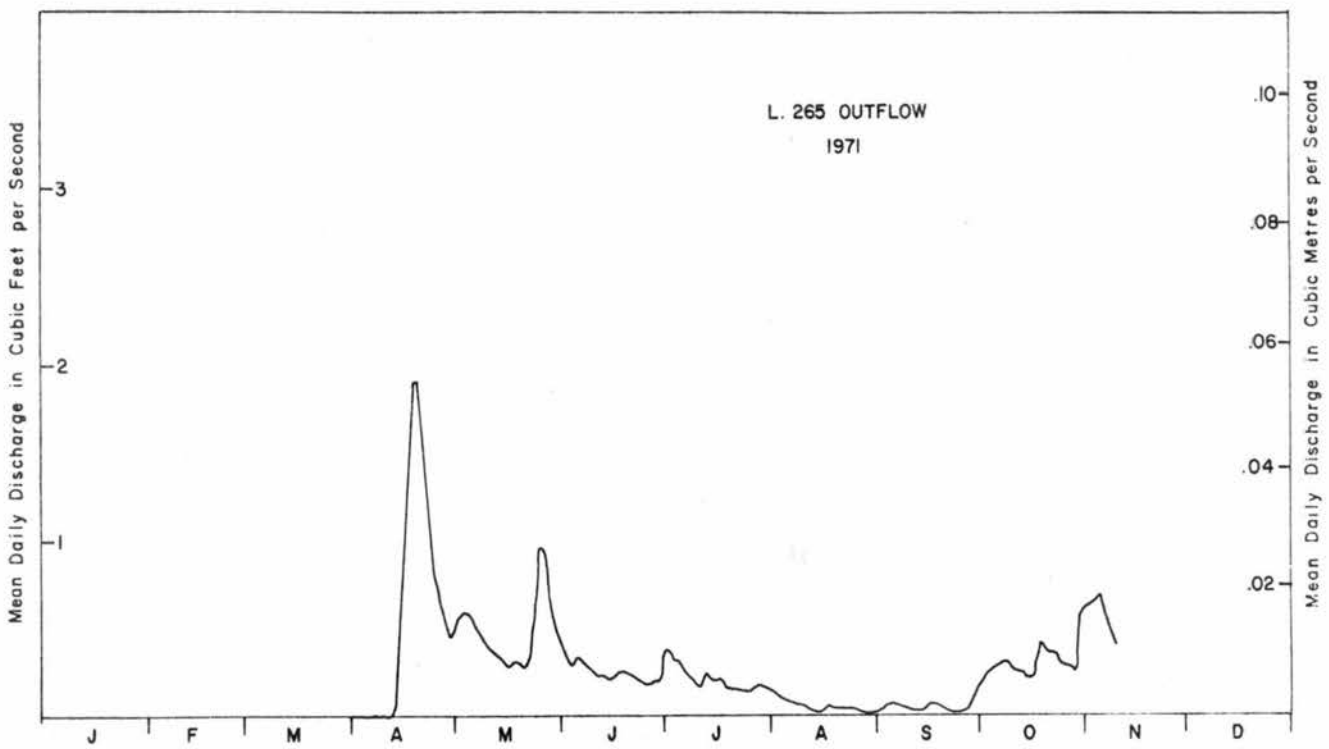


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1971.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.53 E	0.52	0.14	0.17	0.31	0.27	---	---	1
2	---	---	---	0 E	0.54 E	0.48	0.12	0.17	0.27	0.28	---	---	2
3	---	---	---	0 E	0.54 E	0.43	0.11	0.16	0.24	0.28	---	---	3
4	---	---	---	0.07 E	0.55 E	0.39	0.09	0.15	0.26	0.28	---	---	4
5	---	---	---	0.09 E	0.55 E	0.36	0.07	0.13	0.22	0.27	---	---	5
6	---	---	---	0.11 E	0.56 E	0.35	0.06	0.11	0.33	0.25	---	---	6
7	---	---	---	0.13 E	0.56 E	0.31	0.06	0.09	0.42	0.23	---	---	7
8	---	---	---	0.15 E	0.57	0.29	0.05	0.10	0.41	0.21	---	---	8
9	---	---	---	0.17 E	0.56	0.26	0.06	0.08	0.39	0.19	---	---	9
10	---	---	---	0.19 E	0.53	0.23	0.10	0.07	0.37	0.18	---	---	10
11	---	---	---	0.21 E	0.49	0.23	0.24	0.05	0.35	0.23	---	---	11
12	---	---	---	0.23 E	0.48	0.22	0.19	0.07	0.34	0.21	---	---	12
13	---	---	---	0.25 E	0.52	0.21	0.20	0.11	0.31	0.21	---	---	13
14	---	---	---	0.27 E	0.56	0.20	0.47	0.10	0.27	0.20	---	---	14
15	---	---	---	0.29 E	0.55	0.19	0.46	0.18	0.25	0.19	---	---	15
16	---	---	---	0.31 E	0.51	0.17	0.44	0.17	0.24	0.18	---	---	16
17	---	---	---	0.33 E	0.48	0.15	0.46	0.17	0.23	0.17	---	---	17
18	---	---	---	0.35 E	0.45	0.23	0.42	0.17	0.21	0.17	---	---	18
19	---	---	---	0.37 E	0.45	0.38	0.38	0.16	0.19	0.16	---	---	19
20	---	---	---	0.39 E	0.71	0.34	0.38	0.80	0.18	0.15	---	---	20
21	---	---	---	0.41 E	0.69	0.32	0.36	1.9	0.16	0.15	---	---	21
22	---	---	---	0.43 E	0.66	0.30	0.32	1.7	0.15	0.14	---	---	22
23	---	---	---	0.45 E	0.63	0.27	0.29	1.4	0.15	0.13	---	---	23
24	---	---	---	0.47 E	0.59	0.24	0.28	1.1	0.22	0.12 E	---	---	24
25	---	---	---	0.49 E	0.51	0.22	0.25	0.90	0.21	0.12 E	---	---	25
26	---	---	---	0.51	0.46	0.20	0.23	0.76	0.23	0.11 E	---	---	26
27	---	---	---	0.51 E	0.44	0.17	0.20	0.63	0.24	0.16 E	---	---	27
28	---	---	---	0.52 E	0.70	0.18	0.18	0.56	0.27	0.15 E	---	---	28
29	---	---	---	0.52 E	0.70	0.19	0.17	0.49	0.28	0.14 E	---	---	29
30	---		---	0.53 E	0.66	0.16	0.19	0.41	0.28	0.16 E	---	---	30
31	---		---		0.58		0.19	0.36		0.15 E		---	31
TOTAL	---	---	---	8.75	17.31	8.19	7.16	13.42	7.98	5.84	---	---	TOTAL
MEAN	---	---	---	0.29	0.56	0.27	0.23	0.43	0.27	0.19	---	---	MEAN
AC-FT	---	---	---	17.4	34.3	16.2	14.2	26.6	15.8	11.6	---	---	AC-FT
MAX	---	---	---	0.53	0.71	0.52	0.47	1.9	0.42	0.28	---	---	MAX
MIN	---	---	---	0	0.44	0.15	0.05	0.05	0.15	0.11	---	---	MIN

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY DISCHARGE, 1.9 CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.0 CFS AT 1246 CST ON AUG 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

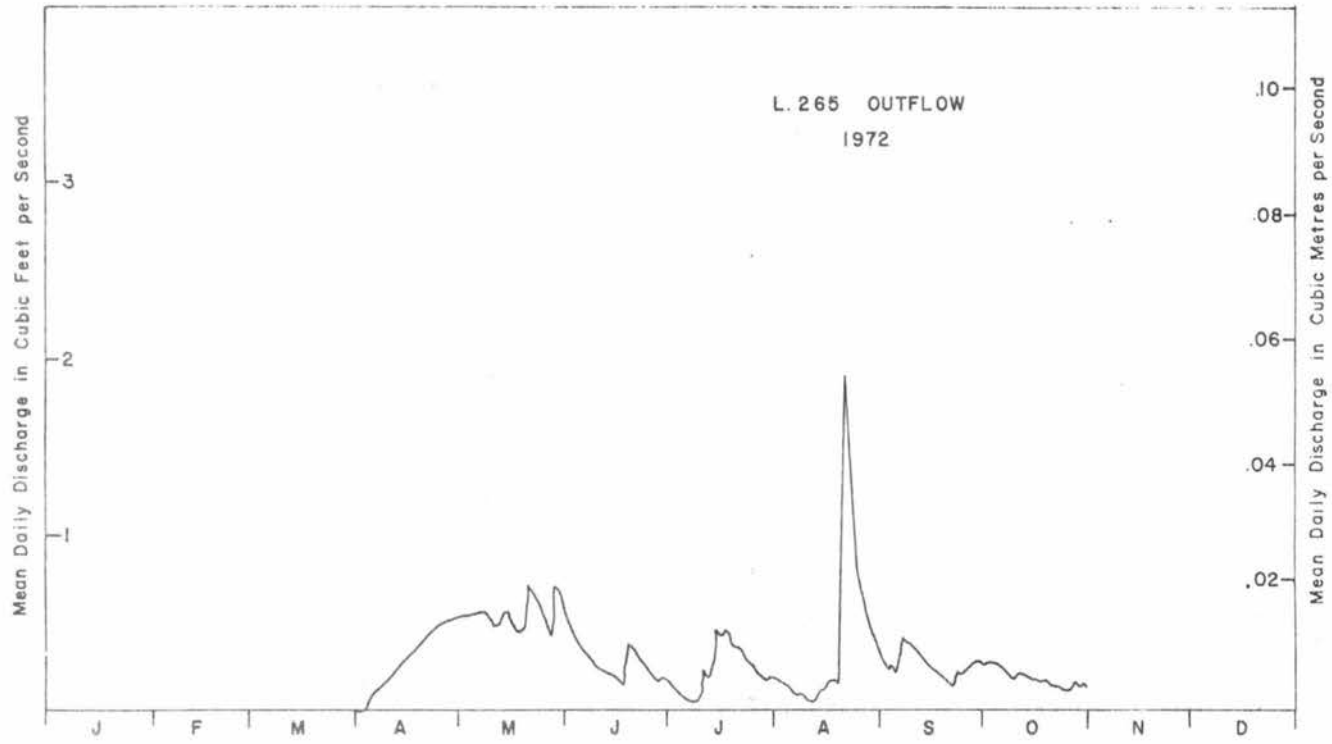


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1972.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.56	0.19	0.17	0.83	0.20	0.46	---	---	1
2	---	---	---	0 E	0.50	0.17	0.15	0.71	0.27	0.42	---	---	2
3	---	---	---	0 E	0.46	0.17	0.13	0.61	0.27	0.49	---	---	3
4	---	---	---	0.02 E	0.43	0.17	0.12	0.57	0.42	0.56	---	---	4
5	---	---	---	0.04 E	0.43	0.15	0.11	0.52	0.44	0.53	---	---	5
6	---	---	---	0.05 E	0.49	0.15	0.11	1.0	0.39	0.49	---	---	6
7	---	---	---	0.06 E	0.49	0.14	0.27	1.1	0.37	0.47	---	---	7
8	---	---	---	0.06 E	0.46	0.13	0.20	1.0	0.34	0.43	---	---	8
9	---	---	---	0.09 E	0.45	0.13	0.19	1.2	0.32	0.56	---	---	9
10	---	---	---	0.09 E	0.48	0.13	0.18	1.3	0.28	0.65	---	---	10
11	---	---	---	0.10 E	0.50	0.13	0.18	1.1	0.28	0.76	---	---	11
12	---	---	---	0.11 E	0.48	0.12	0.17	0.91	0.27	1.4	---	---	12
13	---	---	---	0.11 E	0.45	0.12	0.15	0.78	0.24	1.5	---	---	13
14	---	---	---	0.11 E	0.43	0.12	0.14	0.67	0.24	1.3	---	---	14
15	---	---	---	0.10 E	0.39	0.15	0.12	0.56	0.22	1.1	---	---	15
16	---	---	---	0.10 E	0.36	0.14	0.12	0.49 A	0.20	0.89	---	---	16
17	---	---	---	0.10 E	0.34	0.19	0.11	0.50	0.18	0.79	---	---	17
18	---	---	---	0.12 E	0.31	0.20	0.11	0.45	0.17	0.71	---	---	18
19	---	---	---	0.15 E	0.30	0.22	0.11	0.42	0.16	0.65	---	---	19
20	---	---	---	0.45 E	0.28	0.24	0.10	0.35	0.15	0.58	---	---	20
21	---	---	---	1.0 E	0.26	0.23	0.09	0.31	0.17	0.53	---	---	21
22	---	---	---	0.85 E	0.24	0.21	0.08	0.29	0.41	0.49	---	---	22
23	---	---	---	0.70 E	0.24	0.20	0.08	0.26	0.44	0.46	---	---	23
24	---	---	---	0.68 E	0.24	0.19	0.14	0.23	0.46	0.43	---	---	24
25	---	---	---	0.67 E	0.24	0.19	0.14	0.22	0.58	0.40	---	---	25
26	---	---	---	0.66 E	0.26	0.20	0.47	0.20	0.64	0.37	---	---	26
27	---	---	---	0.65 E	0.25	0.22	1.4	0.20	0.64	0.34	---	---	27
28	---	---	---	0.63 E	0.23	0.21	1.5	0.19	0.61	0.32	---	---	28
29	---		---	0.62 E	0.21	0.19	1.3	0.18	0.56	0.31	---	---	29
30	---		---	0.61 E	0.20	0.18	1.2	0.17	0.50	0.29	---	---	30
31	---		---		0.20		0.95	0.16		0.28		---	31
TOTAL	---	---	---	8.93	11.16	5.18	10.29	17.48	10.42	18.96	---	---	TOTAL
MEAN	---	---	---	0.30	0.36	0.17	0.33	0.56	0.35	0.61	---	---	MEAN
AC-FT	---	---	---	17.7	22.1	10.3	20.4	34.7	20.7	37.6	---	---	AC-FT
MAX	---	---	---	1.0	0.56	0.24	1.5	1.3	0.64	1.5	---	---	MAX
MIN	---	---	---	0	0.20	0.12	0.08	0.16	0.15	0.28	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.39 CFS
TOTAL DISCHARGE, 164 AC-FT
MAXIMUM DAILY DISCHARGE, 1.5 CFS ON JUL 28
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

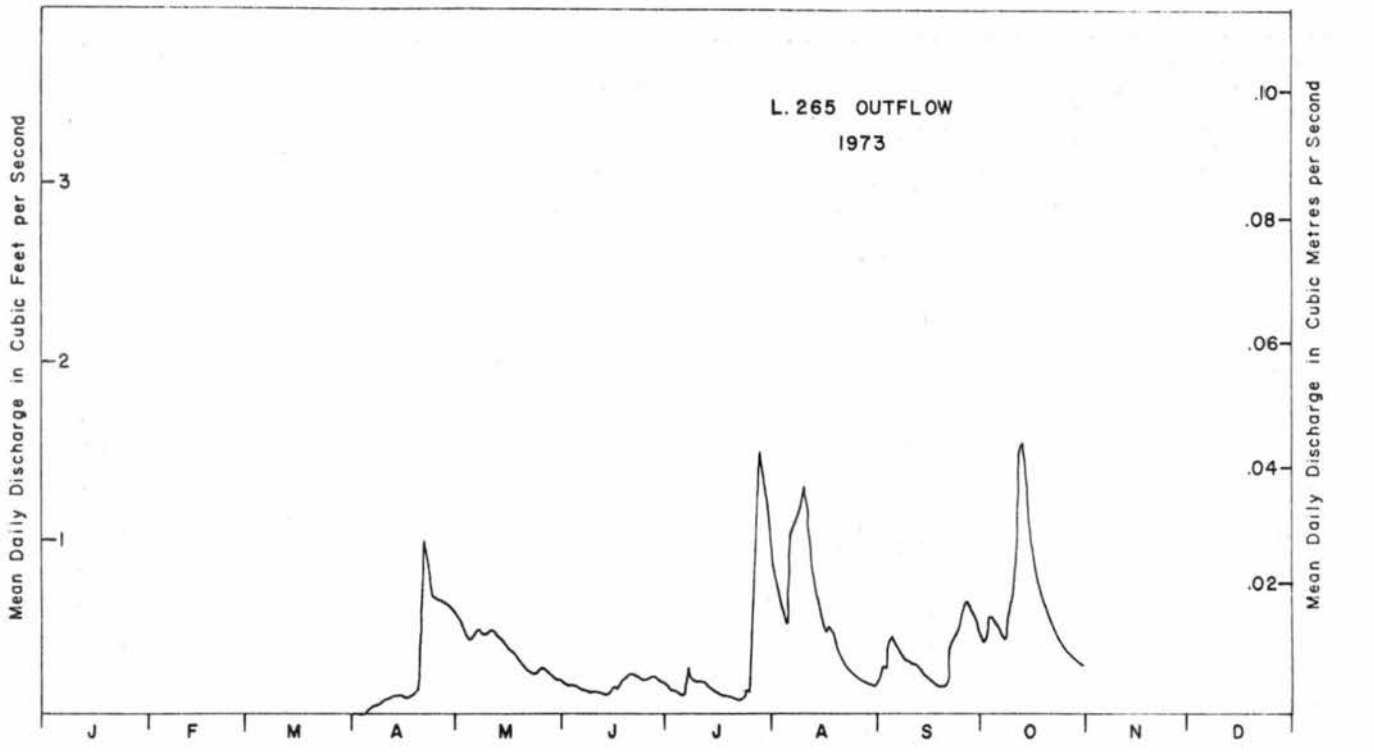


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1973.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	1.2	0.47	0.21	0	0.38	0.16	0.14	---	1
2	---	---	---	---	1.1	0.43	0.19	0.01	0.36	0.15	0.15	---	2
3	---	---	---	---	0.93	0.40	0.19	0	0.34	0.14	0.16	---	3
4	---	---	---	---	0.80	0.38	0.18	0	0.32	0.14	0.15	---	4
5	---	---	---	---	0.68	0.65	0.16	0	0.29	0.17	0.14	---	5
6	---	---	---	---	0.63	2.8	0.15	0	0.26	0.18	0.14	---	6
7	---	---	---	---	0.63	3.4	0.14	0	0.26	0.18	0.14	---	7
8	---	---	---	---	0.58	2.7	0.18	0	0.24	0.19	0.14	---	8
9	---	---	---	---	0.53	1.9	0.28	0	0.22	0.19	0.13	---	9
10	---	---	---	---	0.49	1.5	0.24	0	0.21	0.18	0.13	---	10
11	---	---	---	---	1.3	1.1	0.18	0.04	0.22	0.17	0.13	---	11
12	---	---	---	---	2.2	0.95	0.14	0.04	0.22	0.17	0.13	---	12
13	---	---	---	---	1.7	0.85	0.13	0.03	0.19	0.17	0.13	---	13
14	---	---	---	---	1.3	0.75	0.11	0.06	0.18	0.17	0.13	---	14
15	---	---	---	---	1.1	0.68	0.10	0.29	0.17	0.18	0.13	---	15
16	---	---	---	---	0.95	0.63	0.09	0.25	0.17	0.21	0.13	---	16
17	---	---	---	---	0.90	0.58	0.09	0.25	0.21	0.22	0.12	---	17
18	---	---	---	0.25	0.78	0.53	0.08	0.25	0.24	0.22	0.12	---	18
19	---	---	---	0.32	0.63	0.47	0.06	0.24	0.24	0.22	0.12	---	19
20	---	---	---	1.3	1.0	0.45	0.04	0.29	0.24	0.21	0.11	---	20
21	---	---	---	4.8	1.3	0.43	0.03	0.42	0.21	0.19	0.11	---	21
22	---	---	---	4.7	1.2	0.40	0.02	0.42	0.18	0.19	---	---	22
23	---	---	---	3.0	1.1	0.36	0.02	0.40	0.17	0.18	---	---	23
24	---	---	---	2.3	0.98	0.32	0.02	0.38	0.17	0.17	---	---	24
25	---	---	---	2.2	0.90	0.29	0.01	0.36	0.17	0.17	---	---	25
26	---	---	---	2.4	0.83	0.28	0.01	0.34	0.16	0.17	---	---	26
27	---	---	---	2.7	0.73	0.26	0.01	0.31	0.14	0.16	---	---	27
28	---	---	---	2.6	0.68	0.25	0	0.31	0.14	0.16	---	---	28
29	---		---	2.0	0.63	0.24	0	0.32	0.14	0.16	---	---	29
30	---		---	1.6	0.56	0.22	0	0.38	0.16	0.15	---	---	30
31	---		---		0.51		0	0.40		0.15		---	31
TOTAL	---	---	---	---	28.85	24.67	3.06	5.79	6.60	5.47	---	---	TOTAL
MEAN	---	---	---	---	0.93	0.82	0.10	0.19	0.22	0.18	---	---	MEAN
AC-FT	---	---	---	---	57.2	48.9	6.1	11.5	13.1	10.8	---	---	AC-FT
MAX	---	---	---	---	2.2	3.4	0.28	0.42	0.38	0.22	---	---	MAX
MIN	---	---	---	---	0.49	0.22	0	0	0.14	0.14	---	---	MIN

SUMMARY FOR THE PERIOD APR 18 TO NOV 21

MEAN DISCHARGE, 0.49 CFS
TOTAL DISCHARGE, 213 AC-FT
MAXIMUM DAILY DISCHARGE, 4.8 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 28

MAXIMUM INSTANTANEOUS DISCHARGE
5.9 CFS AT 1400 CST ON APR 21

TYPE OF GAUGE - RECORDING

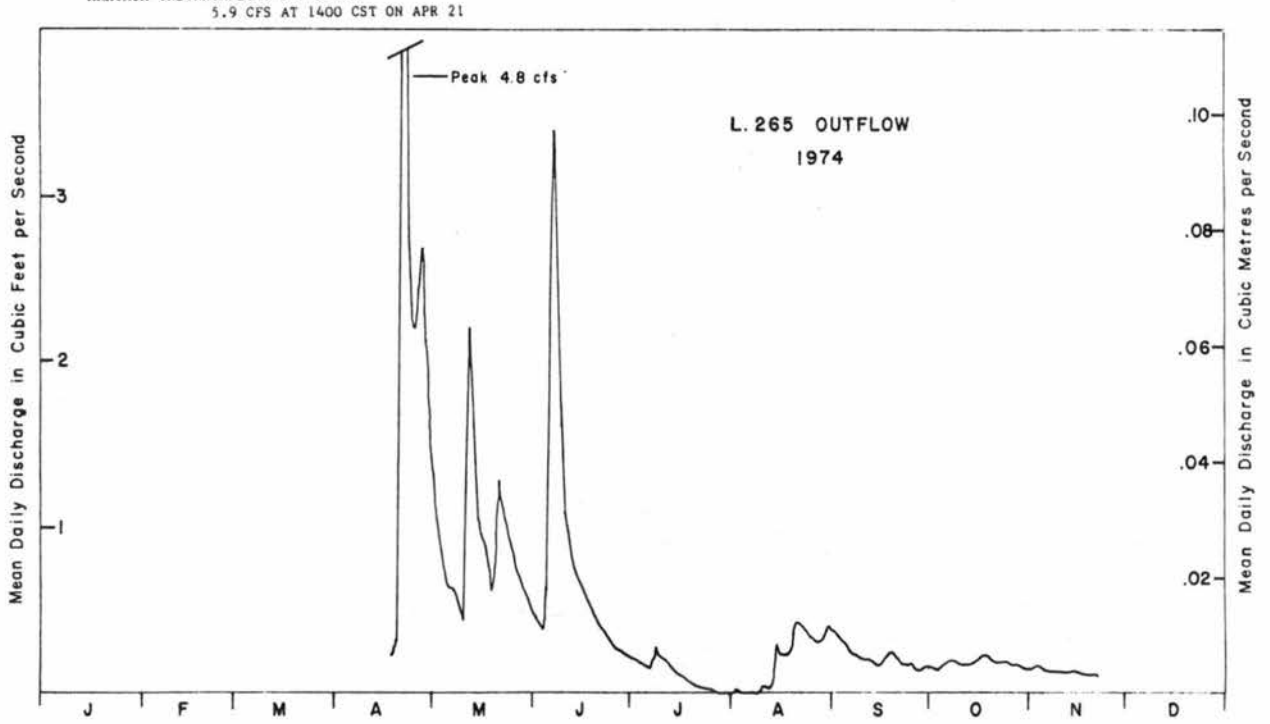


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1974.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.03 E	1.8	0.52	0.91	0.02	0 E	0.31 E	---	---	1
2	---	---	---	0.03 E	1.7	0.47	0.87	0.02	0 E	0.29 E	---	---	2
3	---	---	---	0.03 E	1.6	0.44	0.76	0.02	0 E	0.26 E	---	---	3
4	---	---	---	0.03 E	1.4	0.42	0.64	0.01	0 E	0.24 E	---	---	4
5	---	---	---	0.03 E	1.3	0.49	0.60	0.01	0 E	0.25 E	---	---	5
6	---	---	---	0.02 E	1.2	0.53	0.50	0.01	0 E	0.23 E	---	---	6
7	---	---	---	0.02 E	1.0	0.53	0.30	0.01	0.06 E	0.20 E	---	---	7
8	---	---	---	0.02 E	0.94	0.50	0.16	0.02	0.10 E	0.18 E	---	---	8
9	---	---	---	0.03 E	0.88	0.52	0.06	0.01	0.10 E	0.17 E	---	---	9
10	---	---	---	0.04 E	0.81	0.51	0.03	0.01	0.15 E	0.17 E	---	---	10
11	---	---	---	0.06 E	0.75	0.49	0.02	0.02	0.20 E	0.17 E	---	---	11
12	---	---	---	0.10 E	0.70	0.47	0.02	0.01	0.19 E	0.14 E	---	---	12
13	---	---	---	0.23 E	0.64	0.45	0.02	0.01	0.19 E	0.12 E	---	---	13
14	---	---	---	0.30 E	0.66	0.44	0.02	0.01	0.18 E	0.16 E	---	---	14
15	---	---	---	0.37 E	0.62	0.42	0.02	0.01	0.16 E	0.20 E	---	---	15
16	---	---	---	0.43 E	0.56	0.41	0.02	0.01	0.14 E	0.21 E	---	---	16
17	---	---	---	0.53 E	0.52	0.38	0.02	0.01	0.13 E	0.18 E	---	---	17
18	---	---	---	0.63 E	0.48	0.34	0.02	0.01	0.15 E	0.17 E	---	---	18
19	---	---	---	0.73 E	0.45	0.32	0.02	0.01	0.25 E	0.16 E	---	---	19
20	---	---	---	0.83 E	0.43	0.34	0.02	0.02	0.35 E	0.16 E	---	---	20
21	---	---	---	0.93	0.41	0.52	0.02	0.02	0.40 E	0.15 E	---	---	21
22	---	---	---	2.2	0.38	1.2	0.02	0.02 E	0.42 E	0.15 E	---	---	22
23	---	---	---	2.6	1.5	1.8	0.02	0.01 E	0.48 E	0.15 E	---	---	23
24	---	---	---	2.9	1.6	1.7	0.02	0.01 E	0.46 E	0.18 E	---	---	24
25	---	---	---	2.8	1.4	1.4	0.02	0.01 E	0.43 E	0.28 E	---	---	25
26	---	---	---	2.6	1.2	1.2	0.02	0.01 E	0.42 E	0.30 E	---	---	26
27	---	---	---	2.4	0.98	0.98	0.02	0.01 E	0.40 E	0.28 E	---	---	27
28	---	---	---	2.4	0.85	0.85	0.02	0.01 E	0.36 E	0.27 E	---	---	28
29	---		---	2.3	0.74	0.76	0.01	0.01 E	0.35 E	0.24 E	---	---	29
30	---		---	2.0	0.64	0.94	0.01	0.01 E	0.33 E	0.24 E	---	---	30
31	---		---		0.59		0.02	0 E		0.22 E		---	31
TOTAL	---	---	---	27.62	28.73	20.34	5.23	0.38	6.40	6.43	---	---	TOTAL
MEAN	---	---	---	0.92	0.93	0.68	0.17	0.01	0.21	0.21	---	---	MEAN
AC-FT	---	---	---	54.8	57.0	40.3	10.4	0.75	12.7	12.8	---	---	AC-FT
MAX	---	---	---	2.9	1.8	1.8	0.91	0.02	0.48	0.31	---	---	MAX
MIN	---	---	---	0.02	0.38	0.32	0.01	0	0	0.12	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.44 CFS
TOTAL DISCHARGE, 189 AC-FT
MAXIMUM DAILY DISCHARGE, 2.9 CFS ON APR 24
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 31

MAXIMUM INSTANTANEOUS DISCHARGE
3.0 CFS AT 1627 CST ON APR 28

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

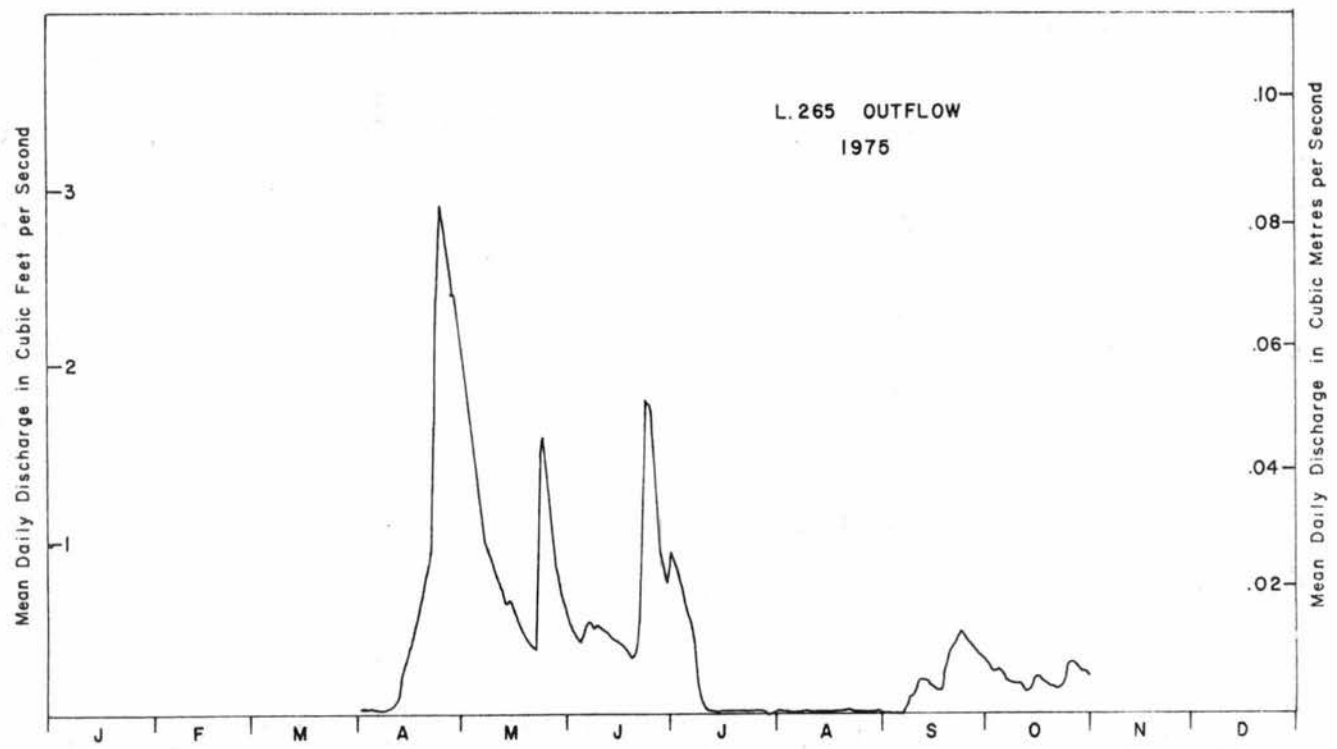


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1975.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.16	0.02	0.02	0.02	0.02	0.02	0.02 E	---	---	1
2	---	---	---	0.15	0.02	0.02	0.02	0.02	0.02	0.02 E	---	---	2
3	---	---	---	0.14	0.02	0.02	0.02	0.02	0.02	0.02 E	---	---	3
4	---	---	---	0.16	0.01	0.02	0.02	0.02	0.02	0.02 E	---	---	4
5	---	---	---	0.18	0.01	0.02	0.02	0.02	0.02	0.02 E	---	---	5
6	---	---	---	0.26	0.01	0.02	0.02	0.02	0.01	0.02 E	---	---	6
7	---	---	---	0.37	0.01	0.02	0.02	0.02	0.01	0.02 E	---	---	7
8	---	---	---	0.49	0.02	0.02	0.02	0.02	0.01	0.01 E	---	---	8
9	---	---	---	0.72	0.02	0.02	0.02	0.07	0.02	0.01 E	---	---	9
10	---	---	---	1.0	0.02	0.02	0.02	0.03	0.02	0.01 E	---	---	10
11	---	---	---	1.1	0.02	0.02	0.02	0.02	0.02	0.01 E	---	---	11
12	---	---	---	0.99	0.02	0.03	0.02	0.02	0.02 E	0.01 E	---	---	12
13	---	---	---	0.97	0.02	0.03	0.02	0.02	0.02 E	0.01 E	---	---	13
14	---	---	---	1.3	0.02	0.04	0.02	0.02	0.02 E	0.01 E	---	---	14
15	---	---	---	2.0	0.02	0.03	0.02	0.02	0.02 E	0.01 E	---	---	15
16	---	---	---	3.6	0.02	0.02	0.02	0.02	0.02 E	0.01 E	---	---	16
17	---	---	---	3.9	0.02	0.03	0.02	0.02	0.02 E	0.01 E	---	---	17
18	---	---	---	2.8	0.02	0.03	0.02	0.02	0.02 E	0.01 E	---	---	18
19	---	---	---	2.1	0.01	0.04	0.02	0.02	0.02 E	0.01 E	---	---	19
20	---	---	---	1.6	0.01	0.03	0.02	0.02	0.02 E	0.01 E	---	---	20
21	---	---	---	1.2	0.01	0.03	0.02	0.02	0.02 E	0.01 E	---	---	21
22	---	---	---	0.41	0.01	0.02	0.02	0.02	0.02 E	0.01 E	---	---	22
23	---	---	---	0.16	0.01	0.02	0.02	0.02	0.02 E	0.01 E	---	---	23
24	---	---	---	0.05	0.01	0.02	0.02	0.02	0.02 E	0.01 E	---	---	24
25	---	---	---	0.03	0.01	0.02	0.02	0.02	0.02 E	0.01 E	---	---	25
26	---	---	---	0.02	0.02	0.02	0.02	0.02	0.02 E	0.01 E	---	---	26
27	---	---	---	0.02	0.01	0.03	0.02	0.02	0.02 E	0.01 E	---	---	27
28	---	---	---	0.02	0.02	0.03	0.03	0.02	0.02 E	0.01 E	---	---	28
29	---	---	---	0.02	0.02	0.03	0.02	0.02	0.02 E	0.01 E	---	---	29
30	---		---	0.02	0.02	0.02	0.02	0.02	0.02 E	0.01 E	---	---	30
31	---		0.14		0.02		0.02	0.02		0.01 E		---	31
TOTAL	---	---	---	25.94	0.50	0.74	0.63	0.68	0.57	0.38	---	---	TOTAL
MEAN	---	---	---	0.86	0.02	0.02	0.02	0.02	0.02	0.01	---	---	MEAN
AC-FT	---	---	---	51.5	0.99	1.5	1.2	1.3	1.1	0.75	---	---	AC-FT
MAX	---	---	---	3.9	0.02	0.04	0.03	0.07	0.02	0.02	---	---	MAX
MIN	---	---	---	0.02	0.01	0.02	0.02	0.02	0.01	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.14 CFS
TOTAL DISCHARGE, 58.3 AC-FT
MAXIMUM DAILY DISCHARGE, 3.9 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0.01 CFS ON MAY 4

MAXIMUM INSTANTANEOUS DISCHARGE
4.5 CFS AT 2145 CST ON APR 16

TYPE OF GAUGE - RECORDING

E-ESTIMATED
NATURAL FLOW

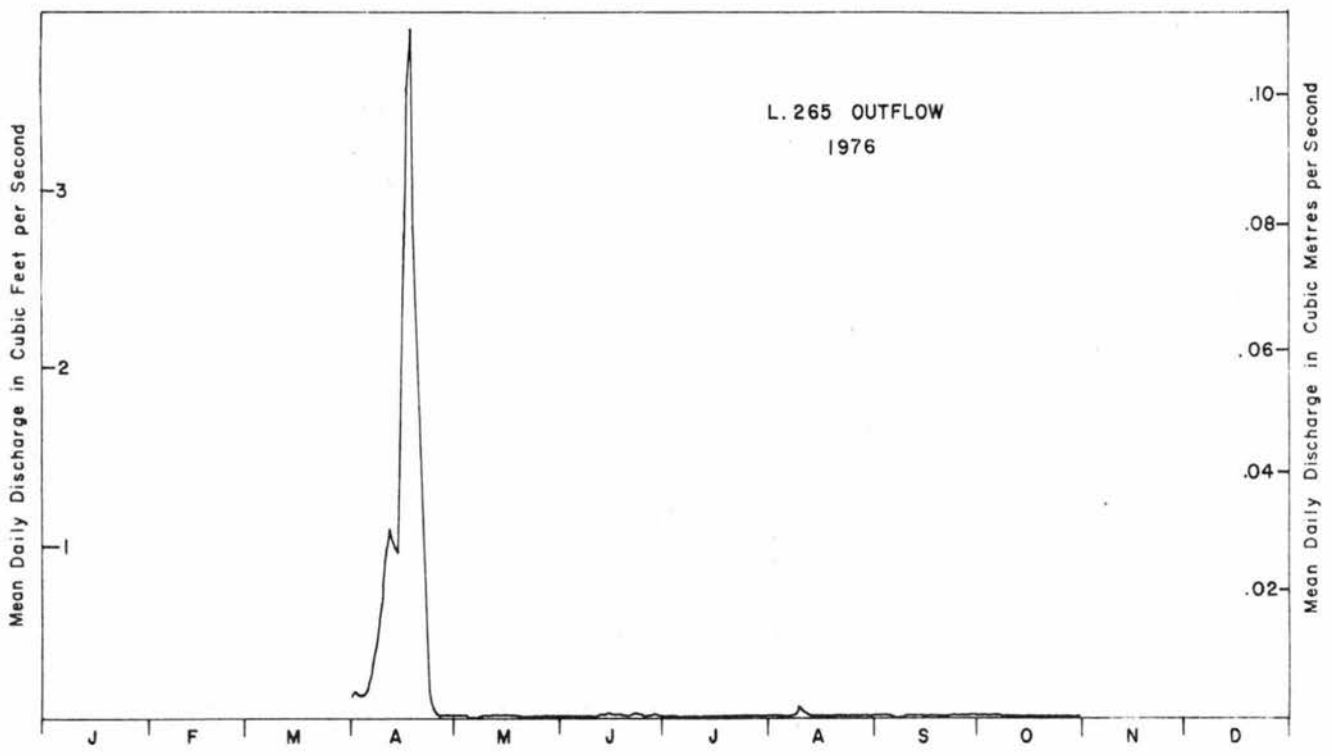


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1976.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.04	0.01	0.11	0.09	0.04	0.06	0.12	0.09	---	1
2	---	---	---	0.04	0.01	0.09	0.08	0.04	0.07	0.11	---	---	2
3	---	---	---	0.04	0.01	0.08	0.08	0.04	0.15	0.11	---	---	3
4	---	---	---	0.04	0.01	0.06 A	0.08	0.04	0.12	0.11	---	---	4
5	---	---	---	0.04	0.02	0.08 E	0.07	0.04	0.09	0.11	---	---	5
6	---	---	---	0.05	0.12	0.08 E	0.07	0.04	0.06	0.13	---	---	6
7	---	---	---	0.05	0.04	0.08 E	0.07	0.04	0.06	0.12	---	---	7
8	---	---	---	0.05	0.02	0.08 E	0.06	0.05	0.06	0.14	---	---	8
9	---	---	---	0.05	0.02	0.07 E	0.06	0.04	0.22	0.13	---	---	9
10	---	---	---	0.05	0.02	0.07 E	0.06	0.04	1.2	0.18	---	---	10
11	---	---	---	0.05	0.02	0.07 E	0.06	0.04	0.73	0.12	---	---	11
12	---	---	---	0.04	0.02	0.06 E	0.06	0.05	0.31	0.09	---	---	12
13	---	---	---	0.03	0.02	0.06 E	0.06	0.04	0.25	0.09	---	---	13
14	---	---	---	0.02	0.02	0.08 E	0.07	0.04	0.19	0.09	---	---	14
15	---	---	---	0.02	0.02	0.12 E	0.06	0.04	0.15	0.09	---	---	15
16	---	---	---	0.03	0.02	0.16 E	0.06	0.05	0.13	0.09	---	---	16
17	---	---	---	0.03	0.02	0.18 A	0.06	0.04	0.15	0.08	---	---	17
18	---	---	---	0.03	0.01	0.24	0.07	0.03	0.13	0.08	---	---	18
19	---	---	---	0.04	0.02	0.24	0.09	0.03	0.13	0.09	---	---	19
20	---	---	---	0.04	0.05	0.19	0.08	0.04	0.11	0.09	---	---	20
21	---	---	---	0.06	0.07	0.15	0.07	0.04	0.11	0.17	---	---	21
22	---	---	---	0.06	0.06	0.12	0.07	0.04	0.10	0.08	---	---	22
23	---	---	---	0.05	0.12	0.11	0.06	0.04	0.10	0.08	---	---	23
24	---	---	---	0.03	0.11	0.10	0.05	0.04	0.09	0.08	---	---	24
25	---	---	---	0.02	0.11	0.09	0.04	0.04	0.17	0.08	---	---	25
26	---	---	---	0.02	0.11	0.08	0.04	0.05	0.19	0.08	---	---	26
27	---	---	---	0.02	0.12	0.06	0.03	0.05	0.24	0.09	---	---	27
28	---	---	---	0.01	0.09	0.07	0.03	0.06	0.26	0.08	---	---	28
29	---		0.01	0.01	0.11	0.07	0.03	0.05	0.16	0.08	---	---	29
30	---		0.02	0.01	0.10	0.10	0.04	0.06	0.12	0.08	---	---	30
31	---		0.04		0.12		0.04	0.06		0.09		---	31
TOTAL	---	---	---	1.07	1.62	3.15	1.89	1.34	5.91	3.16	---	---	TOTAL
MEAN	---	---	---	0.04	0.05	0.11	0.06	0.04	0.20	0.10	---	---	MEAN
AC-FT	---	---	---	2.1	3.2	6.2	3.7	2.7	11.7	6.3	---	---	AC-FT
MAX	---	---	---	0.06	0.12	0.24	0.09	0.06	1.2	0.18	---	---	MAX
MIN	---	---	---	0.01	0.01	0.06	0.03	0.03	0.06	0.08	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.08 CFS
TOTAL DISCHARGE, 35.9 AC-FT
MAXIMUM DAILY DISCHARGE, 1.2 CFS ON SEP 10
MINIMUM DAILY DISCHARGE, 0.01 CFS ON APR 28

MAXIMUM INSTANTANEOUS DISCHARGE
2.7 CFS AT 0528 CST ON SEP 10

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

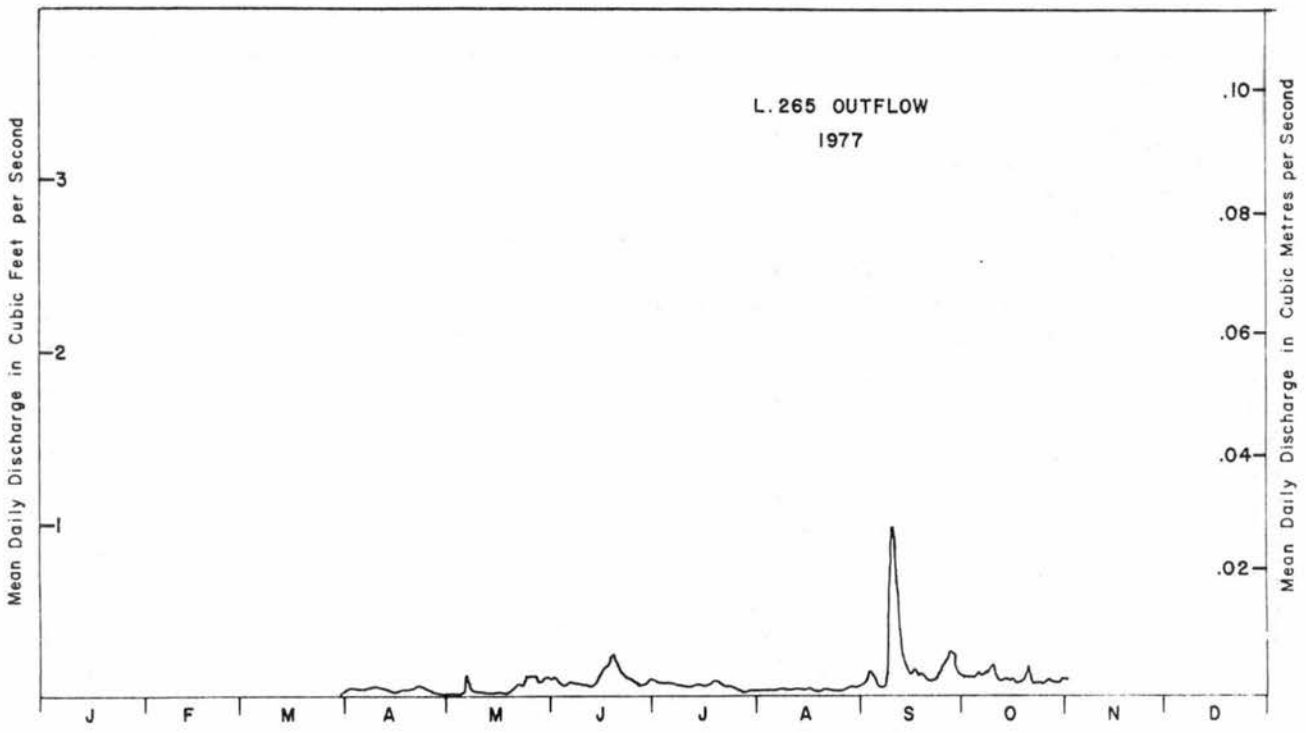


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1977.

Table 124 Mean daily discharges in cubic feet per second for the Lake 265 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.06 E	1.4	2.4	0.22	0.02	0.04	0.10	---	---	1
2	---	---	---	0.08 E	1.1	2.1	0.16	0.02	0.04	0.09	---	---	2
3	---	---	---	0.08 E	1.2	1.4	0.12	0.02	0.03	0.09	---	---	3
4	---	---	---	0.10 E	1.2	1.1	0.09	0.01	0.04	0.08	---	---	4
5	---	---	---	0.10 E	1.2	0.83	0.13	0.02	0.05	0.08	---	---	5
6	---	---	---	0.10 E	0.80	0.74	0.12	0.02	0.04	0.07	---	---	6
7	---	---	---	0.11 E	0.56	0.69	0.09	0.02	0.03	0.06	---	---	7
8	---	---	---	0.14 E	0.72	0.58	0.05	0.02	0.02	0.05	---	---	8
9	---	---	---	0.18 E	0.93	0.48	0.04	0.01	0.02	0.04	---	---	9
10	---	---	---	0.21 E	0.94	0.40	0.04	0.01	0.02	0.04	---	---	10
11	---	---	---	0.25 A	0.84	0.34	0.03	0.01	0.02	0.04	---	---	11
12	---	---	---	0.32	0.79	0.28	0.03	0.01	0.02	0.07	---	---	12
13	---	---	---	0.30	0.78	0.22	0.03	0.02	0.02	0.06	---	---	13
14	---	---	---	0.21	0.54	0.18	0.04	0.02	0.09	0.05	---	---	14
15	---	---	---	0.18	0.35	0.16	0.05	0.03	0.13	0.07	---	---	15
16	---	---	---	0.18	0.22	0.16	0.05	0.03	0.13	0.07	---	---	16
17	---	---	---	0.23	0.23	0.13	0.05	0.02	0.14	0.07	---	---	17
18	---	---	---	0.48	0.29	0.11	0.08	0.05	0.14	0.07	---	---	18
19	---	---	---	0.83	0.30	0.08	0.11	0.03	0.12	0.07	---	---	19
20	---	---	---	0.71	0.36	0.09	0.13	0.02	0.11	0.08	---	---	20
21	---	---	---	0.73	0.32	0.08	0.09	0.02	0.10	0.07	---	---	21
22	---	---	---	1.1	0.29	0.05	0.08	0.02	0.09	0.06	---	---	22
23	---	---	---	1.9	0.29	0.04	0.09	0.02	0.08	0.06	---	---	23
24	---	---	---	2.6	0.27	0.08	0.07	0.02	0.08	0.07	---	---	24
25	---	---	---	3.3	0.26	0.14	0.05	0.02	0.07	0.08	---	---	25
26	---	---	---	4.1	4.3	0.18	0.03	0.02	0.06	0.09	---	---	26
27	---	---	---	4.0	3.3	0.26	0.02	0.03	0.06	0.09	---	---	27
28	---	---	---	3.7	1.8	0.42	0.02	0.05	0.06	0.08	---	---	28
29	---		---	2.9	1.3	0.35	0.02	0.05	0.09	0.06	---	---	29
30	---		---	1.8	1.9	0.28	0.02	0.04	0.10	0.05	---	---	30
31	---		---		1.7		0.02	0.03		0.04		---	31
TOTAL	---	---	---	30.98	30.48	14.35	2.17	0.73	2.04	2.10	---	---	TOTAL
MEAN	---	---	---	1.0	0.98	0.38	0.07	0.02	0.07	0.07	---	---	MEAN
AC-FT	---	---	---	61.4	60.5	28.5	4.3	1.4	4.0	4.2	---	---	AC-FT
MAX	---	---	---	4.1	4.3	2.4	0.22	0.05	0.14	0.10	---	---	MAX
MIN	---	---	---	0.06	0.22	0.04	0.02	0.01	0.02	0.04	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.39 CFS
TOTAL DISCHARGE, 164 AC-FT
MAXIMUM DAILY DISCHARGE, 4.3 CFS ON MAY 26
MINIMUM DAILY DISCHARGE, 0.01 CFS ON AUG 4

MAXIMUM INSTANTANEOUS DISCHARGE
6.9 CFS AT 1419 CST ON MAY 26

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

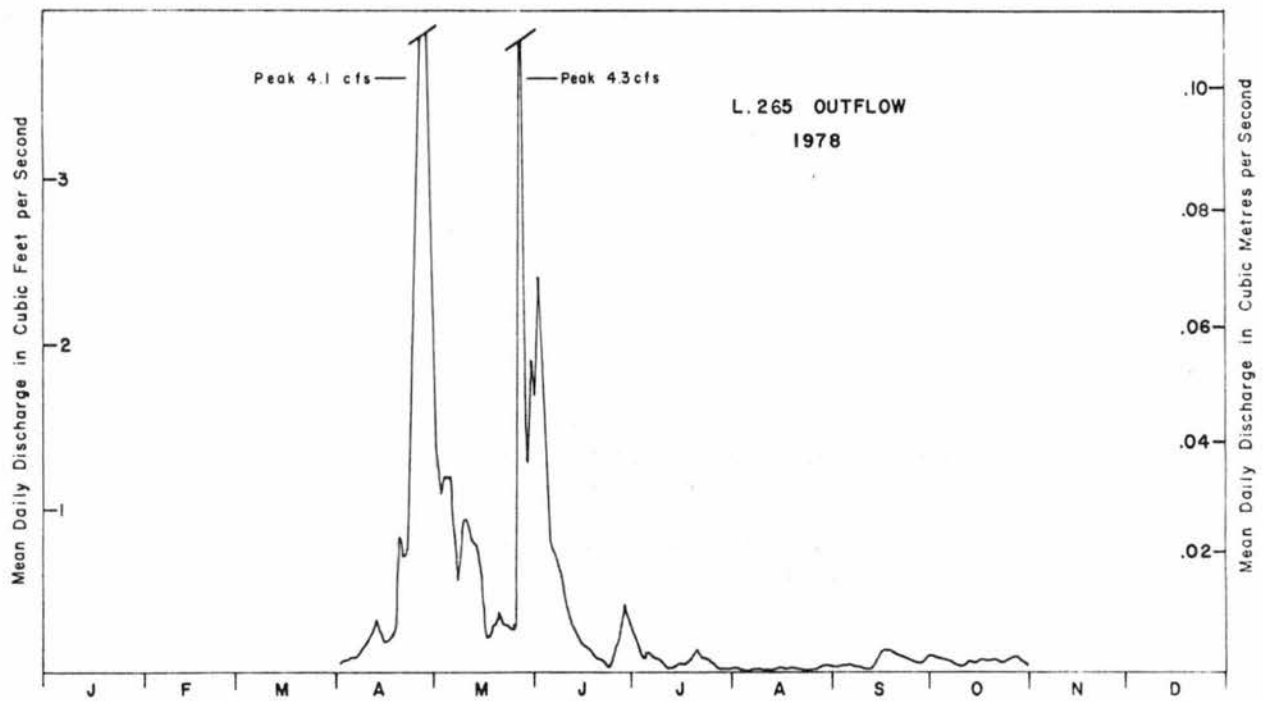


Fig. 43 Annual hydrograph based on mean daily discharges for the Lake 265 outflow for 1978.

Lake 303 Hydrological Data for 1969 to 1978

Lake 303 is located 0.6 miles (1 kilometre) west of the ELA field camp (Fig. 3). A basin topographical map (Fig. 44) with 10 foot contour interval and a bathymetric map (Fig. 45) with 1 metre contour interval are included. The topographical map is based on mapping by Western Photogrammetry in 1970 using an assumed datum.

Lake 303 flows into a bog (L. 661), where it meets with the Lake 304 outflow stream and then goes into Lake 470 and on to Hayes Lake (240). It is a headwater lake and has no streams or lakes flowing into it. Hydrological work began July 8, 1969 when Water Survey of Canada installed a stilling well and water level recorder on the lake. April 30, 1970, a 120° V-notch weir in concrete was established immediately below the lake by WSC. Stream mean daily discharges and lake mean daily water levels are presented in Tables 127 and 128. Service and computation of data was by WSC in all years except 1974. In 1974, this work was carried out by ELA staff. These two stations are operated from early April to early November. No data exists for the November to April winter period but, based on periodic observation, flows were zero to very low. All original water level charts are on file with WSC.

Table 125. Location and morphometric data for Lake 303.

Location:		
Latitude	49 39 47 N	
Longitude	93 44 23 W	
Morphometric data		
Basin terrestrial area		44.67[a] ha
Lake surface area		9.47[b]
Total basin area		54.14[a]
Lake volume	1.50×10^5 metre^3	
Mean depth	1.6 metres	

[a] Basin area is based on contour map and supercedes area value reported by Brunskill and Schindler (1971).

[b] Surface area is 4.8% less than that reported by Brunskill and Schindler (1971) and is based on topographical map rather than bathymetric map.

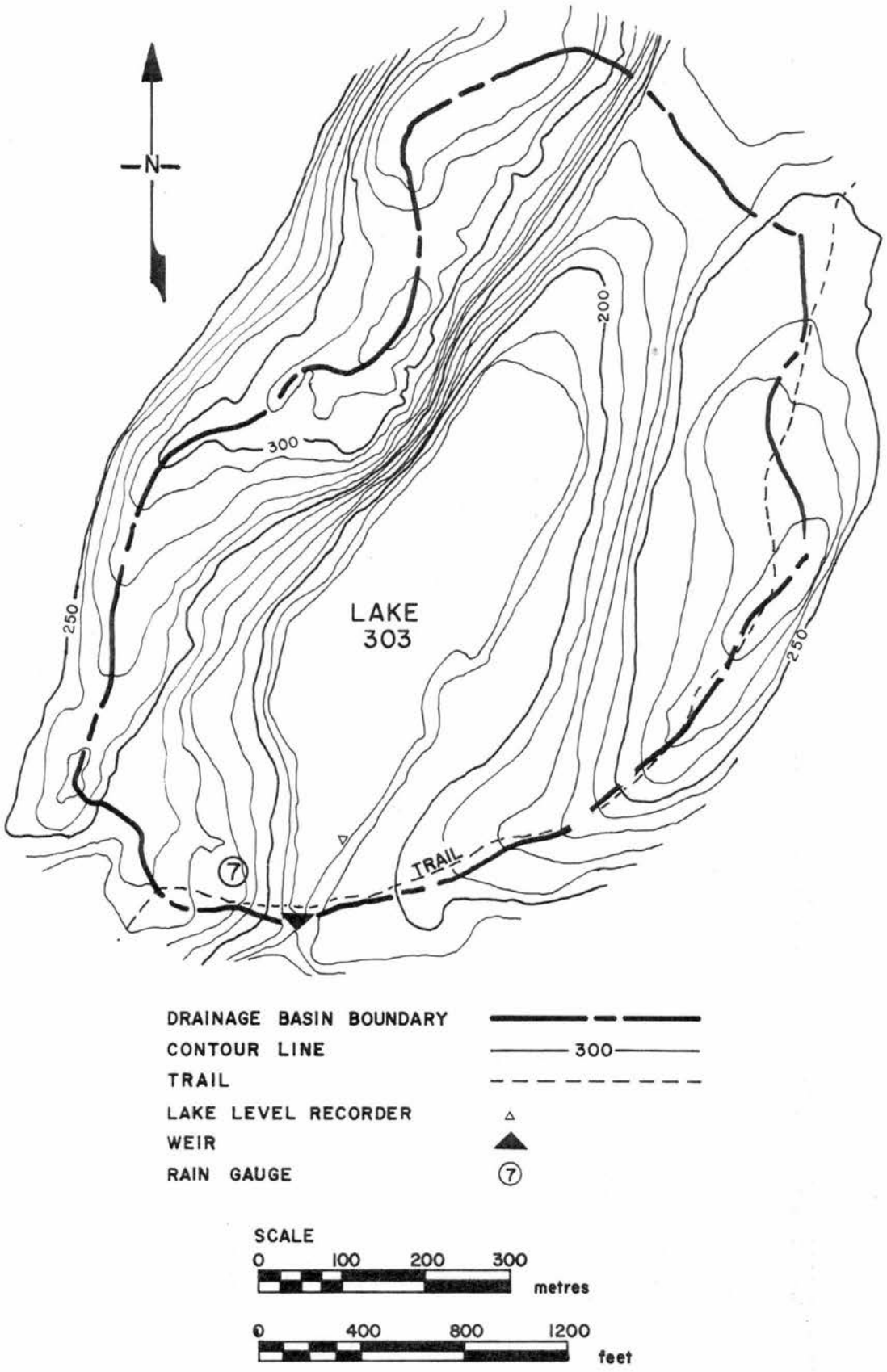


Fig. 44 Topographical map of the Lake 303 drainage basin. Contours are in feet.

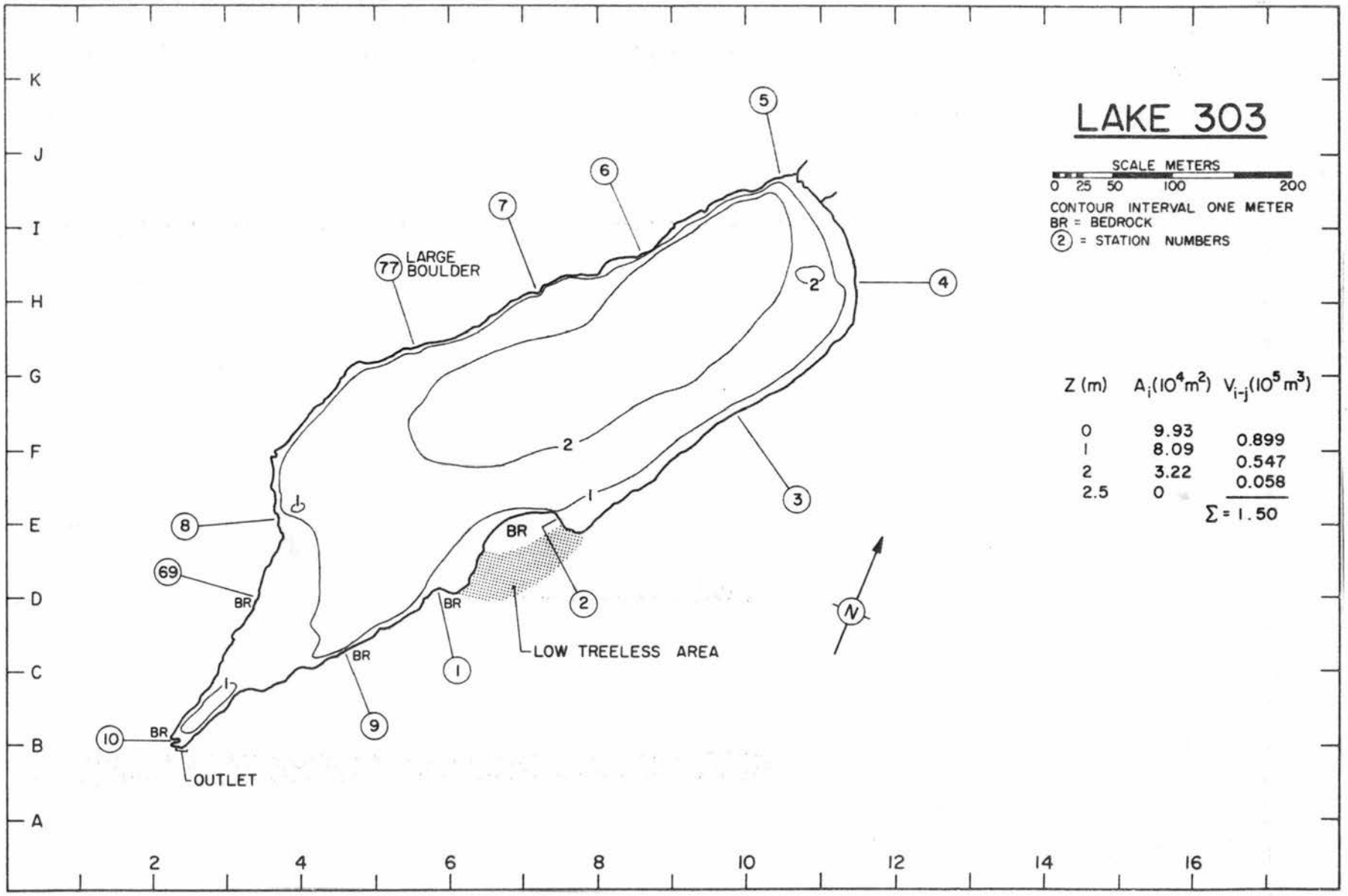


Fig. 45 Bathymetric chart of Lake 303.

Table 126 Measurements of Lake 303 surface temperature for 1978.

Date	Time (cst)	Lake Temp. (°C)
May 23	09:00	17.2
June 6	08:30	17.0
June 18	09:30	18.0
July 4	09:15	23.0
July 18	09:23	20.3
Aug. 29	08:26	17.4
Sept. 12	08:10	13.5
Sept. 19	a.m.	13.2
Sept. 26	09:00	11.3
Oct. 3	a.m.	12.0
Oct. 10	a.m.	10.3
Oct. 17	a.m.	6.4
Oct. 24	a.m.	6.0

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0	0	0	0	1.4	0.94	0.51 A	0.07	0	0.35	4.7	0.27 E	1
2	0	0	0	0	0.38	0.89	0.48	0.05	0	0.38	4.7	0.26 E	2
3	0	0	0	0	0.94	0.84 E	0.51 A	0.03	0	0.35	4.5	0.24 E	3
4	0	0	0	0	0.90	0.79 E	0.48 E	0.02	0	0.35	4.3	0.23 E	4
5	0	0	0	0	0.51	0.74 E	0.46 E	0.01	0	0.33	4.2	0.21 E	5
6	0	0	0	0	0.45	0.69 E	0.43 A	0.01	0	0.38	4.1	0.20 E	6
7	0 A	0	0	0	0.45	0.64 E	0.43	0.01	0.08	0.35	4.0	0.18 E	7
8	0	0	0	0	0.48	0.59 E	0.38 A	0.01	0.48	0.35	3.9	0.17 E	8
9	0	0	0	0	0.48	0.53 A	0.36 E	0	0.70	0.45	3.9	0.15 E	9
10	0	0	0	0	0.45	0.53	0.35 E	0	0.70	0.53	3.8	0.14 E	10
11	0	0	0	0	0.40	0.51	0.33 E	0	0.66	0.51	3.7	0.12 E	11
12	0	0	0	0	0.43	0.43	0.32 E	0	1.7	0.48	3.6	0.11 E	12
13	0	0	0	0	0.40	0.35	0.30 E	0	1.8	0.53	3.1	0.09 E	13
14	0	0	0	0	0.38	0.35 E	0.30 A	0	1.2	0.58	1.6	0.08 E	14
15	0	0	0	0	0.48	0.38 E	0.26 E	0	0.99	0.61	0.80	0.06 E	15
16	0	0	0	0.01	0.58	0.38 A	0.23 E	0	0.99	0.61	0.58	0.05 E	16
17	0	0	0	0.04	0.70	0.53	0.20 A	0	0.89	0.66	0.48	0.04 E	17
18	0	0	0	0.05	0.70	0.85 A	0.20	0	0.75	0.66	0.45	0.03 E	18
19	0	0	0	0.07	0.61	0.78 E	0.18	0	0.66	0.70	0.45 A	0.02 E	19
20	0	0	0	0.11	0.58	0.71 E	0.16	0	0.66	0.75	0.44 E	0.01 E	20
21	0	0	0	0.14	0.58	0.64 E	0.12	0	0.61	0.75	0.42 E	0 E	21
22	0	0	0	0.13	0.56	0.57 E	0.10	0	0.56	0.66	0.41 E	0 E	22
23	0 A	0 A	0	0.14	0.56	0.48 A	0.05	0	0.51	0.70	0.39 E	0 E	23
24	0	0	0	0.14 A	0.53	0.43	0.03	0	0.48	0.80	0.38 E	0 E	24
25	0	0	0	0.17	0.66	0.43 A	0.02	0	0.48	0.89	0.36 E	0 E	25
26	0	0	0	0.32 A	0.89	0.44 E	0.02	0	0.45	0.94	0.35 E	0 E	26
27	0	0	0	0.50 E	0.94	0.46 E	0.02	0	0.43	1.1	0.33 E	0 E	27
28	0	0	0	2.0 E	0.89	0.47 E	0.01	0	0.40	3.0	0.32 E	0 E	28
29	0		0	3.0 A	0.99	0.49 E	0.03	0	0.38	4.0	0.30 E	0 E	29
30	0		0	2.7 A	0.99	0.50 E	0.10	0	0.38	4.1	0.29 E	0 E	30
31	0		0		0.94		0.10	0		4.3		0 E	31
TOTAL	0	0	0	9.52	20.23	17.36	7.47	0.21	16.94	31.15	60.85	2.66	TOTAL
MEAN	0	0	0	0.32	0.65	0.58	0.24	0.01	0.56	1.0	2.0	0.09	MEAN
AC-FT	0	0	0	18.9	40.1	34.4	14.8	0.42	33.6	61.8	121	5.3	AC-FT
MAX	0	0	0	3.0	1.4	0.94	0.51	0.07	1.8	4.3	4.7	0.27	MAX
MIN	0	0	0	0	0.38	0.35	0.01	0	0	0.33	0.29	0	MIN

SUMMARY FOR THE YEAR 1970

MEAN DISCHARGE, 0.46 CFS
TOTAL DISCHARGE, 330 AC-FT
MAXIMUM DAILY DISCHARGE, 4.7 CFS ON NOV 1
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 1

MAXIMUM INSTANTANEOUS DISCHARGE
5.0 CFS AT 0345 CST ON NOV 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

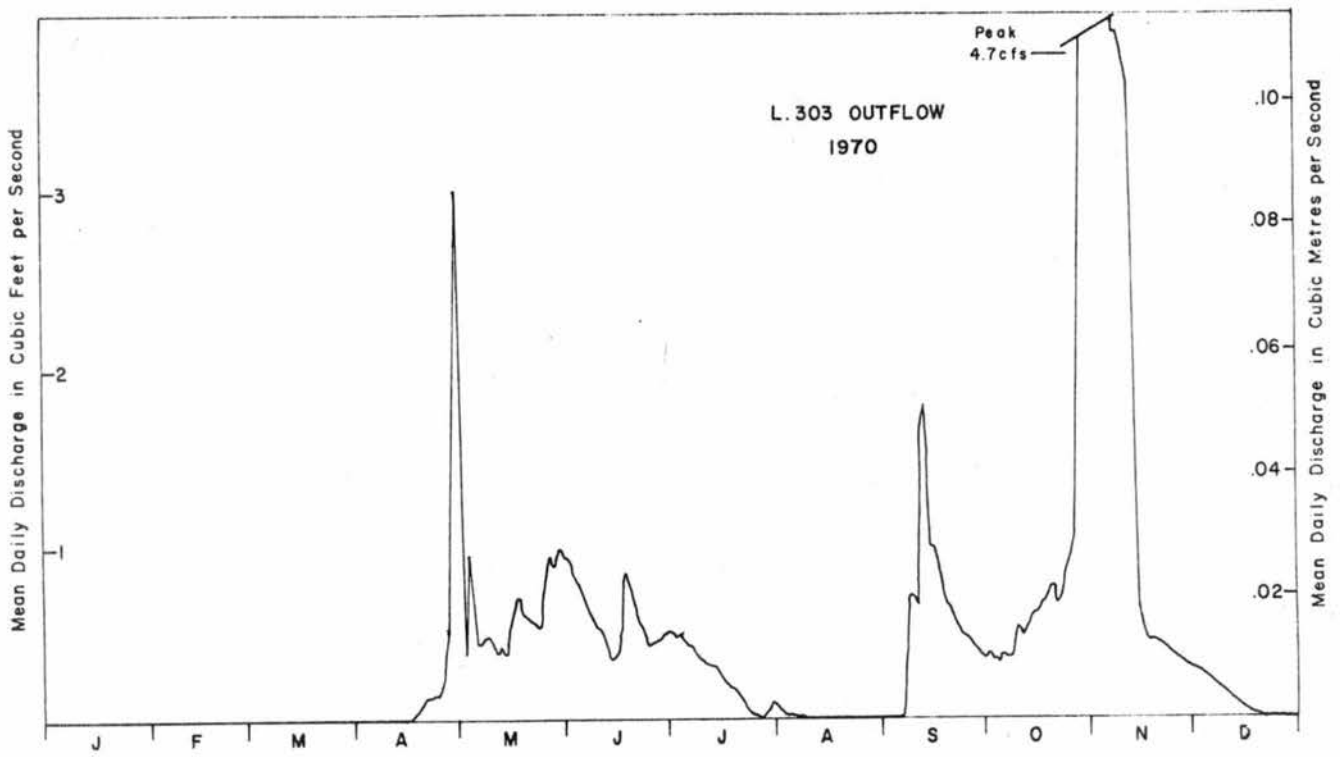


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1970.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0 E	0.51	0.14	2.7	0.16	0.02	2.2	1.4	---	1
2	---	---	---	0 E	0.58	0.11	2.2	0.12	0.02	2.0	1.2	---	2
3	---	---	---	0 E	0.57	0.08	1.5	0.09	0.05	1.7	1.1	---	3
4	---	---	---	0 E	0.55	0.05	1.0	0.07	0.13	1.9	0.94	---	4
5	---	---	---	0 E	0.41	0.32	0.62	0.05	0.33	1.7	1.0	---	5
6	---	---	---	0 E	0.32	0.64	0.34	0.04	0.46	1.3	---	---	6
7	---	---	---	0 E	0.29	0.57	0.23	0.04	0.42	1.0	---	---	7
8	---	---	---	0 E	0.26	0.43	0.16	0.03	0.32	0.88	---	---	8
9	---	---	---	0 E	0.21	0.30	0.11	0.03	0.24	0.69	---	---	9
10	---	---	---	0.19 E	0.19	0.25	0.08	0.03	0.17	0.53	---	---	10
11	---	---	---	0.38 E	0.16	0.23	0.06	0.03	0.13	0.42	---	---	11
12	---	---	---	0.57 E	0.12	0.24	0.24	0.03	0.09	0.33	---	---	12
13	---	---	---	0.68 A	0.12 A	0.21	0.28	0.03	0.07	0.28	---	---	13
14	---	---	---	1.4	0.12 E	0.17	0.20	0.03	0.05	0.24	---	---	14
15	---	---	---	1.2	0.12 E	0.13	0.14	0.03	0.04	0.21	---	---	15
16	---	---	---	1.7	0.12 E	0.24	0.14	0.03	0.03	0.21	---	---	16
17	---	---	---	2.7	0.12 E	0.27	0.10	0.04	0.03	0.42	---	---	17
18	---	---	---	2.5	0.11 A	0.22	0.07	0.04	0.03	0.83	---	---	18
19	---	---	---	2.4	0.12	0.19	0.05	0.04	0.02	1.1	---	---	19
20	---	---	---	2.2	0.12	0.21	0.05	0.04	0.02	0.91	---	---	20
21	---	---	---	1.7	0.09	0.15	0.04	0.04	0.02	0.72	---	---	21
22	---	---	---	1.3	0.09	0.13	0.03	0.03	0.02	0.55	---	---	22
23	---	---	---	1.0	0.26	0.11	0.03	0.02	0.02	0.42	---	---	23
24	---	---	---	0.78	0.61	0.06	0.03	0.03	0.02	0.33	---	---	24
25	---	---	---	0.61	1.3	0.04	0.04	0.03	0.02	0.30	---	---	25
26	---	---	---	0.44	1.1	0.04	0.05	0.03	0.02	0.27	---	---	26
27	---	---	---	0.34	0.87	0.09	0.11	0.03	0.02	0.28	---	---	27
28	---	---	---	0.33	0.61	0.14	0.26	0.02	0.03	0.22	---	---	28
29	---		---	0.29	0.41	0.13	0.26	0.02	0.03	0.16	---	---	29
30	---		---	0.39	0.30	0.44	0.21	0.02	0.38	0.31	---	---	30
31	---		---		0.21		0.18	0.02		1.4		---	31
TOTAL	---	---	---	23.10	10.97	6.33	11.51	1.29	3.25	23.81	---	---	TOTAL
MEAN	---	---	---	0.77	0.35	0.21	0.37	0.04	0.11	0.77	---	---	MEAN
AC-FT	---	---	---	45.8	21.8	12.6	22.8	2.6	6.4	47.2	---	---	AC-FT
MAX	---	---	---	2.7	1.3	0.64	2.7	0.16	0.46	2.2	---	---	MAX
MIN	---	---	---	0	0.09	0.04	0.03	0.02	0.02	0.16	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.38 CFS
TOTAL DISCHARGE, 159 AC-FT
MAXIMUM DAILY DISCHARGE, 2.7 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON APR 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

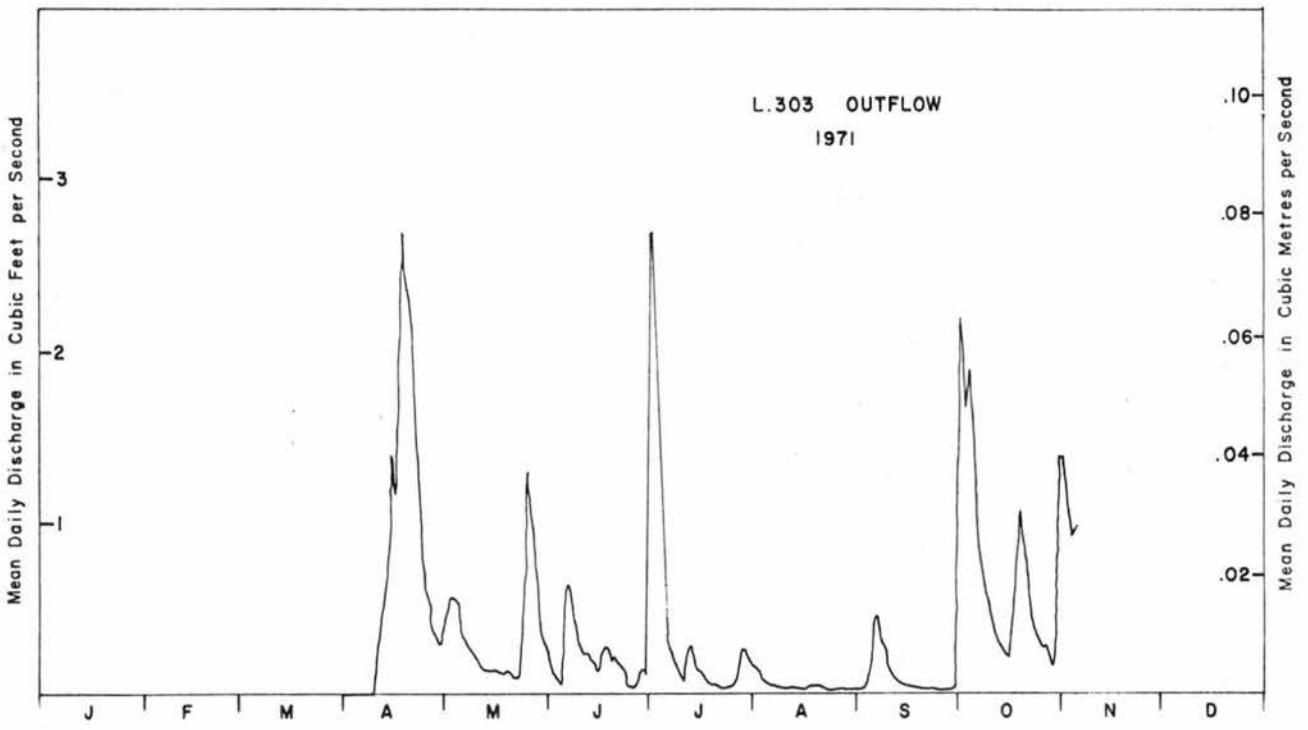


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1971.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.02 E	0.76	0.20	0	0.08	0.01	0.23	0.07	---	1
2	---	---	---	0.03 E	0.64	0.15	0	0.09	0.01	0.23	0.07	---	2
3	---	---	---	0.04 E	0.52	0.08	0	0.07	0.01	0.23	0.06	---	3
4	---	---	---	0.05	0.41	0.06	0	0.05	0.01	0.22	0.07	---	4
5	---	---	---	0.05	0.36	0.06	0	0.03	0.06	0.19	0.07	---	5
6	---	---	---	0.05	0.34	0.03	0.01	0.02	0.24	0.16	0.15	---	6
7	---	---	---	0.04 E	0.25	0.02	0.01	0.01	0.49	0.16	0.18	---	7
8	---	---	---	0.04 E	0.22	0.01	0.01	0.01	0.47	0.15	0.19	---	8
9	---	---	---	0.04 E	0.20	0.01	0.01	0.01	0.41	0.12	0.20	---	9
10	---	---	---	0.04 E	0.18	0.01	0.02	0.01	0.35	0.13	0.20	---	10
11	---	---	---	0.03 E	0.16	0.01	0.45	0.01	0.30	0.22	0.21	---	11
12	---	---	---	0.03 E	0.14	0.01	0.62	0.01	0.25	0.19	0.20	---	12
13	---	---	---	0.03	0.19	0.01	0.53	0.01	0.21	0.18	---	---	13
14	---	---	---	0.03	0.25	0.01	0.96	0.01	0.17	0.16	---	---	14
15	---	---	---	0.04	0.25	0.01	0.92	0.08	0.15	0.14	---	---	15
16	---	---	---	0.08	0.22	0.01	0.74	0.10	0.15	0.12	---	---	16
17	---	---	---	0.24	0.20	0.01	0.68	0.10	0.15	0.10	---	---	17
18	---	---	---	0.28	0.17	0.03	0.51	0.08	0.12	0.09	---	---	18
19	---	---	---	0.35	0.15	0.23	0.40	0.07	0.11	0.07	---	---	19
20	---	---	---	0.49	0.27	0.32	0.36	1.0	0.10	0.06	---	---	20
21	---	---	---	0.73	0.25	0.28	0.30	2.6	0.07	0.06	---	---	21
22	---	---	---	1.0	0.21	0.23	0.24	1.7	0.05	0.06	---	---	22
23	---	---	---	1.1	0.18	0.16	0.20	1.1	0.05	0.06	---	---	23
24	---	---	---	1.0	0.10	0.11	0.16	0.82	0.15	0.05	---	---	24
25	---	---	---	0.91	0.08	0.04	0.12	0.61	0.16	0.05	---	---	25
26	---	---	---	0.92	0.07	0.01	0.08	0.46	0.17	0.05	---	---	26
27	---	---	---	1.0	0.06	0.01	0.07	0.37	0.17	0.09	---	---	27
28	---	---	---	1.1	0.05	0.01	0.05	0.29	0.21	0.08	---	---	28
29	---	---	---	1.0	0.03	0.01	0.04	0.21	0.23	0.07	---	---	29
30	---		---	0.88	0.21	0.01	0.14	0.09	0.23	0.08	---	---	30
31	---		---		0.26		0.12	0.04		0.08		---	31
TOTAL	---	---	---	11.64	7.38	2.15	7.75	10.14	5.26	3.88	---	---	TOTAL
MEAN	---	---	---	0.39	0.24	0.07	0.25	0.33	0.18	0.13	---	---	MEAN
AC-FT	---	---	---	23.1	14.6	4.3	15.4	20.1	10.4	7.7	---	---	AC-FT
MAX	---	---	---	1.1	0.76	0.32	0.96	2.6	0.49	0.23	---	---	MAX
MIN	---	---	---	0.02	0.03	0.01	0	0.01	0.01	0.05	---	---	MIN

SUMMARY FOR THE YEAR 1972

MAXIMUM DAILY DISCHARGE, 2.6 CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.9 CFS AT 0315 CST ON AUG 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

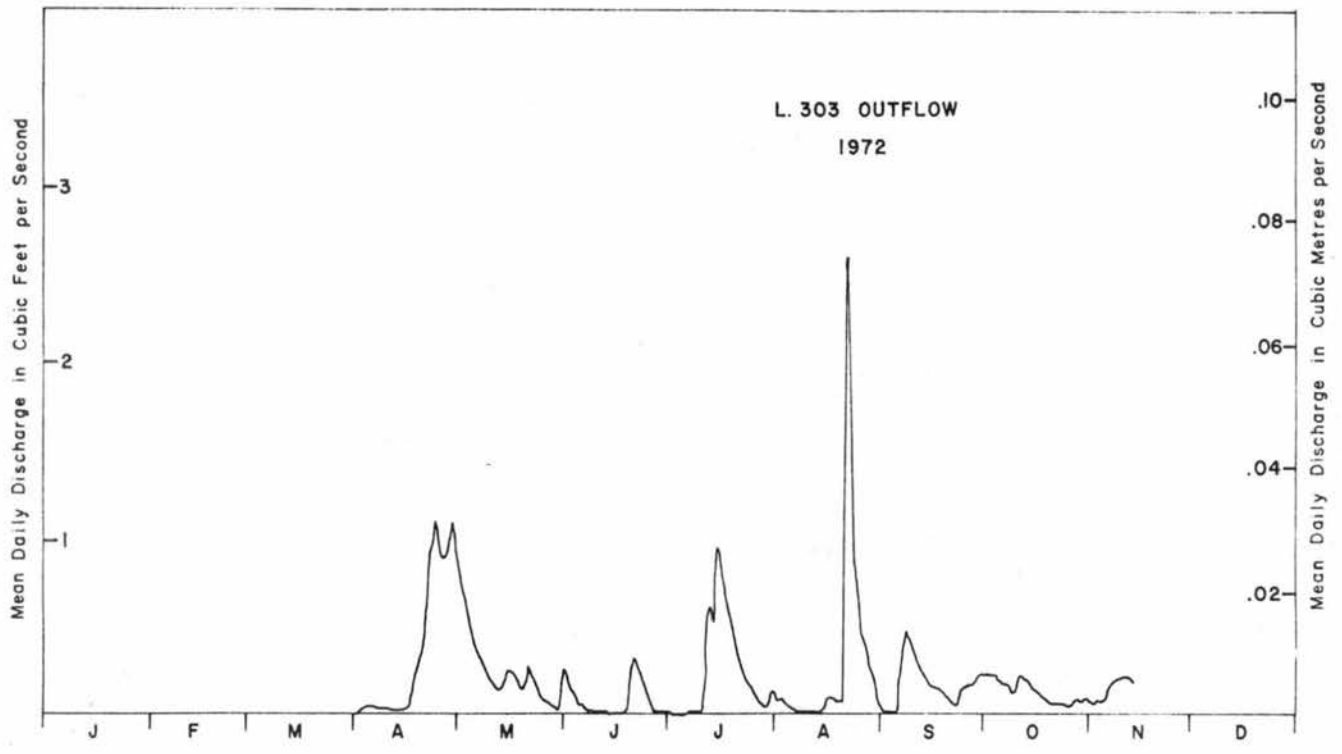


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1972.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.16 E	0.21 E	0.02	0.08	0.28	0.11	0.30	---	---	1
2	---	---	---	0.17 E	0.18 E	0.01	0.06	0.23	0.59	0.25	---	---	2
3	---	---	---	0.17 E	0.16	0.02	0.03	0.19	0.77	0.28	---	---	3
4	---	---	---	0.18 E	0.14	0.04	0.03	0.19	1.2	0.33	---	---	4
5	---	---	---	0.18 E	0.15	0.02	0.02	0.17	1.2	0.30	---	---	5
6	---	---	---	0.19 E	0.23	0.01	0.03	0.23	0.92	0.26	---	---	6
7	---	---	---	0.19 E	0.24	0.01	0.43	0.20	0.70	0.22	---	---	7
8	---	---	---	0.20 E	0.23	0.01	0.67	0.29	0.54	0.20	---	---	8
9	---	---	---	0.20 E	0.21	0.01	0.60	0.75	0.41	0.23	---	---	9
10	---	---	---	0.21	0.25	0.01	0.46	0.92	0.33	0.24	---	---	10
11	---	---	---	0.21	0.26	0.01	0.36	0.80	0.25	0.28	---	---	11
12	---	---	---	0.19	0.23	0.01	0.30	0.65	0.19	0.70	---	---	12
13	---	---	---	0.18	0.20	0.01	0.20	0.51	0.17	0.86	---	---	13
14	---	---	---	0.18	0.16	0.01	0.16	0.38	0.16	0.75	---	---	14
15	---	---	---	0.24	0.14	0.01	0.12	0.30	0.14	0.64	---	---	15
16	---	---	0.07 A	0.29	0.12	0.01	0.09	0.23	0.11	0.51	---	---	16
17	---	---	---	0.28	0.09	0.07	0.08	0.19	0.09	0.41	---	---	17
18	---	---	---	0.26	0.09	0.14	0.08	0.16	0.08	0.36	---	---	18
19	---	---	---	0.27	0.08	0.16	0.07	0.15	0.07	0.31	---	---	19
20	---	---	---	0.61	0.07	0.19	0.05	0.11	0.05	0.27	---	---	20
21	---	---	---	2.0	0.06	0.20	0.04	0.09	0.09	0.24	---	---	21
22	---	---	---	1.7	0.05	0.18	0.04	0.07	0.38	0.21	---	---	22
23	---	---	---	1.2	0.07	0.17	0.03	0.06	0.55	0.19	---	---	23
24	---	---	---	0.89	0.07	0.15	0.05	0.04	0.55	0.18	---	---	24
25	---	---	---	0.71	0.10	0.16	0.05	0.04	0.67	0.17	---	---	25
26	---	---	---	0.58	0.11	0.18	0.12	0.04	0.72	0.16	---	---	26
27	---	---	---	0.47	0.10	0.18	0.45	0.03	0.66	0.14	---	---	27
28	---	---	---	0.39	0.07	0.15	0.52	0.03	0.54	0.13	---	---	28
29	---		---	0.32	0.05	0.14	0.49	0.03	0.44	0.11	---	---	29
30	---		---	0.25	0.04	0.10	0.43	0.03	0.35	0.10	---	---	30
31	---		---		0.03		0.35	0.02		0.09		---	31
TOTAL	---	---	---	13.07	4.19	2.39	6.49	7.41	13.03	9.42	---	---	TOTAL
MEAN	---	---	---	0.44	0.14	0.08	0.21	0.24	0.43	0.30	---	---	MEAN
AC-FT	---	---	---	25.9	8.3	4.7	12.9	14.7	25.8	18.7	---	---	AC-FT
MAX	---	---	---	2.0	0.26	0.20	0.67	0.92	1.2	0.86	---	---	MAX
MIN	---	---	---	0.16	0.03	0.01	0.02	0.02	0.05	0.09	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.26 CFS
TOTAL DISCHARGE, 111 AC-FT
MAXIMUM DAILY DISCHARGE, 2.0 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0.01 CFS ON JUN 2

MAXIMUM INSTANTANEOUS DISCHARGE
2.1 CFS AT 1230 CST ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

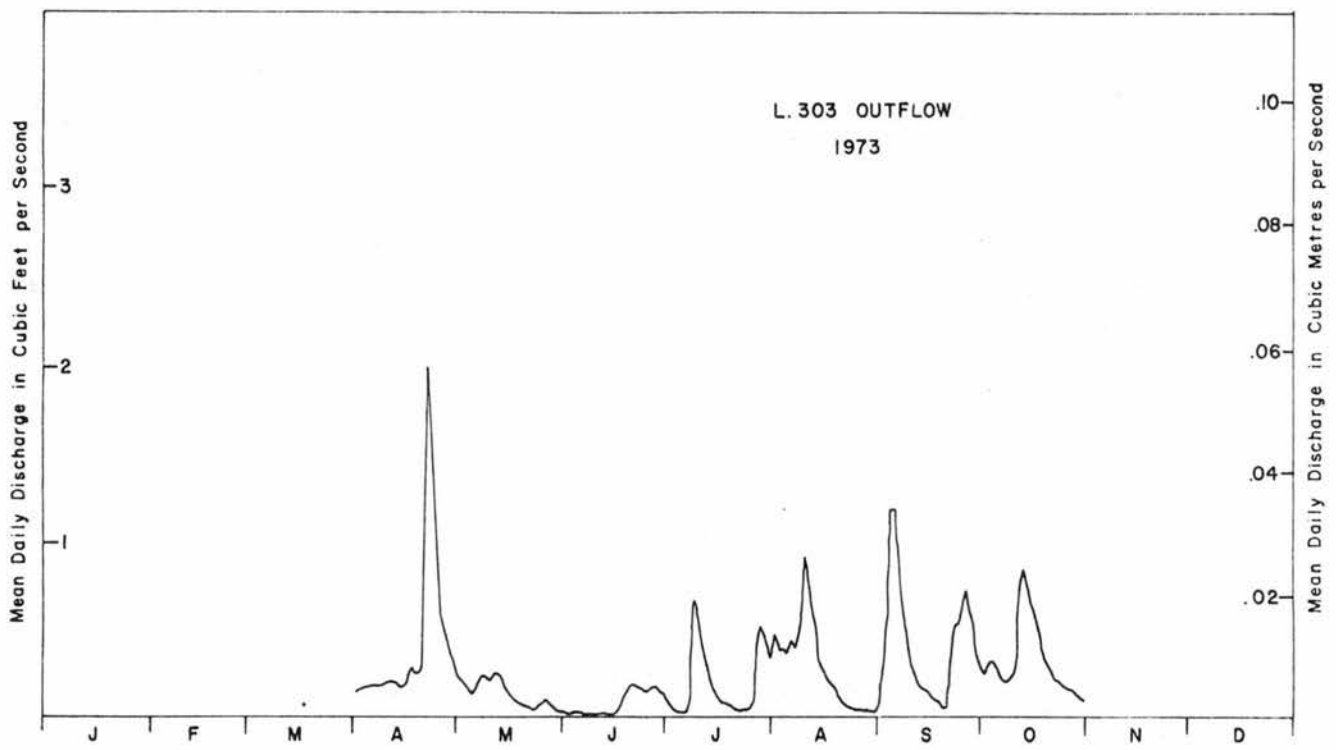


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1973.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.07 E	0.84	0.13	0.01	0	0.40	0.11	0.07	---	1
2	---	---	---	0.08 E	0.73	0.12	0.01	0	0.36	0.09	0.08	---	2
3	---	---	---	0.08 E	0.64	0.09	0	0	0.29	0.07	0.09	---	3
4	---	---	---	0.08 E	0.54	0.08	0.01	0	0.23	0.08	0.08	---	4
5	---	---	---	0.09 E	0.48	0.18	0.01	0	0.20	0.17	0.08	---	5
6	---	---	---	0.09 E	0.40	0.92	0.01	0	0.17	0.20	0.07	---	6
7	---	---	---	0.09 E	0.36	1.6	0.01	0	0.15	0.21	0.07	---	7
8	---	---	---	0.10 E	0.32	1.2	0.01	0	0.12	0.23	0.07	---	8
9	---	---	---	0.10 E	0.27	0.84	0.01	0	0.11	0.23	0.07	---	9
10	---	---	---	0.10 E	0.25	0.61	0.01	0.01	0.09	0.21	0.07	---	10
11	---	---	---	0.11 E	0.77	0.42	0.01	0.01	0.09	0.20	0.07	---	11
12	---	---	---	0.11 E	1.9	0.32	0.01	0	0.07	0.18	0.07	---	12
13	---	---	0.02 A	0.11 E	1.5	0.23	0.01	0	0.06	0.16	0.07	---	13
14	---	---	0.02 E	0.12 E	1.1	0.25	0.01	0	0.05	0.16	0.07	---	14
15	---	---	0.02 E	0.12 E	0.88	0.23	0.01	0.01	0.05	0.17	---	---	15
16	---	---	0.02 E	0.12 A	0.73	0.18	0.01	0.01	0.06	0.18	---	---	16
17	---	---	0.03 E	0.25	0.73	0.16	0.01	0.01	0.09	0.20	---	---	17
18	---	---	0.03 E	0.48	0.64	0.13	0.01	0.01	0.16	0.18	---	---	18
19	---	---	0.03 E	0.73	0.51	0.11	0.01	0.01	0.17	0.18	---	---	19
20	---	---	0.04 E	1.5	0.67	0.08	0.01	0.01	0.15	0.17	---	---	20
21	---	---	0.04 E	4.9	0.84	0.07	0.01	0.05	0.12	0.16	---	---	21
22	---	---	0.04 E	3.7	0.73	0.05	0.01	0.11	0.09	0.15	---	---	22
23	---	---	0.05 E	2.1	0.64	0.02	0.01	0.13	0.08	0.13	---	---	23
24	---	---	0.05 E	1.5	0.51	0.01	0.01	0.15	0.08	0.12	---	---	24
25	---	---	0.05 E	1.4	0.42	0.01	0.01	0.15	0.08	0.11	---	---	25
26	---	---	0.06 E	1.6	0.36	0.01	0.01	0.15	0.08	0.09	---	---	26
27	---	---	0.06 E	1.8	0.29	0.01	0.01	0.13	0.07	0.09	---	---	27
28	---	---	0.06 E	1.7	0.25	0.01	0.01	0.15	0.06	0.08	---	---	28
29	---		0.06 E	1.3	0.20	0.01	0	0.20	0.07	0.08	---	---	29
30	---		0.07 E	1.0	0.17	0.01	0	0.29	0.11	0.07	---	---	30
31	---		0.07 E		0.16		0	0.40		0.07		---	31
TOTAL	---	---	---	25.53	18.83	8.09	0.27	1.99	3.91	4.53	---	---	TOTAL
MEAN	---	---	---	0.85	0.61	0.27	0.01	0.06	0.13	0.15	---	---	MEAN
AC-FT	---	---	---	50.6	37.4	16.0	0.54	4.0	7.8	9.0	---	---	AC-FT
MAX	---	---	---	4.9	1.9	1.6	0.01	0.40	0.40	0.23	---	---	MAX
MIN	---	---	---	0.07	0.16	0.01	0	0	0	0.07	---	---	MIN

SUMMARY FOR THE PERIOD MAR 13 TO NOV 14

MEAN DISCHARGE, 0.26 CFS
TOTAL DISCHARGE, 128.9 AC-FT
MAXIMUM DAILY DISCHARGE, 4.9 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 29

MAXIMUM INSTANTANEOUS DISCHARGE
6.0 CFS ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL
E-ESTIMATED

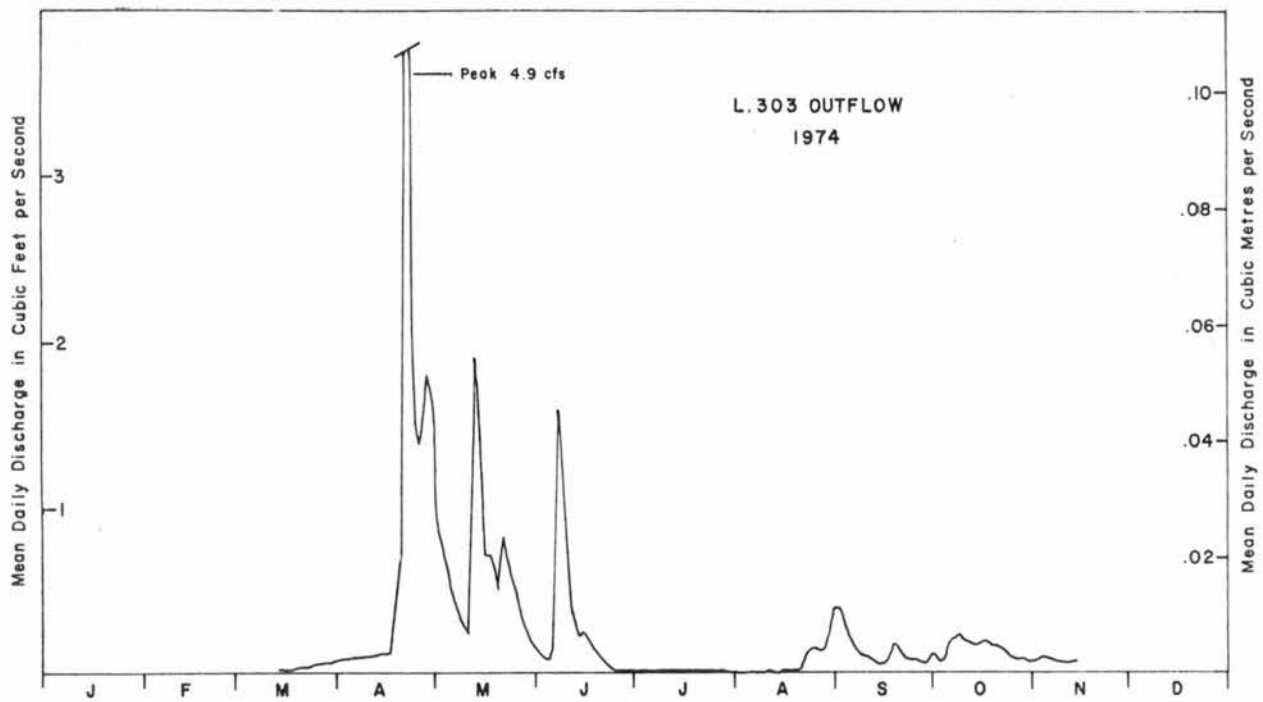


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1974.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.05 E	1.0	0.14	0.55	0.01	0.01	0.08	---	---	1
2	---	---	---	0.05 E	0.91	0.12	0.53	0.01	0.01	0.07	---	---	2
3	---	---	---	0.05 E	0.86	0.12	0.41	0.01	0.01	0.06	---	---	3
4	---	---	---	0.05	0.77	0.10	0.33	0.01	0.01	0.06	---	---	4
5	---	---	---	0.05 E	0.67	0.16	0.25	0.01	0.01	0.06	---	---	5
6	---	---	---	0.05 E	0.59	0.17	0.21	0.01	0.01	0.05	---	---	6
7	---	---	---	0.05 E	0.51	0.13	0.16	0.01	0.02	0.05	---	---	7
8	---	---	---	0.06 E	0.41	0.11	0.10	0.01	0.01	0.04	---	---	8
9	---	---	---	0.06 E	0.36	0.12	0.07	0.01	0.01	0.04	---	---	9
10	---	---	---	0.06 E	0.30	0.12	0.04	0.01	0.01	0.04	---	---	10
11	---	---	---	0.06	0.26	0.11	0.02	0.01	0.01	0.04	---	---	11
12	---	---	---	0.06	0.20	0.08	0.01	0.01	0.02	0.04	---	---	12
13	---	---	---	0.07	0.18	0.07	0.01	0.01	0.01	0.03	---	---	13
14	---	---	---	0.09	0.19	0.07	0.01	0.01	0.01	0.06	---	---	14
15	---	---	---	0.21	0.16	0.06	0.01	0.01	0.01	0.08	---	---	15
16	---	---	---	0.46	0.14	0.05	0.01	0.01	0.01	0.08	---	---	16
17	---	---	---	0.87	0.12	0.03	0.01	0.01	0.01	0.08	---	---	17
18	---	---	---	1.4	0.12	0.02	0.01	0.01	0.01	0.07	---	---	18
19	---	---	---	1.5	0.10	0.02	0.01	0.01	0.02	0.07	---	---	19
20	---	---	---	1.4	0.09	0.13	0.01	0.01	0.13	0.07	---	---	20
21	---	---	---	1.2	0.10	0.40	0.01	0.01	0.19	0.06	---	---	21
22	---	---	---	1.1	0.08	2.1	0.01	0.01	0.18	0.05	---	---	22
23	---	---	---	1.5	0.44	2.5	0.01	0.01	0.20	0.06	---	---	23
24	---	---	---	1.9	0.66	1.6	0.01	0.01	0.19	0.09	---	---	24
25	---	---	---	2.0	0.57	1.0	0.01	0.01	0.17	0.16	---	---	25
26	---	---	---	1.8	0.48	0.76	0.01	0.01	0.15	0.16	---	---	26
27	---	---	---	1.6	0.37	0.56	0.01	0.01	0.14	0.16	---	---	27
28	---	---	---	1.6	0.29	0.38	0.01	0.01	0.12	0.18	---	---	28
29	---		---	1.4	0.23	0.28	0.01	0.01	0.11	0.19	---	---	29
30	---		---	1.1	0.18	0.48	0.01	0.01	0.11	0.19	---	---	30
31	---		---		0.16		0.01	0.01		0.18		---	31
TOTAL	---	---	---	21.85	11.50	11.99	2.87	0.31	1.91	2.65	---	---	TOTAL
MEAN	---	---	---	0.73	0.37	0.40	0.09	0.01	0.06	0.09	---	---	MEAN
AC-FT	---	---	---	43.3	22.8	23.8	5.7	0.61	3.8	5.3	---	---	AC-FT
MAX	---	---	---	2.0	1.0	2.5	0.55	0.01	0.20	0.19	---	---	MAX
MIN	---	---	---	0.05	0.08	0.02	0.01	0.01	0.01	0.03	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.25 CFS
TOTAL DISCHARGE, 105 AC-FT
MAXIMUM DAILY DISCHARGE, 2.5 CFS ON JUN 23
MINIMUM DAILY DISCHARGE, 0.01 CFS ON JUL 12

MAXIMUM INSTANTANEOUS DISCHARGE
3.2 CFS AT 1914 CST ON JUN 22

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

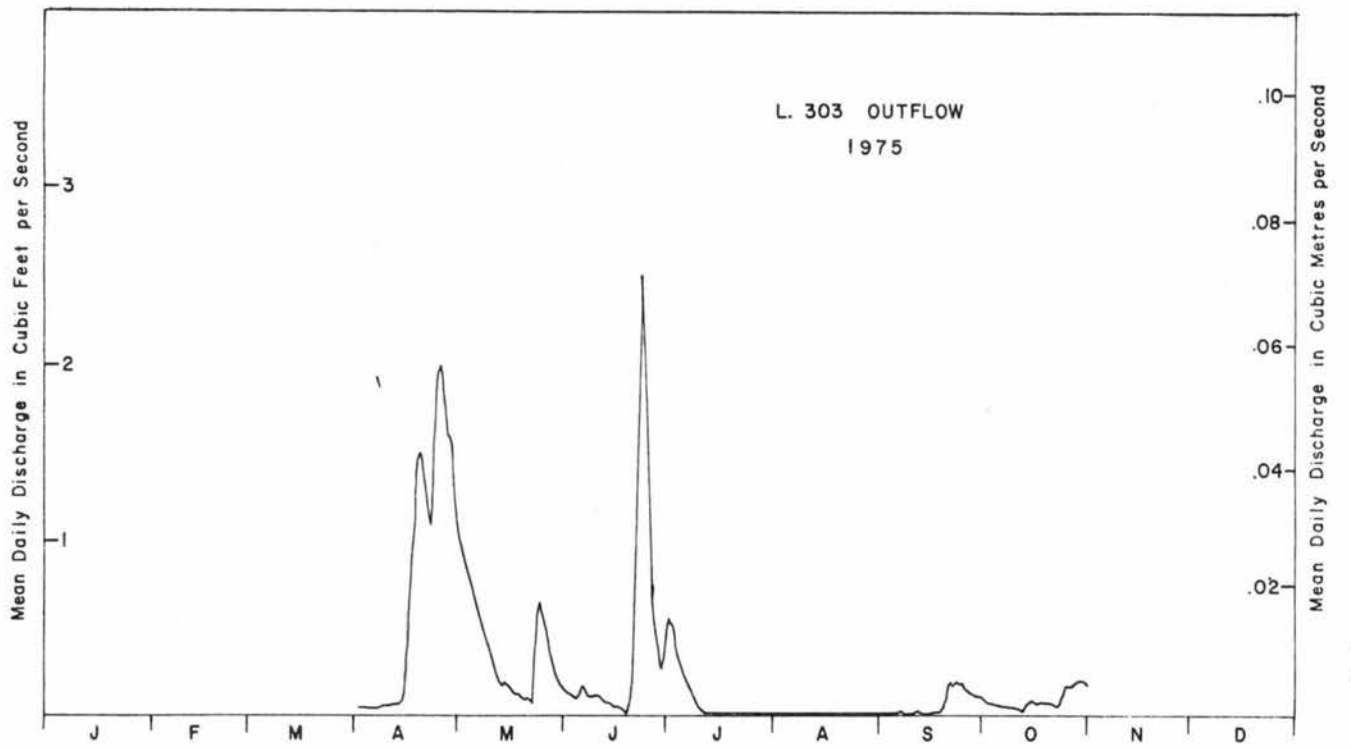


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1975.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.14	0.19	0.01	0.28	0.01	0.03	0	---	---	1
2	---	---	---	0.20	0.14	0.01	0.22	0.01	0.03	0	---	---	2
3	---	---	---	0.25	0.15	0.01	0.17	0.01	0.03	0	---	---	3
4	---	---	---	0.30	0.13	0.01	0.14	0.01	0.03	0.01	---	---	4
5	---	---	---	0.19	0.10	0.01	0.09	0.01	0.03	0.01	---	---	5
6	---	---	---	0.59	0.07	0.01	0.07	0.01	0.03	0.01	---	---	6
7	---	---	---	0.81	0.06	0.01	0.05	0.01	0.02	0.01	---	---	7
8	---	---	---	0.92	0.06	0.01	0.04	0.01	0.01	0.01	---	---	8
9	---	---	---	1.0	0.05	0.01	0.03	0.02	0.01	0.01	---	---	9
10	---	---	---	1.2	0.05	0.01	0.03	0.03	0.01	0	---	---	10
11	---	---	---	1.2	0.05	0.01	0.02	0.02	0.01	0	---	---	11
12	---	---	---	0.98	0.04	0.01	0.02	0.03	0.01	0	---	---	12
13	---	---	---	0.88	0.06	0.01	0.03	0.03	0.01	0	---	---	13
14	---	---	---	0.96	0.09	0.02	0.03	0.03	0.01	0	---	---	14
15	---	---	---	1.3	0.11	0.01	0.03	0.03	0.01	0	---	---	15
16	---	---	---	2.1	0.13	0.01	0.03	0.03	0.01	0	---	---	16
17	---	---	---	2.4	0.12	0.01	0.03	0.03	0.01	0	---	---	17
18	---	---	---	1.7	0.10	0.01	0.02	0.03	0.01	0	---	---	18
19	---	---	---	1.2	0.07	0.01	0.02	0.03	0.01	0	---	---	19
20	---	---	---	0.91	0.07	0.01	0.01	0.04	0	0	---	---	20
21	---	---	---	0.74	0.05	0.01	0.01	0.04	0	0	---	---	21
22	---	---	---	0.61	0.04	0.01	0.01	0.04	0	0	---	---	22
23	---	---	---	0.50	0.03	0.01	0.01	0.04	0	0	---	---	23
24	---	---	---	0.40	0.03	0.01	0.01	0.04	0.01	0	---	---	24
25	---	---	---	0.33	0.02	0.03	0.01	0.04	0.01	0	---	---	25
26	---	---	---	0.28	0.01	0.21	0.01	0.04	0.01	0 A	---	---	26
27	---	---	---	0.23	0.01	0.43	0.01	0.04	0.01	0 A	---	---	27
28	---	---	---	0.20	0.01	0.49	0.01	0.03	0.01	0 A	---	---	28
29	---	---	---	0.20	0.01	0.42	0.01	0.03	0.01	0 A	---	---	29
30	---		---	0.19	0.01	0.35	0.01	0.03	0.01	0 A	---	---	30
31	---		---		0.01		0.01	0.03		0 A		---	31
TOTAL	---	---	---	23.11	2.12	2.18	1.47	0.83	0.39	0.06	---	---	TOTAL
MEAN	---	---	---	0.77	0.07	0.07	0.05	0.03	0.01	0	---	---	MEAN
AC-FT	---	---	---	45.8	4.2	4.3	2.9	1.6	0.77	0.12	---	---	AC-FT
MAX	---	---	---	2.4	0.19	0.49	0.28	0.04	0.03	0.01	---	---	MAX
MIN	---	---	---	0.14	0.01	0.01	0.01	0.01	0	0	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.14 CFS
TOTAL DISCHARGE, 59.7 AC-FT
MAXIMUM DAILY DISCHARGE, 2.4 CFS ON APR 17
MINIMUM DAILY DISCHARGE, 0 CFS ON SEP 20

MAXIMUM INSTANTANEOUS DISCHARGE
2.8 CFS AT 2356 CST ON APR 16

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

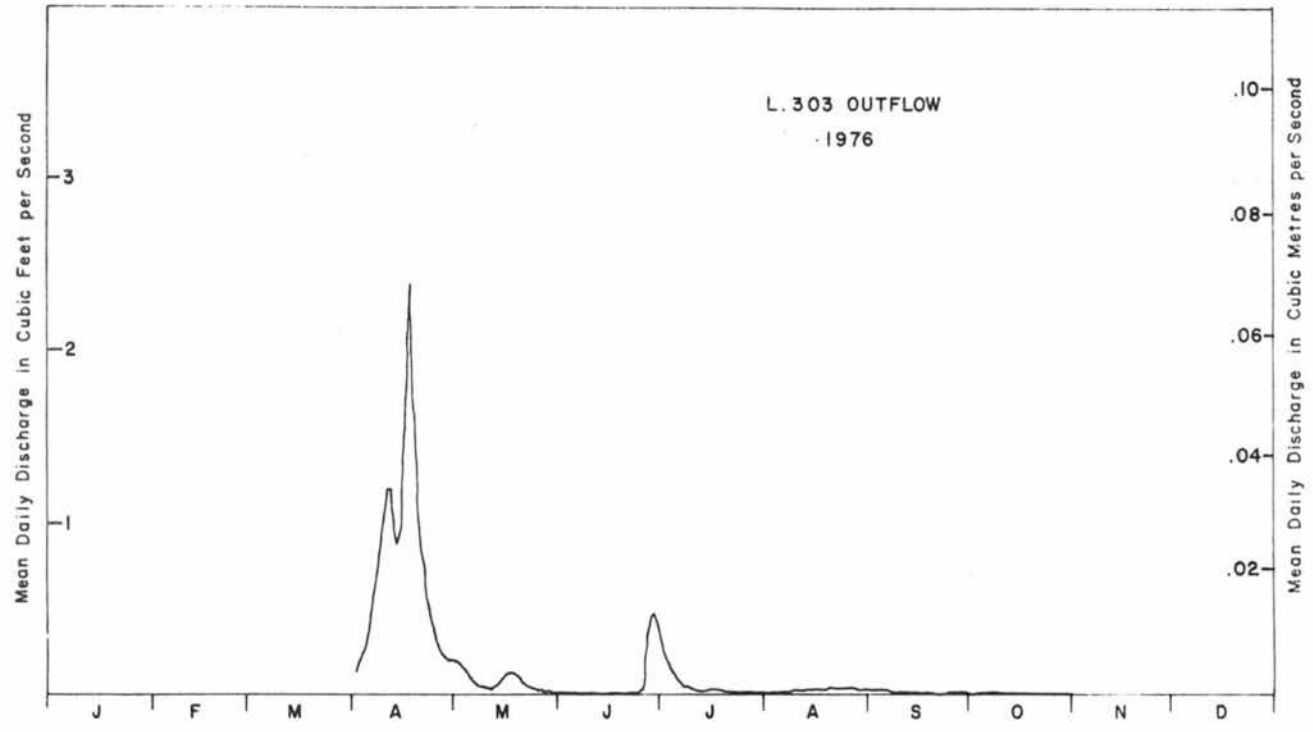


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1976.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	0 E	0.01	0.07	0.36	0.31	0.04	0.02	0.23	0.05	---	1
2	---	---	0 E	0.01	0.06	0.31	0.26	0.04	0.02	0.20	0.05 A	---	2
3	---	---	0 E	0.01	0.04	0.26	0.26	0.04	0.02	0.18	---	---	3
4	---	---	0 E	0.01	0.03	0.21	0.20	0.04	0.02	0.17	---	---	4
5	---	---	0 E	0.01	0.06	0.20	0.19	0.04	0.02	0.17	---	---	5
6	---	---	0 E	0.01	0.19	0.23	0.18	0.04	0.02	0.15	---	---	6
7	---	---	0 E	0.01	0.28	0.22	0.16	0.04	0.01	0.13	---	---	7
8	---	---	0 E	0.01	0.25	0.20	0.14	0.04	0.01	0.13	---	---	8
9	---	---	0 E	0.01	0.20	0.17	0.11	0.04	0.04	0.11	---	---	9
10	---	---	0 E	0.01	0.23	0.14	0.08	0.04	0.24	0.12	---	---	10
11	---	---	0 E	0.01	0.28	0.13	0.09	0.03	0.50	0.12	---	---	11
12	---	---	0	0.01	0.25	0.11	0.12	0.03	0.44	0.09	---	---	12
13	---	---	0	0.04	0.23	0.12	0.10	0.03	0.40	0.08	---	---	13
14	---	---	0	0.17	0.18	0.20	0.14	0.03	0.36	0.07	---	---	14
15	---	---	0	0.24	0.11	1.3	0.11	0.03	0.31	0.06	---	---	15
16	---	---	0	0.30	0.11	2.1	0.09	0.03	0.26	0.05	---	---	16
17	---	---	0	0.36	0.09	1.5	0.08	0.03	0.21	0.05	---	---	17
18	---	---	0	0.36	0.09	1.8	0.07	0.02	0.18	0.06	---	---	18
19	---	---	0.01	0.35	0.10	1.6	0.07	0.03	0.14	0.05	---	---	19
20	---	---	0.01	0.33	0.19	1.2	0.07	0.03	0.12	0.04	---	---	20
21	---	---	0.01	0.29	0.22	0.93	0.06	0.02	0.11	0.04	---	---	21
22	---	---	0.01	0.26	0.24	0.73	0.06	0.02	0.09	0.03	---	---	22
23	---	---	0.01	0.23	0.36	0.57	0.06	0.02	0.08	0.03	---	---	23
24	---	---	0.01	0.20	0.34	0.42	0.06	0.02	0.07	0.02	0.34 A	---	24
25	---	---	0.01	0.12	0.32	0.34	0.05	0.02	0.09	0.03	---	---	25
26	---	---	0.01	0.10	0.27	0.29	0.05	0.03	0.12	0.02	---	---	26
27	---	---	0.01	0.07	0.34	0.23	0.04	0.02	0.14	0.01	---	---	27
28	---	---	0.01	0.09	0.33	0.21	0.05	0.02	0.24	0.01	---	---	28
29	---		0.01	0.07	0.30	0.19	0.04	0.02	0.35	0.01	---	---	29
30	---		0.01	0.07	0.32	0.27	0.05	0.02	0.28	0.01	---	---	30
31	---		0.01		0.33		0.05	0.02		0.04		---	31
TOTAL	---	---	0.13	3.77	6.41	16.54	3.40	0.92	4.91	2.51	---	---	TOTAL
MEAN	---	---	0	0.13	0.21	0.55	0.11	0.03	0.16	0.08	---	---	MEAN
AC-FT	---	---	0.26	7.5	12.7	32.8	6.7	1.8	9.7	5.0	---	---	AC-FT
MAX	---	---	0.01	0.36	0.36	2.1	0.31	0.04	0.50	0.23	---	---	MAX
MIN	---	---	0	0.01	0.03	0.11	0.04	0.02	0.01	0.01	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.18 CFS
TOTAL DISCHARGE, 76.2 AC-FT
MAXIMUM DAILY DISCHARGE, 2.1 CFS ON JUN 16
MINIMUM DAILY DISCHARGE, 0.01 CFS ON APR 1

MAXIMUM INSTANTANEOUS DISCHARGE
2.6 CFS AT 2116 CST ON JUN 15

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

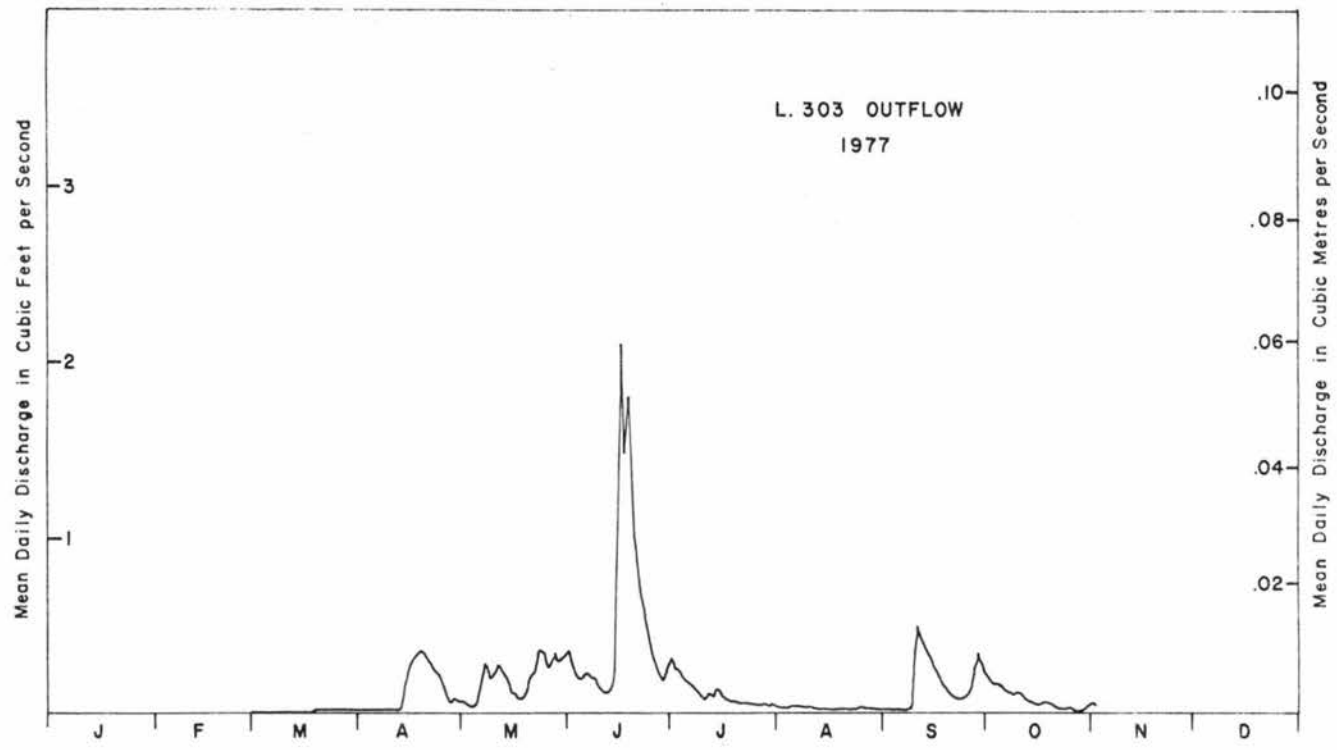


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1977.

Table 127 Mean daily discharges in cubic feet per second for the Lake 303 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	0.07	1.2	0.84	0.07	0.03	0.08	0.12	0.03	---	1
2	---	---	---	0.07	0.99	0.96	0.06	0.09	0.08	0.11	---	---	2
3	---	---	---	0.08	0.86	0.83	0.05	0.10	0.07	0.11	---	---	3
4	---	---	---	0.08	0.76	0.66	0.05	0.09	0.06	0.11	---	---	4
5	---	---	---	0.09	0.68	0.49	0.07	0.08	0.06	0.11	---	---	5
6	---	---	---	0.10	0.54	0.46	0.08	0.07	0.05	0.10	---	---	6
7	---	---	---	0.13	0.42	0.42	0.06	0.07	0.04	0.08	---	---	7
8	---	---	---	0.14	0.49	0.37	0.04	0.06	0.03	0.07	---	---	8
9	---	---	---	0.23	0.51	0.31	0.03	0.05	0.03	0.07	---	---	9
10	---	---	---	0.28	0.49	0.26	0.02	0.04	0.02	0.06	---	---	10
11	---	---	---	0.33	0.47	0.23	0.01	0.03	0.02	0.06	---	---	11
12	---	---	---	0.38	0.42	0.19	0.02	0.02	0.01	0.06	---	---	12
13	---	---	---	0.38	0.35	0.17	0.02	0.02	0.02	0.05	---	---	13
14	---	---	---	0.41	0.19	0.15	0.04	0.02	0.11	0.04	---	---	14
15	---	---	---	0.38	0.11	0.14	0.03	0.03	0.19	0.06	---	---	15
16	---	---	---	0.38	0.12	0.12	0.03	0.05	0.23	0.06	---	---	16
17	---	---	---	0.42	0.12	0.10	0.03	0.05	0.25	0.06	---	---	17
18	---	---	---	0.72	0.11	0.09	0.05	0.13	0.24	0.05	---	---	18
19	---	---	---	1.1	0.14	0.07	0.06	0.13	0.22	0.05	---	---	19
20	---	---	---	1.1	0.12	0.07	0.06	0.10	0.19	0.05	---	---	20
21	---	---	---	1.1	0.13	0.06	0.05	0.08	0.17	0.05	---	---	21
22	---	---	0.04	1.3	0.14	0.06	0.04	0.06	0.15	0.05	---	---	22
23	---	---	0.04	1.8	0.16	0.05	0.05	0.06	0.13	0.05	---	---	23
24	---	---	0.03	2.1	0.17	0.07	0.05	0.06	0.12	0.04	---	---	24
25	---	---	0.03	2.4	0.17	0.08	0.05	0.07	0.10	0.04	---	---	25
26	---	---	0.04	2.4	0.70	0.08	0.03	0.07	0.09	0.04	---	---	26
27	---	---	0.05	2.5	1.1	0.10	0.02	0.08	0.08	0.04	---	---	27
28	---	---	0.05	2.4	0.90	0.10	0.01	0.11	0.08	0.04	---	---	28
29	---		0.04	2.1	0.76	0.08	0.01	0.10	0.13	0.04	---	---	29
30	---		0.03	1.7	0.74	0.07	0.01	0.08	0.12	0.04	---	---	30
31	---		0.06		0.66		0.01	0.07		0.03		---	31
TOTAL	---	---	---	26.67	14.72	7.68	1.21	2.10	3.17	1.94	---	---	TOTAL
MEAN	---	---	---	0.89	0.47	0.26	0.04	0.07	0.11	0.06	---	---	MEAN
AC-FT	---	---	---	52.9	29.2	15.2	2.4	4.2	6.3	3.8	---	---	AC-FT
MAX	---	---	---	2.5	1.2	0.96	0.08	0.13	0.25	0.12	---	---	MAX
MIN	---	---	---	0.07	0.11	0.05	0.01	0.02	0.01	0.03	---	---	MIN

SUMMARY FOR THE MONTHS APR TO OCT

MEAN DISCHARGE, 0.27 CFS
TOTAL DISCHARGE, 114 AC-FT
MAXIMUM DAILY DISCHARGE, 2.5 CFS ON APR 27
MINIMUM DAILY DISCHARGE, 0.01 CFS ON JUL 11

MAXIMUM INSTANTANEOUS DISCHARGE
2.5 CFS AT 0304 CST ON APR 27

TYPE OF GAUGE - RECORDING

NATURAL FLOW

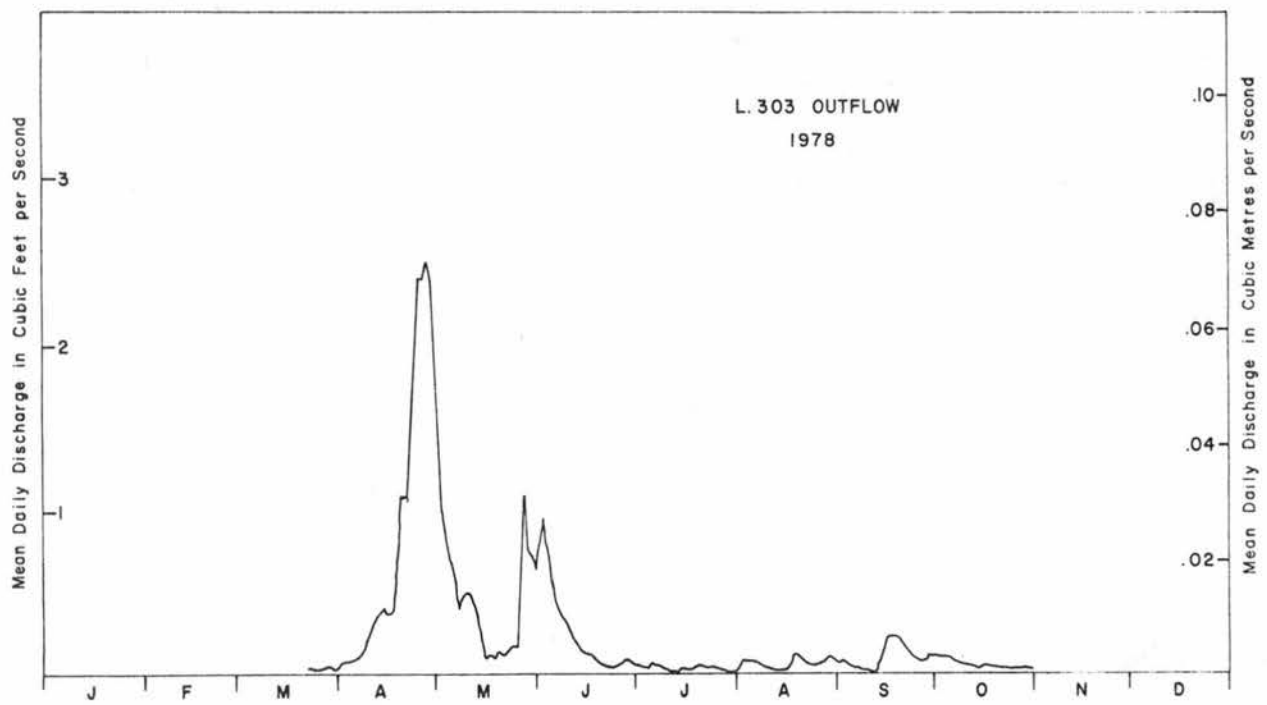


Fig. 46 Annual hydrograph based on mean daily discharges for the Lake 303 outflow for 1978.

Table 128 Mean daily water levels in feet for Lake 303 for 1969. An adjustment of +87.97 feet is required to relate 1969 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	94.96	---	94.94	94.81	---	1
2	---	---	---	---	---	---	---	94.93	---	94.93	94.81	---	2
3	---	---	---	---	---	---	---	94.91	---	94.92	94.80	---	3
4	---	---	---	---	---	---	---	94.90	---	94.94	94.79	---	4
5	---	---	---	---	---	---	---	94.88	---	95.11	94.79	---	5
6	---	---	---	---	---	---	---	94.91	---	95.17	94.79	---	6
7	---	---	---	---	---	---	---	95.08	---	95.14	94.78	---	7
8	---	---	---	---	---	---	94.78A	95.12	---	95.10	94.78	---	8
9	---	---	---	---	---	---	94.76	95.08	94.76	95.07	94.78	---	9
10	---	---	---	---	---	---	94.75	95.06	94.75	95.05	94.77	---	10
11	---	---	---	---	---	---	94.73	95.01	94.74	95.03	94.78	---	11
12	---	---	---	---	---	---	94.72	94.96	94.73	95.00	94.77	---	12
13	---	---	---	---	---	---	94.73	95.06	94.73	94.98	94.77	---	13
14	---	---	---	---	---	---	94.73	95.12	94.72	94.97	94.77	---	14
15	---	---	---	---	---	---	94.72	95.07	94.79	94.94	94.77	---	15
16	---	---	---	---	---	---	94.71	95.02	94.82	94.93	94.77	---	16
17	---	---	---	---	---	---	94.68	94.99	94.81	94.92	94.77	---	17
18	---	---	---	---	---	---	94.67	94.95	94.78	94.90	94.77	---	18
19	---	---	---	---	---	---	94.67	94.92	94.78	94.89	---	---	19
20	---	---	---	---	---	---	94.65	94.88	94.77	94.88	---	---	20
21	---	---	---	---	---	---	94.65	94.84	94.76	94.86	---	---	21
22	---	---	---	---	---	---	94.68	94.83	94.78	94.85	---	---	22
23	---	---	---	---	---	---	94.74	94.82	94.77	94.84	---	---	23
24	---	---	---	---	---	---	94.73	94.79	94.76	94.84	---	---	24
25	---	---	---	---	---	---	94.73	94.79	94.83	94.84	---	---	25
26	---	---	---	---	---	---	94.72	94.77A	94.89	94.83	---	---	26
27	---	---	---	---	---	---	94.75	---	94.92	94.83	---	---	27
28	---	---	---	---	---	---	94.74	---	94.93	94.82	---	---	28
29	---		---	---	---	---	94.74	---	94.94	94.82	---	---	29
30	---		---	---	---	---	94.74	---	94.93	94.81	---	---	30
31	---		---		---		94.72	---		94.81		---	31

SUMMARY FOR THE YEAR 1969

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 128 Mean daily water levels in feet for Lake 303 for 1970. An adjustment of -1.03 feet is required to relate 1970 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	184.24	184.18	184.07	183.82	183.69	184.01	184.55	---	1
2	---	---	---	---	184.02	184.17	184.06	183.80	183.70	184.02	184.55	---	2
3	---	---	---	---	184.18	---	184.07	183.77	183.71	184.01	184.53	---	3
4	---	---	---	---	184.13	---	---	183.76	183.72	184.01	184.51	---	4
5	---	---	---	---	184.07	---	---	183.75	183.71	184.00	184.50	---	5
6	---	---	---	183.64	184.05	---	184.04	183.75	183.70	184.02	184.49	---	6
7	183.71	---	---	183.64	184.05	---	184.04	183.75	183.86	184.00	184.48	---	7
8	---	---	---	183.65	184.06	---	184.02	183.74	184.06	184.00	184.47	---	8
9	---	---	---	183.67	184.06	184.08	---	183.73	184.13	184.05	184.47	---	9
10	---	---	---	183.66	184.05	184.08	---	183.72	184.13	184.08	184.46	---	10
11	---	---	---	183.66	184.03	184.07	---	183.70	184.12	184.07	184.45	---	11
12	---	---	---	183.65	184.04	184.04	---	183.71	184.26	184.06	184.44	---	12
13	---	---	---	183.65	184.03	184.01	---	183.69	184.27	184.08	184.39	---	13
14	---	---	---	183.67	184.02	---	183.98	183.68	184.22	184.10	184.25	---	14
15	---	---	---	183.69	184.06	---	---	183.68	184.19	184.11	184.15	---	15
16	---	---	---	183.75	184.10	184.02	---	183.67	184.19	184.11	184.10	---	16
17	---	---	---	183.79	184.13	184.08	183.92	183.66	184.17	184.12	184.06	---	17
18	---	---	---	183.80	184.13	184.16	183.92	183.67	184.14	184.12	184.05	---	18
19	---	---	---	183.82	184.11	---	183.91	183.68	184.12	184.13	184.00	---	19
20	---	---	---	183.85	184.10	---	183.89	183.66	184.12	184.14	---	---	20
21	---	---	---	183.88	184.10	---	183.86	183.67	184.11	184.14	---	---	21
22	---	---	---	183.87	184.09	---	183.84	183.69	184.09	184.12	---	---	22
23	183.69	183.67	---	183.88	184.09	184.06	183.80	183.69	184.07	184.13	---	---	23
24	---	---	---	183.88	184.08	184.04	183.77	183.69	184.06	184.15	---	---	24
25	---	---	---	183.90	184.12	184.04	183.76	183.68	184.06	184.17	---	---	25
26	---	---	---	183.99	184.17	---	183.76	183.66	184.05	184.18	---	---	26
27	---	---	---	---	---	---	183.76	183.67	184.04	184.21	---	---	27
28	---	---	---	---	---	---	183.75	183.65	184.03	184.38	---	---	28
29	---		---	184.38	184.19	---	183.77	183.65	184.02	184.48	---	---	29
30	---		---	184.35	184.19	---	183.84	183.70	184.02	184.49	---	---	30
31	---		---		184.18		183.84	183.69		184.51		---	31

SUMMARY FOR THE YEAR 1970
MAXIMUM DAILY WATER LEVEL, 184.55 FT ON NOV 1

TYPE OF GAUGE - RECORDING

MAXIMUM INSTANTANEOUS WATER LEVEL, 184.58 FT
AT 0345 CST ON NOV 1

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 128 Mean daily water levels in feet for Lake 303 for 1971. An adjustment of -1.03 feet is required to relate 1971 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	184.01	183.97	184.32	183.96	183.83	184.26	184.18	---	1
2	---	---	---	---	184.02	183.96	184.27	183.95	183.84	184.24	184.15	---	2
3	---	---	---	---	184.02	183.95	184.20	183.94	183.92	184.21	184.14	---	3
4	---	---	---	---	184.01	183.93	184.14	183.93	183.95	184.23	184.12	---	4
5	---	---	---	---	184.00	184.02	184.08	183.93	184.01	184.20	184.12	---	5
6	---	---	---	---	183.99	184.08	184.04	183.92	184.04	184.17	184.09	---	6
7	---	---	---	---	183.98	184.07	184.01	183.91	184.03	184.13	---	---	7
8	---	---	---	---	183.97	184.04	183.98	183.90	184.02	184.12	---	---	8
9	---	---	---	---	183.95	184.02	183.96	183.89	184.00	184.09	---	---	9
10	---	---	---	---	183.94	184.00	183.95	183.87	183.98	184.07	---	---	10
11	---	---	---	---	183.95	184.00	183.94	183.86	183.97	184.05	---	---	11
12	---	---	---	---	183.96	184.00	183.99	183.84	183.96	184.03	---	---	12
13	---	---	---	184.19A	183.96	184.00	184.00	183.82	183.94	184.02	---	---	13
14	---	---	---	---	183.94	183.98	183.99	183.81	183.94	184.01	---	---	14
15	---	---	---	184.12A	183.94	183.97	183.97	183.79	183.93	184.00	---	---	15
16	---	---	---	184.20	183.93	183.99	183.97	183.77	183.92	183.99	---	---	16
17	---	---	---	184.33	183.95	184.00	183.96	183.88	183.91	184.04	---	---	17
18	---	---	---	184.29	183.95	183.98	183.94A	183.89	183.91	184.11	---	---	18
19	---	---	---	184.29	183.94	183.98	---	183.89	183.90	184.14	---	---	19
20	---	---	---	184.26	183.95	183.98	---	183.90	183.89	184.12	---	---	20
21	---	---	---	184.20	183.94	183.95	183.88A	183.90	183.89	184.09	---	---	21
22	---	---	---	184.15	183.95	183.95	183.88	183.89	183.88	184.06	---	---	22
23	---	---	---	184.11	184.00	183.94	183.87	183.87	183.87	184.04	---	---	23
24	---	---	---	184.07	184.06	183.92	183.87	183.89	183.87	184.03	---	---	24
25	---	---	---	184.04	184.14	183.91	183.90	183.89	183.87	184.02	---	---	25
26	---	---	---	184.02	184.13	183.91	183.92	183.89	183.87	184.01	---	---	26
27	---	---	---	184.00	184.09	183.93	183.93	183.87	183.88	184.01	---	---	27
28	---	---	---	183.99	184.06	183.97	183.99	183.86	183.90	184.00	---	---	28
29	---		---	183.98	184.03	183.97	183.99	183.85	183.92	183.99	---	---	29
30	---		---	184.00	184.01	184.02	183.98	183.84	183.99	184.01	---	---	30
31	---		---		183.99		183.97	183.83		184.17		---	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 128 Mean daily water levels in feet for Lake 303 for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	183.10	182.94	182.81	182.92	182.92	183.03	182.93	---	1
2	---	---	---	---	183.06	182.91	182.80	182.93	182.90	183.03	182.93	---	2
3	---	---	---	---	183.04	182.89	182.78	182.92	182.89	183.03	182.92	---	3
4	---	---	---	182.88A	183.02	182.87	182.76	182.90	182.92	183.02	182.92	---	4
5	---	---	---	---	183.00	182.86	182.75	182.90	182.90	183.01	182.94	---	5
6	---	---	---	---	183.00	182.84	182.73	182.88	182.98	183.00	182.98	---	6
7	---	---	---	---	182.98	182.82	182.75	182.87	183.09	183.00	182.98	---	7
8	---	---	---	---	182.97	182.80	182.75	182.87	183.09	182.99	182.98	---	8
9	---	---	---	---	182.96	182.78	182.75	182.86	183.07	182.98	183.00	---	9
10	---	---	---	---	182.94	182.74	182.75	182.85	183.06	182.97	183.00	---	10
11	---	---	---	---	182.93	182.76	183.05	182.85	183.03	183.00	---	---	11
12	---	---	---	---	182.92	182.76	183.07	182.86	183.01	182.99	---	---	12
13	---	---	---	---	182.95	182.76	183.05	182.86	183.00	182.98	---	---	13
14	---	---	---	---	182.97	182.75	183.15	182.85	182.98	182.97	---	---	14
15	---	---	---	---	182.97	182.74	183.14	182.92	182.96	182.96	---	---	15
16	---	---	---	---	182.96	182.73	183.10	182.93	182.96	182.93	---	---	16
17	---	---	---	182.95A	182.95	182.71	183.09	182.93	182.96	182.92	---	---	17
18	---	---	---	182.96	182.94	182.75	183.05	182.92	182.95	182.91	---	---	18
19	---	---	---	182.98	182.92	182.96	183.01	182.91	182.95	182.93	---	---	19
20	---	---	---	183.10	182.98	182.99	183.00	183.14	182.94	182.91	---	---	20
21	---	---	---	183.17	182.97	182.97	182.97	183.41	182.92	182.91	---	---	21
22	---	---	---	183.21	182.97	182.95	182.94	183.31	182.91	182.91	---	---	22
23	---	---	---	183.21	182.98	182.93	182.92	183.22	182.90	182.90	---	---	23
24	---	---	---	183.17	182.98	182.91	182.92	183.16	182.96	182.90	---	---	24
25	---	---	---	183.14	182.97	182.89	182.93	183.11	182.97	182.91	---	---	25
26	---	---	---	183.17	182.98	182.88	182.92	183.07	182.98	182.91	---	---	26
27	---	---	---	183.18	182.97	182.86	182.90	183.03	182.99	182.93	---	---	27
28	---	---	---	183.17	183.01	182.85	182.88	183.00	183.01	182.92	---	---	28
29	---	---	---	183.16	183.00	182.86	182.89	182.98	183.03	182.93	---	---	29
30	---		---	183.13	182.99	182.84	182.94	182.96	183.03	182.93	---	---	30
31	---		---		182.95		182.94	182.94		182.93		---	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 128 Mean daily water levels in feet for Lake 303 for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	182.95	182.83	182.90	183.00	182.90	183.02	---	---	1
2	---	---	---	---	182.93	182.81	182.87	182.98	183.10	183.01	---	---	2
3	---	---	---	---	182.91	182.82	182.85	182.96	183.15	183.02	---	---	3
4	---	---	---	---	182.89	182.83	182.84	182.95	183.23	183.03	---	---	4
5	---	---	---	---	182.90	182.81	182.83	182.94	183.23	183.02	---	---	5
6	---	---	---	---	182.95	182.82	182.84	182.97	183.18	183.00	---	---	6
7	---	---	---	---	182.95	182.82	183.03	182.97	183.13	182.99	---	---	7
8	---	---	---	---	182.95	182.81	183.12	182.98	183.09	182.97	---	---	8
9	---	---	---	---	182.94	182.81	183.10	183.14	183.05	182.98	---	---	9
10	---	---	---	182.96A	182.96	182.82	183.06	183.18	183.02	183.00	---	---	10
11	---	---	---	182.96	182.97	182.81	183.03	183.15	182.99	183.01	---	---	11
12	---	---	---	182.95	182.95	182.80	183.00	183.11	182.96	183.15	---	---	12
13	---	---	---	182.93	182.93	182.78	182.97	183.07	182.95	183.19	---	---	13
14	---	---	---	182.93	182.91	182.79	182.94	183.04	182.95	183.17	---	---	14
15	---	---	---	182.95	182.90	182.83	182.92	183.01	182.94	183.13	---	---	15
16	---	---	---	182.96	182.89	182.83	182.90	182.99	182.92	183.10	---	---	16
17	---	---	---	182.97	182.88	182.88	182.89	182.96	182.91	183.07	---	---	17
18	---	---	---	182.96	182.88	182.92	182.88	182.95	182.90	183.05	---	---	18
19	---	---	---	182.96	182.88	182.94	182.87	182.94	182.89	183.03	---	---	19
20	---	---	---	183.06	182.87	182.96	182.85	182.92	182.88	183.01	---	---	20
21	---	---	---	183.30	182.86	182.97	182.84	182.90	182.89	183.00	---	---	21
22	---	---	---	183.30	182.85	182.96	182.83	182.88	183.03	182.98	---	---	22
23	---	---	---	183.25	182.87	182.95	182.82	182.87	183.09	182.98	---	---	23
24	---	---	---	183.16	182.87	182.94	182.85	182.86	183.09	182.97	---	---	24
25	---	---	---	183.12	182.88	182.95	182.85	182.84	183.12	182.96	---	---	25
26	---	---	---	183.08	182.89	182.95	182.90	182.84	183.14	182.96	---	---	26
27	---	---	---	183.05	182.88	182.95	183.05	182.83	183.13	182.95	---	---	27
28	---	---	---	183.02	182.86	182.93	183.08	182.83	183.10	182.94	---	---	28
29	---		---	183.00	182.85	182.92	183.07	182.82	183.07	182.93	---	---	29
30	---		---	182.98	182.85	182.91	183.05	182.81	183.05	182.93	---	---	30
31	---		---		182.84		183.02	182.80		182.92A		---	31

SUMMARY FOR THE YEAR 1973

MAXIMUM DAILY WATER LEVEL, 183.30 FT ON APR 21

MAXIMUM INSTANTANEOUS WATER LEVEL, 183.32 FT AT 1802 CST ON APR 21

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 128 Mean daily water levels in feet for Lake 303 for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	M	183.19	182.94	182.72	182.38	183.08	182.95	182.93	---	1
2	---	---	---	M	183.15	182.92	182.72	182.38	183.07	182.95	182.94	---	2
3	---	---	---	M	183.11	182.91	182.70	182.36	183.04	182.94	182.95	---	3
4	---	---	---	M	183.09	182.90	M	182.35	183.02	183.94	182.95	---	4
5	---	---	---	M	183.04	182.95	M	182.34	183.00	182.97	182.94	---	5
6	---	---	---	M	183.02	183.19	M	182.32	182.98	183.00	182.94	---	6
7	---	---	---	M	183.00	183.30	M	182.36	182.97	183.01	182.94	---	7
8	---	---	---	M	182.99	183.24	M	182.35	182.96	183.01	182.93	---	8
9	---	---	---	M	182.98	183.17	M	182.33	182.94	183.01	182.93	---	9
10	---	---	---	M	182.96	183.12	182.67	187.36	182.94	183.00	182.93	---	10
11	---	---	---	M	183.11	183.06	182.66	182.39	182.94	183.00	182.93	---	11
12	---	---	---	M	183.32	183.03	182.65	182.41	182.93	182.98	182.92	---	12
13	---	---	---	M	183.28	183.00	182.63	182.41	182.92	182.98	182.92	---	13
14	---	---	182.84	M	183.21	183.00	182.60	182.43	182.91	182.97	182.93	---	14
15	---	---	182.85	M	183.17	183.00	182.58	182.60	182.91	182.99	---	---	15
16	---	---	182.85	182.90	183.13	182.97	182.57	182.69	182.92	183.00	---	---	16
17	---	---	182.85	182.94	183.12	182.95	182.59	182.71	182.94	183.00	---	---	17
18	---	---	182.85	183.00	183.09	182.93	182.58	182.73	182.96	183.00	---	---	18
19	---	---	182.85	183.05	183.07	182.92	182.56	182.72	182.97	183.00	---	---	19
20	---	---	182.85	183.13	183.11	182.92	182.54	182.77	182.96	182.99	---	---	20
21	---	---	182.85	183.34	183.16	182.90	182.52	182.89	182.95	182.98	---	---	21
22	---	---	M	183.43	183.14	182.89	182.50	182.93	182.94	182.97	---	---	22
23	---	---	M	183.38	183.11	182.87	182.48	182.95	182.94	182.96	---	---	23
24	---	---	M	183.24	182.08	182.86	182.46	182.95	182.94	182.96	---	---	24
25	---	---	M	183.24	183.05	182.84	182.45	182.95	182.94	182.95	---	---	25
26	---	---	M	183.35	183.03	182.83	182.44	182.95	182.94	182.94	---	---	26
27	---	---	M	183.37	183.00	182.81	182.41	182.94	182.93	182.94	---	---	27
28	---	---	M	183.34	182.99	182.79	182.40	182.95	182.92	182.94	---	---	28
29	---		M	183.28	182.97	182.77	182.39	182.97	182.94	182.94	---	---	29
30	---		M	183.24	182.95	182.75	182.38	183.02	182.95	182.93	---	---	30
31	---		M		182.95		182.37	183.07		182.93		---	31
MEAN	---	---	---	---	183.08	182.96	---	182.64	182.96	182.97	---	---	MEAN
MAX	---	---	---	183.43	183.32	183.30	182.72	183.07	183.08	183.01	---	---	MAX
MIN	---	---	---	182.90	182.95	182.75	182.37	182.32	182.91	182.93	---	---	MIN

SUMMARY FOR 1974

MAXIMUM DAILY WATER LEVEL, 183.43 FT ON APR 22

MAXIMUM INSTANTANEOUS WATER LEVEL,
183.45 FT AT 0600 ON APR 22

TYPE OF GAUGE - RECORDING

M-MISSING

Table 128 Mean daily water levels in feet for Lake 303 for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	183.20	182.91	183.09	182.68	182.69	182.92	182.98	---	1
2	---	---	---	---	183.19	182.89	183.10	182.68	182.68	182.90	182.98	---	2
3	---	---	---	---	183.19	182.89	183.07	182.67	182.68	182.90	182.97	---	3
4	---	---	---	---	183.18	182.88	183.04	182.66	182.67	182.90	182.97	---	4
5	---	---	---	---	183.15	182.91	183.02	182.64	182.66	182.88	---	---	5
6	---	---	---	---	183.07	182.92	183.00	182.62	182.67	182.88	---	---	6
7	---	---	---	---	183.04	182.91	182.97	182.60	182.76	182.88	---	---	7
8	---	---	---	---	183.04	182.90	182.93	182.60	182.80	182.87	---	---	8
9	---	---	---	---	183.03	182.90	182.91	182.59	182.80	182.87	---	---	9
10	---	---	---	---	182.97	182.90	182.89	182.58	182.82	182.88	---	---	10
11	---	---	---	---	182.97	182.88	182.88	182.59	182.83	182.87	---	---	11
12	---	---	---	---	182.94	182.88	182.87	182.58	182.84	182.87	---	---	12
13	---	---	---	182.83	182.94	182.87	182.86	182.57	182.84	182.86	---	---	13
14	---	---	---	182.84	182.95	182.87	182.86	182.56	182.84	182.88	---	---	14
15	---	---	---	182.89	182.93	182.86	182.85	182.56	182.84	182.91	---	---	15
16	---	---	---	182.97	182.92	182.85	182.85	182.55	182.84	182.91	---	---	16
17	---	---	---	183.05	182.90	182.84	182.82	182.53	182.84	182.91	---	---	17
18	---	---	---	183.14	182.90	182.82	182.81	182.51	182.86	182.91	---	---	18
19	---	---	---	183.17	182.89	182.82	182.80	182.50	182.90	182.90	---	---	19
20	---	---	---	183.18	182.88	182.90	182.79	182.51	182.96	182.90	---	---	20
21	---	---	---	183.18	182.89	183.03	182.78	182.58	182.98	182.90	---	---	21
22	---	---	---	183.19	182.89	183.29	182.76	182.57	182.99	182.89	---	---	22
23	---	---	---	183.23	183.03	183.36	182.76	182.63	183.00	182.91	---	---	23
24	---	---	---	183.29	183.08	183.26	182.74	182.65	182.99	182.93	---	---	24
25	---	---	---	183.32	183.06	183.18	182.73	182.66	182.97	182.97	---	---	25
26	---	---	---	183.28	183.04	183.11	182.74	182.66	182.96	182.97	---	---	26
27	---	---	---	183.26	183.01	183.07	182.73	182.66	182.95	182.97	---	---	27
28	---	---	---	183.25	182.98	183.03	182.71	182.66	182.94	182.97	---	---	28
29	---		---	183.23	182.95	183.01	182.70	182.66	182.94	182.98	---	---	29
30	---		---	183.20	182.92	183.07	182.69	182.66	182.94	182.99	---	---	30
31	---		---		182.91		182.66	182.66		182.99		---	31
MEAN	---	---	---	---	183.00	182.97	182.85	182.61	182.85	182.91	---	---	MEAN
MAX	---	---	---	---	183.20	183.36	183.10	182.68	183.00	182.99	---	---	MAX
MIN	---	---	---	---	182.88	182.82	182.66	182.50	182.66	182.86	---	---	MIN

SUMMARY FOR THE YEAR 1975

MAXIMUM DAILY WATER LEVEL, 183.36 FT ON JUN 23
MINIMUM DAILY WATER LEVEL, 182.50 FT ON AUG 19
MAXIMUM INSTANTANEOUS WATER LEVEL,
183.42 FT AT 1853 CST ON JUN 22

TYPE OF GAUGE - RECORDING

NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 128 Mean daily water levels in feet for Lake 303 for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	182.97	182.95	182.70	182.99	182.47	182.27	182.08	---	---	1
2	---	---	---	182.97	182.95	182.68	182.96	182.46	182.26	182.07	---	---	2
3	---	---	---	182.95	182.94	182.67	182.93	182.44	182.25	182.07	182.05A	---	3
4	---	---	---	182.97	182.93	182.66	182.92	182.43	182.25	182.09	---	---	4
5	---	---	---	182.99	182.93	182.63	182.89	182.40	182.24	182.07	---	---	5
6	---	---	---	183.02	182.92	182.60	182.88	182.39	182.23	182.06	---	---	6
7	---	---	---	183.06	182.91	182.60	182.86	182.37	182.23	182.05	---	---	7
8	---	---	---	183.08	182.90	182.59	182.85	182.36	182.21	182.06	---	---	8
9	---	---	---	183.12	182.90	182.60	182.83	182.39	182.20	182.06	---	---	9
10	---	---	---	183.23	182.88	182.61	182.81	182.52	182.19	182.07	---	---	10
11	---	---	---	183.22	182.87	182.60	182.78	182.51	182.18	182.07	---	---	11
12	---	---	---	183.19	182.87	182.62	182.76	182.51	182.18	182.06	---	---	12
13	---	---	---	183.16	182.88	182.65	182.76	182.49	182.20	182.05	---	---	13
14	---	---	---	183.18	182.90	182.68	182.75	182.47	182.18	182.06	---	---	14
15	---	---	---	183.25	182.91	182.67	182.73	182.46	182.17	182.06	---	---	15
16	---	---	---	183.35	182.91	182.66	182.71	182.44	182.16	182.06	---	---	16
17	---	---	---	183.37	182.90	182.67	182.69	182.43	182.16	182.05	---	---	17
18	---	---	---	183.29	182.88	182.69	182.68	182.41	182.16	182.05	---	---	18
19	---	---	---	183.22	182.87	182.70	182.67	182.44	182.15	182.04	---	---	19
20	---	---	---	183.17	182.87	182.70	182.66	182.45	182.13	182.05	---	---	20
21	---	---	---	183.13	182.85	182.69	182.64	182.43	182.12	182.06	---	---	21
22	---	---	---	183.10	182.83	182.69	182.63	182.41	182.12	182.06	---	---	22
23	---	---	---	183.07	182.82	182.68	182.61	182.39	182.11	182.05	---	---	23
24	---	---	---	183.03	182.80	182.67	182.60	182.37	182.10	182.05	---	---	24
25	---	---	---	183.01	182.79	182.75	182.59	182.36	182.10	182.05	---	---	25
26	---	---	---	182.99	182.77	182.97	182.57	182.34	182.10	182.05A	---	---	26
27	---	---	---	182.97	182.75	183.06	182.55	182.36	182.10	---	---	---	27
28	---	---	---	182.96	182.75	183.07	182.54	182.34	182.09	---	---	---	28
29	---	---	---	182.95	182.74	183.05	182.53	182.32	182.08	---	---	---	29
30	---		---	182.95	182.72	183.02	182.51	182.31	182.08	---	---	---	30
31	---		182.95A		182.71		182.50	182.30		---		---	31
MEAN	---	---	---	183.10	182.86	182.72	182.72	182.41	182.17	---	---	---	MEAN
MAX	---	---	---	183.37	182.95	183.07	182.99	182.52	182.27	---	---	---	MAX
MIN	---	---	---	182.95	182.71	182.59	182.50	182.30	182.08	---	---	---	MIN

SUMMARY FOR THE YEAR 1976

MAXIMUM DAILY WATER LEVEL, 183.37 FT ON APR 17

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

MAXIMUM INSTANTANEOUS WATER LEVEL,
183.41 FT AT 2012 CST ON APR 16

NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 128 Mean daily water levels in feet for Lake 303 for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	182.43	182.89	183.23	183.06	182.77	182.71	183.03	182.92	---	1
2	---	---	---	182.43	182.89	183.22	183.04	182.75	182.71	183.01	---	---	2
3	---	---	---	182.43	182.88	183.20	183.04	182.76	182.70	183.00	---	---	3
4	---	---	---	182.43	182.87	183.17	183.01	182.76	182.72	183.00	---	---	4
5	---	---	---	182.46	182.92	183.18	182.99	182.75	182.71	183.00	---	---	5
6	---	---	---	182.47	183.04	183.20	182.99	182.74	182.72	182.99	---	---	6
7	---	---	---	182.46	183.06	183.20	182.98	182.73	182.71	182.98	---	---	7
8	---	---	---	182.46	183.06	183.18	182.96	182.73	182.72	182.97	---	---	8
9	---	---	---	182.46	183.04	183.17	182.93	182.71	182.87	182.97	---	---	9
10	---	---	---	182.49	183.07	183.16	182.92	182.69	183.06	182.96	---	---	10
11	---	---	---	182.57	183.09	183.16	182.91	182.67	183.08	182.96	---	---	11
12	---	---	182.31	182.64	183.08	183.14	182.95	182.66	183.07	182.95	---	---	12
13	---	---	182.34	182.75	183.08	183.16	182.94	182.65	183.06	182.94	---	---	13
14	---	---	182.34	182.81	183.06	183.23	182.96	182.64	183.05	182.94	---	---	14
15	---	---	182.34	182.87	183.07	183.35	182.94	182.63	183.03	182.93	---	---	15
16	---	---	182.33	182.91	183.06	183.41	182.92	182.64	183.01	182.92	---	---	16
17	---	---	182.34	182.95	183.04	183.34	182.91	182.64	182.99	182.92	---	---	17
18	---	---	182.34	182.98	183.04	183.38	182.89	182.63	182.98	182.93	---	---	18
19	---	---	182.34	182.98	183.07	183.35	182.89	182.62	182.97	182.93	---	---	19
20	---	---	182.34	182.98	183.12	183.30	182.88	182.62	182.96	182.92	---	---	20
21	---	---	182.34	183.00	183.14	183.24	182.85	182.61	182.95	182.92	---	---	21
22	---	---	182.35	183.00	183.14	183.19	182.83	182.61	182.94	182.92	---	---	22
23	---	---	182.34	182.99	183.19	183.14	182.81	182.60	182.94	182.91	---	---	23
24	---	---	182.35	182.93	183.19	183.11	182.81	182.58	182.97	182.90	---	---	24
25	---	---	182.34	182.91	183.17	183.08	182.78	182.59	183.03	182.90	---	---	25
26	---	---	182.35	182.91	183.16	183.06	182.76	182.64	183.05	182.90	---	---	26
27	---	---	182.37	182.91	183.21	183.03	182.74	182.65	183.07	182.90	---	---	27
28	---	---	182.36	182.90	183.21	183.03	182.72	182.69	183.07	182.90	---	---	28
29	---		182.38	182.90	183.20	183.01	182.72	182.69	183.06	182.89	---	---	29
30	---		182.39	182.89	183.19	183.04	182.75	182.71	183.04	182.89	---	---	30
31	---		182.41		183.21		182.79	182.71		182.92		---	31
MEAN	---	---	---	182.74	183.08	183.19	182.89	182.67	182.93	182.94	---	---	MEAN
MAX	---	---	---	183.00	183.21	183.41	183.06	182.77	183.08	183.03	---	---	MAX
MIN	---	---	---	182.43	182.87	183.01	182.72	182.58	182.70	182.89	---	---	MIN

SUMMARY FOR THE YEAR 1977

MAXIMUM DAILY WATER LEVEL, 183.41 FT ON JUN 16

TYPE OF GAUGE - RECORDING

MAXIMUM INSTANTANEOUS WATER LEVEL,
183.45 FT AT 2250 CST ON JUN 15

NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM NO.2

Table 128 Mean daily water levels in feet for Lake 303 for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	182.84 E	183.11	183.06	182.71	182.70	182.80	182.82	182.72	---	1
2	---	---	---	182.86 E	183.05	183.08	182.69	182.78	182.80	182.81	---	---	2
3	---	---	---	182.87 E	183.02	183.04	182.68	182.79	182.79	182.81	---	---	3
4	---	---	---	182.88 E	183.00	183.00	182.70	182.80	182.78	182.81	---	---	4
5	---	---	---	182.89 E	182.98	182.96	182.72	182.78	182.78	182.81	---	---	5
6	---	---	---	182.90 A	182.95	182.95	182.73	182.77	182.78	182.80	---	---	6
7	---	---	---	182.90	182.92	182.94	182.71	182.76	182.76	182.79	---	---	7
8	---	---	---	182.92	182.94	182.92	182.69	182.75	182.75	182.78	---	---	8
9	---	---	---	182.95	182.94	182.90	182.68	182.73	182.74	182.78	---	---	9
10	---	---	---	182.99	182.94	182.87	182.67	182.72	182.73	182.77	---	---	10
11	---	---	---	183.00	182.94	182.86	182.65	182.72	182.72	182.76	---	---	11
12	---	---	---	183.00	182.92	182.84	182.66	182.70	182.70	182.76	---	---	12
13	---	---	---	182.01	182.91	182.82	182.66	128.69	182.72	182.75	---	---	13
14	---	---	---	182.02	182.89	182.80	182.69	182.70	182.83	182.75	---	---	14
15	---	---	---	183.00	182.89	182.79	182.69	182.72	182.88	182.78	---	---	15
16	---	---	---	182.99	182.88	182.78	182.68	182.75	182.89	182.77	---	---	16
17	---	---	---	183.00	182.88	182.76	182.68	182.75	182.90	182.77	---	---	17
18	---	---	---	183.05	182.88	182.75	182.71	182.82	182.89	182.76	---	---	18
19	---	---	---	183.13	182.88	182.73	182.72	182.83	182.88	182.76	---	---	19
20	---	---	---	183.13	182.87	182.73	182.72	183.82	182.86	182.76	---	---	20
21	---	---	182.80 A	182.11	182.86	182.72	182.72	182.81	182.85	182.75	---	---	21
22	---	---	---	183.12	182.85	182.71	182.70	182.80	182.84	182.76	---	---	22
23	---	---	---	183.16	182.88	182.69	182.72	182.79	182.83	182.75	---	---	23
24	---	---	---	183.19	182.88	182.72	182.72	182.79	182.82	182.74	---	---	24
25	---	---	---	183.24	182.87	182.74	182.70	182.78	182.81	182.74	---	---	25
26	---	---	---	183.27	183.02	182.74	182.70	182.78	182.80	182.74	---	---	26
27	---	---	---	183.30	183.10	182.75	182.68	182.79	182.79	182.74	---	---	27
28	---	---	---	183.29	183.06	182.75	182.67	182.81	182.79	182.74	---	---	28
29	---		---	183.25	183.03	182.73	182.65	182.81	182.83	182.73	---	---	29
30	---		---	183.17	183.03	182.72	182.65	182.80	182.82	182.73	---	---	30
31	---		---		183.01		182.68	182.79		182.73		---	31
MEAN	---	---	---	183.05	182.95	182.83	182.69	182.77	182.81	182.77	---	---	MEAN
MAX	---	---	---	183.30	183.11	183.08	182.73	182.83	182.90	182.82	---	---	MAX
MIN	---	---	---	182.84	182.85	182.69	182.65	182.69	182.70	182.73	---	---	MIN

SUMMARY FOR THE YEAR 1978

MAXIMUM DAILY WATER LEVEL, 183.30 FT ON APR 27

MAXIMUM INSTANTANEOUS WATER LEVEL,
183.31 FT AT 0559 CST ON APR 27

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED

Lake 304 Hydrological Data for 1969 to 1978

Lake 304 is located 0.9 miles (1.4 kilometres) west of the ELA field camp (Fig. 3). A basin topographical map (Fig. 48) with 10 foot contour interval, and a bathymetric map (Fig. 47) with 1 metre contour interval are included. The topographical map is based on mapping by Western Photogrammetry in 1970 using an assumed datum.

Lake 304 is a headwater lake with no streams or lakes entering it. Hydrological work began July 9, 1969 when Water Survey of Canada established a stilling well and water level recorder on the lake. The station was operated from early April to early November each year. All of the data presented in Tables 130 were completed by Water Survey of Canada with the exception of 1974 when service and computations were carried out by ELA staff. No weir exists on this lake and lake outflow is influenced by an old beaver dam. All original water level charts are on file with WSC.

Table 129. Location and morphometric data for Lake 304.

Location:		
Latitude	49 39 33 N	
Longitude	93 45 39 W	
Morphometric data		
Basin terrestrial area		23.03[a] ha
Lake surface area		3.39[b]
Total basin area		26.42
Lake volume	1.15×10^5 metre^3	
Mean depth	2.95 metres	

[a] Basin area is based on contour map and supercedes area value reported by Brunskill and Schindler (1971).

[b] Lake surface area is 6.7% less than that reported by Brunskill and Schindler (1971) and is based on topographical map rather than bathymetric map.

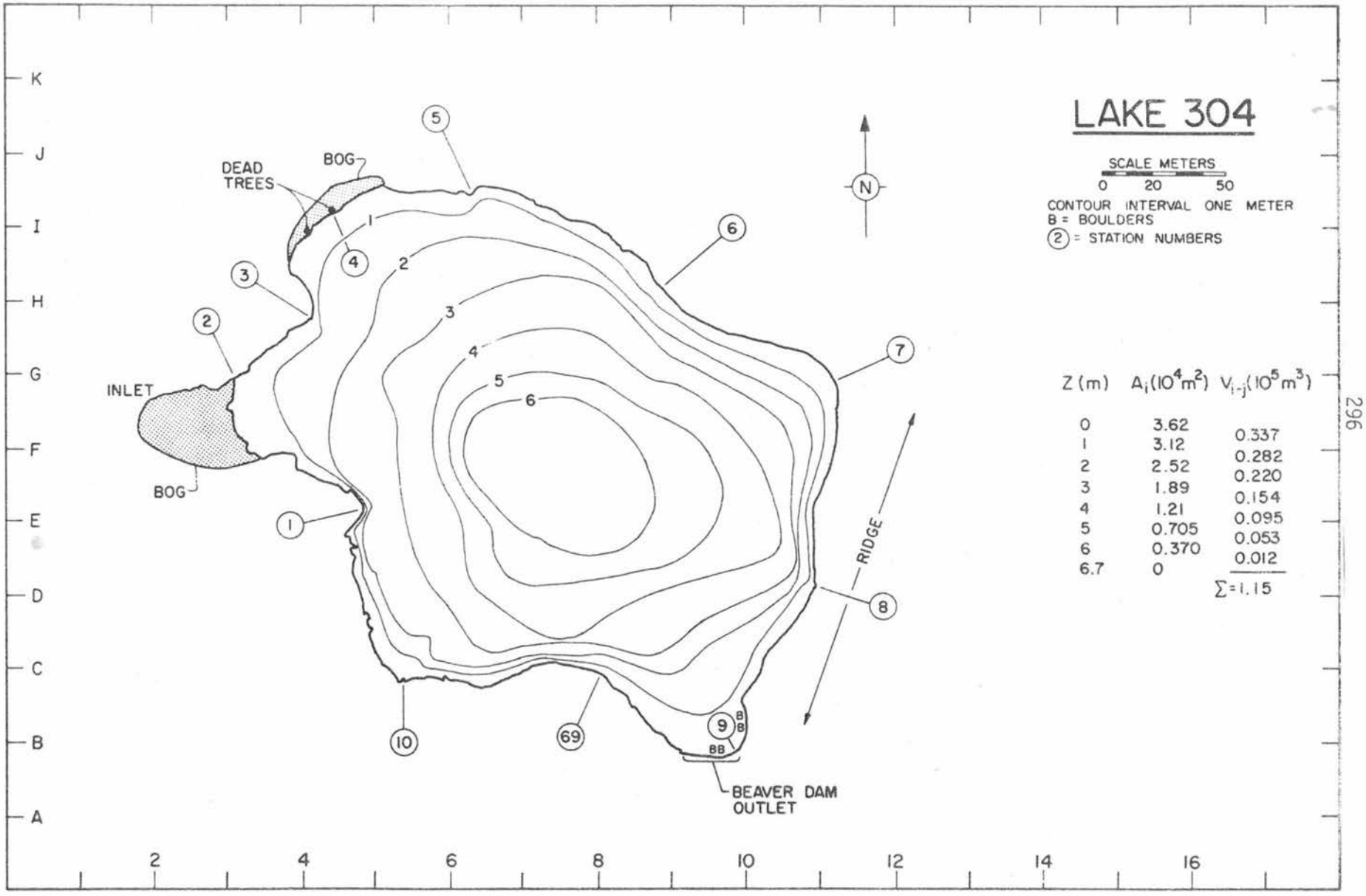


Fig. 47 Bathymetric chart of Lake 304.

Table 130 Mean daily water levels in feet for Lake 304 for 1969. An adjustment of +81.93 feet is required to relate 1969 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	---	---	---	94.78	95.00	---	---	1
2	---	---	---	---	---	---	---	---	94.77	95.02	---	---	2
3	---	---	---	---	---	---	---	---	94.76	95.01	---		3
4	---	---	---	---	---	---	---	---	94.75	95.04	---		4
5	---	---	---	---	---	---	---	---	94.77	95.19	---	---	5
6	---	---	---	---	---	---	---	---	94.78	95.25	---	---	6
7	---	---	---	---	---	---	---	---	94.80	95.23	---	---	7
8	---	---	---	---	---	---	---	---	94.79	95.21	---	---	8
9	---	---	---	---	---	94.92A	---	---	94.79	95.18	---	---	9
10	---	---	---	---	---	---	---	---	94.78	95.17	---	---	10
11	---	---	---	---	---	---	---	---	94.77	95.15	---	94.76	11
12	---	---	---	---	---	---	---	---	94.76	95.12	---	94.75	12
13	---	---	---	---	---	---	---	---	94.75	95.10	---	94.75	13
14	---	---	---	---	---	---	---	---	94.76	95.08	---	94.73	14
15	---	---	---	---	---	---	---	---	94.83	95.07	---	94.72	15
16	---	---	---	---	---	---	---	---	94.85	95.05	---	94.71	16
17	---	---	---	---	---	---	---	---	94.84	95.03	---	94.69	17
18	---	---	---	---	---	---	---	---	94.84	95.01	---	94.67	18
19	---	---	---	---	---	---	---	---	94.83	94.99	94.88	94.66	19
20	---	---	---	---	---	---	---	---	94.82	94.97	---	94.66	20
21	---	---	---	---	---	---	---	---	94.82	94.95	---	94.65	21
22	---	---	---	---	---	---	---	---	94.84	94.95	---	94.65	22
23	---	---	---	---	---	---	---	---	94.84	94.94	---	94.64	23
24	---	---	---	---	---	---	---	---	94.84	94.93	---	94.64	24
25	---	---	---	---	---	---	---	---	94.90	94.92	---	94.63	25
26	---	---	---	---	---	---	---	94.71	94.96	94.92	---	94.63	26
27	---	---	---	---	---	---	---	94.69	94.97	94.91	---	94.62	27
28	---	---	---	---	---	---	---	94.67	94.98	94.90	---	94.62	28
29	---		---	---	---	---	---	94.69	95.00	94.90A	---	94.61	29
30	---		---	---	---	---	---	94.80	95.00	---	---	94.61	30
31	---		---		---		---	94.79		---		94.59	31

SUMMARY FOR THE YEAR 1969

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 130 Mean daily water levels in feet for Lake 304 for 1970. An adjustment of +81.93 feet is required to relate 1970 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	94.58	---	---	---	---	95.17	95.06	---	94.56	94.95	95.22	94.69	1
2	94.58	---	---	---	---	95.15	95.04	---	94.58	94.96	95.20	94.69A	2
3	94.57	---	---	---	---	95.14	95.04	---	94.59	94.95	95.17	---	3
4	94.57	---	---	---	---	95.12	95.02	94.66A	94.59	94.94	95.14	---	4
5	94.57	---	---	---	---	95.10	94.99	94.64A	94.58	94.93	95.11	---	5
6	94.56	---	---	94.49A	---	95.07	94.98	94.64A	94.58	94.94	95.08	---	6
7	94.56	---	---	94.50	---	95.05	94.96	---	94.73	94.92	95.05	---	7
8	94.56	---	---	94.51	---	95.03	94.94	---	94.89	94.92	95.01	---	8
9	94.56	---	---	94.52	---	95.03	94.93	---	95.03A	94.97	94.98	---	9
10	94.56	---	---	94.52	---	95.04	94.91	---	---	95.01	94.96	---	10
11	94.56	---	---	94.52	---	95.02	94.90	94.59A	---	95.00	94.93	---	11
12	94.56	---	---	94.52	---	95.00A	94.90	94.59	---	95.00	94.90	---	12
13	94.55	---	---	94.52	---	---	94.90	94.58	---	95.02	94.88	---	13
14	94.55	---	---	94.52	---	---	94.89	94.58	---	95.04	94.86	---	14
15	94.55	---	---	94.52	---	---	94.87	94.57	---	95.05	94.84	94.15A	15
16	94.55	---	---	94.56	---	95.04A	94.85	94.56	95.15A	95.04	94.82	94.09	16
17	94.55	---	---	94.59	---	95.16	94.82	94.54	95.13	95.03	94.80	93.99	17
18	---	---	---	94.60	---	95.16	94.82	94.55	95.11	95.03	94.80	93.96	18
19	---	---	---	94.62	---	95.14	94.82	94.57	95.08	95.03	94.79	93.93	19
20	---	---	---	94.66	---	95.13	94.80	94.56	95.06	95.04	94.77	93.90	20
21	---	---	---	94.68	---	95.10	94.78	94.54	95.05	95.04	94.76	93.90	21
22	---	---	---	94.69	---	95.08	94.76	94.58	95.04	95.02	94.77	93.89	22
23	---	94.46A	---	94.71	---	95.05	94.75	94.57	95.02	95.00	94.75	93.89	23
24	---	94.46	---	94.72	---	95.02	94.72	94.56	95.01	94.99	94.74	93.88	24
25	---	---	---	94.76	---	95.02	94.72A	94.56	94.99	94.98	94.75	93.86	25
26	---	---	---	94.88	---	95.05	---	94.55	94.99	94.96	94.73	93.86	26
27	---	---	---	95.00	---	95.05	---	94.55	94.98	95.09	94.71	93.86	27
28	---	---	---	95.21	95.18A	95.04	94.69A	94.54	94.97	95.20	94.69	93.86	28
29	---		---	95.18	95.19	95.03	94.69A	94.54	94.96	95.21	94.68	93.86	29
30	---		---	95.13A	95.18	95.04	---	94.58	94.96	95.19	94.67	93.86	30
31	---		---		95.17		---	94.57		95.20		93.86	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 130 Mean daily water levels in feet for Lake 304 for 1971. An adjustment of +81.93 feet is required to relate 1971 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	93.85	93.83	---	---	---	94.09A	---	94.17	93.86	---	93.97	---	1
2	93.85	93.83	---	---	---	---	---	94.15	93.87	---	---	---	2
3	93.85	93.83	---	---	---	---	---	94.14	93.91	---	---	---	3
4	93.85	---	---	---	---	---	---	94.13	93.91	---	---	---	4
5	93.85	---	---	---	---	---	---	94.11	93.94	---	---	---	5
6	93.85	---	---	---	---	---	94.34A	94.10	93.93	---	---	---	6
7	93.85	---	---	---	---	---	94.33A	94.08	93.89	---	---	---	7
8	93.85	---	---	---	---	94.14A	---	94.07	93.86	---	---	---	8
9	93.85	---	---	---	---	---	---	94.06	93.82	---	---	---	9
10	93.85	---	---	---	---	---	---	94.04	93.80	---	---	---	10
11	93.85	---	---	---	93.86A	---	---	94.03	93.79	---	---	---	11
12	93.85	---	---	---	93.86A	---	---	94.01	93.77	---	---	---	12
13	93.85	---	---	94.14A	---	---	94.32A	93.99	93.76	---	---	---	13
14	93.85	---	---	94.14A	---	---	---	93.98	93.73	---	---	---	14
15	93.85	---	---	---	---	94.12A	---	93.97	93.72	---	---	---	15
16	93.84	---	---	---	---	---	---	93.95	93.70	---	---	---	16
17	93.84	---	---	---	---	94.22A	---	94.04	93.69	---	---	---	17
18	93.84	---	---	---	93.84A	---	---	94.04	93.70	---	---	---	18
19	93.84	---	---	---	---	---	---	94.04	93.68	---	---	---	19
20	93.84	---	---	---	93.86A	---	94.19A	94.03	93.67	---	---	---	20
21	93.84	---	---	---	93.86A	---	94.17A	94.02	93.66	---	---	---	21
22	93.84	---	---	---	93.87A	---	---	94.00	93.65	---	---	---	22
23	93.84	---	---	---	93.92A	---	---	93.98	93.64	---	---	---	23
24	93.84	---	---	---	---	94.16A	---	93.98	93.64	---	---	---	24
25	93.84	---	---	---	94.12A	---	---	93.97	93.64	93.79A	---	---	25
26	93.84	---	---	---	94.14A	---	---	93.97	93.64	93.80	---	---	26
27	93.84	---	---	93.96A	94.14A	---	94.15A	93.95	93.66	93.79	---	---	27
28	93.84	---	---	93.95A	---	---	94.21A	93.94	93.67	93.78	---	---	28
29	93.84		---	---	---	---	94.22	93.93	---	93.76	---	---	29
30	93.84		---	---	---	---	94.20	93.92	---	93.79	---	---	30
31	93.84		---		---		94.19	93.90		93.97		---	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING
LOCATION - LAT 49 39 33 N
LONG 93 44 39 W

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 130 Mean daily water levels in feet for Lake 304 for 1972. An adjustment of +81.93 feet is required to relate 1970 water levels to other years.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	---	93.67	93.57	93.67	93.67	93.78	93.73	---	1
2	---	---	---	---	---	93.66	93.54	93.67	93.66	93.78	93.74	---	2
3	---	---	---	---	---	93.64	93.53	93.67	93.65	93.78	93.74	---	3
4	---	---	---	93.69A	---	93.62	93.52	93.66	93.67	93.78	93.74	---	4
5	---	---	---	93.75	94.01A	93.62	93.51	93.65	93.66	93.77	93.76	---	5
6	---	---	---	93.75	---	93.62	93.50	93.64	93.73	93.76	93.79	---	6
7	---	---	---	93.75	---	93.60	93.50	93.63	93.82	93.75	93.82	---	7
8	---	---	---	93.75	93.90A	93.59	93.51	93.63	93.81	93.75	93.84	---	8
9	---	---	---	93.75	93.88A	93.56	93.51	93.62	93.79	93.73	93.85	---	9
10	---	---	---	93.76	---	93.53	93.53	93.61	93.76	93.73	93.86	---	10
11	---	---	---	93.75A	---	93.53	93.82	93.61	93.74	93.76	93.88	---	11
12	---	---	---	---	---	93.54	93.83	93.63	93.73	93.75	93.88	---	12
13	---	---	---	---	---	93.54	93.81	93.64	93.71	93.76	93.87	---	13
14	---	---	---	---	---	93.54	93.91	93.62	93.70	93.75	93.87	---	14
15	---	---	---	---	---	93.53	93.89	93.69	93.69	93.74	---	---	15
16	---	---	---	---	93.71A	93.52	93.85	93.70	93.69	93.72	---	---	16
17	---	---	---	94.12A	---	93.51	93.84	93.71	93.70	93.71	---	---	17
18	---	---	---	---	93.67A	93.55	93.80	93.72	93.70	93.71	---	---	18
19	---	---	---	---	93.68	93.75	93.78	93.71	93.68	93.70	---	---	19
20	---	---	---	---	93.72	93.76	93.77	93.93	93.68	93.70	---	---	20
21	---	---	---	---	93.71	93.74	93.74	94.16	93.66	93.70	---	---	21
22	---	---	---	---	93.71	93.73	93.72	94.05	93.65	93.70	---	---	22
23	---	---	---	---	93.73	93.71	93.70	93.95	93.66	93.70	---	---	23
24	---	---	---	---	93.71	93.69	93.67	93.88	93.73	93.68	---	---	24
25	---	---	---	---	93.70	93.67	93.65	93.82	93.74	93.69	---	---	25
26	---	---	---	---	93.70	93.65	93.64	93.79	93.75	93.69	---	---	26
27	---	---	---	---	93.69	93.63	93.62	93.77	93.75	93.72	---	---	27
28	---	---	---	---	93.71	93.62	93.62	93.77	93.77	93.72	---	---	28
29	---	---	---	---	93.71	93.62	93.61	93.76	93.78	93.73	---	---	29
30	---		---	---	93.69	93.60	93.69	93.74	93.78	93.73	---	---	30
31	---		---		93.68		93.68	93.70		93.73		---	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM.

Table 130 Mean daily water levels in feet for Lake 304 for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	175.65	175.60	175.59	175.62	---	175.70	---	---	1
2	---	---	---	---	175.64	175.59	175.57	175.60	---	175.69	---	---	2
3	---	---	---	---	175.63	175.60	175.55	175.59	---	175.70	---	---	3
4	---	---	---	---	175.62	175.62	175.55	175.59	---	175.72A	---	---	4
5	---	---	---	---	175.63	175.61	175.54	175.59	175.92A	---	---	---	5
6	---	---	---	---	175.68	175.60	175.55	175.61	---	---	---	175.60A	6
7	---	---	---	---	175.68	175.59	175.69	175.61	---	---	---	---	7
8	---	---	---	---	175.67	175.59	175.76	175.62	---	---	---	---	8
9	---	---	---	---	175.66	175.59	175.73	175.72	---	---	---	---	9
10	---	---	---	175.79A	175.67	175.59	175.69	175.77	---	175.67A	---	---	10
11	---	---	---	---	175.67	175.59	175.66	175.75	---	---	---	---	11
12	---	---	---	---	175.66	175.57	175.64	175.71	---	---	---	---	12
13	---	---	---	---	175.65	175.56	175.60	175.68	---	---	---	---	13
14	---	---	---	---	175.63	175.56	175.57A	175.65	---	---	---	---	14
15	---	---	---	---	175.62	175.60	---	175.62	---	---	---	---	15
16	---	---	176.03	---	175.61	175.59	---	175.61	---	---	---	---	16
17	---	---	---	---	175.61	175.66	---	175.59	---	---	---	---	17
18	---	---	---	---	175.61	175.71	175.55	175.58	---	175.66A	---	---	18
19	---	---	---	---	175.61	175.71	175.54	175.59	175.60A	---	---	---	19
20	---	---	---	---	175.60	175.73	175.53	175.57	175.59	---	---	---	20
21	---	---	---	---	175.59	175.71	175.51	175.56	175.62	---	---	---	21
22	---	---	---	---	175.59	175.69	175.50	175.55	175.75	---	---	---	22
23	---	---	---	---	175.61	175.67	175.49	175.54	175.78	---	---	---	23
24	---	---	---	---	175.61	175.65	175.52	175.53	175.78	175.64A	---	---	24
25	---	---	---	---	175.63	175.66	175.53	175.52	175.82	175.64A	---	---	25
26	---	---	---	---	175.64	175.66	175.57	175.52	175.83	---	---	---	26
27	---	---	---	---	175.63	175.65	175.71	175.52	175.81	---	---	---	27
28	---	---	---	---	175.62	175.63	175.71	175.51	175.78	---	---	---	28
29	---		---	---	175.62	175.62	175.69	175.50A	175.74	---	---	---	29
30	---		---	175.66A	175.61	175.61	175.67	---	175.72	175.62A	---	---	30
31	---		---		175.61		175.65	---		175.62A		---	31

A-MANUAL GAUGE

TYPE OF GAUGE - RECORDING

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 130 Mean daily water levels in feet for Lake 304 for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	175.88	175.79	175.61	175.42	175.10	175.71	175.64	175.71	---	1
2	---	---	---	175.87	175.78	175.60	175.41	175.13	175.70	175.64	175.73	---	2
3	---	---	---	175.87	175.78	175.59	175.41	175.12	175.69	175.63	175.74	---	3
4	---	---	---	175.86	175.78	175.59	175.40	175.11	175.67	175.63	175.74	---	4
5	---	---	---	175.86	175.78	175.64	175.40	175.11	175.65	175.69	175.74	---	5
6	---	---	---	175.86	175.77	175.83	175.38	175.09	175.64	175.71	175.74	---	6
7	---	---	---	175.85	175.78	175.90	175.38	175.08	175.63	175.72	---	---	7
8	---	---	---	175.85	175.78	174.82	175.39	175.07	175.62	175.73	---	---	8
9	---	---	---	175.85	175.78	175.75	175.39	175.05	175.61	175.73	---	---	9
10	---	---	---	175.84	175.78	175.71	175.38	175.05	175.61	175.73	---	---	10
11	---	---	---	175.84	175.84	175.67	175.36	175.14	175.61	175.73	---	---	11
12	---	---	---	175.84	176.01	175.64	175.35	175.15	175.61	175.72	---	---	12
13	---	---	175.96	175.84	175.95	175.62	175.35	175.14	175.60	175.71	---	---	13
14	---	---	175.95	175.84	175.89	175.63	175.33	175.16	175.60	175.71	---	---	14
15	---	---	175.94	M	M	175.63	175.31	175.35	175.60	175.73	---	---	15
16	---	---	175.93	176.15	M	175.61	175.30	175.39	175.61	175.75	---	---	16
17	---	---	175.92	176.17	M	175.60	175.32	175.40	175.63	175.76	---	---	17
18	---	---	175.92	176.24	M	175.60	175.31	175.40	175.65	175.76	---	---	18
19	---	---	175.92	176.34	M	175.59	175.29	175.41	175.66	175.76	---	---	19
20	---	---	175.92	176.52	M	175.59	175.28	175.45	175.65	175.76	---	---	20
21	---	---	175.92	176.85	M	175.58	175.26	175.57	175.64	175.75	---	---	21
22	---	---	175.92	176.52	M	175.56	175.25	175.60	175.63	175.75	---	---	22
23	---	---	175.92	176.24	M	175.55	175.23	175.61	175.62	175.75	---	---	23
24	---	---	175.91	176.06	M	175.54	175.21	175.63	175.62	175.74	---	---	24
25	---	---	175.91	175.95	M	175.53	175.19	175.63	175.63	175.73	---	---	25
26	---	---	175.91	175.94	M	175.51	175.18	175.63	175.63	175.72	---	---	26
27	---	---	175.91	175.94	M	175.49	175.15	175.62	175.61	175.72	---	---	27
28	---	---	175.90	175.91	M	175.48	175.13	175.63	175.61	175.72	---	---	28
29	---		175.90	175.86	175.64	175.46	175.12	175.66	175.62	175.72	---	---	29
30	---		175.89	175.81	175.63	175.44	175.11	175.69	175.64	175.72	---	---	30
31	---		175.89		175.62		175.09	175.72		175.72		---	31
MEAN	---	---	---	175.98	---	175.61	175.29	175.35	175.63	175.72	---	---	MEAN
MAX	---	---	---	176.85	176.01	175.90	175.42	175.72	175.71	175.76	---	---	MAX
MIN	---	---	---	175.81	175.62	175.44	175.09	175.05	175.60	175.63	---	---	MIN

SUMMARY FOR THE PERIOD MAR 13 TO NOV 6

MAXIMUM MEAN DAILY WATER LEVEL 176.85 FT ON APR 21
MINIMUM MEAN DAILY WATER LEVEL 175.05 FT ON AUG 9

MAXIMUM INSTANTANEOUS WATER LEVEL
176.91 FT ON APR 21

TYPE OF GAUGE - RECORDING

M-MISSING

Table 130 Mean daily water levels in feet for Lake 304 for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	177.07	176.11	176.86	176.31	176.29	176.46	176.56	---	1
2	---	---	---	---	177.03	176.10	176.86	176.31	176.28	176.45	176.55	---	2
3	---	---	---	---	177.01	176.11	176.84	176.29	176.26	176.45	176.55	---	3
4	---	---	---	---	176.99	176.11	176.80	176.28	176.25	176.43	176.54	---	4
5	---	---	---	---	176.99	176.14	176.77	176.26	176.26	176.44	---	---	5
6	---	---	---	---	177.00	176.16	176.74	176.25	176.25	176.43	---	---	6
7	---	---	---	---	177.00	176.16	176.71	176.23	176.34	176.42	---	---	7
8	---	---	---	---	177.00	176.16	176.67	176.23	176.37	176.42	---	---	8
9	---	---	---	---	176.99	176.16	176.65	176.21	176.36	176.42	---	---	9
10	---	---	---	---	176.97	176.16	176.61	176.20	176.37	176.42	---	---	10
11	---	---	---	---	176.96	176.17	176.59	176.20	176.37	176.41	---	---	11
12	---	---	---	---	176.94	176.16	176.57	176.20	176.36	176.41	---	---	12
13	---	---	---	---	176.93	176.16	176.55	176.19	176.36	176.41	---	---	13
14	---	---	---	176.81	176.93	176.16	176.53	176.18	176.36	176.44A	---	---	14
15	---	---	---	176.82	176.92	176.15	176.52	176.18	176.35	---	---	---	15
16	---	---	---	176.83	176.92	176.13	176.50	176.17	176.35	---	---	---	16
17	---	---	---	176.88	176.91	176.14	176.48	176.15	176.34	---	---	---	17
18	---	---	---	176.98	176.89	176.13	176.46	176.14	176.35	---	---	---	18
19	---	---	---	177.02	176.89	176.11	176.45	176.13	176.40	---	---	---	19
20	---	---	---	177.03	176.88	176.21	176.44	176.14	176.44	---	---	---	20
21	---	---	---	177.02	176.89	176.36	176.42	176.20	176.46	176.46A	---	---	21
22	---	---	---	177.02	176.89	176.69	176.41	176.19	176.46	176.45	---	---	22
23	---	---	---	177.08	176.94A	176.92	176.39	176.24	176.48	176.45	---	---	23
24	---	---	---	177.17	---	176.92	176.38	176.27	176.49	176.46	---	---	24
25	---	---	---	177.22	---	176.89	176.36	176.27	176.49	176.53	---	---	25
26	---	---	---	177.23	---	176.86	176.36	176.27	176.49	176.53	---	---	26
27	---	---	---	177.20	---	176.82	176.34	176.26	176.48	176.53	---	---	27
28	---	---	---	177.19	176.18A	176.79	176.33	176.26	176.47	176.54	---	---	28
29	---		---	177.16	176.12	176.76	176.31	176.26	176.47	176.55	---	---	29
30	---		---	177.11	176.11	176.84	176.30	176.25	176.46	176.55	---	---	30
31	---		---		176.11		176.28	176.26		176.55		---	31
MEAN	---	---	---	---	---	176.36	176.53	176.23	176.38	---	---	---	MEAN
MAX	---	---	---	---	---	176.92	176.86	176.31	176.49	---	---	---	MAX
MIN	---	---	---	---	---	176.10	176.28	176.13	176.25	---	---	---	MIN

SUMMARY FOR THE YEAR 1975

MAXIMUM DAILY WATER LEVEL, 177.23 FT ON APR 26

MAXIMUM INSTANTANEOUS WATER LEVEL,
177.24 FT AT 0438 CST ON APR 26

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

Table 130 Mean daily water levels in feet for Lake 304 for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	176.08	---	175.94	176.22	175.80A	175.71	175.57	175.51	---	1
2	---	---	---	176.08	---	175.93	176.20	---	175.70	175.57	175.51	---	2
3	---	---	---	176.08	---	175.92	176.18	175.76A	175.70	175.56	175.51A	---	3
4	---	---	---	176.08	---	175.90	176.16	175.76	175.69	175.57	---	---	4
5	---	---	---	176.11	---	175.87	176.14	175.74	175.69	175.56	---	---	5
6	---	---	---	176.15	---	175.86	176.13	175.73	175.68	175.55	---	---	6
7	---	---	---	176.21	---	175.86	176.11	175.71	175.68	175.55	---	---	7
8	---	---	---	176.26	---	175.85	176.10	175.70	175.67	175.55	---	---	8
9	---	---	---	176.33	---	175.85	176.09	175.73	175.66	175.55	---	---	9
10	---	---	---	176.42	---	175.87	176.08	175.87	175.65	175.55	---	---	10
11	---	---	---	176.46	176.15A	175.85	176.05	175.87	175.65	175.54	---	---	11
12	---	---	---	176.46	176.15	175.87	176.04	175.86	175.64	175.54	---	---	12
13	---	---	---	176.46	176.16	175.91	176.04	175.85	175.67	175.53	---	---	13
14	---	---	---	176.49	176.17	175.94	176.04	175.84	175.67	175.53	---	---	14
15	---	---	---	176.55	176.17	175.94	176.02	175.83	175.66	175.53	---	---	15
16	---	---	---	176.66	176.17	175.93	176.01	175.82	175.65	175.52	---	---	16
17	---	---	---	176.74	176.15	175.94	175.99	175.80	175.64	175.51	---	---	17
18	---	---	---	176.68	176.14	175.96	175.98	175.79	175.63	175.51	---	---	18
19	---	---	---	176.61	176.12	175.99	175.97	175.83	175.63	175.51	---	---	19
20	---	---	---	176.55	176.10	175.99	175.95	175.84	175.62	175.52	---	---	20
21	---	---	---	176.50	176.08	175.98	175.93	175.83	175.60	175.52	---	---	21
22	---	---	---	176.45	176.07	175.97	175.92	175.81	175.61	175.52	---	---	22
23	---	---	---	176.41	176.05	175.97	175.91	175.79	175.60	175.52	---	---	23
24	---	---	---	176.37	176.04	175.95	175.90	175.78	175.59	175.52	---	---	24
25	---	---	---	176.35A	176.02	176.02	175.89	175.77	175.59	175.52	---	---	25
26	---	---	---	---	176.01	176.19	175.88	175.76	175.59	175.52	---	---	26
27	---	---	---	---	176.00	176.25	175.86	175.79	175.59	175.51	---	---	27
28	---	---	---	---	175.99	176.27	175.86	175.77	175.58	175.51	---	---	28
29	---	---	---	---	175.98	176.26	175.84	175.75	175.57	175.51	---	---	29
30	---		---	---	175.97	176.24	175.84	175.74	175.57	175.51	---	---	30
31	---		176.08A		175.96		175.82	175.73		175.51		---	31
MEAN	---	---	---	---	---	175.98	176.00	---	175.64	175.53	---	---	MEAN
MAX	---	---	---	---	---	176.27	176.22	---	175.71	175.57	---	---	MAX
MIN	---	---	---	---	---	175.85	175.82	---	175.57	175.51	---	---	MIN

SUMMARY FOR THE YEAR 1976

MAXIMUM DAILY WATER LEVEL, 176.74 FT ON APR 17

MAXIMUM INSTANTANEOUS WATER LEVEL, 176.75 FT AT 0838 CST ON APR 17

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM

Table 130 Mean daily water levels in feet for Lake 304 for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	176.28E	176.63	176.65	176.45	176.49	176.67	176.62E	---	1
2	---	---	---	---	176.28E	176.61	176.63	176.44	176.48	176.66	176.61A	---	2
3	---	---	---	---	176.27A	176.60	176.63	176.44	176.48	176.65	---	---	3
4	---	---	---	---	176.27A	176.57	176.61	176.44	176.48	176.65	---	---	4
5	---	---	---	176.00A	176.32	176.57	176.60	176.44	176.49	176.66	---	---	5
6	---	---	---	---	176.42	176.59	176.59	176.43	176.49	176.66A	---	---	6
7	---	---	---	---	176.47A	176.58	176.58	176.43	176.48	176.66E	---	---	7
8	---	---	---	---	176.41	176.58	176.55	176.43	176.49	176.65E	---	---	8
9	---	---	---	---	176.41	176.56	176.53	176.43	176.62	176.65E	---	---	9
10	---	---	---	---	176.47	176.55	176.51	176.42	176.74	176.65E	---	---	10
11	---	---	175.83A	---	176.48	176.55	176.50	176.40	176.75	176.64E	---	---	11
12	---	---	175.86	---	176.49	176.54	176.54	176.40	176.74	176.64A	---	---	12
13	---	---	175.89	---	176.50	176.55	176.53	176.39	176.73	176.64	---	---	13
14	---	---	175.90	---	176.49	176.60	176.56	176.38	176.73	176.63	---	---	14
15	---	---	175.90	---	176.50	176.73	176.55	176.38	176.71	176.63	---	---	15
16	---	---	---	---	176.49	176.85	176.53	176.38	176.70	176.63	---	---	16
17	---	---	---	---	176.47	176.85	176.51	176.38	176.68	176.63	---	---	17
18	---	---	---	---	176.46	176.92	176.50	176.37	176.67	176.63A	---	---	18
19	---	---	---	---	176.47	176.90	176.50	176.37	176.65	176.63E	---	---	19
20	---	---	---	---	176.52	176.87	176.49	176.36	176.64	176.63E	---	---	20
21	---	---	---	---	176.54	176.83	176.47	176.35	176.63	176.62E	---	---	21
22	---	---	---	---	176.54	176.78	176.45	176.35	176.62	176.61E	---	---	22
23	---	---	---	---	176.60	176.74	176.44	176.34	176.61	176.60E	---	---	23
24	---	---	---	---	176.60	176.70	176.43	176.33A	176.64	176.60E	---	---	24
25	---	---	---	---	176.59	176.67	176.42	176.38E	176.67	176.60E	---	---	25
26	---	---	---	---	176.57	176.64	176.40	176.39E	176.69	176.60E	---	---	26
27	---	---	---	176.30A	176.62	176.62	176.39	176.41E	176.69	176.59E	---	---	27
28	---	---	---	176.30E	176.61	176.61	176.38	176.44E	176.69	176.59E	---	---	28
29	---		---	176.29E	176.60	176.60	176.38	176.46E	176.69	176.59E	---	---	29
30	---		---	176.29E	176.60	176.63	176.41	176.48A	176.68	176.62E	---	---	30
31	---		---		176.61		176.45	176.48		176.63E		---	31
MEAN	---	---	---	---	176.48	176.67	176.51	176.41	176.63	176.63	---	---	MEAN
MAX	---	---	---	---	176.62	176.92	176.65	176.48	176.75	176.67	---	---	MAX
MIN	---	---	---	---	176.27	176.54	176.38	176.33	176.48	176.59	---	---	MIN

SUMMARY FOR THE YEAR 1977

MAXIMUM DAILY WATER LEVEL, 176.92 FT ON JUN 18

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE

E-ESTIMATED

NATURAL FLOW

WATER LEVELS ARE REFERRED TO ASSUMED DATUM NO.2

Table 130 Mean daily water levels in feet for Lake 304 for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	176.62 E	176.94	176.99	176.74	176.80	176.81	176.91	176.84	---	1
2	---	---	---	176.62 E	176.94	176.98	176.73	176.85	176.81	176.91	---	---	2
3	---	---	---	176.63 E	176.94	176.95	176.73	176.84	176.80	176.91	---	---	3
4	---	---	---	176.64 E	176.92	176.93	176.73	176.83	176.80	176.91	---	---	4
5	---	---	---	176.65 E	176.91	176.92	176.77	176.81	176.80	176.90	---	---	5
6	---	---	---	176.77 A	176.89	176.92	176.78	176.79	176.80	176.89	---	---	6
7	---	---	---	176.67 E	176.86	176.92	176.77	176.77	176.79	176.89	---	---	7
8	---	---	---	176.68 E	176.88	176.91	176.76	176.75	176.77	176.89	---	---	8
9	---	---	---	176.70 E	176.88	176.90	176.76	176.72	176.77	176.89	---	---	9
10	---	---	---	176.71 E	176.88	176.89	176.74	176.71	176.76	176.89	---	---	10
11	---	---	---	176.72 A	176.88	176.88	176.73	176.69	176.74	176.89	---	---	11
12	---	---	---	176.73 E	176.87	176.86	176.74	176.68	176.72	176.89	---	---	12
13	---	---	---	176.74 E	176.85	176.85	176.74	176.66	176.75	176.88	---	---	13
14	---	---	---	176.75 E	176.83	176.84	176.77	176.66	176.85	176.88	---	---	14
15	---	---	---	176.77 E	176.82	176.83	176.77	176.68	176.89	176.91	---	---	15
16	---	---	---	176.79 E	176.80	176.82	176.77	176.71	176.90	176.91	---	---	16
17	---	---	---	176.81 E	176.78	176.81	176.77	176.71	176.91	176.91	---	---	17
18	---	---	---	176.83 A	176.77	176.79	176.80	176.78	176.91	176.90	---	---	18
19	---	---	---	176.88	176.76	176.78	176.81	176.79	176.90	176.89	---	---	19
20	---	---	---	176.91	176.74	176.77	176.81	176.78	176.89	176.88	---	---	20
21	---	---	176.57 A	176.92	176.72	176.76	176.80	176.78	176.89	176.87	---	---	21
22	---	---	176.57 A	176.94	176.73	176.74	176.78	176.77	176.88	176.87	---	---	22
23	---	---	---	176.97	176.76	176.72	176.80	176.77	176.88	176.87	---	---	23
24	---	---	---	176.97	176.76	176.74	176.80	176.77	176.88	176.86	---	---	24
25	---	---	---	177.00	176.75	176.76	176.79	176.76	176.87	176.86	---	---	25
26	---	---	---	177.01	176.89	176.76	176.78	176.76	176.87	176.85	---	---	26
27	---	---	---	177.02	176.96	176.77	176.77	176.78	176.87	176.85	---	---	27
28	---	---	---	177.01	176.95	176.77	176.75	176.81	176.87	176.85	---	---	28
29	---		---	176.99	176.94	176.76	176.74	176.82	176.92	176.85	---	---	29
30	---		---	176.96	176.96	176.75	176.74	176.81	176.91	176.85	---	---	30
31	---		---		176.94		176.77	176.79		176.84		---	31
MEAN	---	---	---	176.81	176.86	176.84	176.77	176.76	176.84	176.88	---	---	MEAN
MAX	---	---	---	177.02	176.96	176.99	176.81	176.85	176.92	176.91	---	---	MAX
MIN	---	---	---	176.62	176.73	176.72	176.73	176.66	176.72	176.84	---	---	MIN

SUMMARY FOR THE YEAR 1978

MAXIMUM DAILY WATER LEVEL, 177.02 FT ON APR 27

MAXIMUM INSTANTANEOUS WATER LEVEL,
177.03 FT AT 0326 CST ON APR 27

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED

Lake 470 Hydrological Data for 1969 to 1978

Lake 470 is located 0.3 miles (0.5 kilometres) west of the ELA field station (Fig. 3). A basin topographical map (Fig. 48) with 10 foot contour interval, and a lake bathymetric map (Fig. 49) with 0.5 metre contour interval are included. The contours are based on mapping of ELA by Western Photogrammetry Limited in 1970 and are related to an assumed datum. Drainage basin areas are given in Table 131. A discrepancy in lake surface area exists between the value in Table 131 of 5.68 ha and the value of 4.24 ha for the 0 metre contour on the bathymetric map (Fig. 49). The 5.68 ha value appears to be more accurate based on examination of 1976 aerial photographs and the 1 inch = 400 ft. scale topographical map.

Lake 470 has three small lake tributaries, Lake 303, 304, and 661, which enter from the west. On April 11, 1969, a 90° V-notch weir was established on the outflow stream by Water Survey of Canada. This was replaced with a 12 inch cut throat flume in 1970. It has a snow shelter and was heated for winter operation with four 250 watt electric heat lamps. Service of the weir and computation of flow data was by WSC in all years but 1974. In 1974, this was carried out by ELA hydrologic studies staff. All original water level charts are on file with WSC.

The outflow and lake level are influenced by a large beaver dam on the lake. It should be realized that the activity of beaver on the lake could affect the lake level by almost 1 metre resulting in different lake volumes and mean depth.

Table 131. Location and morphometric data for the Lake 470 drainage basin.

		Acres	Hectares
Location:			
Latitude	49 39 30 N		
Longitude	93 44 00 W		
Lake 470 drainage basin area (includes lake surface)			
total basin are including all tributary drainage		414.42	167.71
basin area excluding tributary drainage		104.46	42.27
Tributary drainage basin areas (includes lake surface)			
	L. 303	133.77	54.14
	L. 304	65.30	26.42
	L. 661	110.89[a]	44.88[a]
Surface area of lakes in drainage basin			
	L. 470	14.03[c]	5.68[c]
	L. 303	23.40	9.47
	L. 304	8.37	3.39
	L. 661	2.86	1.56
Lake 470 volume[b]	3.33×10^4 metres^3		
Lake 470 mean depth[b]	0.59 metres		

[a] Does not include drainage of L. 303 and L. 304.

[b] May be different depending on effect and condition of beaver dam at outflow.

[c] Surface area (5.68 ha) is 25% greater than that shown on bathymetric map (4.24 ha) but is more accurate.

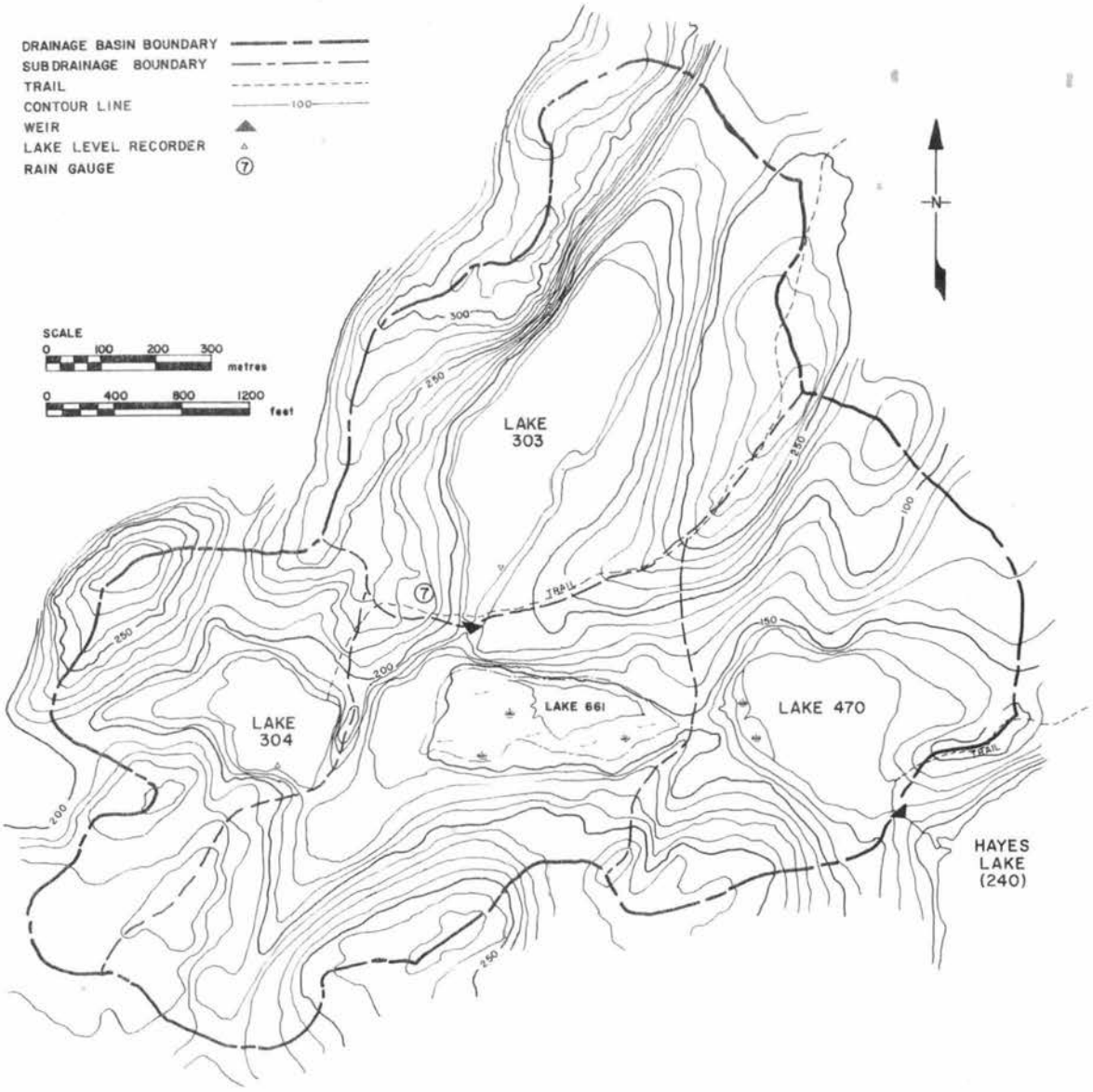


Fig. 48 Topographical map of the Lake 470 drainage basin. Contours are in feet.

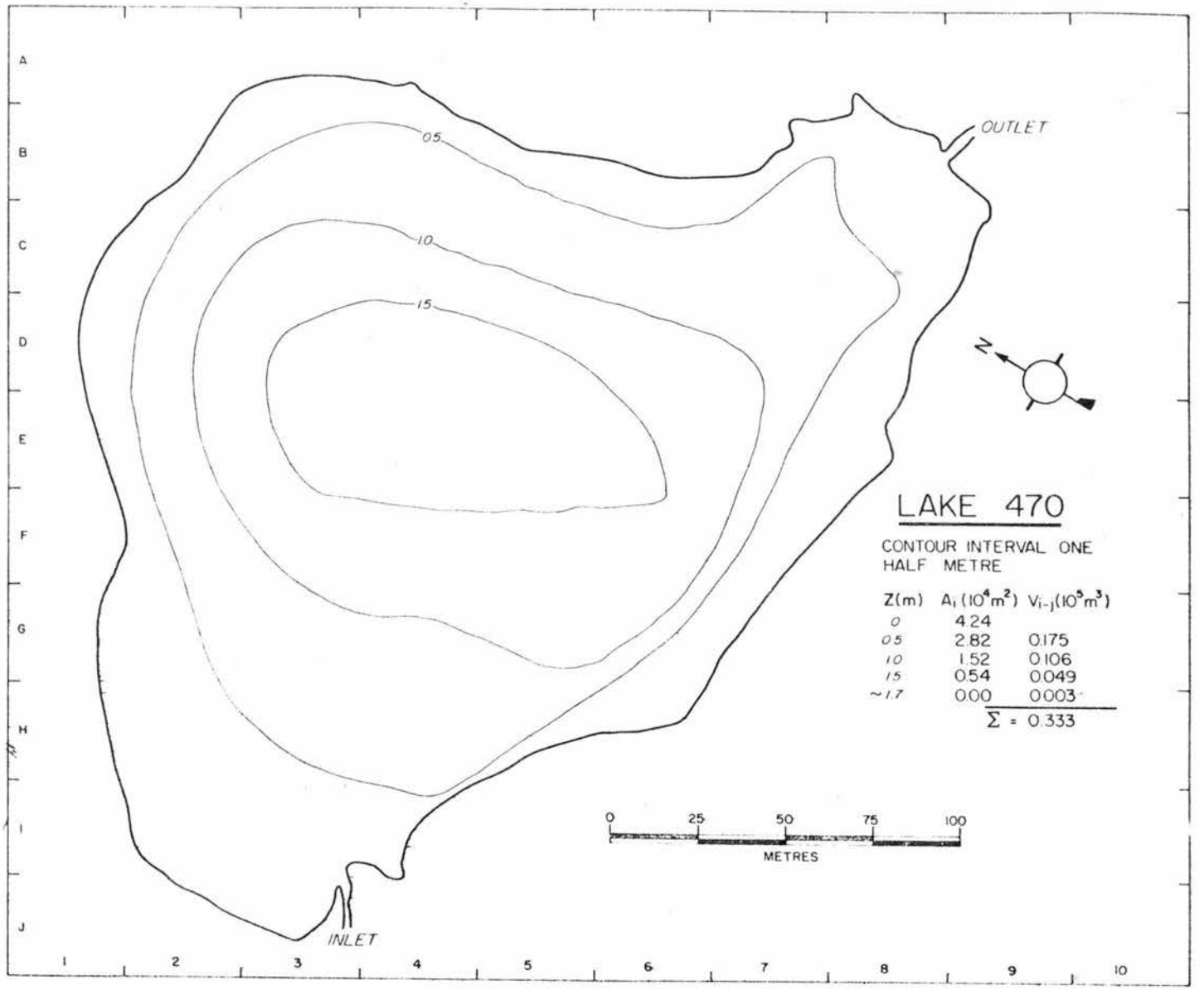


Fig. 49 Bathymetric chart of Lake 470.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1969.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	---	---	---	---	0.30 E	0.40 E	0.22 A	1.6 A	0	1.5	0.48	0.23	1
2	---	---	---	---	0.30 E	0.67 A	0.20 A	1.1 E	0	1.4	0.45	0.23	2
3	---	---	---	---	0.29 E	0.62 E	0.22 E	0.67 A	0	1.4	0.42	0.21	3
4	---	---	---	---	0.28 E	0.58 A	0.25 A	0.67 A	0	1.4	0.39	0.27	4
5	---	---	---	---	0.27 E	0.58 E	0.37 A	0.50 A	0	3.1	0.39	0.23	5
6	---	---	---	---	0.26 E	0.58 A	0.40 A	1.2 A	0	4.4	0.36	0.23 B	6
7	---	---	---	---	0.26 E	0.50 A	0.95 E	4.9 A	0	4.2	0.33	0.21 B	7
8	---	---	---	---	0.25 E	0.43 A	3.5 A	6.0 A	0	3.4	0.31	0.23 B	8
9	---	---	---	---	0.25 A	0.43 A	1.1 E	4.9 A	0	2.7	0.31	0.23 B	9
10	---	---	---	---	0.22 A	0.43 A	0.46 A	3.2 A	0	2.2	0.31	0.23 B	10
11	---	---	---	0.28 A	0.20 A	0.37 A	0.31 A	1.6 A	0	1.9	0.33	0.23 B	11
12	---	---	---	2.9 E	0.20 A	0.31 A	0.20 A	0.78 A	0	1.6	0.31	0.23 B	12
13	---	---	---	5.5 A	0.18 A	0.25 A	0.20 A	3.8 A	0	1.4	0.31	0.25 B	13
14	---	---	---	8.6 A	0.16 A	0.22 E	0.16 A	3.8 A	0	1.2	0.33	0.23 B	14
15	---	---	---	9.1 A	0.25 A	0.18 A	0.16 A	2.4 A	2.7 A	1.2	0.36	0.23 B	15
16	---	---	---	7.6 E	0.28 A	0.16 A	0.20 A	0.78 A	1.9	1.1	0.33	0.25 B	16
17	---	---	---	6.1 E	0.40 A	0.12 A	0.14 A	0.62 A	1.2	0.98	0.33	0.25	17
18	---	---	---	4.6 A	0.46 A	0.20 A	0.10 A	0.54 A	0.86	0.90	0.31	0.23	18
19	---	---	---	3.5 A	0.78 A	0.16 A	0.09 E	0.43 A	0.62	0.78	0.31	0.23	19
20	---	---	---	1.2 A	0.46 A	0.18 A	0.09 A	0.34 A	0.48	0.66	0.29	0.23	20
21	---	---	---	1.1 A	0.43 A	0.18 A	0.08 A	0.25 A	0.42	0.58	0.29	0.25	21
22	---	---	---	0.72 A	0.43 A	0.14 A	0.20 A	0.20 E	0.54	0.51	0.27	0.25 B	22
23	---	---	---	0.65 E	0.37 A	0.16 A	0.25 A	0.16 A	0.48	0.48	0.27	0.25 B	23
24	---	---	---	0.58 E	0.34 E	0.14 A	0.25 A	0.16 A	0.43	0.45	0.29	0.25 B	24
25	---	---	---	0.50 A	0.31 A	0.12 A	0.20 A	0.12 A	1.1	0.48	0.27	0.23 B	25
26	---	---	---	0.45 E	0.25 A	0.25 A	0.16 A	0.11 A	1.4	0.42	0.23	0.23	26
27	---	---	---	0.40 E	0.22 A	0.20 A	0.25 A	0.11 A	1.6	0.42	0.23	0.23	27
28	---	---	---	0.35 E	0.18 A	0.22 A	0.25 A	0.09 A	1.4	0.42	0.21	0.21	28
29	---		---	0.31 A	0.12 A	0.22 A	0.20 A	0.09 A	1.6	0.39	0.21	0.21	29
30	---		---	0.31 E	0.10 A	0.20 A	0.16 A	0.50 A	1.5	0.39	0.23	0.21	30
31	---		---		0.14 A		0.16 A	0		0.39		0.19	31
TOTAL	---	---	---	---	8.94	9.20	11.48	41.62	18.23	42.35	9.46	7.17	TOTAL
MEAN	---	---	---	---	0.29	0.31	0.37	1.3	0.61	1.4	0.32	0.23	MEAN
AC-FT	---	---	---	---	17.7	18.2	22.8	82.6	36.2	84.0	18.8	14.2	AC-FT
MAX	---	---	---	---	0.78	0.67	3.5	6.0	2.7	4.4	0.48	0.27	MAX
MIN	---	---	---	---	0.10	0.12	0.08	0	0	0.39	0.21	0.19	MIN

SUMMARY FOR THE YEAR 1969

MAXIMUM DAILY DISCHARGE, 9.1 CFS ON APR 15
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 31

A-MANUAL GAUGE
B-ICE CONDITIONS
E-ESTIMATED

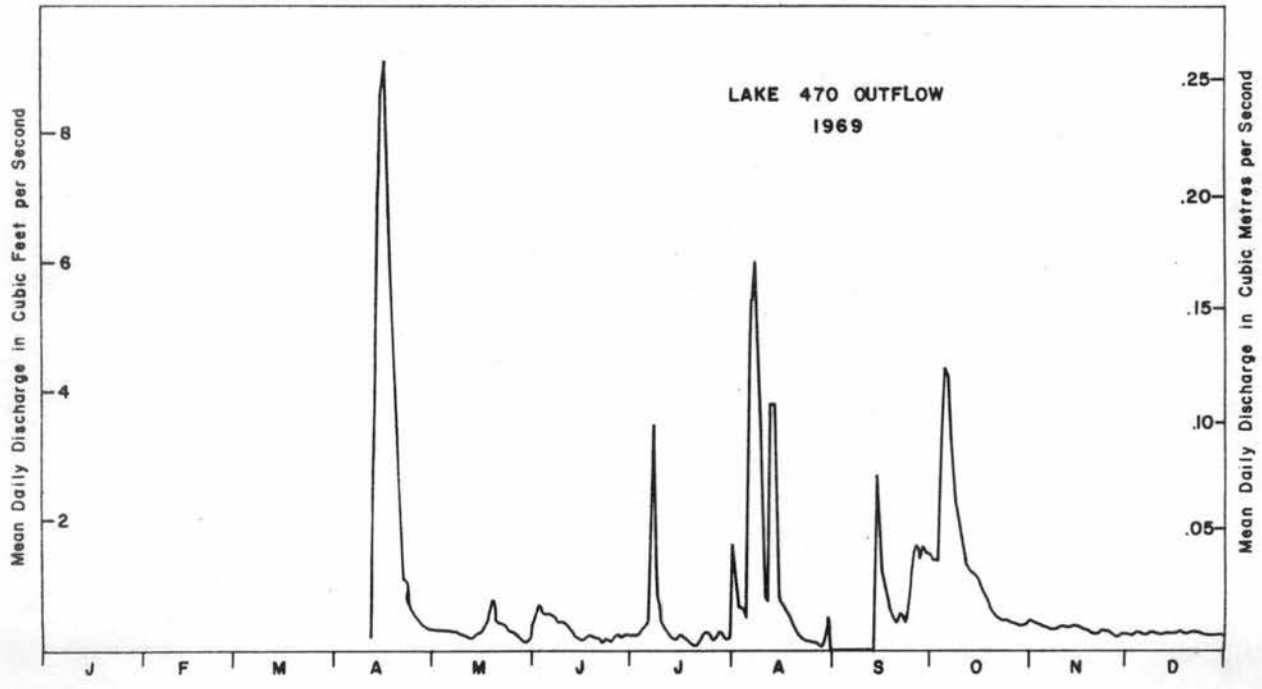


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1969.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1970.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.19	0.19	0.19	0.10	10.1	1.4	0.39	0.09	0.08	0.21	3.2	0.35 E	1
2	0.19	0.29 E	0.39	0.09	7.1	1.1	0.31	0.11	0.08	0.22	2.7	0.34 E	2
3	0.19	0.19 E	0.42	0.09	5.8	0.91	0.37	0.08	0.09	0.20	2.4	0.32 E	3
4	0.15	0.09 E	0.25	0.08	4.9	0.67	0.32	0.07	0.08	0.17	1.9	0.31 E	4
5	0.21	0.18	0.23	0.08	4.4	0.51	0.25	0.02	0.07	0.16	1.5	0.29 E	5
6	0.23	0.42	0.29	0.08	3.6	0.37	0.27	0.02	0.06	0.16	1.2	0.28 E	6
7	0.14	0.82	0.62	0.08	3.3	0.31	0.24	0.01	0.61	0.15	1.1	0.26 E	7
8	0.14 E	0.48	1.1	0.12	3.2	0.27	0.20	0.01	1.2	0.14	0.95	0.25 E	8
9	0.16 E	0.42	1.4	0.14	3.2	0.31	0.17	0	1.5	0.27	0.83	0.24 E	9
10	0.18	0.25	1.2	0.14	2.9	0.51	0.15	0 A	1.4	0.37	0.78 A	0.22 A	10
11	0.21	0.25	0.70	0.14	2.3	0.42	0.12	0	1.1	0.32	0.67	0.21 A	11
12	0.18	0.39	0.36	0.16	1.9	0.32	0.15	0	2.5	0.31	0.58	0.21 E	12
13	0.25	0.40 E	0.23	0.19	1.7	0.25	0.17	0	3.4	0.42	0.61	0.22 E	13
14	0.29	0.41 E	0.19	0.25	1.4	0.22	0.16	0	2.9	0.55	0.60 E	0.22 E	14
15	0.29	0.41 E	0.19	0.39	1.5	0.29	0.12	0	2.4	0.58	0.58 E	0.22 A	15
16	0.19	0.42 E	0.18	0.74	2.0	0.39	0.10	0	2.2	0.58	0.57 E	0.23 E	16
17	0.29	0.42 E	0.18	0.90	2.0	1.6	0.07	0	2.0	0.61	0.55 E	0.24 E	17
18	0.39	0.43 E	0.16 A	0.94	1.6	1.8	0.09	0	1.6	0.67	0.54 E	0.26 E	18
19	0.39	0.43 E	0.16 E	1.2	1.2	1.4	0.12	0	1.2	0.74	0.52 E	0.27 E	19
20	0.36	0.44 E	0.15 E	1.2	1.1	0.95	0.10	0	0.87	0.87	0.51 E	0.28 E	20
21	0.36	0.45	0.14 E	1.5	1.1	0.64	0.09	0	0.64	1.1	0.49 E	0.27 A	21
22	0.39	0.27	0.13 E	1.5	1.0	0.39	0.07	0.02 A	0.48	1.2	0.48 E	0.27	22
23	0.42	0.14	0.12 A	1.6	0.83	0.32	0.05	0.01	0.37	1.2	0.47 E	0.25	23
24	0.58	0.09	0.11	1.6	0.67	0.25	0.04	0	0.34	0.70	0.45 E	0.24	24
25	0.31	0.19	0.12	1.8	1.1	0.29	0.04	0 A	0.32	0.58	0.44 E	0.22	25
26	0.14	0.31	0.14	2.9	2.0	0.45	0.03	0	0.34	0.48	0.42 E	0.24	26
27	0.11	0.18	0.13	4.8	2.0	0.42	0.01	0	0.31	2.0	0.41 E	0.21	27
28	0.12	0.33	0.13	10.6	1.8	0.36	0	0	0.27	3.5	0.39 E	0.20	28
29	0.16		0.13	14.4	1.7	0.32	0.04	0.07 A	0.24	3.4	0.38 E	0.20	29
30	0.21		0.12	13.7	1.5	0.32	0.17	0.07	0.21	2.9	0.37 E	0.18	30
31	0.19		0.11		1.4		0.14	0.05		2.9		0.18	31
TOTAL	7.65	9.29	9.97	61.51	80.30	17.76	4.55	0.63	28.82	27.66	26.59	7.68	TOTAL
MEAN	0.25	0.33	0.32	2.1	2.6	0.59	0.15	0.02	0.96	0.89	0.89	0.25	MEAN
AC-FT	15.2	18.4	19.8	122	159	35.2	9.0	1.2	57.2	54.9	52.7	15.2	AC-FT
MAX	0.58	0.82	1.4	14.4	10.1	1.8	0.39	0.11	3.4	3.5	3.2	0.35	MAX
MIN	0.11	0.09	0.11	0.08	0.67	0.22	0	0	0.04	0.14	0.37	0.18	MIN

SUMMARY FOR THE YEAR 1970

MEAN DISCHARGE, 0.77 CFS
TOTAL DISCHARGE, 560 AC-FT
MAXIMUM DAILY DISCHARGE, 14.4 CFS ON APR 29
MINIMUM DAILY DISCHARGE, 0 CFS ON JUL 28

MAXIMUM INSTANTANEOUS DISCHARGE
14.9 CFS AT 2215 CST ON APR 29

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

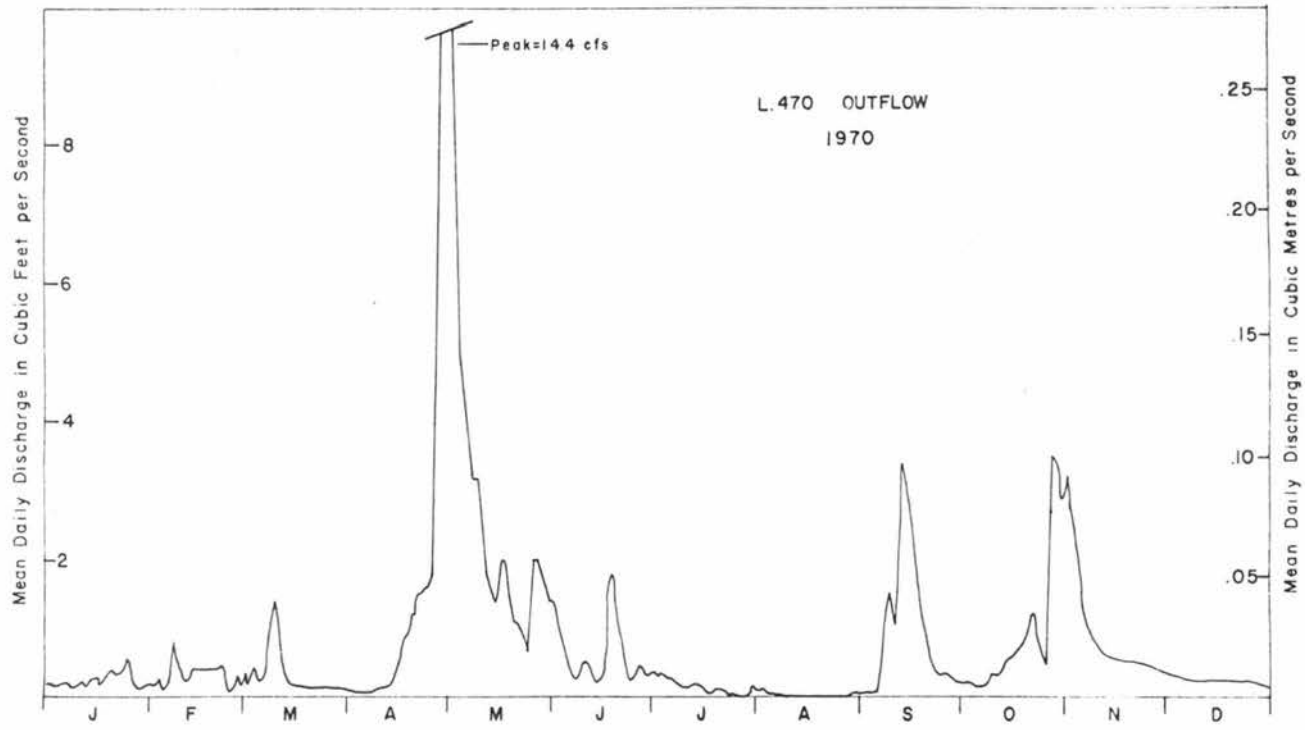


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1970.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1971.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.20 A	0 E	0 E	0 E	0.62	0.16	6.2	0.11	0.03	5.5	3.4	0.31	1
2	0.18 A	0 E	0 E	0 E	0.85	0.13	6.1	0.55	0.04	4.7	2.7	0.29	2
3	0.16 A	0 E	0 E	0 E	0.19	0.11	1.4	0.70	0.03	3.7	2.3	0.28	3
4	0.18 A	0 E	0 E	0 E	0.12	0.11	1.3	0.09	0.54	4.2	1.9	0.28	4
5	0.22 A	0 E	0 E	0 E	0.30	1.2	1.7	0.98	0.94	3.5	2.0	0.30	5
6	0.22 A	0 E	0 E	0 E	0.11	2.7	1.5	1.0	0.98	3.0	1.6	0.31	6
7	0.21 A	0 E	0 E	0.05 E	0.15	1.5	0.30	0.38	0.64	2.4	1.3	0.30	7
8	0.20 E	0 E	0 E	1.4 E	0.09	0.57	1.2	0.50	0.50	2.0	1.1	0.28	8
9	0.19 E	0 E	0 E	2.8 E	0.08	0.33	0.42	0.60	0.61	1.5	0.95	0.28	9
10	0.19 E	0 E	0 E	4.2 E	0.07	0.51	0.27	0.42	0.61	1.2	0.87	0.28	10
11	0.18 E	0 E	0 E	5.6 E	0.10	0.30	0.05	0.27	0.34	0.98	0.79	0.27	11
12	0.17 E	0 E	0 E	6.9 A	1.2	0.23	0.59	0.16	0.05	0.77	0.71	0.24	12
13	0.16 E	0 E	0 E	4.8 E	1.3	0.14	2.5	0.14	0.03	0.66	0.64	0.24	13
14	0.15 E	0 E	0 E	3.6 E	0.07	0.15	0.70	0.23	0.12	0.58	0.60	0.24	14
15	0.15 E	0 E	0 E	3.1 E	0.05	0.31	1.4	0.18	0.17	0.50	0.58	0.25	15
16	0.14 E	0 E	0 E	3.5 E	0.05	0.47	0.62	0.33	0.12	0.44	0.61	0.25	16
17	0.13 E	0 E	0 E	6.3 E	0.06	0.58 A	0.04	0.42	0.03	1.1	0.67	0.23	17
18	0.12 E	0 E	0 E	6.5 E	0.18	0.51 E	0.45	0.37	0.03	2.3	0.80	0.23	18
19	0.11 E	0 E	0 E	6.0 E	0.06	0.45 E	0.16	0.12	0.02	2.6	0.81	0.23	19
20	0.11 E	0 E	0 E	4.9 E	0.08	0.38 E	0.38	0.03	0.12	1.9	0.79	0.23	20
21	0.10 E	0 E	0 E	4.0 E	0.41	0.31 A	0.32	0.55	0.19	1.4	0.69	0.20	21
22	0.09 E	0 E	0 E	1.6	0.20	1.4	0.57	0.31	0.09	1.2	0.64	0.20	22
23	0.08 E	0 E	0 E	1.0	0.43	1.2	0.39	0.29	0.18	0.95	0.66	0.20	23
24	0.07 E	0 E	0 E	0.80	1.6	1.2	0.18	0.59	0.15	0.78	0.61	0.17	24
25	0.07 E	0 E	0 E	1.1	3.0	0.51	0.04	0.03	1.3	0.68	0.56	0.17	25
26	0.06 E	0 E	0 E	0.68	2.0	0.18	0.52	0.03	0.57	0.61	0.51	0.18	26
27	0.05 A	0 E	0 E	3.3	1.4	0.16	0.59	0.22	0.63	0.59	0.47	0.17	27
28	0.04 E	0 E	0 E	1.6	1.1	0.62	0.93	0.02	0.38	0.48	0.41	0.16	28
29	0.03 E		0 E	0.11	0.42	1.2	2.1	0.09	0.31	0.38	0.37	0.15	29
30	0.02 E		0 E	0.15	0.31	4.4	1.2	0.33	0.89	0.64	0.33	0.14	30
31	0.01 E		0 E		0.21		0.33	0.08		3.4		0.14	31
TOTAL	3.99	0	0	73.99	16.81	22.02	34.45	10.12	10.64	54.64	30.37	7.20	TOTAL
MEAN	0.13	0	0	2.5	0.54	0.73	1.1	0.33	0.35	1.8	1.0	0.23	MEAN
AC-FT	7.9	0	0	147	33.3	43.7	68.3	20.1	21.1	108	60.2	14.3	AC-FT
MAX	0.22	0	0	6.9	3.0	4.4	6.2	1.0	1.3	5.5	3.4	0.31	MAX
MIN	0.01	0	0	0	0.05	0.11	0.04	0.02	0.02	0.38	0.33	0.14	MIN

SUMMARY FOR THE YEAR 1971

MEAN DISCHARGE, 0.72 CFS
TOTAL DISCHARGE, 524 AC-FT
MAXIMUM DAILY DISCHARGE, 6.9 CFS ON APR 12
MINIMUM DAILY DISCHARGE, 0 CFS ON FEB 1

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

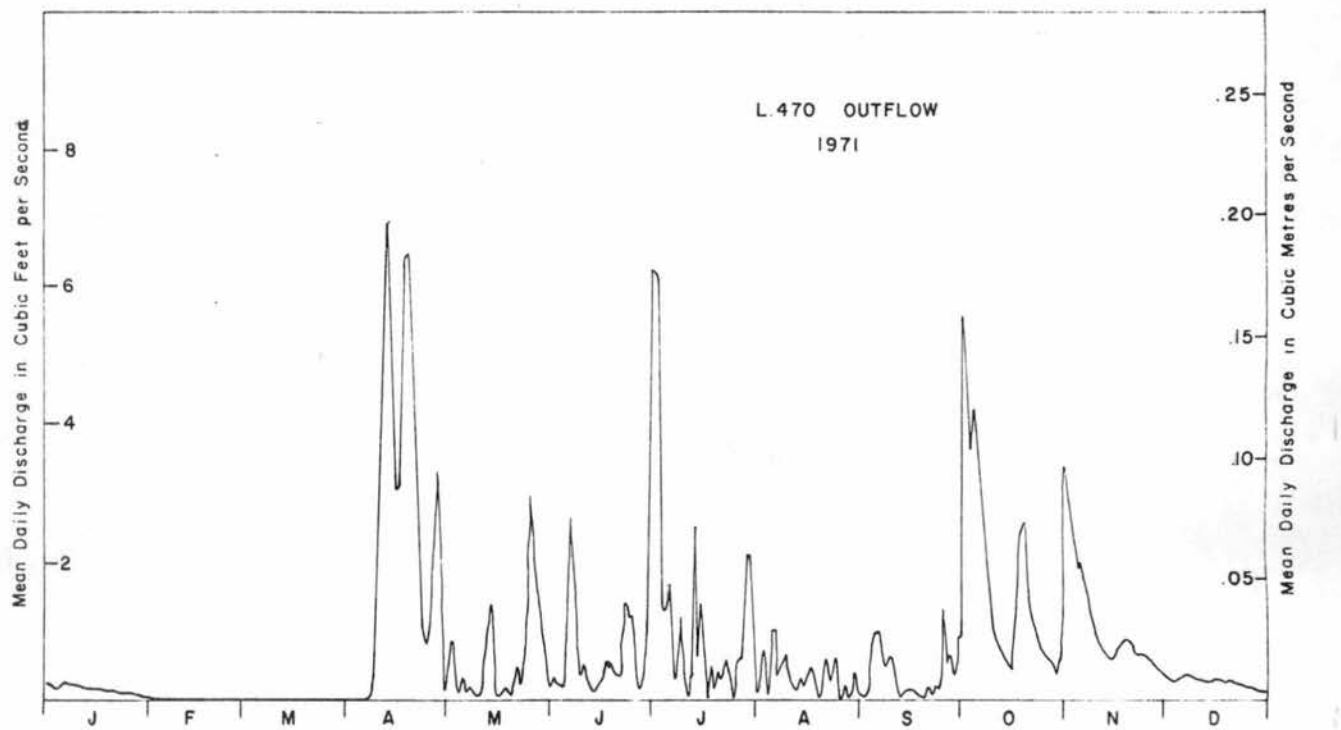


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1971.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1972.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.15	0.11	0.04	0.06	2.3	0.34	0.03	0.37	0.20	1.1	0.25	0.21	1
2	0.13	0.11	0.04	0.06	1.8	0.23	0.01	0.42	0.15	1.1	0.23	0.17	2
3	0.10	0.09	0.03	0.05	1.4	0.15	0.01	0.35	0.13	1.0	0.20	0.14	3
4	0.10	0.09	0.03	0.04	1.2	0.10	0.01	0.28	0.22	0.96	0.21	0.03	4
5	0.11	0.09	0.03	0.04	1.2	0.11	0	0.21	0.17	0.85	0.22	0	5
6	0.13	0.09	0.04	0.04	1.2	0.10	0	0.14	0.82	0.71	0.48	0	6
7	0.12	0.09	0.08	0.04	1.1	0.08	0	0.13	2.4	0.62	0.79	0	7
8	0.13	0.11	0.07	0.05	0.98	0.05	0	0.12	2.0	0.51	1.1	0	8
9	0.12	0.09	0.06	0.05	0.88	0.03	0	0.10	1.6	0.41	1.0	0	9
10	0.10	0.08	0.05	0.05	0.77	0.02	0.18	0.07	1.3	0.40	0.85	0.24	10
11	0.12	0.08	0.05	0.05	0.69	0.03	3.6	0.06	0.98	0.61	0.83	0.19	11
12	0.11	0.08	0.04	0.05	0.62	0.04	2.9	0.10	0.76	0.63	0.73	0.12	12
13	0.02	0.09	0.04	0.06	0.85	0.05	2.1	0.11	0.70	0.63	0.62	0.09	13
14	0	0.09	0.04	0.09	1.1	0.05	4.0	0.08	0.56	0.61	0.55	0.06	14
15	0	0.09	0.04	0.21	1.1	0.04	3.6	0.36	0.48	0.57	0.50	0.04	15
16	0	0.08	0.05	0.53	0.92	0.03	2.5	0.43	0.53	0.50	0.50	0.03	16
17	0.03	0.09	0.05	0.68	0.75	0.02	2.3	0.43	0.51	0.39	0.46	0.03	17
18	0.07	0.08	0.07	0.66	0.66	0.12	1.7	0.36	0.42	0.34	0.44	0.03	18
19	0.09	0.07	0.06	0.87	0.71 E	1.3	0.20	0.29	0.38	0.31	0.41	0.03	19
20	0.09	0.06	0.06	1.4	0.76 E	1.5	1.3	3.3	0.33	0.29	0.38	0.03	20
21	0.12	0.05	0.06	2.4	0.81 E	1.1	1.6	9.0	0.26	0.28	0.36	0.02	21
22	0.14	0.04	0.07	4.1	0.86 E	0.78	0.83	7.0	0.20	0.24	0.34	0.01	22
23	0.13	0.04	0.07	5.0	0.91	0.55	0.02	4.4	0.21	0.20	0.33	0.01	23
24	0.12	0.04	0.06	4.6	0.69	0.37	0.69	2.9	0.62	0.17	0.34	0	24
25	0.11	0.04	0.05	4.3	0.56	0.26	0.93	2.0	0.75	0.19	0.33	0	25
26	0.10	0.03	0.05	4.1	0.49	0.17	0.47	1.5	0.86	0.19	0.32	0	26
27	0.09	0.03	0.04	4.3	0.40	0.13	0.32	1.2	0.84	0.25	0.33	0	27
28	0.09	0.03	0.04	4.2	0.49	0.11	0.24	0.84	1.1	0.29	0.30	0.08	28
29	0.09	0.04	0.04	3.7	0.51	0.10	0.18	0.63	1.3	0.25	0.27	0.99	29
30	0.09		0.04	3.0	0.45	0.05	0.53	0.50	1.2	0.27	0.25	0.03	30
31	0.11		0.06		0.44		0.51	0.33		0.27		0.01	31
TOTAL	2.91	2.10	1.55	44.78	27.60	8.01	30.76	38.01	21.98	15.14	13.92	2.59	TOTAL
MEAN	0.09	0.07	0.05	1.5	0.89	0.27	0.99	1.2	0.73	0.49	0.46	0.08	MEAN
AC-FT	5.8	4.2	3.1	88.8	54.7	15.9	61.0	75.4	43.6	30.0	27.6	5.1	AC-FT
MAX	0.15	0.11	0.08	5.0	2.3	1.5	4.0	9.0	2.4	1.1	1.1	0.99	MAX
MIN	0	0.03	0.03	0.04	0.40	0.02	0	0.06	0.13	0.17	0.20	0	MIN

SUMMARY FOR THE YEAR 1972

MEAN DISCHARGE, 0.57 CFS
TOTAL DISCHARGE, 415 AC-FT
MAXIMUM DAILY DISCHARGE, 9.0 CFS ON AUG 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 14

MAXIMUM INSTANTANEOUS DISCHARGE
9.5 CFS AT 1200 CST ON AUG 21

TYPE OF GAUGE - RECORDING

E-ESTIMATED

NATURAL FLOW

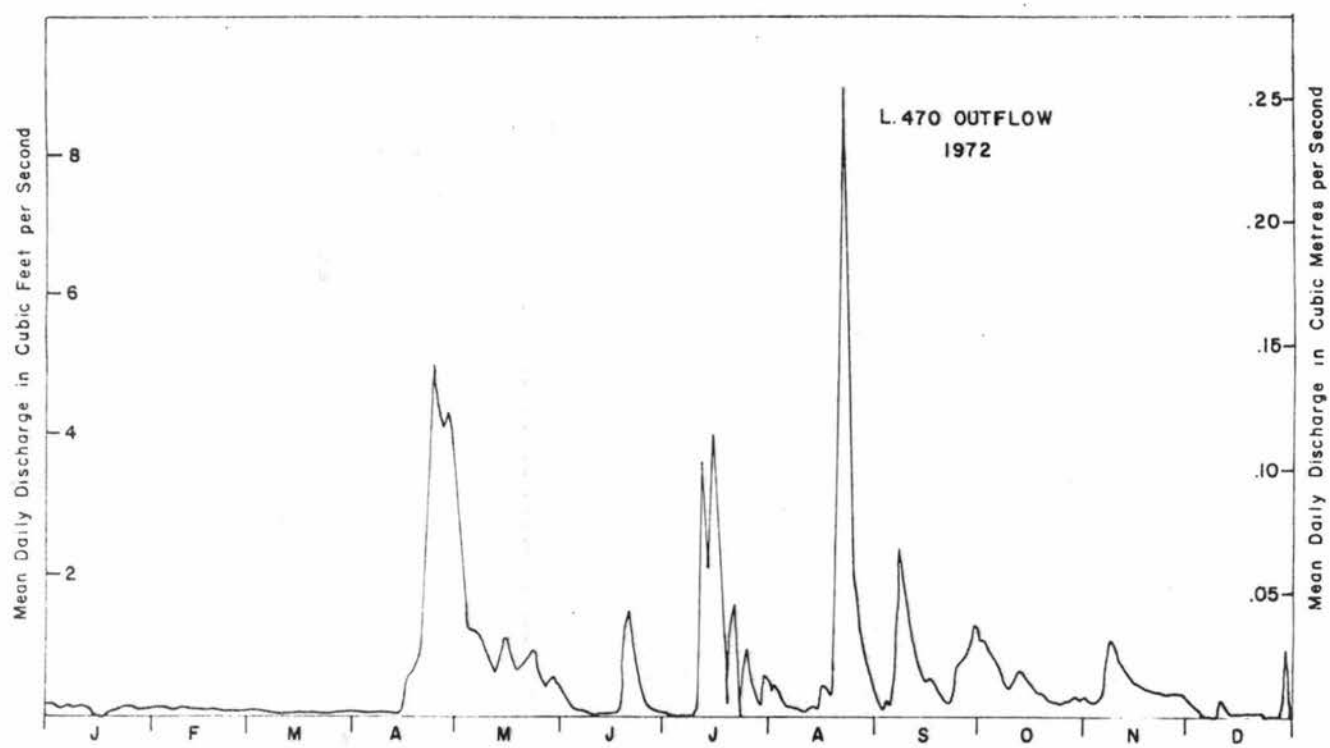


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1972.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1973.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.01	0.25	0	0	0.87	0.17	0.32	1.2	0.51	1.1	0.38	0.39	1
2	0.01	0.20	0	0.06	0.72	0.14	0.22	0.90	2.1	0.87	0.35	0.37	2
3	0.01	0.16	0	0.93	0.63	0.14	0.14	0.63	2.6	1.0	0.32	0.35	3
4	0.01	0.13	0	0.98	0.54	0.19	0.12	0.51	3.9	1.4	0.32	0.33	4
5	0.01	0.12	0	1.1	0.60	0.16	0.12	0.42	4.4	1.3	0.32	0.29	5
6	0.02	0.12	0	1.1	1.1	0.15	0.12	0.63	3.5	1.1	0.32	0.25	6
7	0.02	0.10	0	1.0	1.3	0.12	1.4	0.60	2.7	0.87	0.30	0.22	7
8	0.02	0.09	0	1.6	1.1	0.13	1.9	0.83	2.1	0.74	0.29	0.24	8
9	0.01	0.09	0	1.8	1.0	0.12	1.9	2.1	1.6	0.76	0.27	0.31	9
10	0.01	0.07	0	1.5	1.1	0.15	1.6	2.7	1.2	0.98	0.26	0.28	10
11	0	0.06	0	1.3	1.2	0.14	1.3	2.7	0.85	1.2	0.25	0.27	11
12	0	0.05	0	1.1	1.1	0.10	1.0	2.3	0.60	3.2	0.24	0.25	12
13	0	0.06	0	0.90	0.87	0.08	0.68	1.9	0.54	3.8	0.28	0.22	13
14	0	0.05	0	0.91	0.72	0.08	0.45	1.6	0.49	3.1	0.30	0.20	14
15	0	0.05	0	1.2	0.63	0.20	0.35	1.3	0.42	2.3	0.29	0.19	15
16	0.05	0.04	0	1.4	0.54	0.20	0.29	1.1	0.36	1.8	0.27	0.18	16
17	0	0.04	0	1.3	0.46	0.54	0.25	0.73	0.31	1.5	0.27	0.17	17
18	0	0.04	0	1.2	0.45	1.1	0.23	0.54	0.27	1.4	0.26	0.17	18
19	0	0.04	0	1.3	0.42	1.2	0.20	0.53	0.22	1.2	0.25	0.16	19
20	0.02	0.03	0	3.1	0.37	1.3	0.15	0.40	0.17	1.0	0.27	0.15	20
21	0.03	0.03	0	7.3	0.33	1.1	0.12	0.33	0.34	0.85	0.46	0.15	21
22	0.03	0.01	0	7.0	0.29	0.93	0.09	0.28	1.6	0.74	0.60	0.16	22
23	0.03	0	0	5.5	0.36	0.76	0.06	0.24	2.2	0.67	0.60	0.17	23
24	0.02	0	0	3.8	0.39	0.63	0.14	0.19	2.1	0.63	0.55	0.16	24
25	0.02	0	0.01	2.7	0.47	0.58	0.17	0.17	2.4	0.60	0.52	0.18	25
26	0.02	0	0.01	2.1	0.58	0.60	0.49	0.16	2.4	0.53	0.53	0.20	26
27	0.03	0	0	1.7	0.54	0.66	1.6	0.15	2.3	0.47	0.53	0.23	27
28	0.16	0	0	1.5	0.43	0.57	1.9	0.13	2.1	0.42	0.49	0.25	28
29	0.67		0	1.2	0.32	0.50	1.9	0.10	1.8	0.41	0.46	0.24	29
30	0.35		0	1.0	0.25	0.40	1.7	0.07	1.4	0.41	0.41	0.22	30
31	0.30		0		0.21		1.5	0.07		0.40		0.19	31
TOTAL	1.86	1.83	0.02	57.58	19.89	13.14	22.41	25.51	47.48	36.75	10.96	7.14	TOTAL
MEAN	0.06	0.07	0	1.9	0.64	0.44	0.72	0.82	1.6	1.2	0.37	0.23	MEAN
AC-FT	3.7	3.6	0.04	114	39.5	26.1	44.5	50.6	94.2	72.9	21.7	14.2	AC-FT
MAX	0.67	0.25	0.01	7.3	1.3	1.3	1.9	2.7	4.4	3.8	0.60	0.39	MAX
MIN	0	0	0	0	0.21	0.08	0.06	0.07	0.17	0.40	0.24	0.15	MIN

SUMMARY FOR THE YEAR 1973

MEAN DISCHARGE, 0.67 CFS
TOTAL DISCHARGE, 485 AC-FT
MAXIMUM DAILY DISCHARGE, 7.3 CFS ON APR 21
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 11

MAXIMUM INSTANTANEOUS DISCHARGE
7.6 CFS AT 1830 CST ON APR 21

TYPE OF GAUGE - RECORDING

NATURAL FLOW

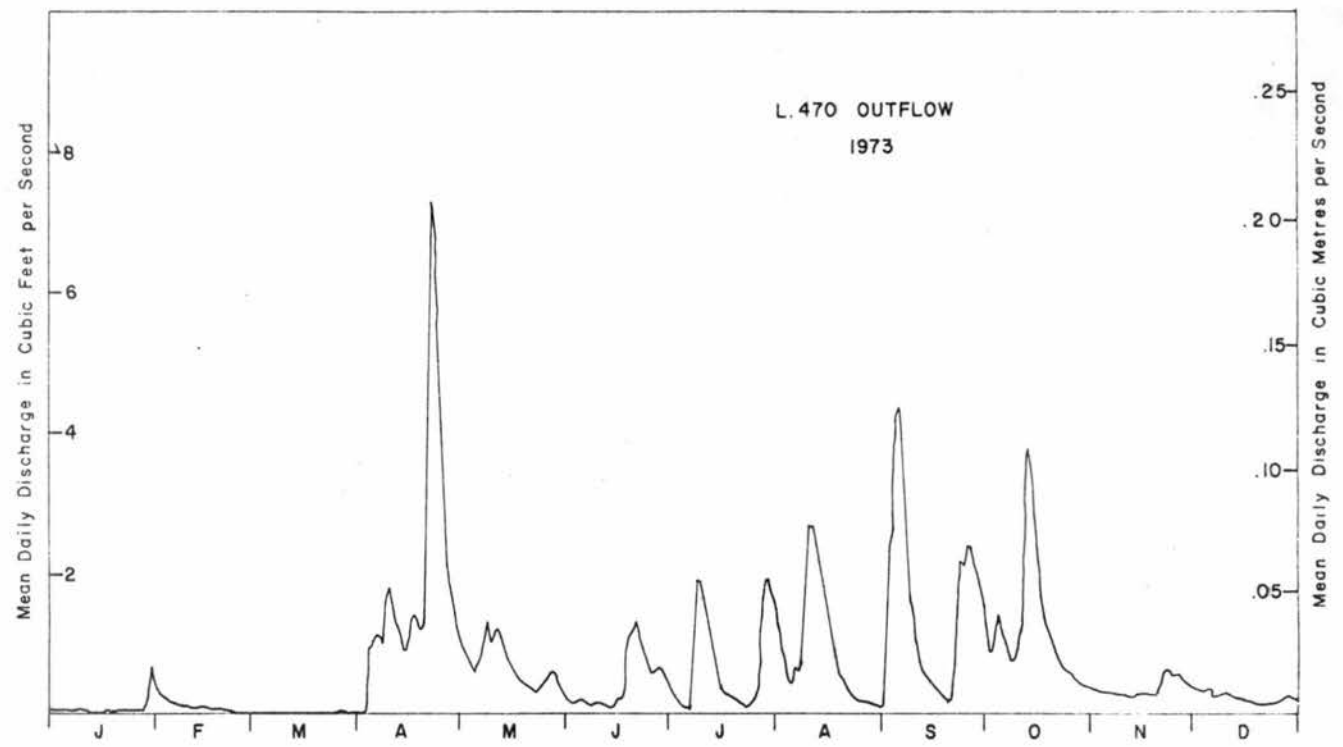


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1973.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1974.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.16	0	0	0	3.20	0.60	0	0	0.78	0.71	0.53	0.16 E	1
2	0.09	0	0	0	3.00	0.49	0	0	1.90	0.49	0.13	0.16 E	2
3	0.01	0	0	0	2.30	0.46	0	0	1.20	0.37	0.13	0.14 E	3
4	0	0	0	0	1.90	0.40	0	0	0.71	0.32	0.16	0.14 E	4
5	0	0	0	0	1.70	0.71	0	0	0.71	0.53	0.17	0.14 E	5
6	0	0	0	0	1.40	4.60	0	0	0.46	0.46	0.56	0.14	6
7	0	0	0	0	1.10	7.00	0	0	0.30	0.27	0.74	0.12	7
8	0	0	0	0	1.00	4.90	0	0	0.40	0.16	0.37	0.12	8
9	0	0	0	0.02	0.94	3.20	0	0	0.42	0.12	0.07	0.05	9
10	0	0	0	0.03	0.83	2.30	0.01	0	0.35	0.01	0.02	0.03	10
11	0	0	0	0.04	3.10	1.70	0	0	0.27	0.02	0.03	0.03	11
12	0	0	0	0.05	8.20	1.20	0	0	0.35	0.02	0.07	0.03	12
13	0	0	0	0.07	6.40	0.94	0	0	0.22	0.03	0.16	0.03	13
14	0	0	0	0.09	4.70	0.99 E	0	0	0.08	0.02	0.16 E	0.03	14
15	0	0	0	0.13	3.70	0.88 E	0	0.14	0.08	0.74	0.16 E	0.04	15
16	0	0	0	0.56	3.10	0.74 E	0	0.60	0.11	1.30	0.17 E	0.08	16
17	0	0	0	5.20	3.10	0.64 E	0	0.56	0.17	0.74	0.17 E	0.08	17
18	0	0	0	3.60	2.50	0.49 E	0	0.40	0.09	0.09	0.20 E	0.08	18
19	0	0	0	3.20	2.20	0.40	0	0.30	0.49	0.17	0.20 E	0.49	19
20	0	0	0	4.80	3.60	0.32	0	0.46	0.13	0.17	0.20 E	0.83	20
21	0	0	0	13.10	4.60	0.27	0	0.99	0.16	0.14	0.20 E	0.46	21
22	0	0	0	20.20	3.30	0.17	0	1.00	0.04	0.32	0.20 E	0.35	22
23	0	0	0	16.70	2.80	0.13	0	0.78	0.02	0.14	0.20 E	0.32	23
24	0	0	0	9.20	2.20	0.09	0	0.40	0.01	0.04	0.17 E	0.27	24
25	0	0	0	7.10	1.80	0.08	0	0.22	0.49	0.27	0.17 E	0.20	25
26	0	0	0	7.50	1.40	0.04	0	0.02	0.94	0.32	0.17 E	0.17	26
27	0	0	0	7.90	1.20	0.03	0	0.56	0.74	0.25	0.17 E	0.16	27
28	0	0	0	7.00	1.00	0.02	0	0.07	0.22	0.20	0.16 E	0.16	28
29	0		0	5.60	0.88	0.02	0	0.88	0.08	0.20	0.16 E	0.14	29
30	0		0	4.30	0.71	0.01	0	0.74	0.46	0.20	0.16 E	0.11	30
31	0		0		0.67		0	1.20		0.46		0.11	31
TOTAL	0.26	0	0	116.39	78.53	33.82	0.01	9.32	12.38	9.28	6.16	5.37	TOTAL
MEAN	0.01	0	0	3.88	2.53	1.13	0	0.30	0.41	0.30	0.20	0.17	MEAN
AC-FT	0.52	0	0	230.9	155.8	67.1	0.02	18.5	24.6	18.4	12.2	10.6	AC-FT
MAX	0.16	0	0	20.2	8.2	7.0	0.01	1.2	1.9	1.3	0.74	0.83	MAX
MIN	0	0	0	0	0.67	0.01	0	0	0.01	0.01	0.02	0.03	MIN

SUMMARY FOR THE YEAR 1974

MEAN DISCHARGE, 0.74 CFS
TOTAL DISCHARGE, 538.6 AC-FT
MAXIMUM DAILY DISCHARGE, 20.2 CFS ON APR 22
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 4

MAXIMUM INSTANTANEOUS DISCHARGE
21.2 CFS AT 0000 ON APR 22

TYPE OF GAUGE - RECORDING

E-ESTIMATED

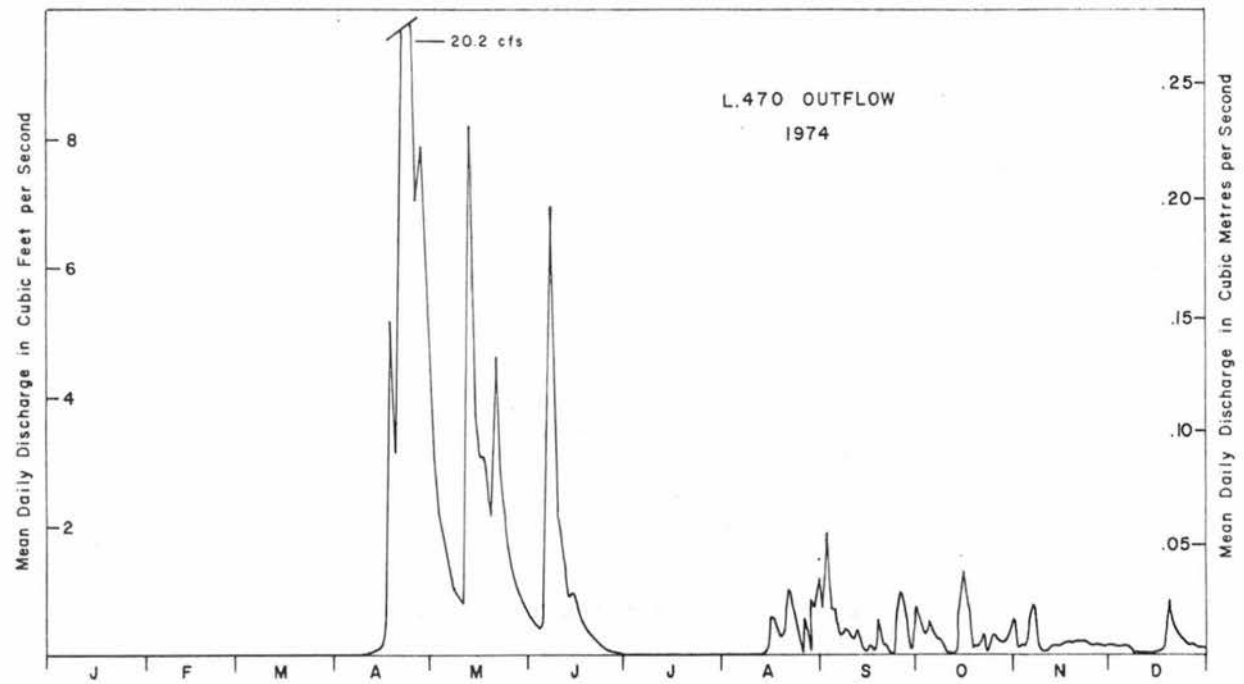


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1974.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1975.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.12 A	0.10	0.12	0.39	0.69	0.20	2.5	0.01	0.04	0.14	0.54	).17	1
2	0.12 A	0.09	0.12	0.37	1.2	0.17	2.1	0.01	0.03	0.16	0.67	).16	2
3	0.12 A	0.09	0.03	0.34	0.86	0.17	1.3	0	0.02	0.15	0.62	).16	3
4	0.12 A	0.17	0.04	0.31	1.3	0.30	0.91	0	0.03	0.15	0.46	).21	4
5	0.09 A	0.17	0.07	0.30	1.7	0.71	0.69	0	0.03	0.18	0.47	0.17	5
6	0.09 A	0.10	0.07	0.30	1.1	0.68	0.56	0	0.03	0.12	0.51	0.14	6
7	0.09 A	0.12	0.06	0.29	0.80	0.52	0.41	0	0.52	0.10	0.47	0.12	7
8	0.09 A	0.14	0.06	0.28	0.47	0.34	0.24	0	0.44	0.10	0.41	0.12	8
9	0.09 A	0.16	0.04	0.28	0.43	0.26	0.22	0	0.22	0.15	0.31	0.12	9
10	0.13 A	0.12	0.03	0.28	0.29	0.24	0.16	0	0.25	0.17	0.32	0.11	10
11	0.27 A	0.08	0.03	0.30	0.48	0.38	0.14	0	0.22	0.11	0.31	0.12 A	11
12	0.27 A	0.09	0.04	0.32	2.2	0.18	0.12	0	0.16	0.12	0.31	0.20 E	12
13	0.25 A	0.09	0.04	0.37	2.2	0.22	0.12	0	0.14	0.07	0.25	0.32 E	13
14	0.25 A	0.08	0.05	0.50	0.70	0.16	0.10	0	0.14	0.29	0.24	0.49 E	14
15	0.14 A	0.08	0.07	1.3	0.19	0.12	0.06	0	0.09	0.41	0.24	0.67 E	15
16	0.11 A	0.08	0.06	2.2	0.11	0.10	0.05	0	0.08	0.33	0.29	0.88 E	16
17	0.12	0.09	0.05	3.5	0.07	0.08	0.04	0	0.06	0.31	0.29	1.1 A	17
18	0.14	0.10	0.07	5.4	0.07	0.45	0.03	0	0.18	0.30	0.25	0.68	18
19	0.12	0.25	0.07	6.3	0.10	0.18	0.03	0	0.35	0.23	0.76	0.47	19
20	0.13	0.22	0.07	5.8	0.14	0.44	0.03	0	0.53	0.24	0.50	0.35	20
21	0.15	0.17	0.13	5.4	0.20	3.0	0.03	0	0.66	0.17	0.38	0.21	21
22	0.13	0.17	0.14	5.4	0.12	9.4	0.03	0	0.98	0.14	0.32	0.26	22
23	0.14	0.16	0.13	7.1	2.9	8.5	0.02	0	0.60	0.20	0.26	0.24	23
24	0.16	0.15	0.11	9.8	2.8	4.5	0.02	0	0.41	0.42	0.27	0.22	24
25	0.23	0.16	0.06	9.8	1.5	2.8	0.03	0	0.32	0.91	0.29	0.21	25
26	0.21	0.15	0.09	7.8	1.1	1.7	0.03	0	0.24	0.73	0.20	0.15	26
27	0.19	0.13	0.20	6.8	1.7	1.4	0.02	0	0.21	0.59	0.20	0.10	27
28	0.16	0.13	0.48	6.5	0.56	0.90	0.02	0.01	0.20	0.59	0.19	0.08	28
29	0.15		0.55	4.5	0.26	0.74	0.02	0.03	0.19	0.69	0.20	0.07	29
30	0.14		0.47	1.3	0.21	2.7	0.02	0.02	0.22	0.65	0.18	0.08	30
31	0.11		0.41		0.23		0.02	0.06		0.64		0.08	31
TOTAL	4.63	3.64	3.96	93.53	26.68	41.54	10.07	0.14	7.59	9.56	10.71	8.46	TOTAL
MEAN	0.15	0.13	0.13	3.1	0.86	1.4	0.32	0	0.25	0.31	0.36	0.27	MEAN
AC-FT	9.2	7.2	7.9	186	52.9	82.4	20.0	0.28	15.1	19.0	21.2	16.8	AC-FT
MAX	0.27	0.25	0.55	9.8	2.9	9.4	2.5	0.06	0.98	0.91	0.76	1.1	MAX
MIN	0.09	0.08	0.03	0.28	0.07	0.08	0.02	0	0.02	0.07	0.18	0.07	MIN

SUMMARY FOR THE YEAR 1975

MEAN DISCHARGE, 0.60 CFS
TOTAL DISCHARGE, 438 AC-FT
MAXIMUM DAILY DISCHARGE, 9.8 CFS ON APR 24
MINIMUM DAILY DISCHARGE, 0 CFS ON AUG 3

MAXIMUM INSTANTANEOUS DISCHARGE
13.7 CFS AT 1837 CST ON APR 24

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

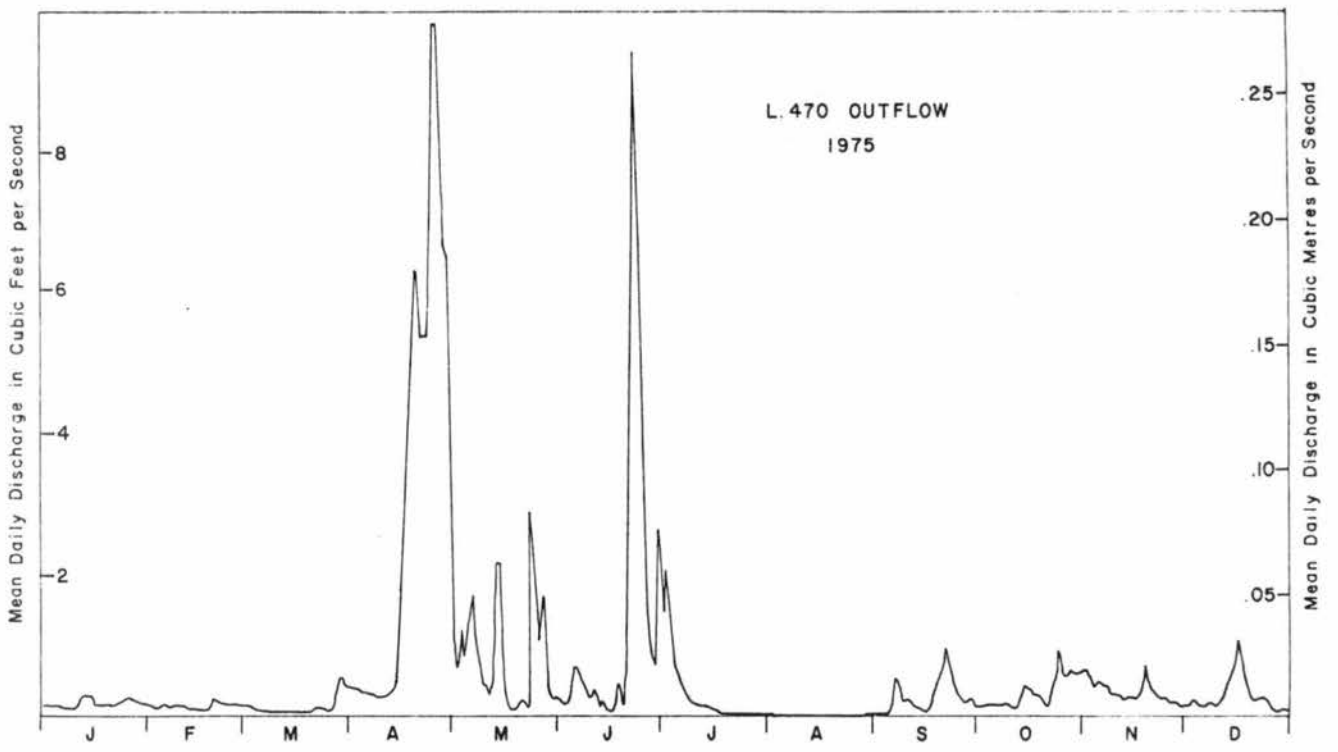


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1975.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1976.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.08	0.15	0.05	0.28	0.62	0.02	0.43	0.04	0	0.02	0.10	0.07	1
2	0.10	0.08	0.06	0.35	1.0	0.01	0.25	0.02	0	0.01	0.03	0.30	2
3	0.12	0.06	0.11	0.38	0.40	0	0.16	0.03	0	0.01	0.03	0.28	3
4	0.08	0.03	0.12	0.45	0.40	0	0.11	0.02	0.09	0.02	0.03	0.85	4
5	0.06	0.03 A	0.12	0.70	0.37	0	0.07	0.02	0.08	0.02	0.02	1.3	5
6	0.06	0.04 E	0.11	1.3	0.22	0	0.05	0.02	0.02	0.03	0.02	0.23	6
7	0.15	0.04 E	0.12	2.1	0.19	0	0.04	0.01	0.01	0.07	0.02	0.17	7
8	0.22 A	0.04 E	0.12	2.6	0.18	0	0.03	0	0	0.08	0.03	0.17	8
9	0.17 E	0.05 E	0.12	3.2	0.17	0.01	0.03	0.04	0.01	0.04	0.05	0.34	9
10	0.16 E	0.67 A	0.11	5.0	0.21	0.02	0.02	0.10	0.01	0.02	0.03	0.50	10
11	0.13 E	0.38	0.11	4.3	0.13	0	0	0.02	0.01	0.02	0.18	0.40	11
12	0.12 E	0.10	0.11	3.2	0.13	0.02	0	0.02	0	0.01	0.21	0.27	12
13	0.09 E	0.08	0.11	2.6	0.24	0.13	0.01	0.03	0.01	0	0.15	0.20	13
14	0.07 E	0.06	0.11	3.1	0.35	0.29	0	0.01	0.02	0	0.15	0.94	14
15	0.05 E	0.05	0.11	5.0	0.37	0.26	0	0.02	0.01	0.01	0.07	1.8	15
16	0.04 A	0.04	0.11	9.2	0.43	0.14	0.06	0.02	0	0	0.06	1.7	16
17	0.02	0.04	0.10	8.3	0.22	0.11	0.03	0.01	0	0.01	0.08	1.2	17
18	0.02	0.05	0.11	5.3	0.20	0.21	0.01	0	0	0.02	0.09	0.86	18
19	0.03	0.05	0.10	3.7	0.17	0.19	0	0.02	0	0.03	0.13	1.0	19
20	0.14	0.06	0.12	2.7	0.14	0.11	0.03	0.02	0.01	0.07	0.15	1.4	20
21	0.20	0.06	0.12	2.2	0.12	0.05	0.03	0.02	0.02	0.02	0.22	1.3	21
22	0.06	0.05	0.11	1.8	0.10	0.04	0.01	0.01	0.02	0	0.17	1.0	22
23	0.06	0.04	0.11	1.5	0.08	0.03	0.01	0	0.01	0.09	0.13	0.63	23
24	0.10	0.04	0.10	1.2	0.06	0.02	0.01	0	0.01	0.14	0.09	0.51	24
25	0.13	0.03	0.11	0.92	0.06	1.1	0.01	0	0	0.25	0.07	0.51	25
26	0.11	0.03	0.12	0.65	0.05	2.6	0	0	0.03	0.28	0.06	0.43	26
27	0.15	0.04	0.12	0.46	0.04	2.3	0	0.01	0.01	0.25	0.04	0.40	27
28	0.34	0.06	0.12	0.42	0.03	1.7	0	0.02	0.01	0.19	0.04	0.42	28
29	0.06	0.06	0.14	0.33	0.03	1.2	0	0	0.02	0.13	0.03	0.37	29
30	0.04		0.15	0.55	0.03	0.77	0	0.02	0.02	0.12	0.03	0.32	30
31	0.19		0.17		0.02		0.04	0.01		0.13		0.27	31
TOTAL	3.35	2.51	3.50	73.79	6.76	11.33	1.44	0.56	0.43	2.09	2.51	20.14	TOTAL
MEAN	0.11	0.09	0.11	2.5	0.22	0.38	0.05	0.02	0.01	0.07	0.08	0.65	MEAN
AC-FT	6.6	5.0	6.9	146	13.4	22.5	2.9	1.1	0.85	4.1	5.0	39.9	AC-FT
MAX	0.34	0.67	0.17	9.2	1.0	2.6	0.43	0.10	0.09	0.28	0.22	1.8	MAX
MIN	0.02	0.03	0.05	0.28	0.02	0	0	0	0	0	0.02	0.07	MIN

SUMMARY FOR THE YEAR 1976

MEAN DISCHARGE, 0.35 CFS
TOTAL DISCHARGE, 254 AC-FT
MAXIMUM DAILY DISCHARGE, 9.2 CFS ON APR 16
MINIMUM DAILY DISCHARGE, 0 CFS ON JUN 3

MAXIMUM INSTANTANEOUS DISCHARGE
11.5 CFS AT 1833 CST ON APR 16

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

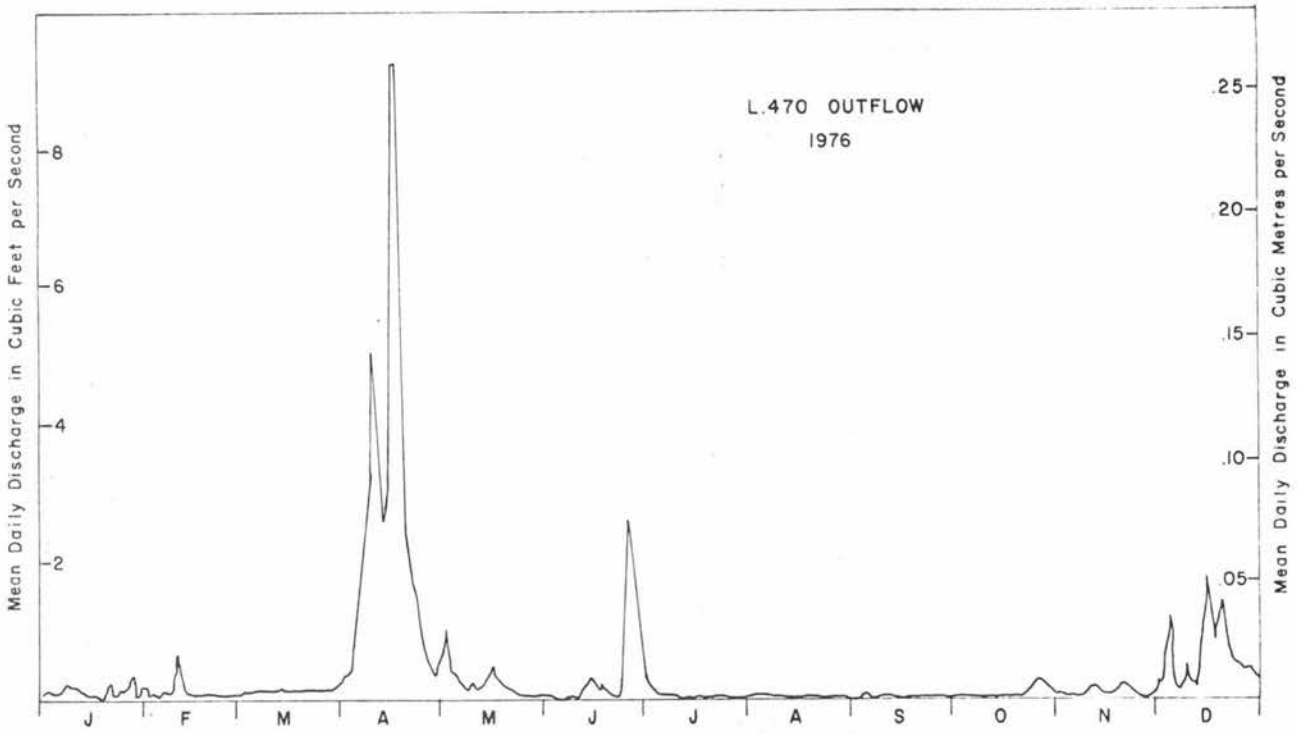


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1976.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1977.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.38	0	0	0.36	0	1.8	2.2 E	0.13	0.17	0.54	0.14	0.71 E	1
2	0.40	0	0	0.42	0	1.3	2.5 E	0.10	0.15	0.44	0.15	0.67 E	2
3	0.34	0	0	0.41	0	0.97	1.9 E	0.09	0.12	0.39	0.13	0.64 E	3
4	0.29	0	0	0.37	0	0.62	1.5 E	0.07	0.16	0.40	0.11	0.60 E	4
5	0.21	0	0	0.33	0.01	0.63	1.1 E	0.06	0.14	0.46	0.10	0.56 A	5
6	0.15	0	0	0.28	0.03	1.1	0.71 E	0.05	0.13	0.40	0.10	0.56 E	6
7	0.11	0	0	0.22	0.06	0.96	0.46 A	0.04	0.14	0.34	0.09	0.53 E	7
8	0.08	0	0	0.17	0.08	0.95	0.26	0.04	0.21	0.31	0.20	0.53 E	8
9	0.06	0	0	0.23	0.09	0.72	0.19	0.04	3.0	0.28	2.4	0.49 E	9
10	0.04	0	0	0.43	0.12	0.72	0.18	0.03	2.7	0.26	2.2	0.49 E	10
11	0.03 A	0	0	0.67	0.15	0.63	0.22	0.03	2.1	0.29	2.2	0.46 E	11
12	0.03 A	0	0	0.93	0.16	0.52	0.40	0.03	1.7	0.17	2.2	0.46 E	12
13	0 A	0	0	1.1	0.16	0.96	0.31	0.03	1.4	0.16	2.1	0.42 E	13
14	0 A	0	0	1.2	0.17	1.7	0.56 E	0.02	1.2	0.16	1.3	0.42 E	14
15	0 A	0	0	1.4	0.21	5.8	0.49 E	0.02	0.97	0.13	0.61	0.40 A	15
16	0 A	0	0	1.5	0.20	7.3	0.46 E	0.03	0.77	0.12	0.92	0.38	16
17	0	0	0	1.2	0.16	5.3	0.40 E	0.03	0.62	0.13	0.94	0.41	17
18	0	0	0	0.02	0.17	7.6	0.35 E	0.03	0.51	0.12	0.72	0.46	18
19	0	0	0	0.01	0.17	5.8	0.32 E	0.02	0.45	0.11	0.64	0.41	19
20	0	0	0	0	0.37	4.5	0.27 E	0.02	0.39	0.11	1.5	0.38	20
21	0	0	0	0	0.72	2.9	0.25 E	0.02	0.33	0.09	2.2 A	0.37	21
22	0	0	0	0	0.99	2.0	0.20 E	0.02	0.29	0.08	1.6 E	0.36	22
23	0	0	0	0	1.8	1.6 A	0.16 E	0.02	0.27	0.07	1.3 E	0.34	23
24	0	0	0	0	1.6	1.2 E	0.14 E	0.01	0.49	0.07	1.1 A	0.31	24
25	0	0	0	0	1.2	1.1 E	0.12 E	0.02	0.92	0.07	1.0 E	0.29	25
26	0	0	0	0	0.96	0.83 E	0.09 E	0.06	0.83	0.06	0.99 E	0.27	26
27	0	0	0	0	1.6	1.0 E	0.08 E	0.12	0.75	0.06	0.94 E	0.25	27
28	0	0	0	0	1.3	1.2 E	0.05 A	0.35	0.70	0.07	0.88 E	0.23	28
29	0		0	0	1.3	2.2 E	0.05	0.25	0.68	0.06	0.83 E	0.21	29
30	0		0.08	0	1.1	2.9 E	0.14	0.33	0.65	0.06	0.78 E	0.18	30
31	0		0.22		1.6		0.25	0.23		0.12		0.16	31
TOTAL	2.12	0	0.30	11.25	16.48	66.81	16.31	2.34	22.94	6.13	30.37	12.95	TOTAL
MEAN	0.07	0	0.01	0.38	0.53	2.2	0.53	0.08	0.76	0.20	1.0	0.42	MEAN
AC-FT	4.2	0	0.60	22.3	32.7	133	32.4	4.6	45.5	12.2	60.2	25.7	AC-FT
MAX	0.40	0	0.22	1.5	1.8	7.6	2.5	0.35	3.0	0.54	2.4	0.71	MAX
MIN	0	0	0	0	0	0.52	0.05	0.01	0.12	0.06	0.09	0.16	MIN

SUMMARY FOR THE YEAR 1977

MEAN DISCHARGE, 0.52 CFS
TOTAL DISCHARGE, 373 AC-FT
MAXIMUM DAILY DISCHARGE, 7.6 CFS ON JUN 18
MINIMUM DAILY DISCHARGE, 0 CFS ON JAN 13

MAXIMUM INSTANTANEOUS DISCHARGE
8.8 CFS AT 0047 CST ON JUN 16

TYPE OF GAUGE - RECORDING

A-MANUAL GAUGE
E-ESTIMATED
NATURAL FLOW

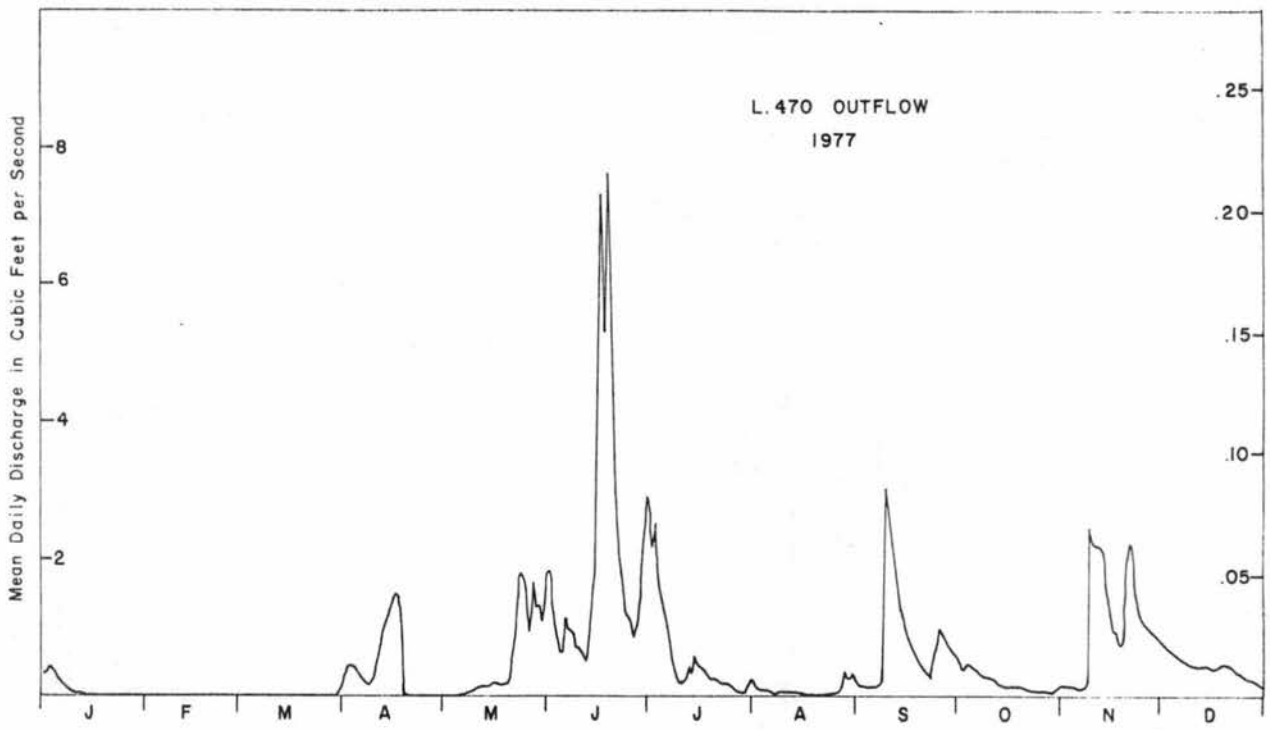


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1977.

Table 132 Mean daily discharges in cubic feet per second for the Lake 470 outflow for 1978.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	0.16	0.09	0.07	0.32	4.1	4.3	0.09	0.30	0.74	0.33	0.13	0.13	1
2	0.17	0.10	0.06	0.27	3.3	4.1	0.07	0.87	0.58	0.31	0.14	0.11	2
3	0.16	0.12	0.06	0.28	3.1	3.0	0.05	0.82	0.42	0.28	0.13	0.11	3
4	0.16	0.05	0.05	0.21	2.8	2.2	0.08	0.57	0.38	0.30	0.12	0.14	4
5	0.16	0.05	0.04	0.18	2.4	1.7	0.33	0.37	0.32	0.31	0.11	0.15	5
6	0.17	0.05	0.03	0.28	2.0	1.7	0.33	0.27	0.24	0.27	0.07	0.15	6
7	0.21	0.04	0.02	0.34	1.7	1.6	0.24	0.22	0.17	0.22	0.06	0.14	7
8	0.17	0.04	0.03	0.37	2.4	1.4	0.15	0.16	0.17	0.22	0.06	0.15	8
9	0.16	0.03	0.03	0.79	2.6	1.1	0.15	0.11	0.15	0.22	0.05	0.16	9
10	0.15	0.04	0.03	0.78	2.1	1.0	0.11	0.08	0.11	0.20	0.04	0.16	10
11	0.14	0.04	0.04	0.85	2.0	0.73	0.09	0.08	0.07	0.22	0.04	0.17	11
12	0.14	0.04	0.04	1.1	1.7	0.61	0.13	0.09	0.04	0.21	0.04	0.17	12
13	0.13	0.04	0.04	1.0	1.5	0.50	0.13	0.07	0.07	0.16	0.11	0.18	13
14	0.12	0.04	0.05	0.87	1.1	0.40	0.25	0.07	0.55	0.16	0.14	0.19	14
15	0.13	0.04	0.05	0.87	0.75	0.37	0.19	0.15	0.54	0.30	0.12	0.18	15
16	0.13	0.04	0.04	0.99	0.58	0.35	0.16	0.27	0.53	0.26	0.09	0.21	16
17	0.12	0.04	0.04	1.5	0.43	0.30	0.15	0.28	0.66	0.23	0.10	0.46	17
18	0.11	0.04	0.04	2.5	0.37	0.22	0.31	1.0	0.67	0.20	0.10	0.49	18
19	0.10	0.04	0.03	3.6	0.40	0.17	0.36	0.83	0.67	0.19	0.10	0.41	19
20	0.10	0.04	0.04	3.5	0.47	0.20	0.36	0.56	0.58	0.18	0.10	0.37	20
21	0.10	0.04	0.04	4.1	0.41	0.16	0.26	0.39	0.45	0.17	0.08	0.32	21
22	0.10	0.04	0.03	5.5	0.54	0.14	0.16	0.30	0.38	0.19	0.07	0.31	22
23	0.08	0.04	0.04	7.7	0.81	0.13	0.25	0.25	0.35	0.17	0.09	0.24	23
24	0.09	0.06	0.04	9.7	0.72	0.23	0.23	0.23	0.32	0.17	0.09	0.22	24
25	0.10	0.07	0.04	10.2	0.64	0.33	0.16	0.22	0.26	0.18	0.08	0.17	25
26	0.10	0.07	0.05	10.3	5.6	0.31	0.11	0.21	0.26	0.17	0.08	0.17	26
27	0.08	0.07	0.05	10.8	4.4	0.29	0.07	0.26	0.23	0.17	0.14	0.16	27
28	0.08	0.07	0.06	9.8	2.9	0.24	0.06	0.36	0.28	0.15	0.14	0.16	28
29	0.07		0.06	7.8	2.6	0.15	0.04	0.33	0.45	0.15	0.17	0.18	29
30	0.08		0.06	5.4	3.1	0.13	0.04	0.40	0.36	0.15	0.14	0.17	30
31	0.08		0.20		2.8		0.12	0.53		0.14		0.15	31
TOTAL	3.85	1.47	1.50	101.90	60.32	27.96	5.23	10.65	11.00	6.58	2.93	6.48	TOTAL
MEAN	0.12	0.05	0.05	3.4	1.9	0.93	0.17	0.34	0.37	0.21	0.10	0.21	MEAN
AC-FT	7.6	2.9	3.0	202	120	55.5	10.4	21.1	21.8	13.1	5.8	12.9	AC-FT
MAX	0.21	0.12	0.20	10.8	5.6	4.2	0.36	1.0	0.74	0.33	0.17	0.49	MAX
MIN	0.07	0.03	0.02	0.18	0.37	0.13	0.04	0.07	0.04	0.14	0.04	0.11	MIN

SUMMARY FOR THE YEAR 1978

MEAN DISCHARGE, 0.66 CFS
TOTAL DISCHARGE, 476 AC-FT
MAXIMUM DAILY DISCHARGE, 10.8 CFS ON APR 27
MINIMUM DAILY DISCHARGE, 0.02 CFS ON MAR 7

MAXIMUM INSTANTANEOUS DISCHARGE
12.3 CFS AT 1859 CST ON APR 26

TYPE OF GAUGE - RECORDING

NATURAL FLOW

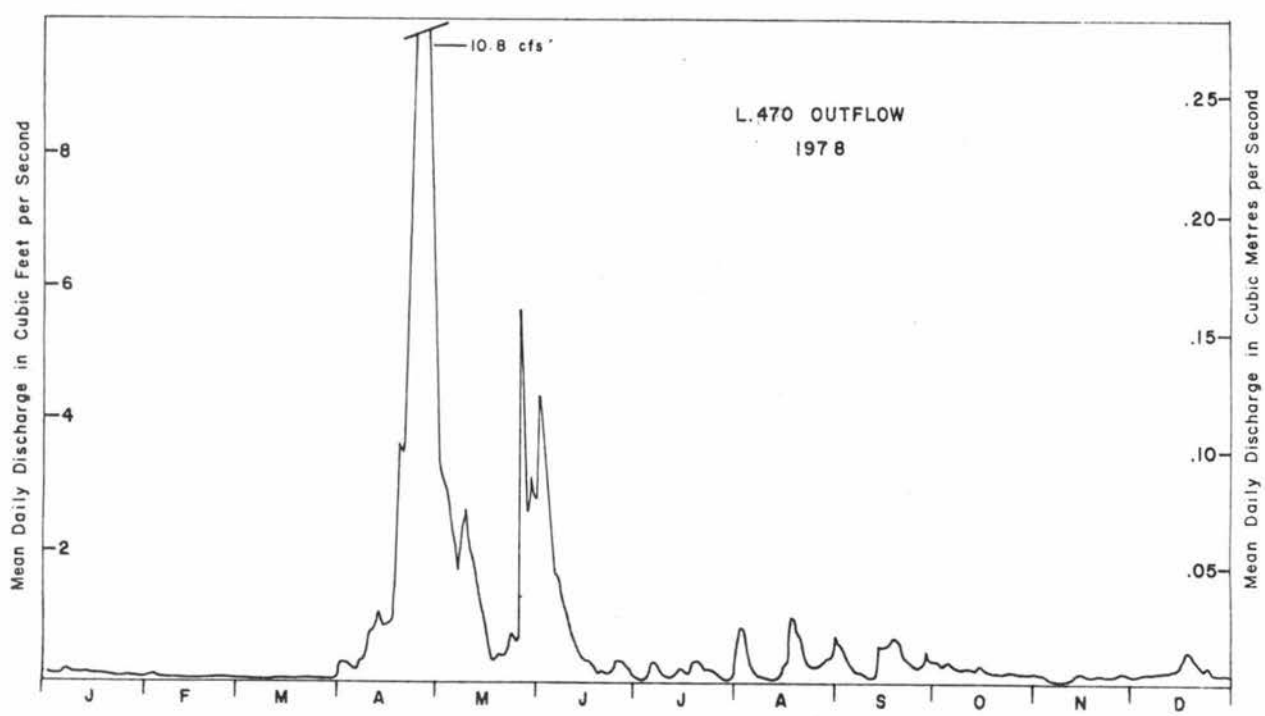


Fig. 50 Annual hydrograph based on mean daily discharges for the Lake 470 outflow for 1978.

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